SOAR
METALS CANADA LTD.

Assessment Report

Describing geochemical sampling, unmanned aerial vehicle surveying, quantum direct matter indicator surveying and diamond drilling at the

Hartless Joe Property

Hart, Les, Joe and HJ Claims

Latitude 60°55´N; Longitude 134°50´W; NTS 105D/15

Whitehorse Mining District

Work performed from July 13 to August 17, 2020

Craig Dunn, P.Geo.

February 24, 2021

Table of Contents

1 SUMMARY 5

2 INTRODUCTION 5

3 QUALIFIED PERSONS 6

4 PROPERTY DESCRIPTION AND CLAIM DATA 7

5 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY 11

5.1 ACCESSIBILITY 11

5.2 CLIMATE 11

5.3 LOCAL RESOURCES 11

5.4 INFRASTRUCTURE 11

6 HISTORY 11

7 GEOLOGICAL SETTING AND MINERALIZATION 13

7.1 REGIONAL GEOLOGY 13

7.2 PROPERTY GEOLOGY 16

7.3 PROSPECT SCALE GEOLOGY 21

8 DEPOSIT TYPES 28

9 EXPLORATION 29

9.1 SOIL GEOCHEMICAL SURVEYS 29

9.2 GEOPHYSICAL SURVEYS 36

9.2.1 Previous Years Geophysical Surveys 36

9.2.2 2020 Quantum Direct Matter Indicator (QDMI) Survey 38

9.3 GEOLOGIC MAPPING AND ROCK SAMPLING 39

9.3.1 Previous Years Rock Sampling Programs 39

9.3.2 2020 Rock Sampling Program 41

9.4 PREVIOUS YEARS DRILLING CAMPAIGNS 44

9.5 UNMANNED AERIAL VEHICLE (UAV) FLYOVERS 47

10 DRILLING 49

10.1 PAD 1 50

10.1.1 Hole HJ-20-01A 50

10.1.2 Hole HJ-20-01B 51

10.1.3 Hole HJ-20-01C *51*
10.2 PAD 2 52
10.2.1 Hole HJ-20-02A *52*
10.2.2 Hole HJ-20-02B *55*
10.2.3 Hole HJ-20-02C *56*
10.3 PAD 3 58
10.3.1 Hole HJ-20-03A *58*
10.3.2 Hole HJ-20-03B *58*
10.3.3 Hole HJ-20-03C *58*
10.3.4 Hole HJ-20-03D *59*
10.4 PAD 4 59
10.4.1 Hole HJ-20-04A *59*
10.4.2 Hole HJ-20-04B *60*
11 INTERPRETATION AND CONCLUSIONS **60**
12 RECOMMENDATIONS **61**
13 REFERENCES **62**

Figures

Figure 4-1: Hartless Joe Property Area 7
Figure 4-2: Hartless Joe Claim Numbers 9
Figure 4-3: Hartless Joe Permit Area 10
Figure 7-1: Regional Geology at the Hartless Joe Property 15
Figure 7-2: Property Geology at Hartless Joe 19
Figure 7-3: Significant Showings at the Hartless Joe Property 23
Figure 7-4: Prospect Scale Geology at the Hartless Joe Property 20
Figure 7-5: Detailed Geology at the Hartless Joe Property 26
Figure 9-1: Hartless Joe: Gold in Soil 30
Figure 9-2: Hartless Joe: Silver in Soil 31
Figure 9-3: Hartless Joe: Arsenic in Soil 32
Figure 9-4: Hartless Joe: Copper in Soil 33
Figure 9-5: Hartless Joe: Lead in Soil 34
Figure 9-6: Hartless Joe: Zinc in Soil 35
Figure 9-7: B-Field Channel Image with Tile Derivative Magnetics (Morton, 2020) 36
Figure 9-8: Modelled Chargeability (Morton, 2020) 37
Figure 9-9: Hartless Joe Property QDMI Summary 38
Figure 9-10: QDMI Detail Geology 39
Figure 9-11: Previous Years Rock Samples at Hartless Joe 40
Figure 9-12: 2020 Rock Sampling Program 42
Figure 9-13: 2020 Detailed Rock Sampling 43
Figure 9-14: Previous Diamond Drillhole Locations 46
Figure 9-15: Drone Scanning overview 48
Figure 10-1: 2020 Drilling Overview 50
Figure 10-2: 3D Model of Pad 1 51
Figure 10-3: Core from Hole HJ-20-01C 52
Figure 10-4: 3D Model with topography of Pad 2 53
Figure 10-5: 3D Model showing correlation between QDMI and Gold Assay Results 53
Figure 10-6: 3D Model of drillholes on Pad 2 54
Figure 10-7: Core from Hole HJ-20-02A 54
Figure 10-8: Core from Hole HJ-20-02B 55
Figure 10-9: Key interval in Hole HJ-20-02B 56
Figure 10-10: Core from Hole HJ-20-02C 57
Figure 10-11: Key zone from Hole HJ-20-02C 57
Figure 10-12: 3D Model of Pad 3 58
Figure 10-13: 3D Model of Pad 4 59

Tables

Table 4-1: Hartless Joe Claims 8
Table 7-1: Lithological Units (Gordey and Makepeace, 2003 and Bordet, 2016) 16
Table 7-2: Significant Results from the Grumpy Showing (Morton, 2020)..... 21
Table 7-3: Significant Results from the Les 2 Showing (Morton, 2020)..... 24
Table 7-4: Significant Results from the King Showing (Morton, 2020) 25
Table 7-5: Significant Results from the Ace Showing (Morton, 2020) 25
Table 9-1: 2020 Rock Sampling Assay Data 44
Table 9-2: 2016 Diamond Drilling Asssay Highlihgts (Morton, 2020) 45
Table 9-3: 2019 Diamond Drilling Assay Highlights (Morton, 2020) 46
Table 10-1: 2020 Drill Holes 49

1 Summary

The Hartless Joe property comprises 584 mineral claims, is approximately 117.35 km², and covers a 6.5 km by 3.5 km belt of high-grade gold±silver showings. Mineralization occurs in steep quartz veins along faults and in stratabound, banded and/or comb-textured quartz horizons adjacent to altered volcanic sills or flows, within inter-volcanic mudstones. Sulphide minerals comprise galena, sphalerite, chalcopyrite and pyrite, along with native gold. Algoma-type iron formations have been identified on the property, consisting of siliceous, hematite-magnetite mineralization in bands or as clasts within volcanic conglomerates. The formations are formed as hydrothermal precipitates, suggesting that the precious metal occurrences at Hartless Joe occur within a mixed epithermal – submarine volcanogenic setting.

