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# Summary Report

## On 2019 Diamond Drilling

On

**TBone**

Ontario, Canada

Larder Lake Mining Division

St Andrew Goldfields Ltd., a subsidiary of Kirkland Lake Gold Ltd.

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**May 6, 2021**

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HW19-005A

HW19-006

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Certificate TIM19002553.1

Certificate TIM19002541.1

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HW19-005A Section

HW19-006 Section

## Introduction

This assessment report summarizes the 2019 drill program (hereafter referred to as the *Program*), completed by St Andrew Goldfields Ltd. (SAS) in Harker Township covering 1 tenured surface mining rights claim (see *Table 1* for clarification). 780 m of NQ core were drilled on two unique boreholes from November 1<sup>st</sup> through November 15<sup>th</sup>, 2019.

The primary objective of the *Program* was to test an area of high magnetic gradient north of the Destor-Porcupine Fault Zone (DPFZ) for gold mineralization.

## Location and Access

The *Program* property is located in the northwest corner of Harker Township in the Larder Lake Mining Division. **Figure 1** shows the location of the property within Ontario and Harker Township.

Primary access to the property was via a north-trending recreational gravel road located approximately 46.7 km east of Matheson, Ontario along the Highway 101 East corridor and approximately 4.5 km west of the Highway 101 East / Highway 672 intersection. Site and collar access was via the recreational road and dozer trails.

As a result of Ontario's 2018 Mining Act Modernization initiative, the legacy claim numbers covered by this drilling program are presented in **Table 1**, alongside their current designation.

TABLE 1				
Hole Number	Collar		Additional Traversed	
	Legacy	Current	Legacy	Current
HW19-005A	L 70977	312783	L 632512	312783
HW19-006	L 70977	312783	L 632512	312783

## Regional and Local Geology

The Program area lies within the Kidd-Munro assemblage<sup>1</sup> and is composed mainly of massive and pillowed mafic volcanic rocks with sparse pillowed intermediate volcanics. These rocks are, in turn, intruded by mafic to ultramafic units proximal to the mafic/intermediate contact. The northwest corner of the township also contains a thin wedge of northwest/southeast trending metasedimentary rocks and additional alkali intrusives.

Structurally, the DPFZ, a major east-west striking fault, is located to the south of and separates the Kidd-Munro assemblage from the Kinojevis assemblage to the south.

## Previous Work

Reconnaissance geological mapping was performed in 1918 by C. W. Wright, but detailed geological mapping of Harker Township wasn't performed until 1949. This was followed up by limited dip needle surveying in the same year by Johns-Manville. Dale Gold Mines staked 33 claims in Harker Township in the 1940's and performed unknown exploratory work closer to the Destor-Porcupine Fault Zone (DPFZ) on the south part of the claim block. These claims were staked by Johns-Manville in 1959 and all interest in the claims was transferred to that company in 1960.<sup>2</sup>

Line cutting and a ground magnetic survey was performed in 1960 by Johns-Manville and was followed up with a single 503 ft diamond drill hole in 1961 to test a magnetic anomaly.

Between 1981 and 1982, AMAX Minerals Exploration drilled approximately 20 holes in the area, primarily in and around the DPFZ towards the south, although at least two appear to have been targeting magnetic anomalies between the DPFZ and the *Program* area. The best composites from that program included 7.89 gpt / 2.5 m, including 22.63 gpt / 0.5 m and 13.43 gpt / 2.0 m, including 17.22 gpt / 1.0 m. Both composites were either in or proximal to altered sedimentary units with pyrite and/or hematite alteration.

A Noranda Exploration Co. Ltd./JM Asbestos Inc. joint venture drilled 6 holes in 1991. A further 4 holes, totaling 1736m, were drilled by St. Andrew Goldfields in 2014 south of the *Program* area.

## 2019 Diamond Drill Program

Drilling commenced November 1<sup>st</sup> and finished on November 15<sup>th</sup>, 2019, with a total of 780 m being drilled. One hydraulic diamond drill rig was contracted from Black Diamond Drilling to fulfil the requirements of the program (See **Figure 2** for drillhole locations).

Drill core was delivered by Black Diamond personnel to the Matheson exploration office for logging by SAS personnel (logs to be found in **Appendix 2**). Logged core was cut by exploration staff using a diamond bladed saw, and sent to Bureau Veritas, in Timmins, Ontario for gold analysis. A total of 588 core samples, 32 blanks and 33 standards were sent for assay. Assay certificates are in **Appendix 3**, and both the lithological legend and drill hole sections are in **Appendix 4**.

A significant assays table is not included in this report, since no samples returned results above 1.0 gpt.

The drill program was planned and supervised by Raymond Toews, G.I.T. and David Schonfeldt, P. Geo.

## Summary

True overburden thickness in HW19-005A was 28 m. From 36 m to 131.6 m, a series of weakly to moderately magnetic ultramafic units was interspersed with several quartz-carbonate vein systems and fault zones. The first fault zone was preceded by a 26.15 m wide sheared carbonate-chlorite (ACH) altered unit with patches of pervasive talc alteration. A series of mafic volcanic sequences followed from 131.6 m to 381 m, interrupted by a graphitic argillite interflow unit from 197.55-213 m. The argillite was bounded on both sides by massive sulfides, with a 20 cm mafic intrusive unit on the downhole contact before the lower massive sulphide unit. Two small intermediate intrusive units were also present, in association with minor fault zones at depth. While no significant assays over 1 gpt were present, gold mineralization up to 0.36 gpt was present in the ACH unit in association with a minor increase in quartz veining from 84.5-86.8 m. Based on lithology and alteration, the magnetic gradient targeted by this hole was likely caused by the destruction of magnetite due to carbonate-chlorite alteration.

True overburden thickness was 15 m in HW19-006. A series of mafic volcanic sequences from 21-139.2 m was interspersed with several quartz vein systems, a quartz breccia, and a diabase dyke in association with fault zones. This was followed by ultramafic and mafic volcanic sequences to 206.1 m, with a mafic intrusive unit following a fault zone from 83.23-83.4 m. Two quartz-carbonate vein systems were present within this interval, but did not return any significant gold assays. The interval of 206.1-289.8 m contains

several carbonate-chlorite, sericite-carbonate (AEC) and carbonate (ACO) altered units, which have variously been interpreted as having mafic to ultramafic protoliths. The interval from 289.9-399 m is composed of intercalated mafic, ultramafic, and carbonate altered units, the latter of which is likely derived from an ultramafic protolith. Weak gold mineralization up to 0.77 gpt was present in AEC in association with 10—20% weakly sheared quartz-carbonate veins and fine to medium grained pyrite. The magnetic gradient targeted by this hole was likely caused by patchy alteration and the presence of a shallow diabase dyke.

## Recommendations

Alteration styles in both holes are consistent with those that often play host to gold mineralization along the DPFZ and, although no samples returned significant assays above 1 gpt, low-grade gold mineralization up to 0.77 gpt was present in altered units. Since previous drilling programs within the DPFZ returned significant assays (see Previous Work), it is possible that low-grade gold mineralization within the *Program* area was caused the injection of fluids along minor splay faults from the DPFZ. Accordingly, it is recommended that any future drilling campaigns be restricted either to the DPFZ proper, or to major cross-cutting fault sequences which may have had a greater capacity for fluid migration, and therefore a higher potential for gold mineralization.

## References

<sup>1</sup> Berger, B. R., (2002), *Geological Synthesis of the Highway 101 Area, East of Matheson, Ontario, Ontario Geological Survey*

<sup>2</sup> Evelegh, F. J., (1960), *Report on Magnetometer Survey, Northwest Harker Group of Claims, Harker and Garrison Townships, Larder Lake Mining Division, Province of Ontario, Canadian Johns-Manville Company Limited*

## Date and Signature Page

This report, entitled “Summary Report On 2019 Diamond Drilling on TBone” was prepared, reviewed or signed by the following authors:

Dated at Timmins, Ontario

May 19 , 2021



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Kara Byrnes, P.Geol.

Regional Exploration Superintendent



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Michael Clarke, P.Geol.

Senior Database Administrator



## Certificate of Qualification

I, Michael Clarke of 219 Clement Avenue, Porcupine, ON, PON 1K0, do hereby declare:

- This report is being submitted on behalf of St. Andrew Goldfields, a wholly owned subsidiary of Kirkland Lake Gold.
- I have no interests, either directly or indirectly, nor do I expect to receive any in the future with respect to the TBone property.
- I graduated from McMaster University in 1992 with a Bachelor of Science degree in Geology.
- I have been a salaried employee of Kirkland Lake Gold since May, 2017.
- I am a member, in good standing, of the Association of Professional Geoscientists of Ontario.

Signed,



Michael Clarke, P. Geo.





## **Appendix 1**

### **Figures**

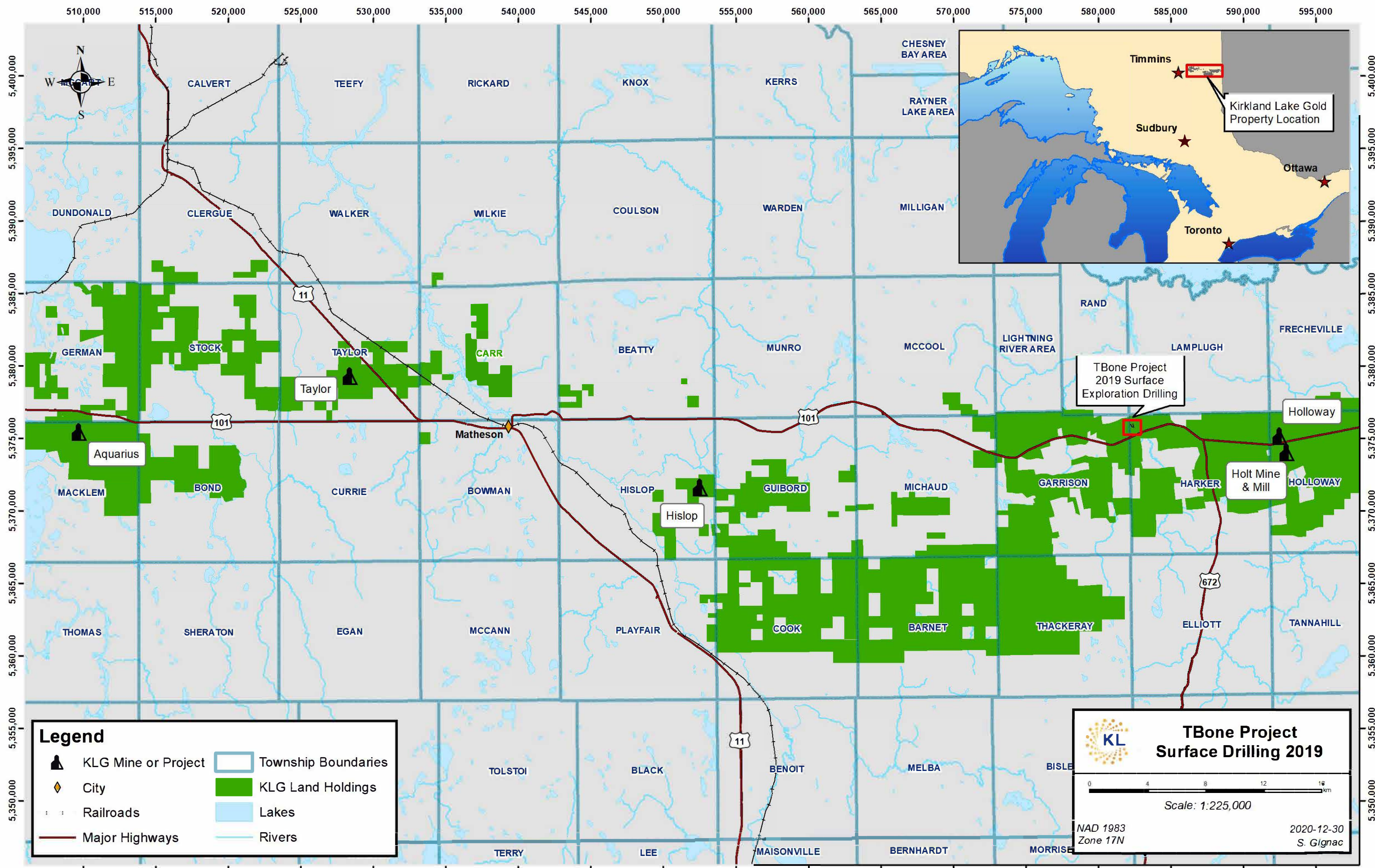


Figure 1 - Property Location within Ontario and Harker Township

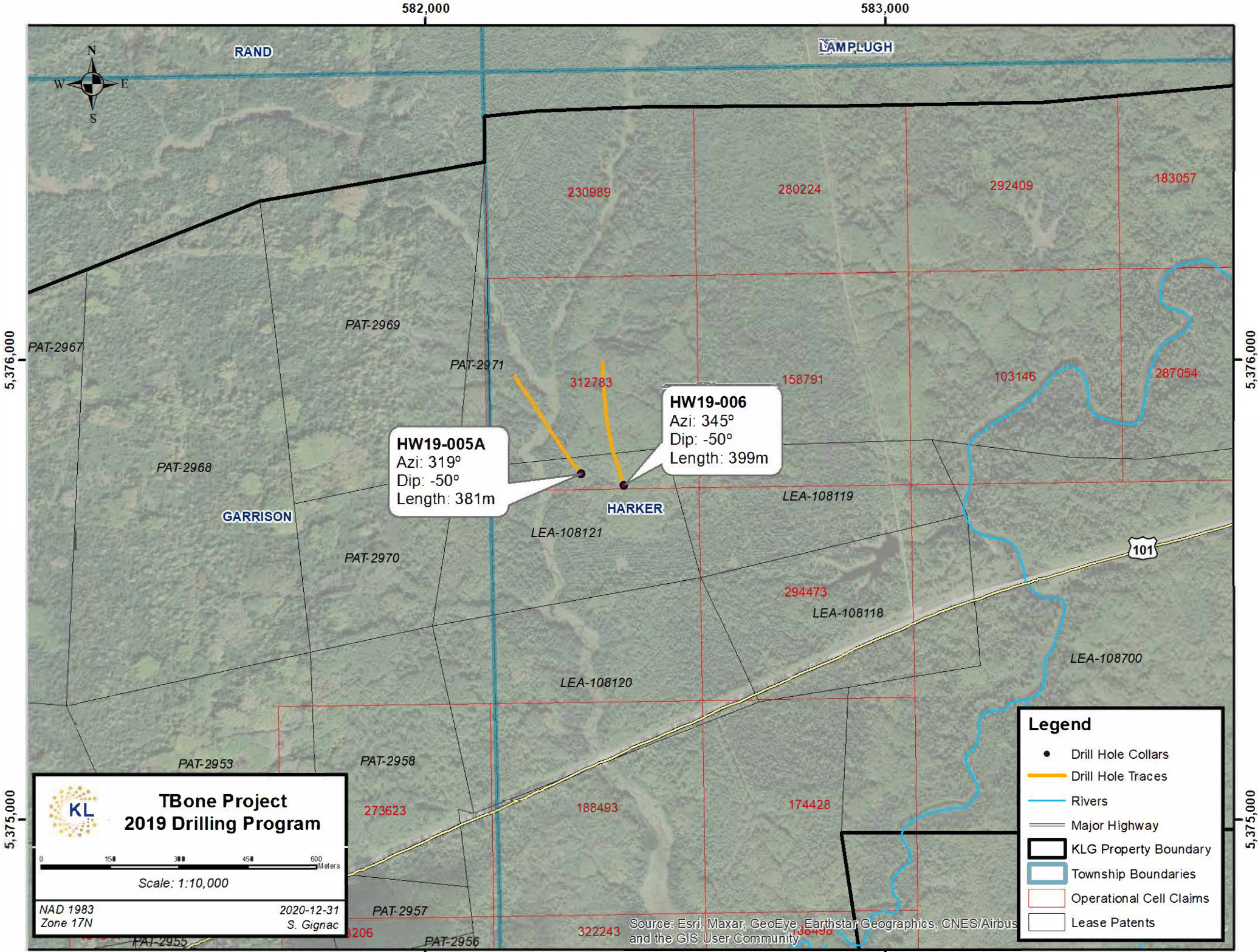


Figure 2 - Drill Hole Plan View



## **Appendix 2**

### **Diamond Drill Logs**

## DETAILED LOG

*Michael Clarke*Hole Number: **HW19-005A**

Units: METRIC

Project Name: Harker Township	Primary Coordinates Grid: UTM:NAD83:	Destination Coordinates Grid: UTM:	Collar Dip: -50.00
Project Number: HARKER_TWP	North: 5375753.00	North:	Collar Az: 319.40
Location: Harker Township	East: 582340.00	East:	Length: 381.00
	Elev: 284.50	Elev:	Start Depth: 0.00
Date Started: Nov 01, 2019	Collar Survey: N	Plugged: N	Contractor: Black Diamond
Date Completed: Nov 05, 2019	Multishot Survey: N	Hole Size: NQ	Core Storage:
	Pulse EM Survey: N	Casing: YES	Final Depth: 381.00

Comments:

## Sample Averages

## Survey Data

Depth	Azimuth Decimal	Dip Decimal	Test Type	Flag	Comments	Depth	Azimuth Decimal	Dip Decimal	Test Type	Flag	Comments
<b>0.00</b>	319.40	-50.00	APS	OK		<b>45.00</b>	320.70	-47.90	EZ Sho	OK	Azi corrected by subtracting 11.4 from reading; pulled back 6m
<b>96.00</b>	326.70	-47.80	EZ Sho	OK	Azi corrected by subtracting 11.4 from reading; pulled back 6m	<b>147.00</b>	327.10	-47.40	EZ Sho	OK	Azi corrected by subtracting 11.4 from reading; pulled back 6m
<b>198.00</b>	326.80	-47.30	EZ Sho	OK	Azi corrected by subtracting 11.4 from reading; pulled back 6m	<b>249.00</b>	328.20	-47.00	EZ Sho	OK	Azi corrected by subtracting 11.4 from reading; pulled back 6m
<b>300.00</b>	325.40	-47.00	EZ Sho	OK	Azi corrected by subtracting 11.4 from reading; pulled back 6m	<b>351.00</b>	325.40	-46.90	EZ Sho	OK	Azi corrected by subtracting 11.4 from reading; pulled back 6m
<b>381.00</b>	325.90	-46.50	EZ Sho	OK	Azi corrected by subtracting 11.4 from reading; pulled back 6m						

## Detailed Lithology

From	To	Lithology	Sample Number	From	To	Length	Au_gpt_Final
0.00	36.00	<b>HPO, OVERBURDEN</b> Overburden					
36.00	46.85	<b>VUM, MASSIVE ULTRAMAFIC</b> Medium blue grey, fine grained, moderately magnetic ultramafic unit. Weak pervasive chlorite alteration with very weak talc overprinting. Talc increases along fractures and veins. Weak-moderate disseminated carbonate porphyroblasts in the form of magnesite (up to 1cm). 10-15% discordant, typically high angled QC veins/veilets >45deg TCA when orientation is apparent. Few larger veins exhibit weak oxidation (rusty brown discolouration). Overall trace pyrite, up to 2% clustered within select veins nearing lower contact. Gradational lower contact.	1664051	45.40	46.15	0.75	0.00
			1664052	46.15	46.85	0.70	0.01

Hole Number: **HW19-005A**

Units: METRIC

Detailed Lithology		Assay Data					
From	To	Lithology	Sample Number	From	To	Length	Au_gpt_Final
46.85	74.55	<p><b>VUM, MASSIVE ULTRAMAFIC</b></p> <p>Medium grey-bue, moderately sheared/foliated, ultramafic unit. Increase in deformation and veining, and decrease in magnetism differentiates this unit from the above VUM. Weak-moderate pervasive chlorite alteration with weak patchy talc overprinting. Moderate disseminated magnesite/carbonate porphyroblasts &lt;1cm. Gradational increase in chlorite alteration from 70.2m onwards. 15-20% sheared QC veins/veinlets at 30-40deg TCA. ~5% higher angled larger veinlets at 50-60deg TCA when orientation is apparent. Weak-moderate microfaulting with the veins. From 67.15-68.0m, ~40% moderate-strongly sheared QC veins at 40deg TCA, weak brecciation within the veins nearing end of shear zone. Overall 1-2% clustered pyrite with up to 5% clustered and vein hosted pyrite observed. Veins hosting pyrite are typically smokey grey (ex. 72.0m onwards). Weak fault zone/ blocky core fragmentation from 70.0-70.2m and 71.3-71.6m. Moderate shearing and foliation at ~35deg TCA. Sharp lower contact at 35deg TCA.</p> <p><b>MINOR INTERVALS:</b>  <b>Minor Interval:</b>  49.50 - 49.85 QVC, QUARTZ CARBONATE VEINS</p> <p>Massive milky white quartz-carbonate veins at ~50deg TCA with the surrounding ultramafic. Very weak chlorite alteration within the vein giving a light green colour. No significant mineralization.</p>	1664053	46.85	47.85	1.00	0.01
			1664054	47.85	48.60	0.75	0.01
			1664055	48.60	49.50	0.90	0.01
			1664056	49.50	49.85	0.35	0.01
			1664057	49.85	50.40	0.55	0.01
			1664058	50.40	51.05	0.65	0.01
			1664059	64.10	65.15	1.05	0.01
			1664061	65.15	66.15	1.00	0.01
			1664062	66.15	67.15	1.00	0.01
			1664063	67.15	68.00	0.85	0.02
			1664064	68.00	69.00	1.00	0.02
			1664065	69.00	70.20	1.20	0.01
			1664066	70.20	71.15	0.95	0.01
			1664067	71.15	72.00	0.85	0.02
			1664068	72.00	72.60	0.60	0.12
			1664069	72.60	73.60	1.00	0.01
			1664071	73.60	74.55	0.95	0.06
74.55	77.55	<p><b>QVC, QUARTZ CARBONATE VEINS</b></p> <p>Smokey blue-black quartz vein. Moderate silica flooding associated with strong vein system. Weak-moderate patchy carbonate alteration with strong silicification. Very weak disseminated green flecks, possible chlorite-fuchsite. Faint yellow colour within the veins from 77.0-77.5m, possible sericite (?) or other clay. ~65% of the unit is composed of veins averaging ~40deg TCA. Moderate deformation and microfaulting in the veins from 77.0-77.55m. Deformation within the surrounding ultramafic suggest the unit has a dextral motion. Up to 1% fine grained vein hosted pyrite. Minor ultramafic unit from 76.4-77.0m. Sharp lower contact at 30deg TCA.</p> <p><b>MINOR INTERVALS:</b>  <b>Minor Interval:</b>  76.40 - 77.00 VUM, MASSIVE ULTRAMAFIC</p> <p>Medium grey, moderately deformed ultramafic unit. Weak-moderate pervasive carbonate alteration with weak patches of pervasive chlorite. Very weak disseminated tal alteration. ~25% sheared/deformed QC veinlets/veins at ~30deg TCA. Deformation in veinlets suggests dextral movement (?). Veinlets gradually shallow towards lower contact to ~20deg TCA. ~3% fine grained clustered and vein hosted pyrite. Sharp irregular lower contact at 50deg TCA.</p>	1664072	74.55	75.50	0.95	0.01
			1664073	75.50	76.40	0.90	0.00
			1664074	76.40	77.00	0.60	0.05
			1664075	77.00	77.55	0.55	0.02

Hole Number: **HW19-005A**

Units: METRIC

Detailed Lithology		Assay Data					
From	To	Lithology	Sample Number	From	To	Length	Au_gpt_Final
77.55	103.70	<p><b>ACH, CARB-CHLORITIC ROCK</b></p> <p>ACH/ACO- Light-medium grey, moderately sheared, altered ultramafic unit. Moderate pervasive carbonate alteration with weak-moderate patchy and fracture controlled chlorite. Chlorite is apple green in areas resembling fuchsite. Weak patchy bleaching. Weak disseminated albite appearing to increase in concentration with depth. Weak gradually increasing patches of pervasive talc alteration.</p> <p>~15-20% locally sheared QC veins/veinets at 40-50deg TCA when orientation is apparent. Larger QC veins at 20-30deg TCA exhibiting weak boudinage and microfaulting. Massive QC veins from 83.15-83.6m (minor tab) and 87.85-88.25m at 65deg TCA. 2-3% fine-medium grained vein and selvage hosted pyrite. Blocky core fragmentation from 77.55-81.0m and 86-86.8m, possible weak fault with very weak gouge. Weak-moderate shearing at 40deg TCA. Sharp lower contact with major fault at 60deg TCA.</p> <p><b>MINOR INTERVALS:</b></p> <p><b>Minor Interval:</b> 80.50 - 81.00 ZFZ, FAULT ZONE Moderate blocky core fragmentation/faulting within the ACH. See ACH for detailed description.</p> <p><b>Minor Interval:</b> 83.15 - 83.60 QVC, QUARTZ CARBONATE VEINS Smokey light grey white, massive tension vein. Black wormy stringers throughout, possible chlorite infilling fractures. Weak patchy carbonate alteration and bleaching. Moderate pervasive silicification. 95% of the unit is composed of massive vein. ~1% fine grained vein hosted pyrite. Sharp low contact at 75deg TCA.</p> <p><b>Minor Interval:</b> 86.00 - 86.80 ZFZ, FAULT ZONE Moderate blocky core fragmentation/faulting along with moderate gouging within the ACH. See ACH for detailed description.</p>	1664076	77.55	78.50	0.95	0.05
			1664077	78.50	79.55	1.05	0.07
			1664078	79.55	80.50	0.95	0.04
			1664079	80.50	81.15	0.65	0.03
			1664081	81.15	82.20	1.05	0.06
			1664082	82.20	83.15	0.95	0.11
			1664083	83.15	83.60	0.45	0.01
			1664084	83.60	84.50	0.90	0.06
			1664085	84.50	85.15	0.65	0.36
			1664086	85.15	86.00	0.85	0.16
			1664087	86.00	86.80	0.80	0.23
			1664088	86.80	87.85	1.05	0.10
			1664089	87.85	88.25	0.40	0.04
			1664091	88.25	89.15	0.90	0.03
			1664092	89.15	90.00	0.85	0.04
			1664093	90.00	91.05	1.05	0.07
			1664094	91.05	92.05	1.00	0.08
			1664095	92.05	93.00	0.95	0.08
			1664096	93.00	94.00	1.00	0.03
			1664097	94.00	95.00	1.00	0.03
			1664098	95.00	96.00	1.00	0.05
			1664099	96.00	96.80	0.80	0.02
			1664101	96.80	97.70	0.90	0.01
			1664102	97.70	98.60	0.90	0.01
			1664103	98.60	99.50	0.90	0.01
			1664104	99.50	100.40	0.90	0.01
			1664105	100.40	101.40	1.00	0.01
			1664106	101.40	102.45	1.05	0.02
			1664107	102.45	103.70	1.25	0.01
103.70	106.45	<p><b>ZGO, GOUGE</b></p> <p>ZFZ/ZGO- Dark grey, fault zone/gouge within the ultramafics. Change in foliation direction suggests a possible fold nose. Moderate chlorite alteration with weak patches of talk. Very weak disseminated carbonate porphyroblasts. ~3% QC veinlets and gashes at ~60deg TCA. No significant mineralization. Fault occurs at ~60deg TCA. Sharp lower contact at 80deg TCA.</p>	1664108	103.70	104.30	0.60	0.01
			1664109	104.30	105.25	0.95	0.01
			1664111	105.25	106.45	1.20	0.01



Hole Number: **HW19-005A**

Units: METRIC

Detailed Lithology		Assay Data					
From	To	Lithology	Sample Number	From	To	Length	Au_gpt_Final
106.45	131.60	<p><b>VUM, MASSIVE ULTRAMAFIC</b></p> <p>Dark blue-grey, weakly deformed, massive ultramafic unit. Weak pervasive magnetism. Moderate pervasive chlorite alteration with weak-moderate-patch talc. Talc appears to increase within the vein selvages. Few talc veinlets/stringers observed. Weak-moderate disseminated carbonate alteration in the form of mm-cm scale magnesite porphyroblasts. From 116.4-118.1m, weak-moderate patches of pervasive carbonate alteration and bleaching. ~15% locally sheared QC veinlets/veins at 40deg TCA when orientation is apparent. Weak pseudo stockwork veining and moderate microfaulting. ~5% discordant QC gashes. From 114.5-114.8, massive QC vein at 35deg TCA. Overall trace pyrite with up to 1% FF/vein hosted observed and trace pyrrhotite.</p> <p><b>MINOR INTERVALS:</b></p> <p><b>Minor Interval:</b> 115.80 - 116.40 ZGO, GOUGE</p> <p>Fault gouge within the ultramafic. Moderate pervasive chlorite alteration with weak-moderate patchy talc. No significant veining or mineralization.</p> <p><b>Minor Interval:</b> 131.25 - 131.60 ZGO, GOUGE</p> <p>See above gouge</p>	1664112	106.45	107.15	0.70	0.01
			1664113	107.15	108.10	0.95	0.00
			1664114	108.10	109.10	1.00	0.01
			1664115	109.10	110.20	1.10	0.00
			1664116	110.20	111.15	0.95	0.00
			1664117	111.15	112.20	1.05	0.02
			1664118	112.20	113.45	1.25	0.00
			1664119	113.45	114.50	1.05	0.00
			1664121	114.50	114.80	0.30	0.01
			1664122	114.80	115.80	1.00	0.00
			1664123	115.80	116.40	0.60	0.01
			1664124	116.40	117.20	0.80	0.00
			1664125	117.20	118.10	0.90	0.01
			1664126	129.30	130.65	1.35	0.00
			1664127	130.65	131.60	0.95	0.00

Hole Number: **HW19-005A**

Units: METRIC

Detailed Lithology		Assay Data					
From	To	Lithology	Sample Number	From	To	Length	Au_gpt_Final
131.60	197.55	<b>VMV, MAFIC VOLCANIC VARIOLITIC</b> VMV/VMM- Medium grey transitioning to light grey with depth, fine grained, variolitic basalt. Weak pillow rims as well as carbonate filled clustered varioles (selective replacement) throughout the unit. Weak bleaching and infilling chlorite within the pillow rims. Weak patchy magnetism throughout (likely from magnetite and pyrrhotite). Weak-moderate disseminated chlorite and carbonate alteration with weak k-feldspar influencing select veins. Weak pervasive bleaching from 156.1m onwards, following massive sulphide zone. 3-5% discordant milky white C veinlets and gashes typically >40deg TCA when orientation is apparent. Very weak microfaulting within larger veinlets. Moderate tension gouging resulting in dark grey discordant chlorite (?) stringers. From 131.6-146.85m, 3% very fine grained fracture filling and trace disseminated pyrite with 0.5-1% fracture filling pyrrhotite. From 146.85m onwards, sulphides are typically fracture filling; ~5% pyrite, 2% pyrrhotite and up to 1% chalcopyrite. Chalcopyrite primarily observed from 156.1-157m. Locally up to 7% FF pyrite observed. Unit is cut by fingers of dark grey mafic intrusives (?) with moderate pervasive chlorite alteration <10cm. Weak-moderate localized brecciation as a result of brittle deformation, giving subhedral mafic clasts surrounded by increased chlorite/tourmaline/graphite (ex. 181.65-183m). Sharp lower contact with graphitic sediment at 70deg TCA. <b>MINOR INTERVALS:</b> <b>Minor Interval:</b> 155.65 - 156.10 ASO, DOMINANTLY SULPHIDE ROCK Massive sulphide unit. Weak bleaching and carbonate alteration. ~2% discordant QC gashes. 65-70% massive pyrite with trace pyrrhotite.	1664128	131.60	132.70	1.10	0.01
			1664129	132.70	133.70	1.00	0.00
			1664131	133.70	134.50	0.80	0.00
			1664132	134.50	135.60	1.10	0.00
			1664133	135.60	136.50	0.90	0.00
			1664134	136.50	137.50	1.00	0.00
			1664135	137.50	138.50	1.00	0.00
			1664136	138.50	139.55	1.05	0.00
			1664137	139.55	140.65	1.10	0.00
			1664138	140.65	141.70	1.05	0.00
			1664139	141.70	142.70	1.00	0.00
			1664141	142.70	143.70	1.00	0.00
			1664142	143.70	144.70	1.00	0.00
			1664143	144.70	145.75	1.05	0.00
			1664144	145.75	146.85	1.10	0.01
			1664145	146.85	147.80	0.95	0.00
			1664146	147.80	148.85	1.05	0.00
			1664147	148.85	149.80	0.95	0.00
			1664148	149.80	150.75	0.95	0.00
			1664149	150.75	151.80	1.05	0.00
			1664151	151.80	152.70	0.90	0.00
			1664152	152.70	153.80	1.10	0.00
			1664153	153.80	154.80	1.00	0.00
			1664154	154.80	155.65	0.85	0.00
			1664155	155.65	156.10	0.45	0.01
			1664156	156.10	157.00	0.90	0.00
			1664157	157.00	158.15	1.15	0.00
			1664158	158.15	159.35	1.20	0.00
			1664159	159.35	160.40	1.05	0.00
			1664161	160.40	161.50	1.10	0.00
			1664162	161.50	162.45	0.95	0.00
			1664163	162.45	163.40	0.95	0.00
			1664164	163.40	164.40	1.00	0.00
			1664165	164.40	165.40	1.00	0.00
			1664166	165.40	166.50	1.10	0.00
			1664167	166.50	167.50	1.00	0.00
			1664168	167.50	168.50	1.00	0.00
			1664169	168.50	169.50	1.00	0.00
			1664171	169.50	170.45	0.95	0.00
			1664172	170.45	171.55	1.10	0.00
			1664173	171.55	172.60	1.05	0.00
			1664174	172.60	173.75	1.15	0.00

**DETAILED LOG**Hole Number: **HW19-005A**

Units: METRIC

Detailed Lithology		Assay Data					
From	To	Lithology	Sample Number	From	To	Length	Au_gpt_Final
			1664175	173.75	174.80	1.05	0.00
			1664176	174.80	175.85	1.05	0.00
			1664177	175.85	176.85	1.00	0.00
			1664178	176.85	177.70	0.85	0.00
			1664179	177.70	178.80	1.10	0.00
			1664181	178.80	180.00	1.20	0.00
			1664182	180.00	181.10	1.10	0.00
			1664183	181.10	182.20	1.10	0.00
			1664184	182.20	183.30	1.10	0.00
			1664185	183.30	184.40	1.10	0.00
			1664186	184.40	185.45	1.05	0.00
			1664187	185.45	186.45	1.00	0.00
			1664188	186.45	187.30	0.85	0.00
			1664189	187.30	188.20	0.90	0.00
			1664191	188.20	189.35	1.15	0.00
			1664192	189.35	190.50	1.15	0.00
			1664193	190.50	191.65	1.15	0.00
			1664194	191.65	192.65	1.00	0.00
			1664195	192.65	193.80	1.15	0.01
			1664196	193.80	194.80	1.00	0.09
			1664197	194.80	195.70	0.90	0.01
			1664198	195.70	196.80	1.10	0.00
			1664199	196.80	197.55	0.75	0.01

Hole Number: **HW19-005A**

Units: METRIC

Detailed Lithology		Lithology	Assay Data				
From	To		Sample Number	From	To	Length	Au_gpt_Final
197.55	213.00	<p><b>SIC, CARBONACEOUS GRAPHITIC ARGILITE</b></p> <p>Layered dark grey to black, aphanitic graphitic/carbonaceous sedimentary rock. Very weak carbonate (+brown) alteration influencing select veins/floods. Moderate-strong graphite presence within the unit. 3-5% discordant wavy QC veinlets and gashes averaging 45deg TA when orientation is apparent. Weak microfaulting within the larger veins. Weak silica flooding from 212.3-212.6m, following the minor VMV. 5-10% fine grained, pseudo net textured fracture filling and vein hosted pyrite and 0.5% FF chalcopyrite. Weak localized shearing at 30-40deg TCA. Blocky core fragmentation throughout the unit (along cleavage). Unit is cut by a minor massive sulphide interval and VMV. Weak foliation and possible bedding at 45deg TCA. Lower contact lost in blocky core fragmentation.</p> <p><b>MINOR INTERVALS:</b></p> <p><b>Minor Interval:</b> 204.75 - 204.95 IMD, MAFIC DYKE Medium green-grey, fine grained massive mafic dyke. Unit is likely part of the massive VMV, with no apparent varioles. Weak chlorite and carbonate alteration. ~10% wispy discordant QC gashes. ~3% vein hosted pyrite. Sharp lower contact at 75deg TCA.</p> <p><b>Minor Interval:</b> 210.40 - 211.40 ASO, DOMINANTLY SULPHIDE ROCK Three pulses of semi massive pyrite withing a graphitic sediment. Weak carbonate and very weak bleaching present as halos surrounding the veins. ~5% discordant QC veinlets and gashes averaging 45deg TCA. Interval contains 15-20% clustered massive pyrite with possile trace pyrrhotite. Gradational lower contact.</p> <p><b>Minor Interval:</b> 211.40 - 212.30 VMV, MAFIC VOLCANIC VARIOLITIC Medium green-grey, fine grained, intermixed sediment and variolitic basalt. Few mm-cm scale carbonate filled varioles. Weak patchy chlorite and carbonate alteration. Increased chlorite alteration with moderate tourmaline in the fractures. ~10% discordant QC veins/veinlets/gashes, weak microfaulting within the larger veins. Moderate tension gouging resulting in discordant chlorite stringers. 3-5% fine grained fracture filling pyrite. Sharp lower contact at 50deg TCA.</p>	1664201	197.55	198.40	0.85	0.06
			1664202	198.40	199.35	0.95	0.03
			1664203	199.35	200.15	0.80	0.04
			1664204	200.15	200.75	0.60	0.07
			1664205	200.75	201.20	0.45	0.18
			1664206	201.20	201.90	0.70	0.07
			1664207	201.90	202.90	1.00	0.09
			1664208	202.90	204.00	1.10	0.06
			1664209	204.00	204.95	0.95	0.03
			1664211	204.95	205.80	0.85	0.11
			1664212	205.80	207.00	1.20	0.20
			1664213	207.00	207.80	0.80	0.03
			1664214	207.80	208.80	1.00	0.04
			1664215	208.80	209.40	0.60	0.09
			1664216	209.40	210.40	1.00	0.15
			1664217	210.40	211.40	1.00	0.13
			1664218	211.40	212.30	0.90	0.02
			1664219	212.30	213.00	0.70	0.03