Recent work has focused on the southern part of the precious metal belt, in the area of the Grumpy and Gusano showings, where rock samples have yielded up to 251 g/t gold and 5010 g/t silver. In 2018, hand trenching at the Grumpy Showing exposed mineralized quartz within a steeply dipping fault zone, which returned 9.57 g/t gold over 2 m (Morton, 2019). A 2019 drill hole (HJ-19-01), targeting the down-dip extension of the trench exposure, successfully intersected the mineralized fault and returned strongly anomalous values for gold. Hole HJ-19-04, which was collared 50 m to the east of the first hole, and designed to cross the fault, failed to reach the target (Morton, 2020). Hand trenching in 2018 at the Gusano Showing exposed a shallowly dipping siliceous horizon, which yielded 1.31 g/t gold over 7 m (Morton, 2019). Follow-up drilling in 2019 at Gusano returned 2.68 g/t gold over 1.7 m, including 5.80 g/t gold over a 0.61 m interval from the silicified zone (HJ-19-03); and 1.86 g/t gold over 4.78 m, including 3.88 g/t gold over 1.61 m, from the fault zone (HJ-19-04).

In 2020, drill highlights included: 9.74 g/t gold and 7.82 g/t Silver over 0.4 m in hole HJ-20-02C; 1.56 g/t gold over 1.1 m in hole HJ-20-02B; and 1.04 g/t gold over 2.18 m in hole HJ-20-02A.

2 Introduction

The Hartless Joe Property covers high-grade gold-silver mineralization in southern Yukon. The mineral occurrences are characterized as low-sulphidation, epithermal-type; however, geological and geochemical features suggest that the property is also highly prospective for submarine, exhalative- type mineralization. The property is owned 100% by Strategic Metals Ltd and is currently under option to SOAR Metals Canada Ltd., an affiliate of Integrative Technologies International Inc. ("ITI") which is contract operator for SOAR Metals Canada.

This report describes a 2020 work program comprising geochemical sampling, unmanned aerial vehicle (UAV) surveying, quantum direct matter indicator (QDMI) surveying and 901.9 m of diamond drilling, which was performed from July 13 to August 17. The author supervised and participated in the exploration program and interpreted

all resulting data. The author's Statement of Qualifications is provided in Section 3 below, and a Statement of Expenditures is located in Appendix I.

3 Qualified Persons

I, Craig Dunn, P. Geol., do hereby certify that:

1. I reside at 11 Sierra Morena Close SW, Calgary, AB, Canada, T3H3G3.
2. I graduated with a B.Sc. degree in Geology Honors from the University of Manitoba in 2002.
3. I am a Registered Member of:
   a. Engineers and Geoscientists British Columbia: License #37928.
   b. APEGA: Association of Professional Engineers and Geoscientists (Alberta) #77567.
4. I have worked as a geologist for 18 years and have experience as an exploration geoscientist with WellDunn Consulting on projects throughout North America in diamond, oil and gas, mineral and high-temperature geothermal resource development.
5. I have read the definition of "qualified person" set out in National Instrument 43-101 ("NI 43-101") and certify that, by reason of my education, affiliation with a professional association (as defined by NI 43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person."
6. A brief summary of my relevant experience with respect to being qualified to author this report is as follows:
   - I have worked on resource exploration projects throughout Eastern British Columbia,
   - I have worked on and led mineral exploration development projects throughout Western Canada, including gold and iron ore exploration zones in British Columbia, and previous precious metals programs in Yukon.
   - My extensive experience in geological exploration has focused on mineral and geothermal resources within fault structure-based environments and hydrothermal systems.
7. I am the primary author and am responsible for all the report titled "Hartless Joe Assessment Report" which has an effective date of March 24, 2021.
8. I visited the Hartless Joe property in July and August of 2020 with members of the WellDunn team to review the property geology and field terrain and manage the drilling program.
9. I have worked with companies (ITI and SOAR Metals Canada) that are referenced in the Technical Report, I do not however own nor control a beneficial interest in the mineral properties that are the subject of this report nor any adjacent or nearby properties.
10. I am not aware of any material fact or material change with respect to the subject matter of the Technical Report, the omission to disclose which makes the Technical Report misleading.
11. I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them for regulatory purposes, including electronic publication in the public company files on their websites accessible by the public, of the Technical Report.
12. At the effective date of this report and to the best of my knowledge, information and belief, this technical report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading.

Dated this 24th day of February 2021.

Sincerely,
Craig Dunn, P.Geol.
Principal, WellDunn Consulting Ltd.
e: craig@welldunn.ca
p: +1 (403) 461-8802

4 Property Description and Claim Data

The Hartless Joe property is situated in south-central Yukon at latitude 60°55’ north and longitude 134°50’west on NTS Map sheet 105D/15. The property is composed of 584 claims covering an area of approximately 11,735 ha. The property claims and drilling permit for 2020 are shown in the figures 4-1, 4-2 and 4-3 and Table 4-1 below.

The property is located with the traditional territories of the Kwanlin Dün First Nation and the Ta’an Kwäch’än Council. In July 2016, Ecofor Consulting Ltd. conducted a Heritage Resource Impact Assessment, to determine the impacts of mineral explorations. Areas in the north central part of the property were found to have limited potential for heritage resources and no further work was recommended.

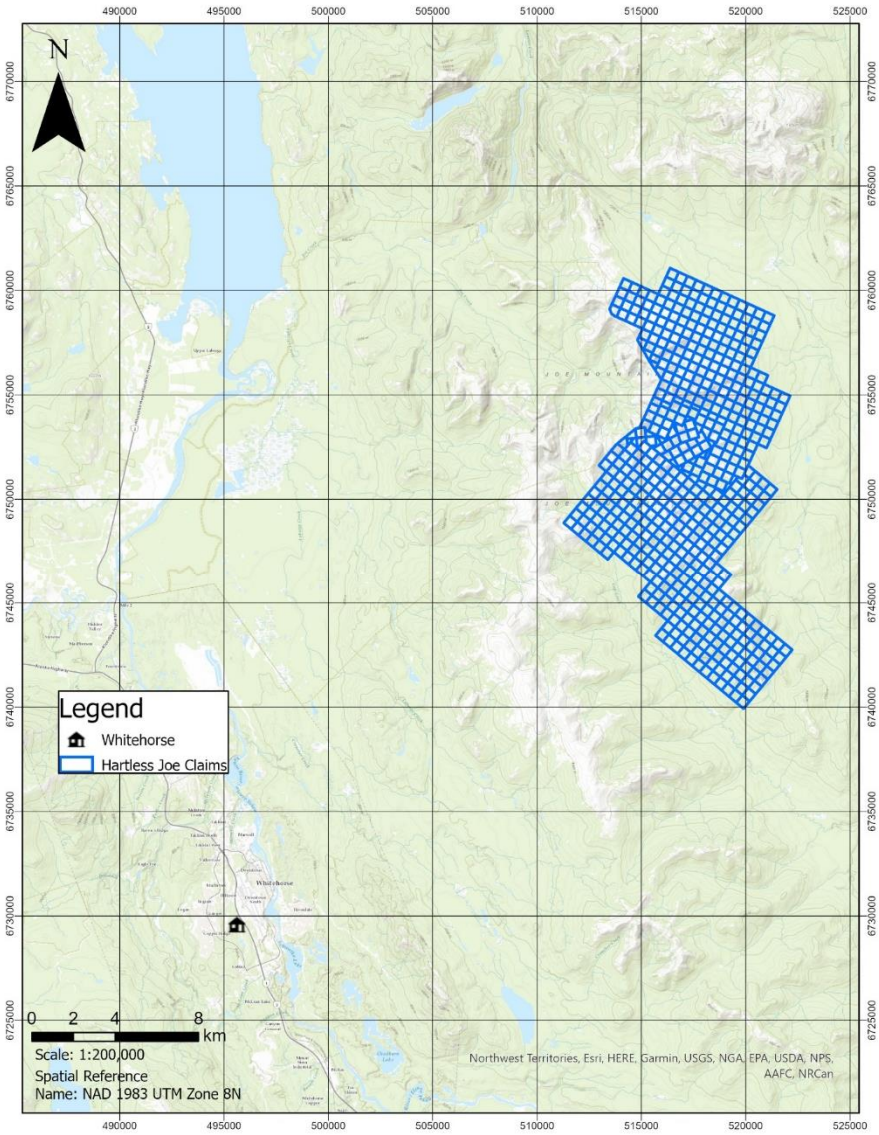

FIGURE 4-1: HARTLESS JOE PROPERTY AREA

TABLE 4-1: HARTLESS JOE CLAIMS

Grant Number	Claim Name	Expiry Date	Stake Date	Owner
YC26563-YC37080	HART 1-28	2041-03-01	2004-02-28	Archer, Cathro & Associates (1981) Limited - 100%
YD35289-YD35300	HART 29-40	2038-03-01	2010-10-26	Archer, Cathro & Associates (1981) Limited - 100%
YD00305-YD00310	HART 41-46	2035-03-01	2015-09-30	Archer, Cathro & Associates (1981) Limited - 100%
YF47807-YF47858	HART 47-98	2032-03-01	2016-08-06	Archer, Cathro & Associates (1981) Limited - 100%
YF49119-YF49183	HART 99-163	2030-03-01	2016-10-18	Archer, Cathro & Associates (1981) Limited - 100%
YE93801-YE94039	HJ 1-239	2024-03-01	2018-09-24	Archer, Cathro & Associates (1981) Limited - 100%
YC37091-YC37100	JOE 1-10	2041-03-01	2004-11-09	Archer, Cathro & Associates (1981) Limited - 100%
YC98499-YC98500	JOE 11-12	2036-03-01	2012-08-31	Archer, Cathro & Associates (1981) Limited - 100%
YE43243-YE43260	JOE 13-30	2035-03-01	2015-09-30	Archer, Cathro & Associates (1981) Limited - 100%
YF49391-YF49454	JOE 31-94	2032-03-01	2016-07-21	Archer, Cathro & Associates (1981) Limited - 100%
YF49875-YF49950	JOE 95-170	2030-03-01	2016-10-15	Archer, Cathro & Associates (1981) Limited - 100%
YC37081-YC37090	LES 1-10	2041-03-01	2004-11-09	Archer, Cathro & Associates (1981) Limited - 100%
YC88019-YC88020	LES 11-12	2035-03-01	2015-09-30	Archer, Cathro & Associates (1981) Limited - 100%