## DETAILED LOG

Hole Number: **HW19-005A**

Units: METRIC

Detailed Lithology		Lithology	Assay Data				
From	To		Sample Number	From	To	Length	Au_gpt_Final
213.00	258.20	<b>VMV, MAFIC VOLCANIC VARIOLITIC</b> Light green-grey, fine grained, weakly magnetic variolitic basalt. From 213-226.9m, weak pervasive carbonate alteration gradually decreasing with depth. Weak-moderate fracture filling chlorite and tourmaline overall. very weak bleaching present as alteration halos surrounding select veins. 5-10% discordant !C veins/veinlets/gashes. Weak tension gouging resulting in discordant chlorite stringers. Trace pyrite overall with up to 3% vein hosted pyrite observed. Moderate localized brecciation from brittle deformation, resulting in tourmaline and chlorite filled fractures surrounding subhedral mafic clasts <10cm (ex. 213-216m, 245-246m, and 252.8-258.2m). Weak foliation at 45deg TCA. Sharp lower contact at 60deg TCA with slip fault.	1664221	213.00	214.00	1.00	0.01
			1664222	214.00	215.05	1.05	0.01
			1664223	215.05	216.00	0.95	0.01
			1664224	216.00	217.05	1.05	0.01
			1664225	217.05	217.95	0.90	0.01
			1664226	217.95	219.00	1.05	0.01
			1664227	219.00	220.05	1.05	0.00
			1664228	220.05	221.00	0.95	0.00
			1664229	221.00	222.00	1.00	0.00
			1664231	222.00	223.05	1.05	0.01
			1664232	223.05	223.95	0.90	0.01
			1664233	223.95	224.75	0.80	0.00
			1664234	224.75	225.70	0.95	0.01
			1664235	225.70	226.90	1.20	0.00
			1664236	226.90	228.00	1.10	0.00
			1664237	228.00	229.00	1.00	0.01
			1664238	229.00	230.00	1.00	0.00
			1664239	230.00	231.15	1.15	0.00
			1664241	231.15	232.30	1.15	0.00
			1664242	232.30	233.30	1.00	0.00
			1664243	233.30	234.30	1.00	0.01
			1664244	234.30	235.30	1.00	0.00
			1664245	235.30	236.30	1.00	0.00
			1664246	236.30	237.30	1.00	0.00
			1664247	237.30	238.50	1.20	0.00
			1664248	238.50	239.65	1.15	0.00
			1664249	239.65	240.60	0.95	0.01
			1664251	240.60	241.65	1.05	0.00
			1664252	241.65	242.70	1.05	0.00
			1664253	242.70	243.80	1.10	0.00
			1664254	243.80	245.00	1.20	0.00
			1664255	245.00	246.00	1.00	0.00
		1664256	246.00	246.90	0.90	0.01	
		1664257	246.90	248.00	1.10	0.00	
		1664258	248.00	249.00	1.00	0.01	
		1664259	249.00	250.00	1.00	0.01	
		1664261	257.00	257.60	0.60	0.00	
		1664262	257.60	258.20	0.60	0.00	

Hole Number: **HW19-005A**

Units: METRIC

Detailed Lithology		Assay Data					
From	To	Lithology	Sample Number	From	To	Length	Au_gpt_Final
258.20	258.80	<b>ZFZ, FAULT ZONE</b> Slip fault- Dark grey to black, sheared slip fault. Strong graphitic alteration resembling the above SIC from 258.2-258.65m. Weak patchy bleaching and disseminated carbonate alteration. Weak fracture filling chlorite gradually with depth. 10% veins and gashes at 45-50deg TCA. 3-5% foliated pyrite in the veins. Moderate foliation/shearing at 45deg TCA. Sharp lower contact at 50deg TCA.	1664263	258.20	258.80	0.60	0.02
258.80	263.80	<b>VIP, PILLOWED INTERMEDIATE VOLCANIC</b> Light green, fine grained, intermediate pillow basalt. Weak pillow rims as well as few carbonate filled varioles. Weak fracture filling chlorite alteration with weak bleaching and carbonate alteration present as halos surrounding veins and fractures. ~3% milky white QC veinlets at 60-70deg TCA. Weak microfaulting within the larger veins. <1% discordant wavy smoky grey QC stringers. Up to 1% fracture filling pyrite. Gradational lower contact at 40deg TCA.	1664264	258.80	259.45	0.65	0.00
			1664265	259.45	260.30	0.85	0.00
			1664266	260.30	261.05	0.75	0.00
263.80	266.60	<b>IIO, INTERMEDIATE INTRUSIVE</b> Light grey-green, medium-fine grained intermediate intrusive. ~30% subhedral lght beige mm scale phenocrysts. Weak disseminated carbonate alteration with very weak disseminated chlorite alteration. Very weak patchy bleaching. ~3% milky white veins at 50deg TCA. ~1% discordant smokey grey QC stringers. Moderate tension gouging resulting in discorsant dark grey-green chlorite stringers. Trace disseminated pyrite. Sharp lower contact at 50deg TCA.					

Hole Number: **HW19-005A**

Units: METRIC

Detailed Lithology		Assay Data					
From	To	Lithology	Sample Number	From	To	Length	Au_gpt_Final
266.60	330.35	<b>VIP, PILLOWED INTERMEDIATE VOLCANIC</b> VIP/VIV- Medium grey-green, fine grained massive intermediate pillowed basalt. Few chlorite/carbonate filled varioles observed within the pillow selvages. Weak disseminated carbonate alteration with weak patchy chlorite and bleaching. Increased bleaching present as halos surrounding QC veins/veinlets. 10-15% discordant, typically high angled, milky white QC veins/veinlets >50deg TCA. Weak microfaulting within the veins. Weak-moderate tension gouging resulting in fracture filling chlorite as well as veinlets/stringers. ~5% QC (+tourmaline) veins <10cm, at 60-70deg TCA. From 274.15-274.45m, massive QC (+tourmaline) shear vein at 45deg TCA. From 289.45-289.6m, massive QC vein at 60deg TCA. From 290.0-290.7m, massive brecciated QC vein containing at 40deg TCA, anhedral-subhedral chlorite altered mafic clasts (<5cm), very weak disseminated sericite flecks associated with veining. From 327.0-327.4m, massive sheared QC (+tourmaline) vein at 45deg TCA. Trace clustered pyrite overall, locally up to ~1% fine grained fracture filling pyrite. Weak localized brecciation with associated infilled chlorite and tourmaline alteration (ex 285.75-286.0m- fault breccia, brittle deformation?). Gradational lower contact marked by decrease in pillows and varioles.	1664267	272.05	273.15	1.10	0.01
			1664268	273.15	274.15	1.00	0.00
			1664269	274.15	274.45	0.30	0.01
			1664271	274.45	275.40	0.95	0.00
			1664272	275.40	276.30	0.90	0.00
			1664273	287.30	288.35	1.05	0.00
			1664274	288.35	289.20	0.85	0.00
			1664275	289.20	290.00	0.80	0.00
			1664276	290.00	290.70	0.70	0.00
			1664277	290.70	291.85	1.15	0.00
			1664278	291.85	292.90	1.05	0.00
			1664279	292.90	293.85	0.95	0.00
			1664281	293.85	294.75	0.90	0.01
			1664282	294.75	295.35	0.60	0.00
			1664283	295.35	296.45	1.10	0.00
			1664284	296.45	297.50	1.05	0.00
			1664285	297.50	298.10	0.60	0.00
			1664286	298.10	299.15	1.05	0.00
			1664287	299.15	300.15	1.00	0.00
			1664288	312.90	313.95	1.05	0.01
			1664289	313.95	315.00	1.05	0.00
			1664291	315.00	315.85	0.85	0.00
			1664292	315.85	317.00	1.15	0.00
			1664293	317.00	318.10	1.10	0.00
			1664294	318.10	319.15	1.05	0.00
			1664295	319.15	320.00	0.85	0.00
			1664296	320.00	321.00	1.00	0.00
			1664297	321.00	322.30	1.30	0.00
			1664298	322.30	323.40	1.10	0.00
			1664299	323.40	324.65	1.25	0.00
			1664301	324.65	325.95	1.30	0.00
			1664302	325.95	327.00	1.05	0.00
			1664303	327.00	327.40	0.40	0.01
			1664304	327.40	328.15	0.75	0.00
			1664305	328.15	329.25	1.10	0.00
			1664306	329.25	330.35	1.10	0.01

Hole Number: **HW19-005A**

Units: METRIC

Detailed Lithology		Assay Data					
From	To	Lithology	Sample Number	From	To	Length	Au_gpt_Final
330.35	337.25	<b>VMM, MAFIC VOLCANIC MASSIVE</b> VIM/VMM- Light grey-green fine grained, massive intermediate basalt. Weak-moderate disseminated leucoxene phenocrysts. Weak patchy chlorite alteration with weak disseminated carbonate. Weak patches of pervasive bleaching. ~5% milky white QC veinlets at 60-70deg TCA. Few discordant QC stringers at various angles, >45deg TCA. Weak microfaulting within the larger veins. Weak tension gouging resulting in fracture filling chlorite along with few chlorite stringers. Overall trace pyrite with up to 1% fine grained fracture filling chlorite. Sharp lower contact at 60deg TCA.	1664307	336.05	337.25	1.20	0.00
337.25	339.00	<b>IIO, INTERMEDIATE INTRUSIVE</b> Light grey, fine grained intermediate intrusive (?). ~25% subhedral light beige mm-scle flecks disseminated throughout, possible leucoxene. Weak disseminated/patchy carbonate alteration and moderate patchy bleaching. ~3% discordant milky white QC veinlets exhibiting weak localized microfaulting. ~2% discordant wavy QC stringers typically >30deg TCA. Trace pyrite. Weak foliation at 40deg TCA when orientation is noticed. Gradational lower contact.	1664308	337.25	337.95	0.70	0.00
			1664309	337.95	339.00	1.05	0.00
339.00	367.80	<b>VMV, MAFIC VOLCANIC VARIOLITIC</b> Light green-grey, fine grained variolitic basalt. Varioles increase in content and size (<3cm) from 351.85m onwards and are typically chlorite filled. Weak patchy and fracture filling chlorite, weak patchy bleaching, weak disseminated carbonate alteration. Moderate-strong fracture filling chlorite and tourmaline from 339.8-340.4m, with ~2% fine grained fracture filling pyrite. 5-10% discordant milky white QC veins/veinlets, exhibiting weak microfaulting. Weak tension gouging resulting in FF chlorite as well as chlorite stringers. From 344.0-344.2m, massive QC vein with weak associated k-feldspar alteration at 65deg TCA. Trace pyrite with up to ~1% fracture filling pyrite. Gradational lower contact.	1664311	339.00	339.80	0.80	0.00
			1664312	339.80	340.40	0.60	0.01
			1664313	340.40	341.20	0.80	0.00
			1664314	341.20	341.90	0.70	0.00
			1664315	341.90	343.00	1.10	0.00
			1664316	343.00	344.00	1.00	0.00
			1664317	344.00	344.50	0.50	0.00
			1664318	344.50	345.50	1.00	0.00
			1664319	345.50	346.55	1.05	0.00
			1664321	346.55	347.60	1.05	0.00
			1664322	364.90	365.70	0.80	0.00
			1664323	365.70	366.70	1.00	0.00
			1664324	366.70	367.80	1.10	0.00
367.80	369.90	<b>ZFZ, FAULT ZONE</b> Slip fault (?)- Possible secondary slip fault within the surrounding variolitic basalt. Weak patchy chlorite/ carbonate/bleaching. Strong fracture filling chlorite and tourmaline alteration with weak possible fracture filling graphite. 10-15% discordant QC veins and gashes and ~5% QC veins/veinlets at 35deg TCA. 3-5% fine grained fracture filling pyrite associated with strong chlorite/tourmaline alteration, Locally up to 10% clustered/FF pyrite observed. Weak shearing at 30deg TCA. Moderate gouge from 369.4-369.6m. Gradational lower contact.	1664325	367.80	368.40	0.60	0.00
			1664326	368.40	369.15	0.75	0.01
			1664327	369.15	369.90	0.75	0.00



Hole Number: **HW19-005A**

Units: METRIC

Detailed Lithology		Lithology	Assay Data				
From	To		Sample Number	From	To	Length	Au_gpt_Final
369.90	381.00	<b>VMV, MAFIC VOLCANIC VARIOLITIC</b> Medium green, fine grained variolitic basalt. Moderate pervasive chlorite alteration gradually weakening with depth. Moderate fracture filling chlorite and tourmaline (?) observed throughout the unit (decreasing in frequency with depth). Weak patchy/disseminated carbonate alteration and weak patchy/vein associated bleaching. 3-5% discordant milky white QC veins/veinlets. Weak pseudo- stockwork QC veining nearing end of hole. From 376.25-376.6m, massive deformed QC vein with weak associated k-feldspar alteration at 35deg TCA. Moderate chlorite from 369.9-373.55m with weak associated brecciation. ~0.5% fine grained fracture controlled/clustered pyrite. EOH at 381.0m	1664328	369.90	370.90	1.00	0.00
			1664329	370.90	372.05	1.15	0.00
			1664331	372.05	373.05	1.00	0.00
			1664332	373.05	374.25	1.20	0.01
			1664333	374.25	375.00	0.75	0.00
			1664334	375.00	376.25	1.25	0.00
			1664335	376.25	376.60	0.35	0.00
			1664336	376.60	377.15	0.55	0.00
			1664337	377.15	378.30	1.15	0.00
			1664338	378.30	379.15	0.85	0.00
			1664339	379.15	380.20	1.05	0.00
			1664341	380.20	381.00	0.80	0.00

### Samples

Sample Number	From	To	Au_gpt_Final
Sample Type	<b>ASSAY</b>		
1664051	45.40	46.15	0.0025
1664052	46.15	46.85	0.0140
1664053	46.85	47.85	0.0060
1664054	47.85	48.60	0.0060
1664055	48.60	49.50	0.0090
1664056	49.50	49.85	0.0080
1664057	49.85	50.40	0.0070
1664058	50.40	51.05	0.0060
1664059	64.10	65.15	0.0110
1664061	65.15	66.15	0.0050
1664062	66.15	67.15	0.0080
1664063	67.15	68.00	0.0190
1664064	68.00	69.00	0.0160
1664065	69.00	70.20	0.0060
1664066	70.20	71.15	0.0080
1664067	71.15	72.00	0.0170
1664068	72.00	72.60	0.1160
1664069	72.60	73.60	0.0090
1664071	73.60	74.55	0.0560
1664072	74.55	75.50	0.0060
1664073	75.50	76.40	0.0025
1664074	76.40	77.00	0.0530
1664075	77.00	77.55	0.0150
1664076	77.55	78.50	0.0520

Hole Number: **HW19-005A**

Units: METRIC

**Samples**

Sample Number	From	To	Au_gpt_Final
Sample Type	<b>ASSAY</b>		
1664077	78.50	79.55	0.0680
1664078	79.55	80.50	0.0380
1664079	80.50	81.15	0.0280
1664081	81.15	82.20	0.0570
1664082	82.20	83.15	0.1100
1664083	83.15	83.60	0.0140
1664084	83.60	84.50	0.0580
1664085	84.50	85.15	0.3570
1664086	85.15	86.00	0.1630
1664087	86.00	86.80	0.2340
1664088	86.80	87.85	0.1040
1664089	87.85	88.25	0.0400
1664091	88.25	89.15	0.0260
1664092	89.15	90.00	0.0420
1664093	90.00	91.05	0.0670
1664094	91.05	92.05	0.0770
1664095	92.05	93.00	0.0750
1664096	93.00	94.00	0.0330
1664097	94.00	95.00	0.0330
1664098	95.00	96.00	0.0540
1664099	96.00	96.80	0.0160
1664101	96.80	97.70	0.0100
1664102	97.70	98.60	0.0120
1664103	98.60	99.50	0.0120
1664104	99.50	100.40	0.0060
1664105	100.40	101.40	0.0110
1664106	101.40	102.45	0.0190
1664107	102.45	103.70	0.0100
1664108	103.70	104.30	0.0090
1664109	104.30	105.25	0.0080
1664111	105.25	106.45	0.0090
1664112	106.45	107.15	0.0060
1664113	107.15	108.10	0.0025
1664114	108.10	109.10	0.0060
1664115	109.10	110.20	0.0025
1664116	110.20	111.15	0.0025
1664117	111.15	112.20	0.0160
1664118	112.20	113.45	0.0025
1664119	113.45	114.50	0.0025