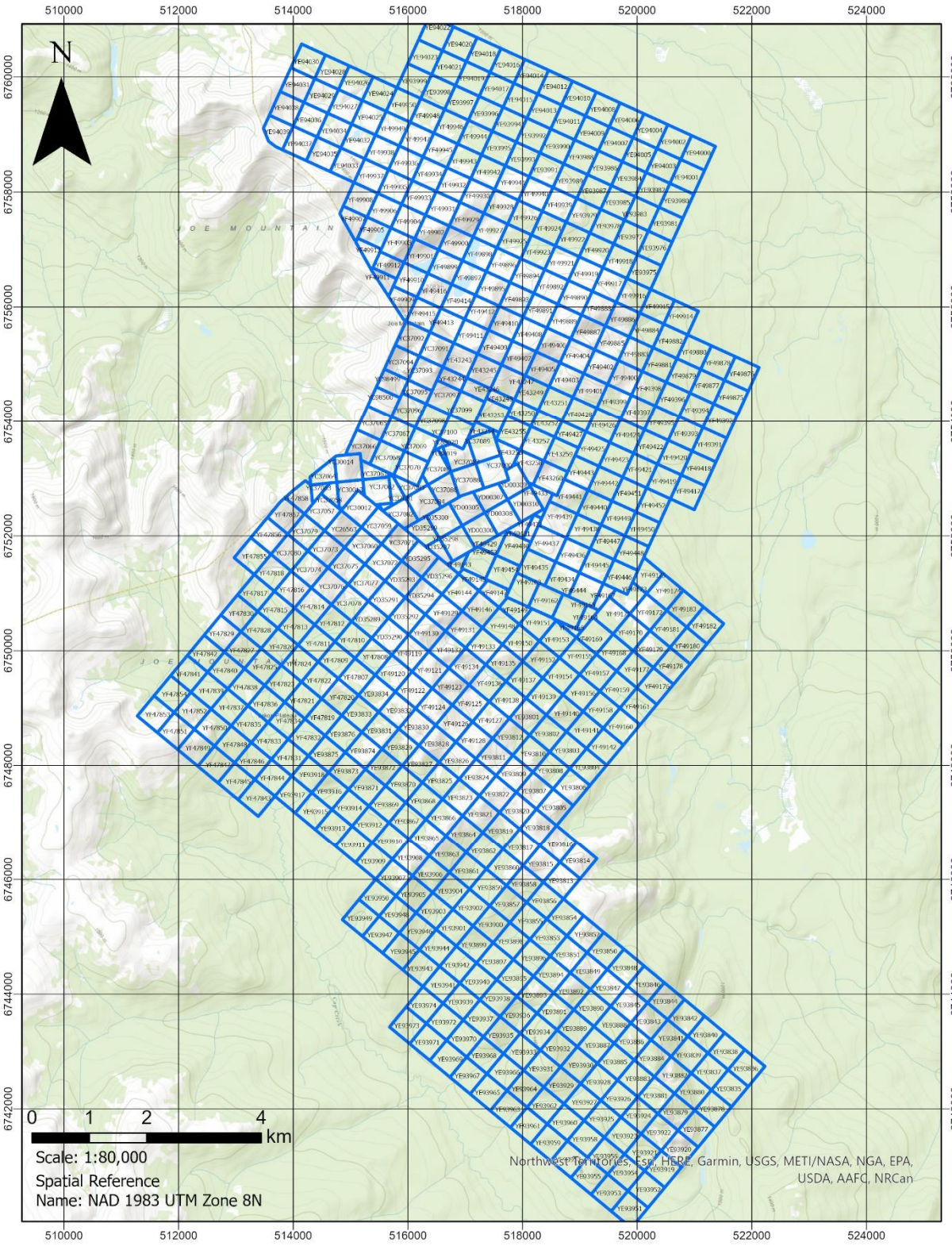

FIGURE 4-2: HARTLESS JOE CLAIM NUMBERS

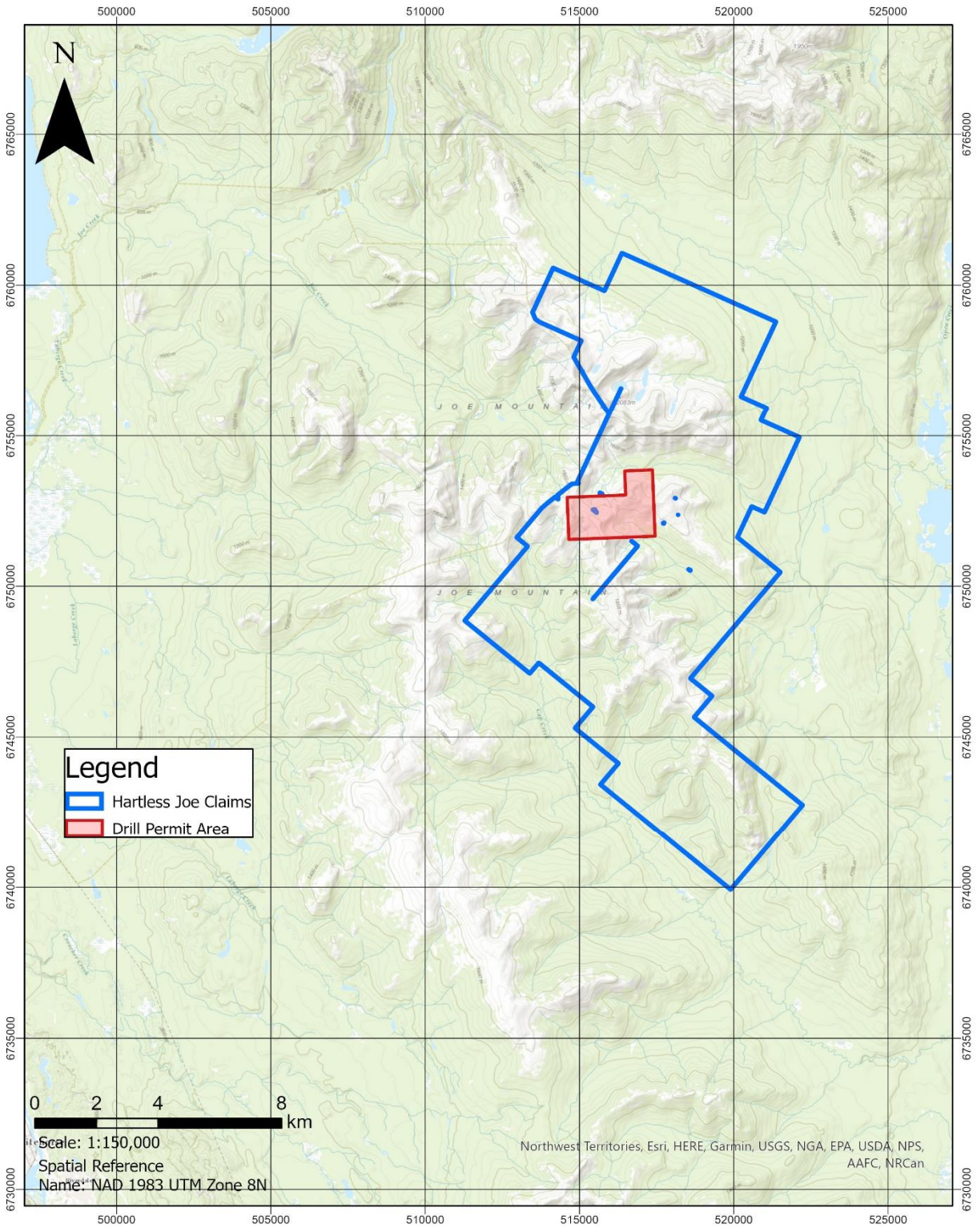

FIGURE 4-3: HARTLESS JOE PERMIT AREA

5 Accessibility, Climate, Local Resources, Infrastructure and Physiography

5.1 Accessibility

The Hartless Joe Property is accessible by Helicopter. There is no road access to site and all exploration must be helicopter supported.

5.2 Climate

The climate at the Hartless Joe property is traditional of northern continental regions. It has long, cold winters and short mild summers. Although summers host relatively mild temperatures, snowfall can occur at any time.

5.3 Local Resources

The closest population center to the Hartless Joe property is Whitehorse, Yukon. It is located approximately 22 km west of the property

5.4 Infrastructure

The property is not directly accessible by road. The closest ground access is along an old bulldozer trail, which terminates approximately 20 km south of the property. Whitehorse is roughly a 15-minute helicopter ride from the property, providing all amenities required. Water is accessible on-site in most valley floors but is seasonally controlled in some streams.

6 History

The earliest record of staking and exploration in the Hartless Joe area dates back to the late 1960's. In 1967 J Smith recorded the Ben 1 to 22 claims after discovering the Ace Showing. Material collected from a shallow hand trench returned 27.4 g/t gold and 78.9 g/t Silver (Deklerk and Traynor, 2017).

In 1968 Esansee Exploration Ltd. preformed soil geochemical sampling, ground magnetic and electromagnetic surveys over part of the Ben claim block. Although these surveys offered promising early returns, the claims expired without receiving additional work.

In 1985, the Geological Survey of Canada conducted reconnaissance-scale stream sediment and water geochemical sampling. Stream sediment samples collected in the vicinity of the Hartless Joe property yielded strongly anomalous values for gold and some pathfinder elements. These values peaked at 1810 ppb gold, 0.4 ppm silver and 120 ppm copper (Heon, 2003).

In 1989 Valor Ventures staked one claim to protect the Ace showing (Delkerk and Traynor, 2017). No records of work are available for this claim.

In 1997, C. Hart discovered two showings in the area, the Grumpy and the Joe Creek showings, while working on behalf of the Yukon Geological Survey (YGS). The Grumpy showing, being the more significant of the two, consists of quartz vein material associated with one-half to meter wide siliceous felsic dykes within a north-trending fault zone. A specimen collected by the YGS at this showing yielded 10.6 g/t gold (Hart, 1997).

In February 2004, R. Hamel staked a claim covering the Grumpy Showing. ATAC Resources Ltd. purchased Hamel's claim in August 2004 and conducted a one-day program of claim staking, cursory prospecting and soil geochemical sampling. This work identified an extension of the vein at the Grumpy showing, hosting galena, sphalerite and pyrite. Samples of the vein brought returns of up to 251 g/t gold (Wengzynowski, 2006).

In July 2005 ATAC Resources preformed grid soil sampling and mapping on the property. This better defined the mineralization of the previous showings and identified two new showings, Joe 4 and Les 2 (Wengzynowski, 2006).

New Shoshoni Ventures Ltd. was optioned the property in early 2006. They terminated the option in spring 2007.

In 2007, ATAC Resources conducted an exploration program on the property. This program constituted of rock and soil geochemical sampling, helicopter borne electromagnetic and magnetic surveys and reconnaissance-scale induced polarization and resistivity surveys. A sixth mineralized showing, Les 7, was discovered. This showing returned values of 73 g/t gold and 183 g/t silver from rock samples. This showing is now referred to as the King Showing.

In March 2008 Ferus Resources Ltd. signed an optional purchase agreement with ATAC Resources and subsequentially ran an exploration program consisting of 612.2m of diamond drilling in three holes. The drilling returned disappointing results and in January 2009, the option was dropped.

Strategic Metals purchased the 42 claims compromising the Hartless Joe property in January 2010. In 2012 Strategic Metals conducted rock and soil geochemical sampling and drill pad construction. They also collected eight rock samples and 153 soil samples near the Joe 4 and King showings. The property was then dormant until 2015 when Strategic Metals preformed a second soil sampling program and an airborne LIDAR survey. In 2016, Strategic Metals performed further exploration including 367.3m of diamond drilling in six holes. This program lead to the discovery of a gold-bearing quartz vein at the Queen Showing, where a chip sample returned 462 g/t gold, 79.6 g/t silver and 1% lead over 40 cm. Three of the holes drilled returned elevated values for gold and silver but failed to reproduce the strong surface sample results (Morton, 2017).

In 2017 and 2018, Strategic Metals conducted further exploration programs, consisting of prospecting, soil sampling and geologic mapping. In 2017, the work resulted in the

discovery of the MK and Gusano showings, which returned rock samples of 37.5 g/t and 49.8 g/t respectively. The 2018 program centered around these two showings. This program consisted of multiple trenches being dug at the Gusano and Grumpy showings. At the Gusano showing, a 29m long trench exposed an approximately 50 cm wide dark orange banded quartz vein. Samples from this exposed bedrock averaged 1.31 g/t gold over 7 m. The trench dug at the Grumpy showing failed to reach bedrock; however, samples along the floor of the trench gave positive returns of 9.57 g/t gold over 2 meters. In 2019, Strategic Metals drilled a total of 854.1m in 5 drillholes, directed toward the Grumpy and Gusano showings. Results from this drill program were promising, with multiple gold assay results of over 1 g/t, peaking at 5.8 g/t in hole HJ-19-03 (Morton, 2020).