Hole Number: **HW19-005A**

Units: METRIC

**Samples**

Sample Number	From	To	Au_gpt_Final
Sample Type <b>ASSAY</b>			
1664121	114.50	114.80	0.0060
1664122	114.80	115.80	0.0025
1664123	115.80	116.40	0.0080
1664124	116.40	117.20	0.0025
1664125	117.20	118.10	0.0060
1664126	129.30	130.65	0.0025
1664127	130.65	131.60	0.0025
1664128	131.60	132.70	0.0110
1664129	132.70	133.70	0.0025
1664131	133.70	134.50	0.0025
1664132	134.50	135.60	0.0025
1664133	135.60	136.50	0.0025
1664134	136.50	137.50	0.0025
1664135	137.50	138.50	0.0025
1664136	138.50	139.55	0.0025
1664137	139.55	140.65	0.0025
1664138	140.65	141.70	0.0025
1664139	141.70	142.70	0.0025
1664141	142.70	143.70	0.0025
1664142	143.70	144.70	0.0025
1664143	144.70	145.75	0.0025
1664144	145.75	146.85	0.0060
1664145	146.85	147.80	0.0025
1664146	147.80	148.85	0.0025
1664147	148.85	149.80	0.0025
1664148	149.80	150.75	0.0025
1664149	150.75	151.80	0.0025
1664151	151.80	152.70	0.0025
1664152	152.70	153.80	0.0025
1664153	153.80	154.80	0.0025
1664154	154.80	155.65	0.0025
1664155	155.65	156.10	0.0060
1664156	156.10	157.00	0.0025
1664157	157.00	158.15	0.0025
1664158	158.15	159.35	0.0025
1664159	159.35	160.40	0.0025
1664161	160.40	161.50	0.0025
1664162	161.50	162.45	0.0025
1664163	162.45	163.40	0.0025

Hole Number: **HW19-005A**

Units: METRIC

**Samples**

Sample Number	From	To	Au_gpt_Final
Sample Type	<b>ASSAY</b>		
1664164	163.40	164.40	0.0025
1664165	164.40	165.40	0.0025
1664166	165.40	166.50	0.0025
1664167	166.50	167.50	0.0025
1664168	167.50	168.50	0.0025
1664169	168.50	169.50	0.0025
1664171	169.50	170.45	0.0025
1664172	170.45	171.55	0.0025
1664173	171.55	172.60	0.0025
1664174	172.60	173.75	0.0025
1664175	173.75	174.80	0.0025
1664176	174.80	175.85	0.0025
1664177	175.85	176.85	0.0025
1664178	176.85	177.70	0.0025
1664179	177.70	178.80	0.0025
1664181	178.80	180.00	0.0025
1664182	180.00	181.10	0.0025
1664183	181.10	182.20	0.0025
1664184	182.20	183.30	0.0025
1664185	183.30	184.40	0.0025
1664186	184.40	185.45	0.0025
1664187	185.45	186.45	0.0025
1664188	186.45	187.30	0.0025
1664189	187.30	188.20	0.0025
1664191	188.20	189.35	0.0025
1664192	189.35	190.50	0.0025
1664193	190.50	191.65	0.0025
1664194	191.65	192.65	0.0025
1664195	192.65	193.80	0.0060
1664196	193.80	194.80	0.0910
1664197	194.80	195.70	0.0110
1664198	195.70	196.80	0.0025
1664199	196.80	197.55	0.0090
1664201	197.55	198.40	0.0590
1664202	198.40	199.35	0.0250
1664203	199.35	200.15	0.0390
1664204	200.15	200.75	0.0680
1664205	200.75	201.20	0.1770
1664206	201.20	201.90	0.0660

Hole Number: **HW19-005A**

Units: METRIC

**Samples**

Sample Number	From	To	Au_gpt_Final
Sample Type	<b>ASSAY</b>		
1664207	201.90	202.90	0.0930
1664208	202.90	204.00	0.0590
1664209	204.00	204.95	0.0300
1664211	204.95	205.80	0.1050
1664212	205.80	207.00	0.2040
1664213	207.00	207.80	0.0330
1664214	207.80	208.80	0.0400
1664215	208.80	209.40	0.0860
1664216	209.40	210.40	0.1520
1664217	210.40	211.40	0.1300
1664218	211.40	212.30	0.0200
1664219	212.30	213.00	0.0270
1664221	213.00	214.00	0.0050
1664222	214.00	215.05	0.0090
1664223	215.05	216.00	0.0110
1664224	216.00	217.05	0.0050
1664225	217.05	217.95	0.0070
1664226	217.95	219.00	0.0050
1664227	219.00	220.05	0.0025
1664228	220.05	221.00	0.0025
1664229	221.00	222.00	0.0025
1664231	222.00	223.05	0.0060
1664232	223.05	223.95	0.0060
1664233	223.95	224.75	0.0025
1664234	224.75	225.70	0.0060
1664235	225.70	226.90	0.0025
1664236	226.90	228.00	0.0025
1664237	228.00	229.00	0.0060
1664238	229.00	230.00	0.0025
1664239	230.00	231.15	0.0025
1664241	231.15	232.30	0.0025
1664242	232.30	233.30	0.0025
1664243	233.30	234.30	0.0080
1664244	234.30	235.30	0.0025
1664245	235.30	236.30	0.0025
1664246	236.30	237.30	0.0025
1664247	237.30	238.50	0.0025
1664248	238.50	239.65	0.0025
1664249	239.65	240.60	0.0070

Hole Number: **HW19-005A**

Units: METRIC

**Samples**

Sample Number	From	To	Au_gpt_Final
Sample Type	<b>ASSAY</b>		
1664251	240.60	241.65	0.0025
1664252	241.65	242.70	0.0025
1664253	242.70	243.80	0.0025
1664254	243.80	245.00	0.0025
1664255	245.00	246.00	0.0025
1664256	246.00	246.90	0.0070
1664257	246.90	248.00	0.0025
1664258	248.00	249.00	0.0060
1664259	249.00	250.00	0.0070
1664261	257.00	257.60	0.0025
1664262	257.60	258.20	0.0025
1664263	258.20	258.80	0.0200
1664264	258.80	259.45	0.0025
1664265	259.45	260.30	0.0025
1664266	260.30	261.05	0.0025
1664267	272.05	273.15	0.0050
1664268	273.15	274.15	0.0025
1664269	274.15	274.45	0.0070
1664271	274.45	275.40	0.0025
1664272	275.40	276.30	0.0025
1664273	287.30	288.35	0.0025
1664274	288.35	289.20	0.0025
1664275	289.20	290.00	0.0025
1664276	290.00	290.70	0.0025
1664277	290.70	291.85	0.0025
1664278	291.85	292.90	0.0025
1664279	292.90	293.85	0.0025
1664281	293.85	294.75	0.0090
1664282	294.75	295.35	0.0025
1664283	295.35	296.45	0.0025
1664284	296.45	297.50	0.0025
1664285	297.50	298.10	0.0025
1664286	298.10	299.15	0.0025
1664287	299.15	300.15	0.0025
1664288	312.90	313.95	0.0070
1664289	313.95	315.00	0.0025
1664291	315.00	315.85	0.0025
1664292	315.85	317.00	0.0025
1664293	317.00	318.10	0.0025

Hole Number: **HW19-005A**

Units: METRIC

**Samples**

Sample Number	From	To	Au_gpt_Final
Sample Type	<b>ASSAY</b>		
1664294	318.10	319.15	0.0025
1664295	319.15	320.00	0.0025
1664296	320.00	321.00	0.0025
1664297	321.00	322.30	0.0025
1664298	322.30	323.40	0.0025
1664299	323.40	324.65	0.0025
1664301	324.65	325.95	0.0025
1664302	325.95	327.00	0.0025
1664303	327.00	327.40	0.0050
1664304	327.40	328.15	0.0025
1664305	328.15	329.25	0.0025
1664306	329.25	330.35	0.0060
1664307	336.05	337.25	0.0025
1664308	337.25	337.95	0.0025
1664309	337.95	339.00	0.0025
1664311	339.00	339.80	0.0025
1664312	339.80	340.40	0.0060
1664313	340.40	341.20	0.0025
1664314	341.20	341.90	0.0025
1664315	341.90	343.00	0.0025
1664316	343.00	344.00	0.0025
1664317	344.00	344.50	0.0025
1664318	344.50	345.50	0.0025
1664319	345.50	346.55	0.0025
1664321	346.55	347.60	0.0025
1664322	364.90	365.70	0.0025
1664323	365.70	366.70	0.0025
1664324	366.70	367.80	0.0025
1664325	367.80	368.40	0.0025
1664326	368.40	369.15	0.0090
1664327	369.15	369.90	0.0025
1664328	369.90	370.90	0.0025
1664329	370.90	372.05	0.0025
1664331	372.05	373.05	0.0025
1664332	373.05	374.25	0.0070
1664333	374.25	375.00	0.0025
1664334	375.00	376.25	0.0025
1664335	376.25	376.60	0.0025
1664336	376.60	377.15	0.0025

Hole Number: **HW19-005A**

Units: METRIC

**Samples**

Sample Number	From	To	Au_gpt_Final
Sample Type	<b>ASSAY</b>		
1664337	377.15	378.30	0.0025
1664338	378.30	379.15	0.0025
1664339	379.15	380.20	0.0025
1664341	380.20	381.00	0.0025



## DETAILED LOG

Hole Number: **HW19-006**

Units: METRIC

Project Name: Harker Township	Primary Coordinates Grid: UTM:NAD83:	Destination Coordinates Grid: UTM:	Collar Dip: -50.00
Project Number: HARKER_TWP	North: 5375727.20	North:	Collar Az: 345.00
Location: Harker Township	East: 582432.20	East:	Length: 399.00
	Elev: 287.40	Elev:	Start Depth: 0.00
Date Started: Nov 01, 2019	Collar Survey: N	Plugged: N	Contractor: Black Diamond
Date Completed: Nov 05, 2019	Multishot Survey: N	Hole Size: NQ	Core Storage:
	Pulse EM Survey: N	Casing: YES	Final Depth: 399.00

Comments:

## Sample Averages

## Survey Data

Depth	Azimuth Decimal	Dip Decimal	Test Type	Flag	Comments	Depth	Azimuth Decimal	Dip Decimal	Test Type	Flag	Comments
<b>0.00</b>	345.00	-50.00	APS	OK		<b>42.00</b>	342.50	-47.90	EZ Sho	OK	Azi corrected by subtracting 11.4 from reading; pulled back 6m
<b>93.00</b>	341.80	-47.40	EZ Sho	OK	Azi corrected by subtracting 11.4 from reading; pulled back 6m	<b>144.00</b>	346.30	-45.10	EZ Sho	OK	Azi corrected by subtracting 11.4 from reading; pulled back 6m
<b>198.00</b>	351.40	-46.90	EZ Sho	OK	Azi corrected by subtracting 11.4 from reading; pulled back 6m	<b>249.00</b>	353.40	-46.60	EZ Sho	OK	Azi corrected by subtracting 11.4 from reading; pulled back 6m
<b>300.00</b>	354.50	-46.30	EZ Sho	OK	Azi corrected by subtracting 11.4 from reading; pulled back 6m	<b>360.00</b>	358.30	-45.50	EZ Sho	OK	Azi corrected by subtracting 11.4 from reading; pulled back 6m
<b>399.00</b>	358.90	-47.30	EZ Sho	OK	Azi corrected by subtracting 11.4 from reading; pulled back 6m						

Detailed Lithology		Assay Data					
From	To	Lithology	Sample Number	From	To	Length	Au_gpt_Final
0.00	20.15	<b>HPO, OVERBURDEN</b> Overburden					
20.15	21.00	<b>QVC, QUARTZ CARBONATE VEINS</b> Massive milky white QC vein within a mafic host rock. Weak patchy oxidation along with weak patchy carbonate and chlorite alteration. ~40% of the unit is composed of vein material typically at ~40deg TCA. No significant mineralization. Gradational lower contact.	1664342	20.15	21.00	0.85	0.00
21.00	24.00	<b>ZFZ, FAULT ZONE</b> Dark grey, patchy brown, fine grained faulted mafic volcanic. Very weak fracture filling graphite observed within the competent portions. Weak patchy/disseminated carbonate. weak patchy chlorite and moderate patchy oxidation. 10-15% QC gashes and veins (?). Blocky core fragmentation making veining content difficult to determine. Weak purple coloration in select veins, possible weak albite (?). Trace pyrite overall, locally up to 0.5-1% clustered. Lower contact lost in fragmentation, ~75deg TCA.	1664343	21.00	22.50	1.50	0.00
			1664344	22.50	24.00	1.50	0.00
24.00	28.50	<b>QBX, QUARTZ BRECCIA</b> Massive milky white QC vein within a dark grey fine grained mafic unit. Weak-moderate fracture filling chlorite and graphite alteration. Weak disseminated carbonate and very weak vein associated bleaching. Weak oxidation surrounding fractures giving a rusty brown colour. ~75% of the unit is composed of brecciated qQC veins, with ~15% subhedral gey mafic clasts throughout (<3cm). ~3% discordant QC gashes. ~5% fracture filling pyrite and trace pyrrhotite. Sharp lower contact with fault at 75deg TCA.	1664345	24.00	25.00	1.00	0.01
			1664346	25.00	25.65	0.65	0.01
			1664347	25.65	26.45	0.80	0.01
			1664348	26.45	27.00	0.55	0.01
			1664349	27.00	28.50	1.50	0.01

## DETAILED LOG

Hole Number: **HW19-006**

Units: METRIC

Detailed Lithology		Assay Data					
From	To	Lithology	Sample Number	From	To	Length	Au_gpt_Final
28.50	35.00	<b>ZFZ, FAULT ZONE</b> Dark grey, fine grained, faulted mafic volcanic. Very weak patchy magnetism, possible disseminated pyrrhotite. Weak patchy chlorite and carbonate alteration with very weak patchy bleaching. Few yellow clustered patches, possible disseminated sericite. 3-5% discordant blocky/fragmented milky white QC material. Overall trace pyrite (with up to 1% pyrite veins), from 33.6m onwards ~2% fine-medium grained disseminated pyrite. Gradational lower contact.	1664351	28.50	30.00	1.50	0.01
			1664352	30.00	31.20	1.20	0.00
			1664353	31.20	32.40	1.20	0.04
			1664354	32.40	33.60	1.20	0.02
			1664355	33.60	35.00	1.40	0.02
35.00	42.25	<b>VMV, MAFIC VOLCANIC VARIOLITIC</b> Light grey, fine grained, weakly magnetic variolitic basalt. Weak localized pillowing with weak-moderate associated chlorite alteration. Weak pervasive bleaching and carbonate alteration. Weak bleaching present as alteration halos surrounding veins and fractures. ~2% discordant wavy, smoky grey and light yellow-green tension veinlets/stringers. 1-2% fine grained fracture filling and vein hosted pyrite. Weak foliation at 45deg TCA. Sharp lower contact with slip fault at 30deg TCA.	1664356	35.00	36.00	1.00	0.01
			1664357	36.00	37.00	1.00	0.00
			1664358	37.00	38.00	1.00	0.01
			1664359	38.00	39.00	1.00	0.01
			1664361	39.00	39.70	0.70	0.00
			1664362	39.70	40.70	1.00	0.00
			1664363	40.70	41.45	0.75	0.01
			1664364	41.45	42.25	0.80	0.01
42.25	43.70	<b>ZFZ, FAULT ZONE</b> Graphitic slip fault- Dark grey-black, aphanitic, weakly magnetic slip fault. Unit could be a sheared sedimentary interval. Weak patchy carbonate (+brown) and moderate oxidation. ~1% bleb-like smoky grey QC gashes. Weak tension gouging resulting in dark grey stringers, possible chlorite. ~15% fracture filling/controlled pyrite and ~1% clustered pyrrhotite. Weak shearing at 35deg TCA. Moderate blocky core fragmentation throughout. Gradational lower contact.	1664365	42.25	42.95	0.70	0.03
			1664366	42.95	43.70	0.75	0.04
43.70	53.90	<b>VMV, MAFIC VOLCANIC VARIOLITIC</b> Light grey, fine grained, variolitic basalt. 10-15% subhedral light grey, carbonate filled variole clustered up to 1cm. Few weak pillows throughout. Weak-moderate pervasive bleaching and carbonate alteration. Weak disseminated yellow-green flecks, possible sericite. Weak hematite alteration along fractures. 5-10% discordant milky white QC veinlets/stringers typically >40deg TCA. ~3% lime green to yellow stringers, possible sericite or other clay-like material (ex. 46.65-47.0m). 0.5-1% fine grained clustered and fracture controlled pyrite.	1664367	43.70	44.50	0.80	0.00
			1664368	44.50	45.35	0.85	0.00
			1664369	45.35	46.50	1.15	0.00
			1664371	46.50	47.45	0.95	0.00
			1664372	47.45	48.65	1.20	0.00
			1664373	48.65	49.45	0.80	0.00
			1664374	49.45	50.65	1.20	0.00
			1664375	50.65	51.70	1.05	0.00
			1664376	51.70	52.90	1.20	0.00
			1664377	52.90	53.90	1.00	0.00
53.90	55.95	<b>VMV, MAFIC VOLCANIC VARIOLITIC</b> Flow top- Light grey, fine grained, variolitic basalt. Weak chert like appearance suggesting a VMS system. Few weak background varioles overprinted by bleaching. Weak-moderate pervasive bleaching and carbonate alteration. Very weak patchy silicification. 5-10% discordant, often smoky grey, QC veinlets/gashes. Moderate tension gouging resulting in dark grey erratic stringers. 10% fracture controlled pyrite, 2% chalcopyrite, and 1% clustered pyrrhotite. Weak foliation/shearing at 40deg TCA. Sharp lower contact at 80deg TCA.	1664378	53.90	54.95	1.05	0.02
			1664379	54.95	55.95	1.00	0.02