7 Geological Setting and Mineralization

7.1 Regional Geology

The Hartless Joe property straddles the boundary between the Whitehorse Trough overlap assemblage and the Cache Creek Terrane – an accretionary complex made of ocean and arc volcanic rocks, pelagic sedimentary rock, ultramafic bodies, and exotic limestone containing early Permian fauna. In this region of the Yukon, the Cache Creek Terrane is overthrust by Stikinia and Quesnellia terranes, which are interpreted to have originated as a single, continuous magmatic arc. In the early Mesozoic, the Stikinia-Quesnellia arc lay outboard of Laurentia and separated from the continent by the intervening Cache Creek ocean. Shallow water carbonates and syn-orogenic sedimentary rocks of the Whitehorse Trough record late Triassic to Early Jurassic closure of the Cache Creek ocean and the accretion of the Stikinia-Quesnellia arc onto the western Laurentian margin (Nelson et al., 2013).

Geologic mapping of the area started in 1961, with the Geologic Survey of Canada (GSC) publishing a geologic map of the Whitehorse area (NTS 105D) at 1:250,000 scale (Wheeler, 1961). Then in 1994, the YGS performed 1:50,000 scale mapping of the Joe Mountain area (Hart and Hunt, 1997 and Hart, 1997). In 2003 a Yukon-wide geological map was completed, in this, the Lithological unit names in the Hartless Joe area were updated (Gordey and Makepeace, 2003). In 2005, the YGS released a paper on reconnaissance geological and geochemical studies of the Joe Mountain Formation (Piercey 2005).

In 2015, the YGS started a geologic mapping project in the Teslin mountain area, east of Lake Laberge (105E/2) at a 1:50,000 scale (Bordet, 2016). Mapping in 2016 and 2018 in the area refined the stratigraphic relationships in the area (Bordet, 2017; Bordet et al., 2019).

Work done by the YGS has recently led to the reassignment of the Joe Mountain Formation from Stikina the Cache Creek terrane. This is based on lithological,

geochronological and geochemical signatures with Cache creek terrane assemblages elsewhere in the cordillera (Bordet et al., 2019).

The Joe Mountain volcaniclastic rocks appear to form the lowest stratigraphic level in the Hartless Joe area. On the Hartless Joe property, they are composed of a massive flow-banded or pillowed, subalkaline to calc-alkaline basalt and basaltic andesite, poorly sorted volcanic conglomerate, mafic tuff, volcanic mudstone, sandstone and minor carbonates (Bordet, 2017). A 4 km diameter, gabbroic stock (mTrJ4) in the northern portion of the property is thought to be the source feeder to the volcanic rocks in this region (Piercey, 2005).

Overlying this basement are sedimentary rocks of the Whitehorse Trough overlap assemblage. This trough is a fault-bounded, marginal basin that formed off the west coast of north America and filled with up to seven kilometers of largely arc-derived clastic rocks. Units comprising the assemblage extend over a strike length of 600 km, stretching from Carmacks, Yukon to Dease Lake, British Columbia. This is divided into two main stratigraphic sequences: The Upper Triassic Aksala Formation (part of the Lewes River Group) and Upper Triassic to Middle Jurassic formations of the Laberge Group (Hart, 1997). The contact between Joe Mountain Formation and overlying Aksala Formation may represent a stratigraphic disconformity (Bordet, 2017).

Three large plutons of Cretaceous age are located near the claim block: The Lower Cretaceous M'Clintock Lakes and Laurier Creek plutons, which are located east and north of the property, respectively; and the mid-Cretaceous Cap Creek pluton, located immediately west of the property. The Laurier Creek, (formerly M'Clintock River), and M'Clintok Lakes plutons are part of the Teslin Suite, which is a homogeneous, coarse grained, biotite-hornblende granodiorite to quartz monzonite. The Cap Creek pluton represents several phases, but is predominantly as a medium to coarse grained, biotite-hornblende granodiorite and quartz-diorite. In the Hartless Joe area, three phases of dykes are recognized. The oldest phase consists of diabase dykes that cut solely rocks of the Joe Mountain Formation, while two others are felsic phases that appear to cut the entire stratigraphy (Bordet, 2017; Hart, 1997). Felsic dykes northwest of the property have been dated to 138 to 136 Ma, representing a previously unrecognized magmatic suite, informally named the Goddard Suite (Bordet, 2019). Descriptions of the lithological units in the area are found in Table 7-1.

The north – northwest trending Laurier Creek fault marks the western boundary of the Joe Mountain Formation. This feature forms a distinctive valley north of the property and may have facilitated strike-slip motion and/or reactivation of a pre-existing structure (Bordet, 2017). An extensive system of imbricate faults and fault arrays appear to merge into the Laurier Creek fault in the immediate property area (Hart, 1997). The Laurier Creek fault may be spart of a larger northwest trending fault system known as the Teslin fault system. The fault array on the Hartless property is interpreted to be an asymmetric pull-apart basin, resulting from a deflection along the Laurier Creek fault (Figure 7.3).

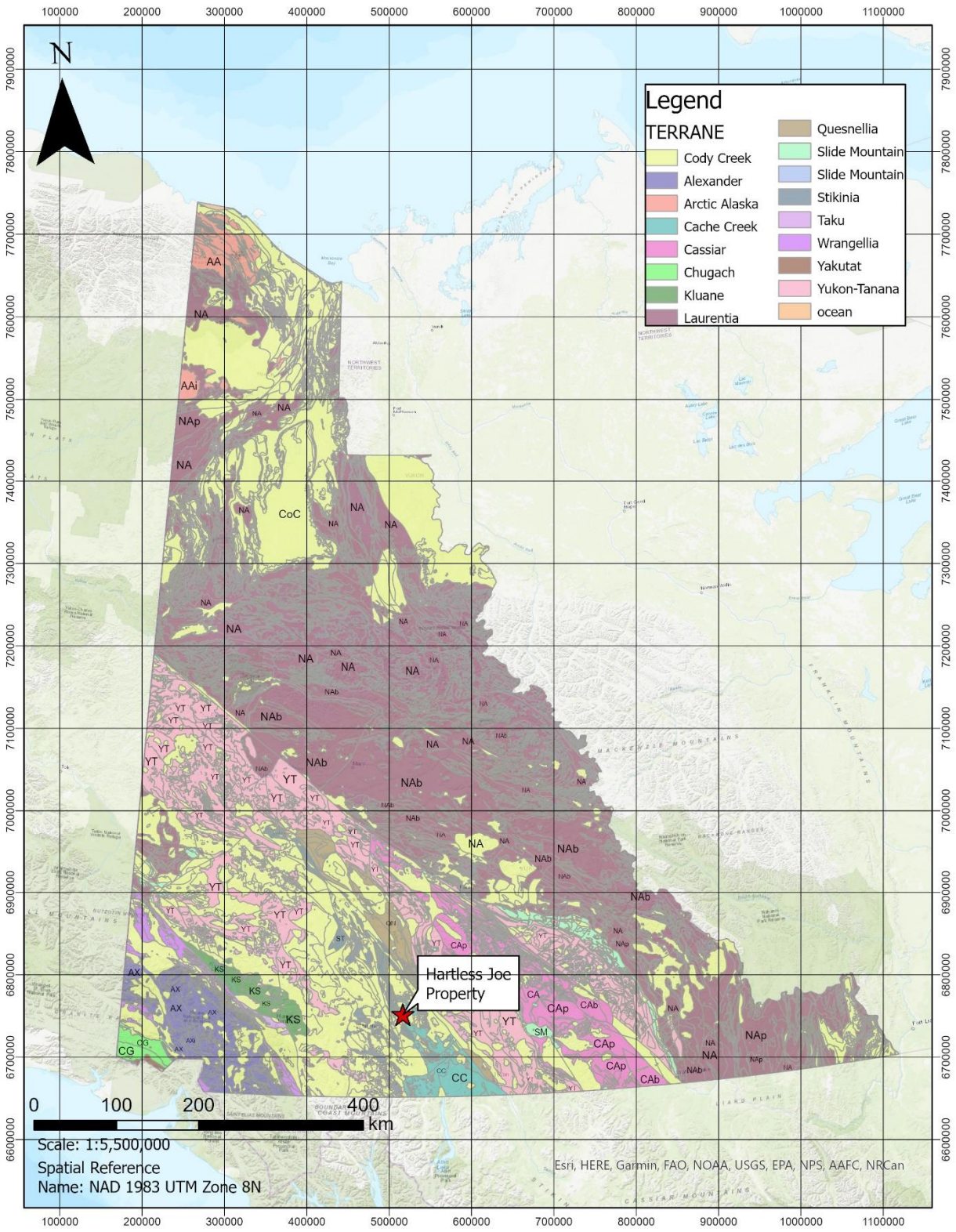

FIGURE 7-1: REGIONAL GEOLOGY AT THE HARTLESS JOE PROPERTY

7.2 Property Geology

The Hartless Joe property is situated south of Joe Mountain within the Yukon Plateau. Geologically it straddles the boundary between the Whitehorse Trough overlap assemblage and Cache Creek Terrain as seen below in Figure 7-2. The Cache Creek Terrain is an accretionary complex made up of a mixture of ocean and arc volcanic rocks, pelagic sedimentary rocks, ultramafic bodies and exotic limestone.

The property is underlain by Joe Mountain Formation volcanic rocks which are locally subdivided into four units. The units are as follows; a lower unit of dark basaltic flows, a clastic and calcareous sedimentary unit, a thick upper unit of basalt flows and gabbro and diabase intrusions.

Aksala Formation sediments are found throughout the southwestern area of the claim block, comprising the Casca Member and the Hancock Member, seen below in Figure 7-3. Aksasla Formation are lithologically variable and include siltstone, shale, sandstone, conglomerate, hornfels and diamictite. The Hancock Member of the Aksala Formation consists of; white weathering, resistant, massive to poorly bedded bioclastic and micritic limestone, marble and skarn; and recessive, flaggy, dark grey limestone and sandy limestone.

TABLE 7-1: LITHOLOGICAL UNITS (GORDEY AND MAKEPEACE, 2003 AND BORDET, 2016)

Map Suite	Age	Map Unit	Description
Mount Nansen group	Mid-Cretaceous	mKN	Byng Creek Volcanics: light weathering, black tolight orange, quartz-eye rhyolite and dacite flows, tuffs, breccias and assorted fragmental volcanics with tourmaline breccia.
Whitehorse Suite	Mid-Cretaceous	mKgW	Biotite-hornblende granodiorite, hornblende-quartz diorite and hornblende diorite; leucocratic, biotite-hornblende granodiorite with sparse greypink potassium feldspar phenocrysts.
		mKqW	Grey, medium to coarse grained, generally equigranular granitic rocks of felsic composition.
Teslin Suite	Lower Cretaceous	EKgT	White to pale grey weathering, recessive, leucocratic, fine to coarse grained equigranular hornblende-biotite granite, granodiorite, quartz monzonite and quartz monzodiorite, locally with sparse grey and pink potassium feldspar phenocrysts; associated aplitic phases and dykes.