Hole Number: **HW19-006**

Units: METRIC

Detailed Lithology		Assay Data					
From	To	Lithology	Sample Number	From	To	Length	Au_gpt_Final
55.95	75.50	<p><b>VMV, MAFIC VOLCANIC VARIOLITIC</b></p> <p>Light grey-green gradually transitioning to medium grey, fine-medium grained, variolitic basalt. Weak pervasive carbonate and bleaching overall. Weak k-feldspar/albite alteration influencing larger QC veins from 65.6-68.85m. 10-15% discordant QC veins/veinlets/stringers/gashes, typically &gt;30deg TCA. Massive QC veins at 25deg TCA from 61.9-62.65m. From 65.6-68.85m, ~10% locally brecciated QC veins at 65deg TCA and 5% weakly sheared QC veinlets at 55deg TCA.</p> <p>From 55.95-70.9m, trace disseminated pyrite. From 70.9-75.15m, increased disseminated carbonate poikioblasts (~25%), weak patchy silicification (smoky grey), 7-10% disseminated pyrite, ~1% clustered pyrrhotite, and trace chalcopyrite. From 73.1-73.85m, moderate disseminated sericite with ~12% fine grained disseminated pyrite. Blocky core fragmentation from 57.75-60.6m. Sharp lower contact with slip fault at 35deg TCA.</p> <p><b>MINOR INTERVALS:</b>  <b>Minor Interval:</b>  75.15 - 75.50 ZFZ, FAULT ZONE</p> <p>Slip Fault- Black, moderately sheared graphitic slip fault. Weak patchy carbonate alteration with moderate fracture filling graphite. ~1% discordant QC gashes/blebs. Weak tension gouging resulting in wavy tourmaline stringers. ~7% fine grained fracture filling pyrite and trace pyrrhotite. Weak foliation/shearing at 50deg TCA. Sharp lower contact at 50deg TCA.</p>	1664381	55.95	56.95	1.00	0.00
			1664382	56.95	58.10	1.15	0.00
			1664383	58.10	59.20	1.10	0.00
			1664384	59.20	60.60	1.40	0.00
			1664385	60.60	61.80	1.20	0.00
			1664386	61.80	62.75	0.95	0.00
			1664387	62.75	63.80	1.05	0.00
			1664388	63.80	64.65	0.85	0.00
			1664389	64.65	65.60	0.95	0.00
			1664391	65.60	66.60	1.00	0.00
			1664392	66.60	67.80	1.20	0.00
			1664393	67.80	68.85	1.05	0.00
			1664394	68.85	70.00	1.15	0.00
			1664395	70.00	70.90	0.90	0.00
			1664396	70.90	71.55	0.65	0.01
			1664397	71.55	72.50	0.95	0.01
			1664398	72.50	73.10	0.60	0.00
			1664399	73.10	73.85	0.75	0.00
			1664401	73.85	74.30	0.45	0.00
			1664402	74.30	75.15	0.85	0.00
			1664403	75.15	75.50	0.35	0.04
75.50	79.55	<p><b>LDO, DIABASE DYKE</b></p> <p>Medium green, medium grained diabase dyke/gabbro. Increased grain size relative to the above intermediate basalt. Weak pervasive chlorite alteration with weak disseminated carbonate phenocrysts. Weak patchy brown carbonate also observed. Very weak patchy sericite. ~2% discordant QC stringers and gashes. ~3% discordant tourmaline veinlets/stringers, possible selective replacement of the QC veinlets. Sulphides appear to be replacing carbonate phenocrysts, ~7% disseminated pyrite, 0.5% clustered chalcopyrite, and 0.25% clustered pyrrhotite. Sharp lower contact at 65deg TCA.</p>	1664404	75.50	76.50	1.00	0.00
			1664405	76.50	77.60	1.10	0.01
			1664406	77.60	78.50	0.90	0.00
			1664407	78.50	79.55	1.05	0.00

Hole Number: **HW19-006**

Units: METRIC

Detailed Lithology		Lithology	Assay Data				
From	To		Sample Number	From	To	Length	Au_gpt_Final
79.55	139.20	<p><b>VMV, MAFIC VOLCANIC VARIOLITIC</b></p> <p>Light grey, fine-medium grained, variolitic basalt. Few weak pillow relics with moderate chlorite alteration in the selvages, Varioles are typically mm-scale, clustered and carbonate filled. Weak-moderate pervasive bleaching and carbonate alteration. Weak patchy oxidation within fractures resulting in dark brown rusty color. Very weak disseminated chlorite and possible sericite. Sericite is typically observed in areas with increased mineralization. Weak k-feldspar alteration influencing select veins. From 79.55-108.5m, 10-15% typically high angled QC veins/veinlets &gt;45deg TCA when orientation is apparent. Weak localized microfaulting within the larger veins. Weak tension gouging resulting in few tourmaline stringers. From 108.8m onwards veining increases to 15-20% weakly sheared milky white QC veins at 50-60deg TCA. From 94.0-94.4m, massive brecciated QC vein at 45deg TCA. From 115.7-115.85m, massive shear vein at 70deg TCA. Strong tension veining near lower contact with ultramafic lense. From 79.55-80.05m flow top (resembles smoky blue-black vein system), moderate silicification with moderate fracture filling tourmaline and chlorite, ~12% clustered pyrite, and 0.5% pyrrhotite. From 96.35-97.15m, flow top with increased bleaching/carbonate alteration, weak patchy silicification, weak brecciation along with 15-20% FF pyrite, 2% FF chalcopyrite and trace pyrrhotite. From 99.7-100.6m, ~12 % FF and clustered pyrite, ~1% FF chalcopyrite, trace pyrrhotite. When chalcopyrite is observed it is typically surrounded by pyrite (embedded). Weak brecciation within flow top and 3% FF pyrite from 120.0-122.65m. Overall trace clustered pyrite, locally up to 1% observed, typically replacing veins. Unit is cut by a minor slip fault and mafic intrusive. Sharp lower contact at 50deg TCA.</p> <p><b>MINOR INTERVALS:</b></p> <p><b>Minor Interval:</b> 83.23 - 83.40 ZFZ, FAULT ZONE</p> <p>Slip Fault- Black, moderately sheared graphitic slip fault. Weak patchy carbonate alteration with moderate fracture filling graphite. ~1% discordant QC gashes/stringers. ~10% fine grained fracture filling pyrite and trace pyrrhotite. Weak foliation/shearing at 50deg TCA. Sharp lower contact at 50deg TCA.</p> <p><b>Minor Interval:</b> 122.65 - 123.40 IMD, MAFIC DYKE</p> <p>Medium grey, patchy green mafic dyke. Weak pervasive carbonate alteration and moderate pervasive bleaching. Moderate oxidation along fractures. ~12% discordant QC gashes and veinlets. No significant mineralization. Sharp lower contact at 60deg TCA.</p>	1664408	79.55	80.05	0.50	0.02
			1664409	80.05	81.00	0.95	0.00
			1664411	81.00	82.15	1.15	0.00
			1664412	82.15	83.23	1.08	0.00
			1664413	83.23	83.55	0.32	0.02
			1664414	83.55	84.45	0.90	0.00
			1664415	84.45	85.60	1.15	0.01
			1664416	91.70	93.00	1.30	0.00
			1664417	93.00	94.00	1.00	0.00
			1664418	94.00	94.40	0.40	0.00
			1664419	94.40	95.30	0.90	0.00
			1664421	95.30	96.35	1.05	0.00
			1664422	96.35	97.15	0.80	0.02
			1664423	97.15	98.15	1.00	0.00
			1664424	98.15	99.00	0.85	0.00
			1664425	99.00	99.70	0.70	0.00
			1664426	99.70	100.60	0.90	0.01
			1664427	100.60	101.50	0.90	0.00
			1664428	101.50	102.25	0.75	0.00
			1664429	102.25	103.25	1.00	0.00
			1664431	103.25	104.40	1.15	0.00
			1664432	104.40	105.40	1.00	0.00
			1664433	105.40	106.50	1.10	0.00
			1664434	106.50	107.45	0.95	0.00
			1664435	107.45	108.50	1.05	0.00
			1664436	108.50	109.55	1.05	0.00
			1664437	109.55	110.60	1.05	0.00
			1664438	110.60	111.70	1.10	0.00
			1664439	111.70	112.90	1.20	0.00
			1664441	112.90	114.00	1.10	0.00
			1664442	114.00	115.15	1.15	0.00
			1664443	115.15	115.90	0.75	0.00
			1664444	115.90	116.90	1.00	0.00
			1664445	116.90	117.90	1.00	0.00
			1664446	117.90	118.75	0.85	0.00
			1664447	118.75	120.00	1.25	0.00
			1664448	120.00	120.95	0.95	0.03
			1664449	120.95	121.95	1.00	0.02
			1664451	121.95	122.65	0.70	0.00
			1664452	122.65	123.40	0.75	0.00
			1664453	123.40	124.50	1.10	0.00
			1664454	124.50	125.50	1.00	0.00

**DETAILED LOG**Hole Number: **HW19-006**

Units: METRIC

Detailed Lithology		Assay Data					
From	To	Lithology	Sample Number	From	To	Length	Au_gpt_Final
			1664455	125.50	126.60	1.10	0.00
			1664456	126.60	127.60	1.00	0.00
			1664457	127.60	128.70	1.10	0.00
			1664458	128.70	129.75	1.05	0.00
			1664459	129.75	130.85	1.10	0.00
			1664461	130.85	132.00	1.15	0.00
			1664462	132.00	133.15	1.15	0.00
			1664463	133.15	134.05	0.90	0.00
			1664464	134.05	135.00	0.95	0.00
			1664465	135.00	136.15	1.15	0.00
			1664466	136.15	137.15	1.00	0.00
			1664467	137.15	138.30	1.15	0.00
			1664468	138.30	139.20	0.90	0.00
139.20	140.00	<b>VUO, ULTRAMAFIC VOLCANIC</b> Dark grey, medium grained, massive ultramafic lense. Moderate pervasive chlorite alteration with weak disseminated carbonate. No significant veining. Moderate tension gouging resulting in chlorite stringers. ~1% clustered pyrrhotite. Sharp lower contact at 45deg TCA.	1664469	139.20	140.00	0.80	0.00

## DETAILED LOG

Hole Number: **HW19-006**

Units: METRIC

Detailed Lithology		Lithology	Assay Data				
From	To		Sample Number	From	To	Length	Au_gpt_Final
140.00	166.75	<p><b>VMM, MAFIC VOLCANIC MASSIVE</b></p> <p>Light-medium grey, fine grained, massive mafic volcanic unit. Few possible relict pillows overprinted by alteration. Weak pervasive chlorite and bleaching with weak-moderate disseminated and fracture filling chlorite. Weak disseminated yellow-green sericite phenocrysts. From 154.6-155.35m, weak disseminated fuchsite. ~25% smokey grey QC veins typically at 70-80deg TCA. ~5% lower angled, secondary smoky stringers at 40-50deg TCA. ~1% vein hosted pyrite and trace vein hosted pyrrhotite. Gradational lower contact marked by increase in deformation.</p> <p><b>MINOR INTERVALS:</b></p> <p><b>Minor Interval:</b></p> <p>158.35 - 159.20 QVC, QUARTZ CARBONATE VEINS</p> <p>Massive smokey grey-blue C vein system. Moderate silicification and weak carbonate alteration within the host mafic volcanic. Moderate fracture filling chlorite/tourmaline stringers. Trace vein hosted pyrite. Sharp lower contact at 60deg TCA.</p> <p><b>Minor Interval:</b></p> <p>162.20 - 163.10 QVC, QUARTZ CARBONATE VEINS</p> <p>See above QCV minor 158.35-159.2m</p>	1664471	140.00	141.00	1.00	0.00
			1664472	141.00	142.05	1.05	0.00
			1664473	142.05	143.30	1.25	0.00
			1664474	143.30	144.50	1.20	0.00
			1664475	144.50	145.65	1.15	0.00
			1664476	145.65	146.60	0.95	0.00
			1664477	146.60	147.85	1.25	0.00
			1664478	147.85	148.95	1.10	0.00
			1664479	148.95	150.00	1.05	0.00
			1664481	150.00	151.15	1.15	0.00
			1664482	151.15	152.25	1.10	0.00
			1664483	152.25	153.40	1.15	0.00
			1664484	153.40	154.60	1.20	0.00
			1664485	154.60	155.35	0.75	0.00
			1664486	155.35	156.30	0.95	0.00
			1664487	156.30	157.40	1.10	0.00
			1664488	157.40	158.35	0.95	0.00
			1664489	158.35	159.20	0.85	0.00
			1664491	159.20	159.95	0.75	0.00
			1664492	159.95	161.05	1.10	0.00
			1664493	161.05	162.20	1.15	0.00
			1664494	162.20	163.10	0.90	0.00
			1664495	163.10	163.95	0.85	0.00
			1664496	163.95	164.90	0.95	0.00
			1664497	164.90	165.75	0.85	0.00
			1664498	165.75	166.75	1.00	0.00
166.75	174.00	<p><b>VMO, MAFIC VOLCANIC UNDIVIDED</b></p> <p>Medium grey-green, fine grained mafic volcanic. ~15% subhedral light grey-beige carbonate porphyroclasts disseminated throughout the unit &lt;2cm. Medium patches of pervasive chlorite and carbonate alteration. Weak-moderate patches of pervasive silicification. Very weak patchy k-feldspar alteration in select veins. Decrease in alteration relative to the above mafics. 10-15% discordant locally brecciated and high angled QC veins/veinlets &gt;40deg TCA. Moderate tension gouging resulting in dark grey discordant chlorite stringers. Trace disseminated pyrite overall, locally up to 0.5-1% clustered. Weak-moderate brecciation observed in select veins, brittle deformation. Weak foliation at 50deg TCA. Gradational lower contact marked by increase in varioles.</p>	1664499	166.75	167.75	1.00	0.00
			1663701	167.75	168.70	0.95	0.00
			1663702	168.70	169.70	1.00	0.00
			1663703	169.70	170.70	1.00	0.00
			1663704	170.70	171.45	0.75	0.00
			1663705	171.45	172.40	0.95	0.00
			1663706	172.40	173.20	0.80	0.00
			1663707	173.20	174.00	0.80	0.00

## DETAILED LOG

Hole Number: **HW19-006**

Units: METRIC

Detailed Lithology		Lithology	Assay Data				
From	To		Sample Number	From	To	Length	Au_gpt_Final
174.00	206.10	<b>VMV, MAFIC VOLCANIC VARIOLITIC</b> Medium grey, patchy pink, fine grained variolitic basalt. ~10% of the unit is composed of subhedral carbonate filled, mm-cm scale varioles. Weak pervasive carbonate alteration with weak patchy chlorite and weak bleaching present as halos surrounding veins as well as patches of pervasive. Weak disseminated leucoxene throughout the unit. From 179.25-180.65m and 184.8-186m, moderate k-feldspar alteration in the veins. From ~192.0-195.0m weak patches of pervasive sericite and weak patchy brown carbonate alteration. From 195-206.1m, weak patchy fuchsite and moderate patches of chlorite (increased in veins). 5-10% discordant smoky grey, weakly brecciated QC veins (brittle deformation). ~3% discordant QC stringers typically ~50deg TCA. Moderate tension gouging resulting in chlorite stringers/veinlets. Massive QC vein from 201.55-201.95m at 75deg TCA with weak beige feldspar alteration. Trace pyrite overall with up to 1% observed in veins. Blocky core fragmentation/ weak faulting from 178.5-179.15m and 183.45-184.0m. Sharp lower contact marked by increase in alteration at 35deg TCA.	1663708	174.00	175.10	1.10	0.00
			1663709	175.10	176.25	1.15	0.00
			1663711	176.25	177.00	0.75	0.00
			1663712	177.00	178.00	1.00	0.00
			1663713	178.00	179.15	1.15	0.00
			1663714	179.15	180.00	0.85	0.00
			1663715	180.00	180.65	0.65	0.00
			1663716	180.65	181.90	1.25	0.01
			1663717	181.90	182.80	0.90	0.01
			1663718	182.80	184.00	1.20	0.00
			1663719	184.00	184.80	0.80	0.01
			1663721	184.80	186.00	1.20	0.01
			1663722	186.00	187.15	1.15	0.01
			1663723	187.15	188.35	1.20	0.01
			1663724	188.35	189.55	1.20	0.01
			1663725	189.55	190.75	1.20	0.00
			1663726	190.75	192.00	1.25	0.00
			1663727	192.00	192.90	0.90	0.01
			1663728	192.90	194.00	1.10	0.00
			1663729	194.00	195.00	1.00	0.01
			1663731	195.00	195.95	0.95	0.01
			1663732	195.95	196.95	1.00	0.00
			1663733	196.95	198.00	1.05	0.01
			1663734	198.00	199.20	1.20	0.00
			1663735	199.20	200.45	1.25	0.01
			1663736	200.45	201.55	1.10	0.00
			1663737	201.55	201.95	0.40	0.01
			1663738	201.95	202.95	1.00	0.01
			1663739	202.95	203.90	0.95	0.00
			1663741	203.90	204.85	0.95	0.00
			1663742	204.85	206.10	1.25	0.00
206.10	211.55	<b>ACH, CARB-CHLORITIC ROCK</b> Medium grey, fine grained, altered variolitic basalt. ~10% subhedral light beige, carbonate filled varioles clustered throughout the unit. Moderate pervasive carbonate alteration (+weak patchy brown carb.) with weak patches of pervasive chlorite. Weak patchy fuchsite (increasing in veins). Very weak patchy bleaching and weak disseminated k-feldspar and sericite. Weak-moderate disseminated leucoxene. 5-10% discordant QC veins/veinlets/floods at various angles. Moderate tension gouging resulting in discordant chlorite stringers/gashes. Trace disseminated pyrite. Moderate foliation developing with depth at 40deg TCA. Weak localized brecciation resulting in mafic anhedral clasts (<3cm) with weak chlorite alteration. Sharp lower contact at 60deg TCA.	1663743	206.10	207.00	0.90	0.00
			1663744	207.00	208.00	1.00	0.00
			1663745	208.00	209.00	1.00	0.00
			1663746	209.00	210.00	1.00	0.00
			1663747	210.00	210.80	0.80	0.00
			1663748	210.80	211.55	0.75	0.00

## DETAILED LOG

Hole Number: **HW19-006**

Units: METRIC

Detailed Lithology		Assay Data					
From	To	Lithology	Sample Number	From	To	Length	Au_gpt_Final
211.55	213.00	<b>VUO, ULTRAMAFIC VOLCANIC</b> Dark blue-grey, fine grained ultramafic (?) unit. Moderate pervasive chlorite alteration with very weak patchy talc overprint. Moderate disseminated carbonate alteration in the form of magnesite porphyroblasts. ~5% discordant QV veinlets/stringers, typically high angled >50deg TCA. 0.25% fine grained disseminated pyrite and trace disseminated chalcopyrite. Gradational lower contact.	1663749	211.55	213.00	1.45	0.00
213.00	241.20	<b>ACH, CARB-CHLORITIC ROCK</b> Medium grey, patchy brown, fine grained altered variolitic basalt. 5-10% subhedral, light beige carbonate filled, clustered varioles (mm-scale). Weak-moderate pervasive carbonate alteration with weak patchy and fracture filling chlorite alteration. Weak-moderate patches of pervasive sericite alteration, increasing to moderate ~234.0m. . Moderate disseminated leucoxene throughout. ~3% discordant smoky grey QC veins/gashes at various angles. Moderate-strong tension gouging resulting in dark grey discordant chlorite veinlets (?). Up to 1% vein hosted medium grained pyrite, trace disseminated pyrite overall. Weak foliation at 45deg TCA. Weak shearing approaching lower contact at 50deg TCA. Gradational lower contact ~50deg TCA.	1663751	213.00	214.00	1.00	0.00
			1663752	214.00	215.05	1.05	0.00
			1663753	215.05	216.00	0.95	0.00
			1663754	216.00	216.70	0.70	0.00
			1663755	216.70	217.90	1.20	0.00
			1663756	217.90	219.00	1.10	0.00
			1663757	219.00	220.20	1.20	0.00
			1663758	220.20	221.60	1.40	0.00
			1663759	221.60	222.80	1.20	0.00
			1663761	222.80	224.00	1.20	0.00
			1663762	224.00	224.90	0.90	0.00
			1663763	224.90	225.70	0.80	0.00
			1663764	225.70	226.70	1.00	0.00
			1663765	226.70	227.85	1.15	0.00
			1663766	227.85	228.90	1.05	0.00
			1663767	228.90	229.85	0.95	0.00
			1663768	229.85	230.75	0.90	0.00
			1663769	230.75	231.80	1.05	0.00
			1663771	231.80	232.95	1.15	0.00
			1663772	232.95	234.00	1.05	0.00
			1663773	234.00	234.85	0.85	0.00
			1663774	234.85	235.85	1.00	0.01
			1663775	235.85	236.30	0.45	0.01
			1663776	236.30	237.40	1.10	0.01
			1663777	237.40	238.30	0.90	0.01
			1663778	238.30	239.35	1.05	0.01
			1663779	239.35	240.30	0.95	0.01
			1663781	240.30	241.20	0.90	0.01



Hole Number: **HW19-006**

Units: METRIC

Detailed Lithology		Lithology	Assay Data				
From	To		Sample Number	From	To	Length	Au_gpt_Final
241.20	257.70	<b>AEC, SERICITE CARBONATE ALTERED ROCK</b> Medium grey-brown, fine grained, weakly sheared altered mafic-intermediate unit. Unit gradually begins to resemble an altered ultramafic with depth (starting ~249.20m). Moderate pervasive carbonate alteration with moderate-strong disseminated leucoxene and sericite alteration. Very weak patchy chlorite alteration. Very weak patchy silicification and possible weak disseminated albite. 5-10% smoky grey QC veinlets/gashes typically >40deg TCA (parallel to shearing/foliation). From 249.2-257.7m, 15-20% weakly sheared QC veins/veinlets at 70-80deg TCA. Weak tension gouging resulting in dark grey chlorite stringers/FF. 5-7% fine-medium grained, subhedral-euhedral disseminated pyrite, locally up to 10% observed. Moderate shearing and foliation at 60deg TCA gradually shallowing with depth to ~40deg TCA. Blocky core fragmentation from 249.7-250.0m. Sharp lower contact at 55deg TCA.	1663782	241.20	242.20	1.00	0.01
			1663783	242.20	243.20	1.00	0.02
			1663784	243.20	243.90	0.70	0.12
			1663785	243.90	244.80	0.90	0.05
			1663786	244.80	245.55	0.75	0.07
			1663787	245.55	246.40	0.85	0.09
			1663788	246.40	247.45	1.05	0.20
			1663789	247.45	248.30	0.85	0.19
			1663791	248.30	249.20	0.90	0.05
			1663792	249.20	250.10	0.90	0.04
			1663793	250.10	251.00	0.90	0.07
			1663794	251.00	251.90	0.90	0.14
			1663795	251.90	252.85	0.95	0.35
			1663796	252.85	253.65	0.80	0.34
			1663797	253.65	254.35	0.70	0.77
			1663798	254.35	255.20	0.85	0.13
			1663799	255.20	255.90	0.70	0.08
		1663801	255.90	256.75	0.85	0.13	
		1663802	256.75	257.70	0.95	0.01	

Hole Number: **HW19-006**

Units: METRIC

Detailed Lithology		Lithology	Assay Data				
From	To		Sample Number	From	To	Length	Au_gpt_Final
257.70	289.80	<b>ACO, CARBONATE ALTERED ROCK</b> Medium blue-grey, fine grained altered ultramafic unit. Moderate-strong patches of pervasive magnetism throughout the unit. Weak-moderate pervasive chlorite alteration with weak patches of pervasive talc overprinting. Moderate-strong patchy and disseminated (magnesite porphyroblasts) carbonate alteration. Weak patchy brown carbonate alteration. Weak patchy fuchsite observed in select veins. Weak disseminated light beige fecks, possible clustered leucoxene. 15-20% typically high angled QC veinlets at 50-60deg TCA when orientation is apparent and gashes. Weak tension gouging resulting in dark grey chlorite stringers. ~5% massive (15-25cm) at 25-35deg TCA. From 271.35m onwards QC veining increases to 30-35% massive veins/gashes/floods. Massive vein from 271.35-272.35m at ~25-30deg TCA with ~2% vein associated clustered pyrite. Massive veins from; 273.3-273.85 at 35deg TCA, 277.5-277.95m at 35deg TCA and 282.55-283.3m at 20deg TCA. Overall ~1% fine grained clustered pyrite typically in the vein selvages. Weak foliation at 50deg TCA. Sharp lower contact at 60deg TCA.	1663803	257.70	258.75	1.05	0.06
			1663804	258.75	259.85	1.10	0.02
			1663805	259.85	260.60	0.75	0.01
			1663806	260.60	261.65	1.05	0.00
			1663807	261.65	262.75	1.10	0.00
			1663808	262.75	263.80	1.05	0.00
			1663809	263.80	264.80	1.00	0.01
			1663811	264.80	265.95	1.15	0.01
			1663812	265.95	266.75	0.80	0.03
			1663813	266.75	267.60	0.85	0.01
			1663814	267.60	268.70	1.10	0.01
			1663815	268.70	269.65	0.95	0.00
			1663816	269.65	270.50	0.85	0.00
			1663817	270.50	271.35	0.85	0.02
			1663818	271.35	272.35	1.00	0.01
			1663819	272.35	273.30	0.95	0.02
			1663821	273.30	273.85	0.55	0.01
			1663822	273.85	274.90	1.05	0.00
			1663823	274.90	276.00	1.10	0.01
			1663824	276.00	277.05	1.05	0.01
			1663825	277.05	277.95	0.90	0.01
			1663826	277.95	279.00	1.05	0.01
			1663827	279.00	279.95	0.95	0.01
			1663828	279.95	280.80	0.85	0.01
			1663829	280.80	281.50	0.70	0.01
			1663831	281.50	282.55	1.05	0.03
			1663832	282.55	283.30	0.75	0.02
			1663833	283.30	284.65	1.35	0.01
			1663834	284.65	285.60	0.95	0.01
			1663835	285.60	286.40	0.80	0.01
		1663836	286.40	287.20	0.80	0.02	
		1663837	287.20	288.00	0.80	0.23	
		1663838	288.00	289.00	1.00	0.01	
		1663839	289.00	289.80	0.80	0.00	

Hole Number: **HW19-006**

Units: METRIC

Detailed Lithology		Assay Data					
From	To	Lithology	Sample Number	From	To	Length	Au_gpt_Final
289.80	299.90	<b>VUM, MASSIVE ULTRAMAFIC</b> VUM/ACO-Dark blue-grey, fine grained, weakly sheared ultramafic unit. Decrease in carbonate alteration differentiates this unit from the above ACO. Weak patchy magnetism throughout the unit. Moderate disseminated leucoxene. Moderate pervasive chlorite alteration with moderate disseminated carbonate (magnesite porphyroblasts). Weak patchy brown carbonate. ~3% QC veins <2cm at 45-50deg TCA. Weak tension gouging resulting in chlorite stringers and FF chlorite. 0.25-0.5% fine grained disseminated pyrite. Moderate foliation at 45deg TCA. Gradational lower contact marked by a further decrease in carbonate alteration.	1663841	289.80	290.65	0.85	0.00
			1663842	290.65	291.70	1.05	0.00
			1663843	291.70	292.60	0.90	0.00
			1663844	292.60	294.00	1.40	0.00
			1663845	294.00	295.15	1.15	0.00
			1663846	295.15	296.35	1.20	0.00
			1663847	296.35	297.55	1.20	0.00
			1663848	297.55	298.85	1.30	0.00
			1663849	298.85	299.90	1.05	0.00
299.90	313.90	<b>VUM, MASSIVE ULTRAMAFIC</b> Dark grey-green, fine grained, weakly foliated ultramafic unit. Moderate pervasive chlorite alteration with weak-moderate disseminated carbonate alteration (magnesite porphyroblasts). Carbonate increases in areas with lower chlorite content. Weak disseminated leucoxene. ~5% typically high angled QC veinlets >40deg TCA when orientation is apparent. From 307.2-307.5m, massive sheared vein at 30deg TCA. Weak foliation at 45deg TCA. Trace disseminated pyrite. Gradational lower contact marked by a continuous decrease in carbonate.	1663851	299.90	301.15	1.25	0.00
			1663852	301.15	302.15	1.00	0.00
			1663853	302.15	303.40	1.25	0.00
			1663854	303.40	304.65	1.25	0.00
			1663855	304.65	306.00	1.35	0.00
			1663856	306.00	307.00	1.00	0.00
			1663857	307.00	307.50	0.50	0.00
			1663858	307.50	308.55	1.05	0.00
			1663859	308.55	309.65	1.10	0.00
313.90	333.45	<b>VUO, ULTRAMAFIC VOLCANIC</b> Dark grey-green, fine grained, weakly foliated intermediate ultramafic/mafic unit. Very weak disseminated magnetite. Weak-moderate pervasive chlorite alteration and moderate fracture filling chlorite. Moderate disseminated carbonate alteration in the form of carbonate porphyroblasts. Weak-moderate disseminated leucoxene and sericite. Weak bleaching nearing lower contact. 5-10% discordant QC veinlets/stringers >30deg TCA. Weak tension gouging resulting in discordant chlorite veinlets and gashes. 0.25% fine grained clustered pyrite. Weak foliation at 40deg TCA. Sharp lower contact at 65deg TCA.	1663861	330.55	331.45	0.90	0.00
			1663862	331.45	332.30	0.85	0.00
			1663863	332.30	333.45	1.15	0.00

Hole Number: **HW19-006**

Units: METRIC

Detailed Lithology		Assay Data					
From	To	Lithology	Sample Number	From	To	Length	Au_gpt_Final
333.45	399.00	<b>VMP, VOLCANIC MASSIVE PILLOWED</b> Light-medium green, fine grained pillow basalt. Weak chlorite and carbonate filled mm-scale varioles present in the pillow selvages. Weak-moderate patchy and fracture filling chlorite alteration. Chlorite increases near the pillow rims. Weak patchy carbonate alteration. Weak-moderate patches of pervasive bleaching. Bleaching increases as halos surrounding veins/pillow selvages. From 333.45-334.2m, weak disseminated sericite and albite with ~15% sheared veins at 60deg TCA. From 334.2-347.45m, ~10% veins at 50-60deg TCA exhibiting weak microfaulting. From 347.45m onwards veining decrease to ~5% typically high angled QC veins/veinlets/gashes >40deg TCA. From 345.15-345.25m, massive QC+ albite vein at 70deg TCA. From 374.65-375.2m, series of sheared and brecciated QC veins at 50deg TCA, weak albite observed within the veins. From 378.9-379.45m shear vein at 55-60deg TCA with increased carbonate influence. Massive breccia vein from 385.9-386.2m at 50deg TCA. ~0.25% fine grained vein hosted pyrite. Weak blocky core fragmentation from 372.12-373.2m. Weak gouge 386.05-386.1m. Weak localized shearing at 45deg TCA. EOH at 399.0m	1663864	333.45	334.20	0.75	0.00
			1663865	334.20	335.25	1.05	0.00
			1663866	335.25	336.45	1.20	0.00
			1663867	336.45	337.50	1.05	0.00
			1663868	337.50	338.45	0.95	0.00
			1663869	338.45	339.40	0.95	0.00
			1663871	339.40	340.45	1.05	0.00
			1663872	340.45	341.30	0.85	0.00
			1663873	341.30	342.00	0.70	0.00
			1663874	342.00	343.00	1.00	0.00
			1663875	343.00	344.15	1.15	0.00
			1663876	344.15	345.00	0.85	0.00
			1663877	345.00	345.50	0.50	0.00
			1663878	345.50	346.50	1.00	0.00
			1663879	346.50	347.45	0.95	0.00
			1663881	373.10	373.90	0.80	0.00
			1663882	373.90	374.65	0.75	0.00
			1663883	374.65	375.20	0.55	0.00
			1663884	375.20	376.35	1.15	0.00
			1663885	376.35	377.65	1.30	0.00
			1663886	377.65	378.90	1.25	0.00
			1663887	378.90	379.45	0.55	0.00
			1663888	379.45	380.70	1.25	0.00
			1663889	380.70	381.85	1.15	0.00
			1663891	381.85	382.85	1.00	0.00
			1663892	382.85	383.70	0.85	0.00
			1663893	383.70	384.95	1.25	0.00
			1663894	384.95	385.90	0.95	0.00
			1663895	385.90	386.20	0.30	0.00
			1663896	386.20	387.55	1.35	0.00
		1663897	387.55	388.65	1.10	0.00	
		1663898	388.65	389.85	1.20	0.00	
		1663899	389.85	391.15	1.30	0.00	
		1663901	391.15	392.45	1.30	0.00	
		1663902	392.45	393.20	0.75	0.00	
		1663903	393.20	394.10	0.90	0.00	

**Samples**

Sample Number	From	To	Au_gpt_Final
Sample Type <b>ASSAY</b>			
1664342	20.15	21.00	0.0025

Hole Number: **HW19-006**

Units: METRIC

**Samples**

Sample Number	From	To	Au_gpt_Final
Sample Type	<b>ASSAY</b>		
1664343	21.00	22.50	0.0025
1664344	22.50	24.00	0.0025
1664345	24.00	25.00	0.0060
1664346	25.00	25.65	0.0060
1664347	25.65	26.45	0.0070
1664348	26.45	27.00	0.0100
1664349	27.00	28.50	0.0120
1664351	28.50	30.00	0.0110
1664352	30.00	31.20	0.0025
1664353	31.20	32.40	0.0390
1664354	32.40	33.60	0.0220
1664355	33.60	35.00	0.0180
1664356	35.00	36.00	0.0050
1664357	36.00	37.00	0.0025
1664358	37.00	38.00	0.0060
1664359	38.00	39.00	0.0070
1664361	39.00	39.70	0.0025
1664362	39.70	40.70	0.0025
1664363	40.70	41.45	0.0080
1664364	41.45	42.25	0.0130
1664365	42.25	42.95	0.0340
1664366	42.95	43.70	0.0440
1664367	43.70	44.50	0.0025
1664368	44.50	45.35	0.0025
1664369	45.35	46.50	0.0025
1664371	46.50	47.45	0.0025
1664372	47.45	48.65	0.0025
1664373	48.65	49.45	0.0025
1664374	49.45	50.65	0.0025
1664375	50.65	51.70	0.0025
1664376	51.70	52.90	0.0025
1664377	52.90	53.90	0.0025
1664378	53.90	54.95	0.0180
1664379	54.95	55.95	0.0200
1664381	55.95	56.95	0.0025
1664382	56.95	58.10	0.0025
1664383	58.10	59.20	0.0025
1664384	59.20	60.60	0.0025
1664385	60.60	61.80	0.0025

Hole Number: **HW19-006**

Units: METRIC

**Samples**

Sample Number	From	To	Au_gpt_Final
Sample Type	<b>ASSAY</b>		
1664386	61.80	62.75	0.0025
1664387	62.75	63.80	0.0025
1664388	63.80	64.65	0.0025
1664389	64.65	65.60	0.0025
1664391	65.60	66.60	0.0025
1664392	66.60	67.80	0.0025
1664393	67.80	68.85	0.0025
1664394	68.85	70.00	0.0025
1664395	70.00	70.90	0.0025
1664396	70.90	71.55	0.0060
1664397	71.55	72.50	0.0110
1664398	72.50	73.10	0.0025
1664399	73.10	73.85	0.0025
1664401	73.85	74.30	0.0025
1664402	74.30	75.15	0.0025
1664403	75.15	75.50	0.0360
1664404	75.50	76.50	0.0025
1664405	76.50	77.60	0.0050
1664406	77.60	78.50	0.0025
1664407	78.50	79.55	0.0025
1664408	79.55	80.05	0.0190
1664409	80.05	81.00	0.0025
1664411	81.00	82.15	0.0025
1664412	82.15	83.23	0.0025
1664413	83.23	83.55	0.0160
1664414	83.55	84.45	0.0025
1664415	84.45	85.60	0.0050
1664416	91.70	93.00	0.0025
1664417	93.00	94.00	0.0025
1664418	94.00	94.40	0.0025
1664419	94.40	95.30	0.0025
1664421	95.30	96.35	0.0025
1664422	96.35	97.15	0.0150
1664423	97.15	98.15	0.0025
1664424	98.15	99.00	0.0025
1664425	99.00	99.70	0.0025
1664426	99.70	100.60	0.0050
1664427	100.60	101.50	0.0025
1664428	101.50	102.25	0.0025

Hole Number: **HW19-006**

Units: METRIC

**Samples**

Sample Number	From	To	Au_gpt_Final
Sample Type	<b>ASSAY</b>		
1664429	102.25	103.25	0.0025
1664431	103.25	104.40	0.0025
1664432	104.40	105.40	0.0025
1664433	105.40	106.50	0.0025
1664434	106.50	107.45	0.0025
1664435	107.45	108.50	0.0025
1664436	108.50	109.55	0.0025
1664437	109.55	110.60	0.0025
1664438	110.60	111.70	0.0025
1664439	111.70	112.90	0.0025
1664441	112.90	114.00	0.0025
1664442	114.00	115.15	0.0025
1664443	115.15	115.90	0.0025
1664444	115.90	116.90	0.0025
1664445	116.90	117.90	0.0025
1664446	117.90	118.75	0.0025
1664447	118.75	120.00	0.0025
1664448	120.00	120.95	0.0260
1664449	120.95	121.95	0.0190
1664451	121.95	122.65	0.0025
1664452	122.65	123.40	0.0025
1664453	123.40	124.50	0.0025
1664454	124.50	125.50	0.0025
1664455	125.50	126.60	0.0025
1664456	126.60	127.60	0.0025
1664457	127.60	128.70	0.0025
1664458	128.70	129.75	0.0025
1664459	129.75	130.85	0.0025
1664461	130.85	132.00	0.0025
1664462	132.00	133.15	0.0025
1664463	133.15	134.05	0.0025
1664464	134.05	135.00	0.0025
1664465	135.00	136.15	0.0025
1664466	136.15	137.15	0.0025
1664467	137.15	138.30	0.0025
1664468	138.30	139.20	0.0025
1664469	139.20	140.00	0.0025
1664471	140.00	141.00	0.0025
1664472	141.00	142.05	0.0025

Hole Number: **HW19-006**

Units: METRIC

**Samples**

Sample Number	From	To	Au_gpt_Final
Sample Type	<b>ASSAY</b>		
1664473	142.05	143.30	0.0025
1664474	143.30	144.50	0.0025
1664475	144.50	145.65	0.0025
1664476	145.65	146.60	0.0025
1664477	146.60	147.85	0.0025
1664478	147.85	148.95	0.0025
1664479	148.95	150.00	0.0025
1664481	150.00	151.15	0.0025
1664482	151.15	152.25	0.0025
1664483	152.25	153.40	0.0025
1664484	153.40	154.60	0.0025
1664485	154.60	155.35	0.0025
1664486	155.35	156.30	0.0025
1664487	156.30	157.40	0.0025
1664488	157.40	158.35	0.0025
1664489	158.35	159.20	0.0025
1664491	159.20	159.95	0.0025
1664492	159.95	161.05	0.0025
1664493	161.05	162.20	0.0025
1664494	162.20	163.10	0.0025
1664495	163.10	163.95	0.0025
1664496	163.95	164.90	0.0025
1664497	164.90	165.75	0.0025
1664498	165.75	166.75	0.0025
1664499	166.75	167.75	0.0025
1663701	167.75	168.70	0.0025
1663702	168.70	169.70	0.0025
1663703	169.70	170.70	0.0025
1663704	170.70	171.45	0.0025
1663705	171.45	172.40	0.0025
1663706	172.40	173.20	0.0025
1663707	173.20	174.00	0.0025
1663708	174.00	175.10	0.0025
1663709	175.10	176.25	0.0025
1663711	176.25	177.00	0.0025
1663712	177.00	178.00	0.0025
1663713	178.00	179.15	0.0025
1663714	179.15	180.00	0.0025
1663715	180.00	180.65	0.0025



Hole Number: **HW19-006**

Units: METRIC

**Samples**

Sample Number	From	To	Au_gpt_Final
Sample Type	<b>ASSAY</b>		
1663716	180.65	181.90	0.0060
1663717	181.90	182.80	0.0050
1663718	182.80	184.00	0.0025
1663719	184.00	184.80	0.0060
1663721	184.80	186.00	0.0080
1663722	186.00	187.15	0.0060
1663723	187.15	188.35	0.0070
1663724	188.35	189.55	0.0050
1663725	189.55	190.75	0.0025
1663726	190.75	192.00	0.0025
1663727	192.00	192.90	0.0050
1663728	192.90	194.00	0.0025
1663729	194.00	195.00	0.0050
1663731	195.00	195.95	0.0060
1663732	195.95	196.95	0.0025
1663733	196.95	198.00	0.0050
1663734	198.00	199.20	0.0025
1663735	199.20	200.45	0.0050
1663736	200.45	201.55	0.0025
1663737	201.55	201.95	0.0050
1663738	201.95	202.95	0.0050
1663739	202.95	203.90	0.0025
1663741	203.90	204.85	0.0025
1663742	204.85	206.10	0.0025
1663743	206.10	207.00	0.0025
1663744	207.00	208.00	0.0025
1663745	208.00	209.00	0.0025
1663746	209.00	210.00	0.0025
1663747	210.00	210.80	0.0025
1663748	210.80	211.55	0.0025
1663749	211.55	213.00	0.0025
1663751	213.00	214.00	0.0025
1663752	214.00	215.05	0.0025
1663753	215.05	216.00	0.0025
1663754	216.00	216.70	0.0025
1663755	216.70	217.90	0.0025
1663756	217.90	219.00	0.0025
1663757	219.00	220.20	0.0025
1663758	220.20	221.60	0.0025

Hole Number: **HW19-006**

Units: METRIC

**Samples**

Sample Number	From	To	Au_gpt_Final
Sample Type	<b>ASSAY</b>		
1663759	221.60	222.80	0.0025
1663761	222.80	224.00	0.0025
1663762	224.00	224.90	0.0025
1663763	224.90	225.70	0.0025
1663764	225.70	226.70	0.0025
1663765	226.70	227.85	0.0025
1663766	227.85	228.90	0.0025
1663767	228.90	229.85	0.0025
1663768	229.85	230.75	0.0025
1663769	230.75	231.80	0.0025
1663771	231.80	232.95	0.0025
1663772	232.95	234.00	0.0025
1663773	234.00	234.85	0.0025
1663774	234.85	235.85	0.0080
1663775	235.85	236.30	0.0070
1663776	236.30	237.40	0.0070
1663777	237.40	238.30	0.0080
1663778	238.30	239.35	0.0060
1663779	239.35	240.30	0.0090
1663781	240.30	241.20	0.0080
1663782	241.20	242.20	0.0110
1663783	242.20	243.20	0.0170
1663784	243.20	243.90	0.1160
1663785	243.90	244.80	0.0520
1663786	244.80	245.55	0.0720
1663787	245.55	246.40	0.0860
1663788	246.40	247.45	0.2000
1663789	247.45	248.30	0.1860
1663791	248.30	249.20	0.0520
1663792	249.20	250.10	0.0390
1663793	250.10	251.00	0.0670
1663794	251.00	251.90	0.1350
1663795	251.90	252.85	0.3480
1663796	252.85	253.65	0.3430
1663797	253.65	254.35	0.7710
1663798	254.35	255.20	0.1280
1663799	255.20	255.90	0.0810
1663801	255.90	256.75	0.1300
1663802	256.75	257.70	0.0090

Hole Number: **HW19-006**

Units: METRIC

**Samples**

Sample Number	From	To	Au_gpt_Final
Sample Type	<b>ASSAY</b>		
1663803	257.70	258.75	0.0550
1663804	258.75	259.85	0.0150
1663805	259.85	260.60	0.0140
1663806	260.60	261.65	0.0025
1663807	261.65	262.75	0.0025
1663808	262.75	263.80	0.0025
1663809	263.80	264.80	0.0090
1663811	264.80	265.95	0.0110
1663812	265.95	266.75	0.0250
1663813	266.75	267.60	0.0120
1663814	267.60	268.70	0.0080
1663815	268.70	269.65	0.0025
1663816	269.65	270.50	0.0025
1663817	270.50	271.35	0.0170
1663818	271.35	272.35	0.0110
1663819	272.35	273.30	0.0200
1663821	273.30	273.85	0.0070
1663822	273.85	274.90	0.0025
1663823	274.90	276.00	0.0070
1663824	276.00	277.05	0.0070
1663825	277.05	277.95	0.0100
1663826	277.95	279.00	0.0090
1663827	279.00	279.95	0.0090
1663828	279.95	280.80	0.0070
1663829	280.80	281.50	0.0080
1663831	281.50	282.55	0.0310
1663832	282.55	283.30	0.0150
1663833	283.30	284.65	0.0060
1663834	284.65	285.60	0.0060
1663835	285.60	286.40	0.0090
1663836	286.40	287.20	0.0210
1663837	287.20	288.00	0.2320
1663838	288.00	289.00	0.0060
1663839	289.00	289.80	0.0025
1663841	289.80	290.65	0.0025
1663842	290.65	291.70	0.0025
1663843	291.70	292.60	0.0025
1663844	292.60	294.00	0.0025
1663845	294.00	295.15	0.0025

Hole Number: **HW19-006**

Units: METRIC

**Samples**

Sample Number	From	To	Au_gpt_Final
Sample Type	<b>ASSAY</b>		
1663846	295.15	296.35	0.0025
1663847	296.35	297.55	0.0025
1663848	297.55	298.85	0.0025
1663849	298.85	299.90	0.0025
1663851	299.90	301.15	0.0025
1663852	301.15	302.15	0.0025
1663853	302.15	303.40	0.0025
1663854	303.40	304.65	0.0025
1663855	304.65	306.00	0.0025
1663856	306.00	307.00	0.0025
1663857	307.00	307.50	0.0025
1663858	307.50	308.55	0.0025
1663859	308.55	309.65	0.0025
1663861	330.55	331.45	0.0025
1663862	331.45	332.30	0.0025
1663863	332.30	333.45	0.0025
1663864	333.45	334.20	0.0025
1663865	334.20	335.25	0.0025
1663866	335.25	336.45	0.0025
1663867	336.45	337.50	0.0025
1663868	337.50	338.45	0.0025
1663869	338.45	339.40	0.0025
1663871	339.40	340.45	0.0025
1663872	340.45	341.30	0.0025
1663873	341.30	342.00	0.0025
1663874	342.00	343.00	0.0025
1663875	343.00	344.15	0.0025
1663876	344.15	345.00	0.0025
1663877	345.00	345.50	0.0025
1663878	345.50	346.50	0.0025
1663879	346.50	347.45	0.0025
1663881	373.10	373.90	0.0025
1663882	373.90	374.65	0.0025
1663883	374.65	375.20	0.0025
1663884	375.20	376.35	0.0025
1663885	376.35	377.65	0.0025
1663886	377.65	378.90	0.0025
1663887	378.90	379.45	0.0025
1663888	379.45	380.70	0.0025

Hole Number: **HW19-006**

Units: METRIC

**Samples**

Sample Number	From	To	Au_gpt_Final
Sample Type	<b>ASSAY</b>		
1663889	380.70	381.85	0.0025
1663891	381.85	382.85	0.0025
1663892	382.85	383.70	0.0025
1663893	383.70	384.95	0.0025
1663894	384.95	385.90	0.0025
1663895	385.90	386.20	0.0025
1663896	386.20	387.55	0.0025
1663897	387.55	388.65	0.0025
1663898	388.65	389.85	0.0025
1663899	389.85	391.15	0.0025
1663901	391.15	392.45	0.0025
1663902	392.45	393.20	0.0025
1663903	393.20	394.10	0.0025



## **Appendix 3**

### **Assay Certificates**



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

**Client:** **Kirkland Lake Gold**  
Exploration Office  
489 MacDougal Ave.  
Matheson Ontario P0K 1N0 Canada

Submitted By: David Schonfeldt  
Receiving Lab: Canada-Timmins  
Received: November 12, 2019  
Report Date: November 22, 2019  
Page: 1 of 3

# CERTIFICATE OF ANALYSIS

TIM19002553.1

## CLIENT JOB INFORMATION

Project: None Given  
Shipment ID: HW-19-005A  
P.O. Number: 4500104625  
Number of Samples: 60

## SAMPLE DISPOSAL

PICKUP-PLP Client to Pickup Pulps  
DISP-RJT Dispose of Reject After 60 days

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

Invoice To: Kirkland Lake Gold  
Exploration Office  
489 MacDougal Ave.  
Matheson Ontario P0K 1N0  
Canada

CC: Ray Toews  
Alex Thompson  
Patti Perlock

## SAMPLE PREPARATION AND ANALYTICAL PROCEDURES

Procedure Code	Number of Samples	Code Description	Test Wgt (g)	Report Status	Lab
PRP70-250	57	Crush, split and pulverize 250 g rock to 200 mesh			TIM
SLBHP	3	Sort, label and box pulps			TIM
FA430	60	Lead Collection Fire - Assay Fusion - AAS Finish	30	Completed	TIM
EN002	60	Environmental disposal charge-Fire assay lead waste			TIM

## ADDITIONAL COMMENTS

  
SCOTT INGLIS  
Fire Assay Manager



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9050 Shaughnessy St Vancouver British Columbia V6P 6E5 Canada

PHONE (604) 253-3158

**Client:** **Kirkland Lake Gold**  
Exploration Office  
489 MacDougal Ave.  
Matheson Ontario P0K 1N0 Canada

Project: None Given  
Report Date: November 22, 2019

Page: 2 of 3

Part: 1 of 1

# CERTIFICATE OF ANALYSIS

TIM19002553.1

Method Analyte Unit MDL	WGHT Wgt kg	FA430 Au ppm	
		0.01	0.005
1664111	Drill Core	1.67	0.009
1664112	Drill Core	2.40	0.006
1664113	Drill Core	2.24	<0.005
1664114	Drill Core	2.72	0.006
1664115	Drill Core	2.59	<0.005
1664116	Drill Core	2.29	<0.005
1664117	Drill Core	2.27	0.016
1664118	Drill Core	2.81	<0.005
1664119	Drill Core	2.38	<0.005
1664120	Pulp	0.07	0.339
1664121	Drill Core	0.56	0.006
1664122	Drill Core	2.03	<0.005
1664123	Drill Core	1.25	0.008
1664124	Drill Core	2.17	<0.005
1664125	Drill Core	2.04	0.006
1664126	Drill Core	2.42	<0.005
1664127	Drill Core	2.10	<0.005
1664128	Drill Core	2.27	0.011
1664129	Drill Core	2.28	<0.005
1664130	Drill Core	0.76	<0.005
1664131	Drill Core	1.51	<0.005
1664132	Drill Core	2.77	<0.005
1664133	Drill Core	2.23	<0.005
1664134	Drill Core	1.96	<0.005
1664135	Drill Core	1.99	<0.005
1664136	Drill Core	2.43	<0.005
1664137	Drill Core	2.61	<0.005
1664138	Drill Core	2.48	<0.005
1664139	Drill Core	2.36	<0.005
1664140	Pulp	0.07	0.874





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PHONE (604) 253-3158

**Client:** **Kirkland Lake Gold**  
Exploration Office  
489 MacDougal Ave.  
Matheson Ontario P0K 1N0 Canada

Project: None Given  
Report Date: November 22, 2019

Page: 3 of 3

Part: 1 of 1

# CERTIFICATE OF ANALYSIS

TIM19002553.1

Method	Analyte	WGHT	FA430
		Wgt	Au
Unit		kg	ppm
MDL		0.01	0.005
1664141	Drill Core	2.94	<0.005
1664142	Drill Core	2.36	<0.005
1664143	Drill Core	2.45	<0.005
1664144	Drill Core	2.38	0.006
1664145	Drill Core	2.04	<0.005
1664146	Drill Core	2.34	<0.005
1664147	Drill Core	2.14	<0.005
1664148	Drill Core	3.01	<0.005
1664149	Drill Core	2.43	<0.005
1664150	Drill Core	0.87	<0.005
1664151	Drill Core	2.41	<0.005
1664152	Drill Core	2.53	<0.005
1664153	Drill Core	2.43	<0.005
1664154	Drill Core	2.01	<0.005
1664155	Drill Core	1.06	0.006
1664156	Drill Core	2.10	<0.005
1664157	Drill Core	2.46	<0.005
1664158	Drill Core	2.83	<0.005
1664159	Drill Core	2.56	<0.005
1664160	Pulp	0.07	2.945
1664161	Drill Core	2.67	<0.005
1664162	Drill Core	2.38	<0.005
1664163	Drill Core	2.56	<0.005
1664164	Drill Core	2.43	<0.005
1664165	Drill Core	2.55	<0.005
1664166	Drill Core	2.49	<0.005
1664167	Drill Core	2.83	<0.005
1664168	Drill Core	2.26	<0.005
1664169	Drill Core	2.70	<0.005
1664170	Drill Core	0.76	<0.005



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**Client:** **Kirkland Lake Gold**  
Exploration Office  
489 MacDougal Ave.  
Matheson Ontario P0K 1N0 Canada

Project: None Given  
Report Date: November 22, 2019

Page: 1 of 1

Part: 1 of 1

# QUALITY CONTROL REPORT

TIM19002553.1

Method	WGHT	FA430
Analyte	Wgt	Au
Unit	kg	ppm
MDL	0.01	0.005
Pulp Duplicates		
1664119	Drill Core	2.38 <0.005
REP 1664119	QC	<0.005
1664164	Drill Core	2.43 <0.005
REP 1664164	QC	<0.005
Core Reject Duplicates		
1664129	Drill Core	2.28 <0.005
DUP 1664129	QC	<0.005
1664163	Drill Core	2.56 <0.005
DUP 1664163	QC	<0.005
Reference Materials		
STD OXC145	Standard	0.212
STD OXH139	Standard	1.288
STD OXN134	Standard	7.647
STD OXC145 Expected		0.212
STD OXN134 Expected		7.667
STD OXH139 Expected		1.312
BLK	Blank	<0.005
BLK	Blank	<0.005
Prep Wash		
ROCK-TIM	Prep Blank	<0.005
ROCK-TIM	Prep Blank	<0.005



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PHONE (604) 253-3158

**Client:** **Kirkland Lake Gold**  
Exploration Office  
489 MacDougal Ave.  
Matheson Ontario P0K 1N0 Canada

Submitted By: David Schonfeldt  
Receiving Lab: Canada-Timmins  
Received: November 12, 2019  
Report Date: November 20, 2019  
Page: 1 of 3

# CERTIFICATE OF ANALYSIS

TIM19002541.1

## CLIENT JOB INFORMATION

Project: TBONE  
Shipment ID: HW19005A01  
P.O. Number: 4500104625  
Number of Samples: 60

## SAMPLE DISPOSAL

PICKUP-PLP Client to Pickup Pulps  
DISP-RJT Dispose of Reject After 60 days

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

Invoice To: Kirkland Lake Gold  
Exploration Office  
489 MacDougal Ave.  
Matheson Ontario P0K 1N0  
Canada

CC: Ray Toews  
Alex Thompson  
Patti Perlock

## SAMPLE PREPARATION AND ANALYTICAL PROCEDURES

Procedure Code	Number of Samples	Code Description	Test Wgt (g)	Report Status	Lab
PRP70-250	57	Crush, split and pulverize 250 g rock to 200 mesh			TIM
SLBHP	3	Sort, label and box pulps			TIM
FA430	60	Lead Collection Fire - Assay Fusion - AAS Finish	30	Completed	TIM
EN002	60	Environmental disposal charge-Fire assay lead waste			TIM

## ADDITIONAL COMMENTS



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



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**Client:** **Kirkland Lake Gold**  
Exploration Office  
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Project: TBONE  
Report Date: November 20, 2019

Page: 2 of 3

Part: 1 of 1

# CERTIFICATE OF ANALYSIS

TIM19002541.1

Method	WGHT	FA430
Analyte	Wgt	Au
Unit	kg	ppm
MDL	0.01	0.005
1664051	Drill Core	1.87 <0.005
1664052	Drill Core	1.77 0.014
1664053	Drill Core	2.31 0.006
1664054	Drill Core	1.79 0.006
1664055	Drill Core	2.40 0.009
1664056	Drill Core	0.68 0.008
1664057	Drill Core	1.65 0.007
1664058	Drill Core	1.79 0.006
1664059	Drill Core	3.02 0.011
1664060	Pulp	0.07 0.329
1664061	Drill Core	2.93 0.005
1664062	Drill Core	2.57 0.008
1664063	Drill Core	2.12 0.019
1664064	Drill Core	2.74 0.016
1664065	Drill Core	3.07 0.006
1664066	Drill Core	2.43 0.008
1664067	Drill Core	1.94 0.017
1664068	Drill Core	1.75 0.116
1664069	Drill Core	2.57 0.009
1664070	Drill Core	0.64 <0.005
1664071	Drill Core	2.47 0.056
1664072	Drill Core	2.17 0.006
1664073	Drill Core	2.31 <0.005
1664074	Drill Core	1.66 0.053
1664075	Drill Core	1.45 0.015
1664076	Drill Core	2.38 0.052
1664077	Drill Core	2.28 0.068
1664078	Drill Core	1.89 0.038
1664079	Drill Core	0.69 0.028
1664080	Pulp	0.07 0.861



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**Client:** **Kirkland Lake Gold**  
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Matheson Ontario P0K 1N0 Canada

Project: TBONE  
Report Date: November 20, 2019

Page: 3 of 3

Part: 1 of 1

# CERTIFICATE OF ANALYSIS

TIM19002541.1

Method	WGHT	FA430
Analyte	Wgt	Au
Unit	kg	ppm
MDL	0.01	0.005
1664081	Drill Core	2.70 0.057
1664082	Drill Core	1.84 0.110
1664083	Drill Core	1.22 0.014
1664084	Drill Core	2.52 0.058
1664085	Drill Core	1.77 0.357
1664086	Drill Core	2.56 0.163
1664087	Drill Core	1.11 0.234
1664088	Drill Core	2.64 0.104
1664089	Drill Core	1.18 0.040
1664090	Drill Core	0.71 <0.005
1664091	Drill Core	2.50 0.026
1664092	Drill Core	1.91 0.042
1664093	Drill Core	2.90 0.067
1664094	Drill Core	2.73 0.077
1664095	Drill Core	2.51 0.075
1664096	Drill Core	2.26 0.033
1664097	Drill Core	2.92 0.033
1664098	Drill Core	2.40 0.054
1664099	Drill Core	2.35 0.016
1664100	Pulp	0.07 2.968
1664101	Drill Core	2.40 0.010
1664102	Drill Core	2.62 0.012
1664103	Drill Core	2.67 0.012
1664104	Drill Core	2.28 0.006
1664105	Drill Core	3.06 0.011
1664106	Drill Core	2.50 0.019
1664107	Drill Core	3.27 0.010
1664108	Drill Core	1.56 0.009
1664109	Drill Core	1.69 0.008
1664110	Drill Core	0.85 <0.005



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

**Client:** Kirkland Lake Gold  
Exploration Office  
489 MacDougal Ave.  
Matheson Ontario P0K 1N0 Canada

Project: TBONE  
Report Date: November 20, 2019

Page: 1 of 2

Part: 1 of 1

# QUALITY CONTROL REPORT

TIM19002541.1

Method	WGHT	FA430
Analyte	Wgt	Au
Unit	kg	ppm
MDL	0.01	0.005
Pulp Duplicates		
1664051	Drill Core	1.87 <0.005
REP 1664051	QC	<0.005
1664064	Drill Core	2.74 0.016
REP 1664064	QC	0.015
1664096	Drill Core	2.26 0.033
REP 1664096	QC	0.032
1664104	Drill Core	2.28 0.006
REP 1664104	QC	0.006
Core Reject Duplicates		
1664071	Drill Core	2.47 0.056
DUP 1664071	QC	0.069
1664105	Drill Core	3.06 0.011
DUP 1664105	QC	0.009
Reference Materials		
STD OXC145	Standard	0.207
STD OXC145	Standard	0.204
STD OXC145	Standard	0.205
STD OXH139	Standard	1.294
STD OXH139	Standard	1.329
STD OXH139	Standard	1.275
STD OXN134	Standard	7.542
STD OXN134	Standard	7.527
STD OXN134	Standard	7.321
STD OXC145 Expected		0.212
STD OXN134 Expected		7.667
STD OXH139 Expected		1.312
BLK	Blank	<0.005
BLK	Blank	<0.005



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Exploration Office  
489 MacDougal Ave.  
Matheson Ontario P0K 1N0 Canada

Project: TBONE  
Report Date: November 20, 2019

Page: 2 of 2

Part: 1 of 1

# QUALITY CONTROL REPORT

TIM19002541.1

		WGHT	FA430
		Wgt	Au
		kg	ppm
		0.01	0.005
BLK	Blank		<0.005
BLK	Blank		<0.005
BLK	Blank		<0.005
BLK	Blank		<0.005
Prep Wash			
ROCK-TIM	Prep Blank		<0.005
ROCK-TIM	Prep Blank		<0.005



## **Appendix 4**

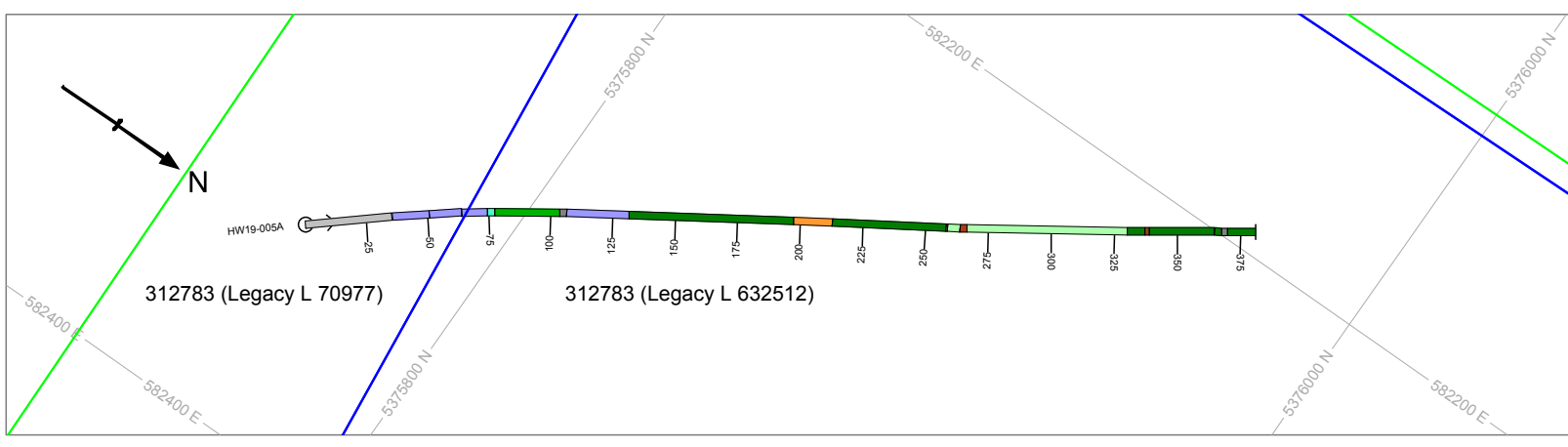
### **Drill Hole Sections**



Table 2

## LITHOLOGICAL LEGEND

COLOUR	ROCK CODE	DESCRIPTION
	ACH	ALTERED - CARBONATE/CHLORITE
	ACO	CARBONATE ALTERED
	AEC	SERICITE CARBONATE ALTERED
	HPO	OVERBURDEN
	IIO	INTERMEDIATE INTRUSIVE
	LDO	DIABASE
	QBX	QUARTZ BRECCIA
	QVC	QUARTZ CARBONATE VEINS
	SIC	CARBONACEOUS GRAPHITIC ARGILITE
	VIP	PILLOWED INTERMEDIATE VOLCANIC
	VMM	MAFIC VOLCANIC - MASSIVE
	VMO	MAFIC VOLCANIC - UNDIVIDED
	VMP	MAFIC VOLCANIC - PILLOWED
	VMV	MAFIC VOLCANIC - VARIOLITIC
	VUM	MASSIVE ULTRAMAFIC
	VUO	ULTRAMAFIC VOLCANIC
	ZFZ	FAULT ZONE
	ZGO	GOUGE

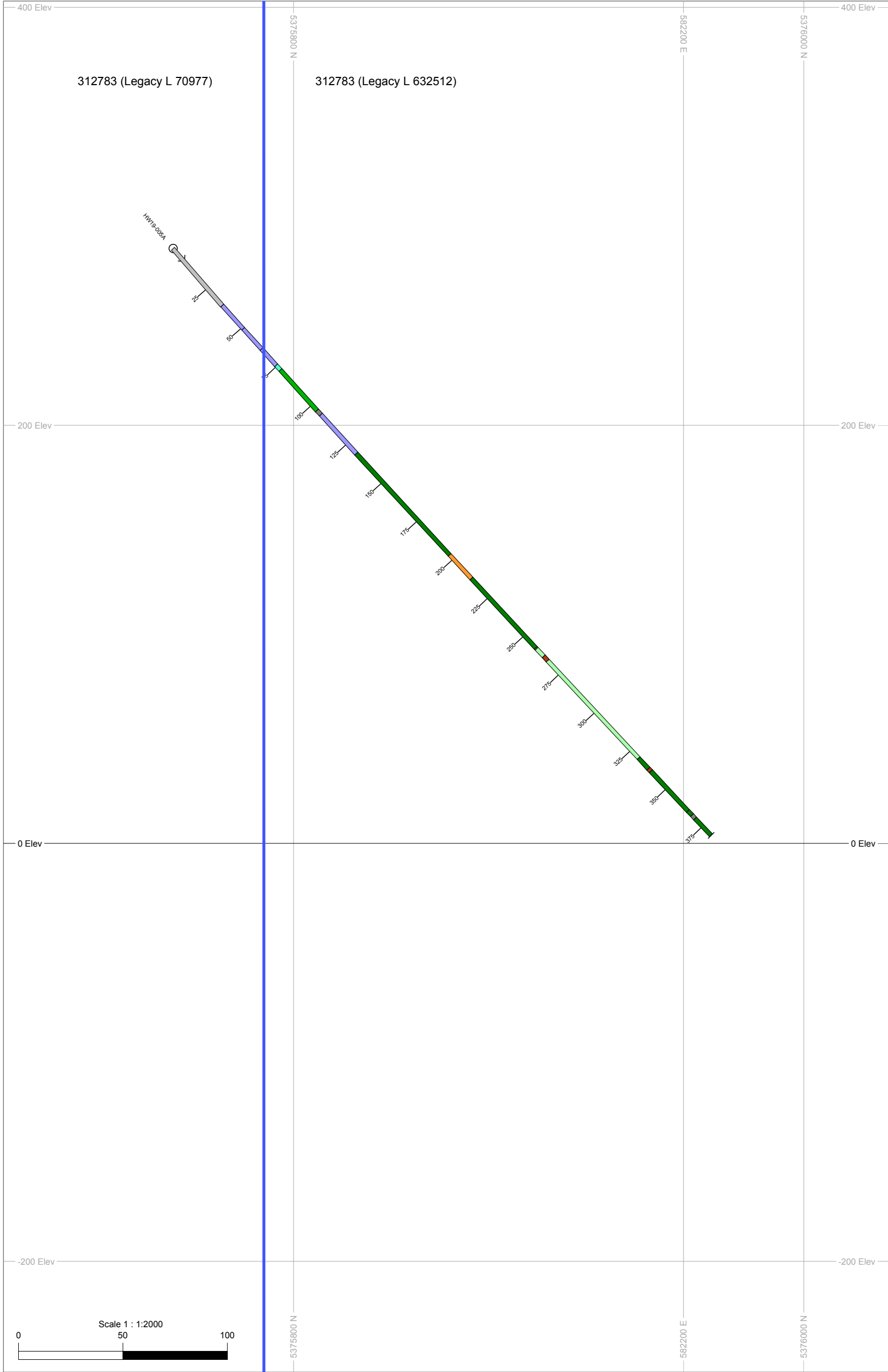


**ROCK CODES**

[ACH]
[ACO]
[AEC]
[HPO]
[HIO]
[LDO]
[QBX]
[QVC]
[SIC]
[VIP]
[VMM]
[VMO]
[VMP]
[VMV]
[VUM]
[VUO]
[ZFZ]
[ZGO]

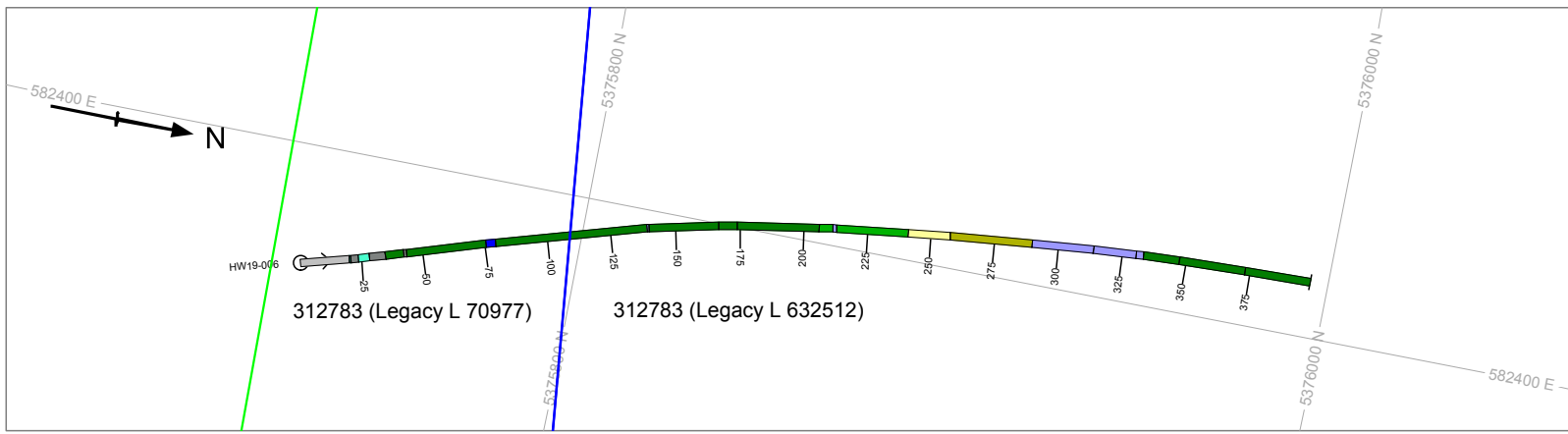
**GOLD GRADE (gpt)**

0 - 1
1 - 2
2 - 5
5 - 10
10 - 15
>15



<b>HW19-005A</b>		
Scale 1:2000	Date: 25 Feb 2020	Au Scale : 1mm=1gpt
Azimuth 319.4°	Dip -50°	EOH 381m



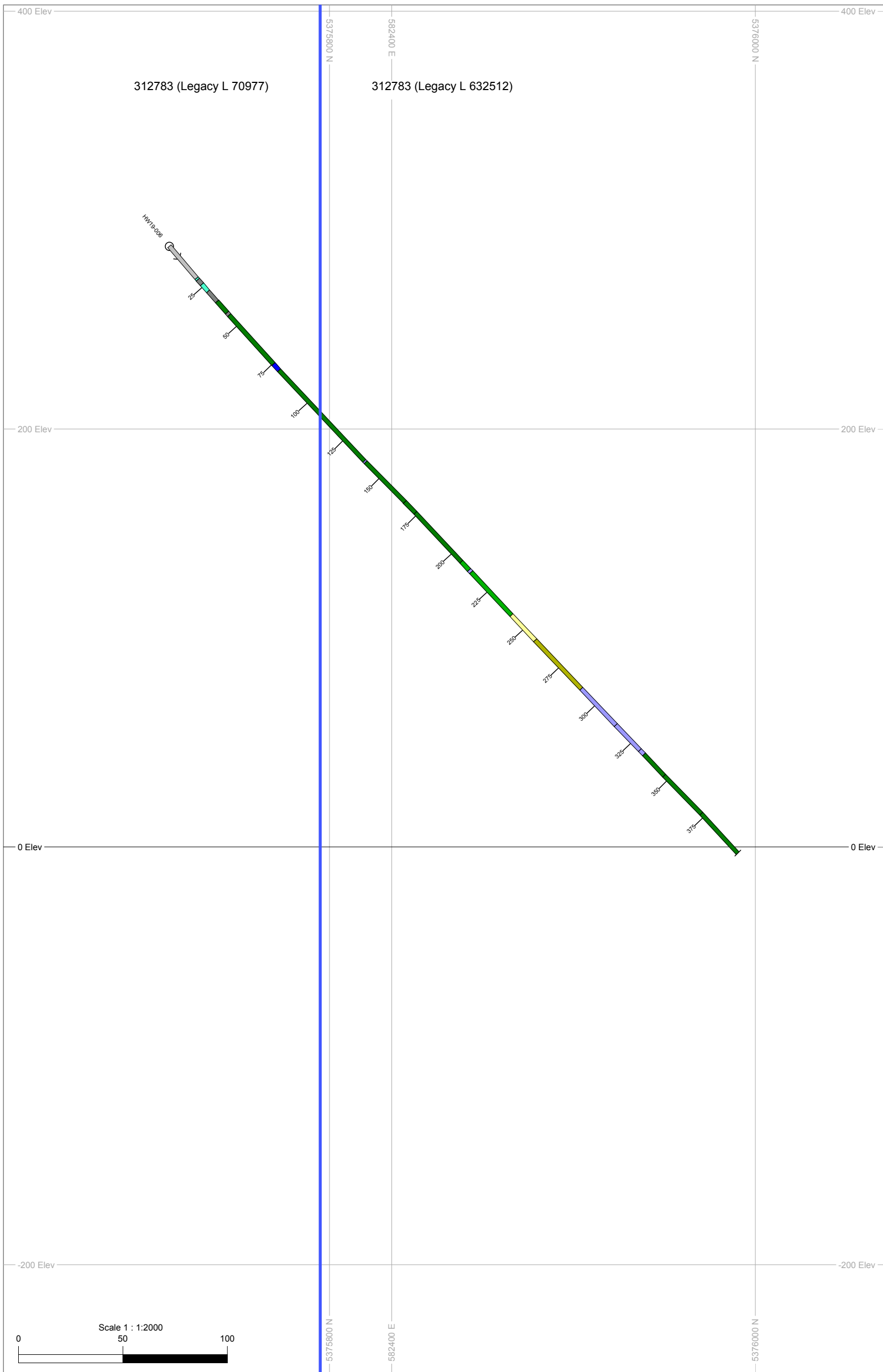


**ROCK CODES**

[ACH]
[ACO]
[AEC]
[HPO]
[HIO]
[LDO]
[QBX]
[QVC]
[SIC]
[VIP]
[VMM]
[VMO]
[VMP]
[VMV]
[VUM]
[VUO]
[ZfZ]
[ZGO]

**GOLD GRADE (gpt)**

0 - 1
1 - 2
2 - 5
5 - 10
10 - 15
>15



HW19-006		
Scale 1:2000	Date: 25 Feb 2020	Au Scale : 1mm=1gpt
Azimuth 345°	Dip -50°	EOH 399m