Map Suite	Age	Map Unit	Description
Laberge Group	Lower to Middle Jurassic	JL	Poorly sorted, medium bedded to massive arkosic sandstone and minor shale with interbeds and thick members of resistant heterolithic pebble and boulder conglomerate; recessive, dark brown weathering, thin bedded, dark brown to greenish, silty shale.
		JL1	Richthofen Formation: dark weathering, massive to finely laminated, black mudstone, limey mudstone and hornfels, locally with wispy brown laminae or limestone horizons.
Aksala Formation	Upper Triassic	uTrAK1	Casca Member: Brown shale, black and minor red siltstone, greenish, calcareous greywacke and interbedded bioclastic, argillaceous limestone; igneous- or limestone-clast pebble and cobble conglomerate; lahaaric debris flows; rare feldspar augite porphyry flows.
		uTrAK2	Hancock Member: Massive to thick bedded limestone; minor thin bedded argillaceous to sooty limestone; coarsely crystalline, massive dolostone; minor laminated chert; massive to poorly bedded, limestone conglomerate debris flows and fanglomerate.
Joe Mountain Formation	Middle Triassic	mTrJ1	Black weathering, fine grained, aphyric, pillowed basalt flows with calcite veining and weak but pervasive chloritic alteration. These pillows are under a package of gritty and limey sediments.
		mTrJ2	Chaotic assemblage of recessive weathering, volcanogenic sandstone, siltstone, shale and gritty sandstone. Includes limestone or limey beds, and resistant, dark weathering, chaotic and massive to poorly bedded, heterolithic, diamictite, conglomerate, and fragmental or gritty limestone.
		mTrJ3	Dark grey weathering, generally unaltered, fine-grained and feldspar and pyroxene-phyric, pillowed basalt flows and massive microdiorite. Locally interbedded with mTJM2.
		mTrJ4	Dark weathering, massive, variable textured, coarse-grained and locally pegmatitic, pyroxene gabbro and diorite.

The Richthofen formation is the youngest of the formational units on the property. It was deposited in the early Jurassic by a southeast-propagating submarine fan. It is characterized as turbiditic mudstone and sandstone with local limestone horizons and unconformably overlies Aksala Formation.

The Grumpy-Gusano area is underlain by feldspar and pyroxene-phyric basalt flows and massive micro-diorite. These are interbedded with volcanic conglomerate, sandstone and mudstone. There are subangular clasts of mafic rock or mudstone within the conglomerate.

All the units described above and tabulated in table 7-1 are cut by a large north-south fault, known as the GG fault, which juxtaposes mTrJ3 and mTrJ2. A second sub-parallel fault is located to the west, which appears to converge with the GG fault to the south. This fault forms the western boundary of a small, medium grained, pyroxene gabbro plug, which is thought to be equivalent with the mTrJ4 stock in the northern portion of the property.

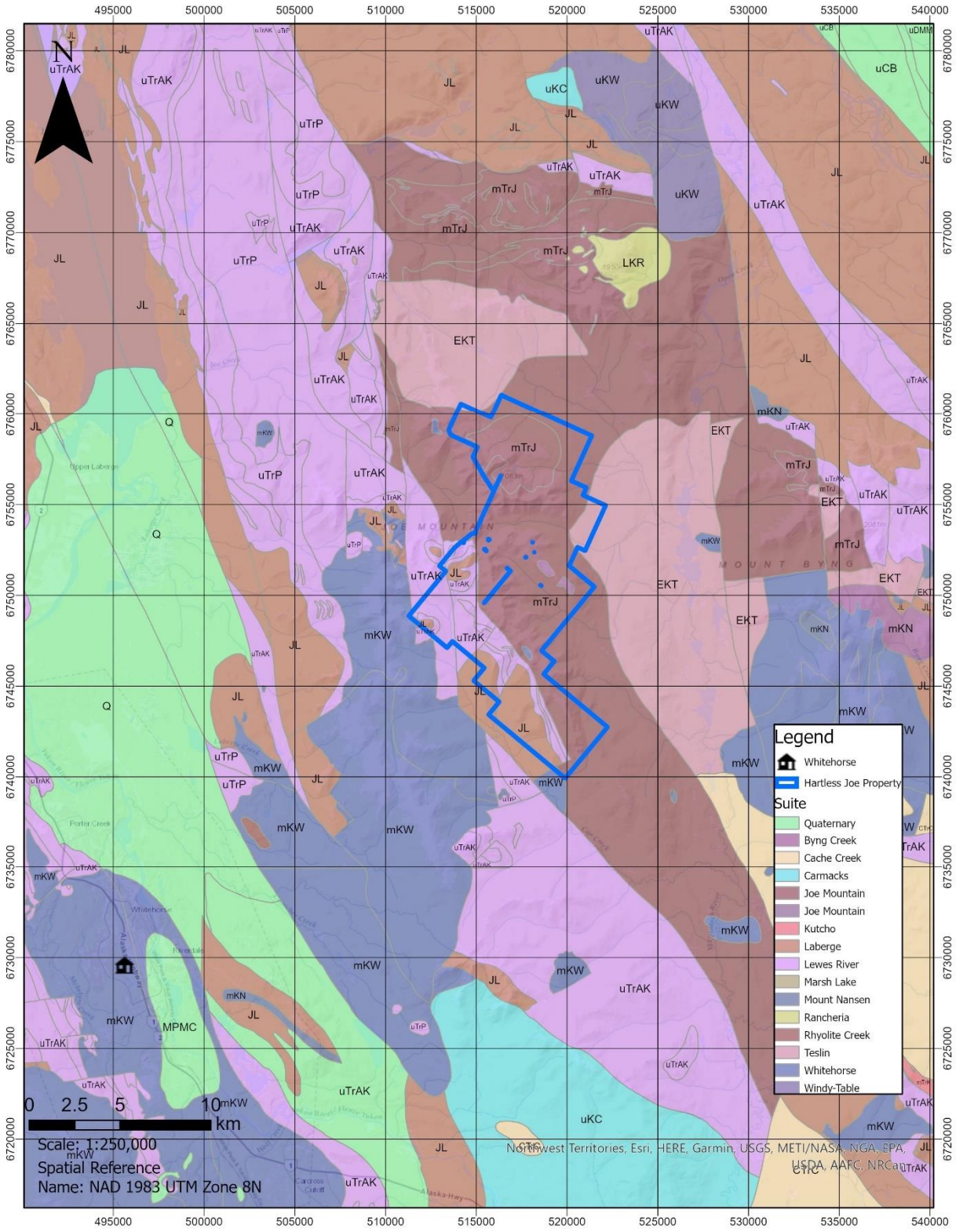

FIGURE 7-2: PROPERTY GEOLOGY AT HARTLESS JOE

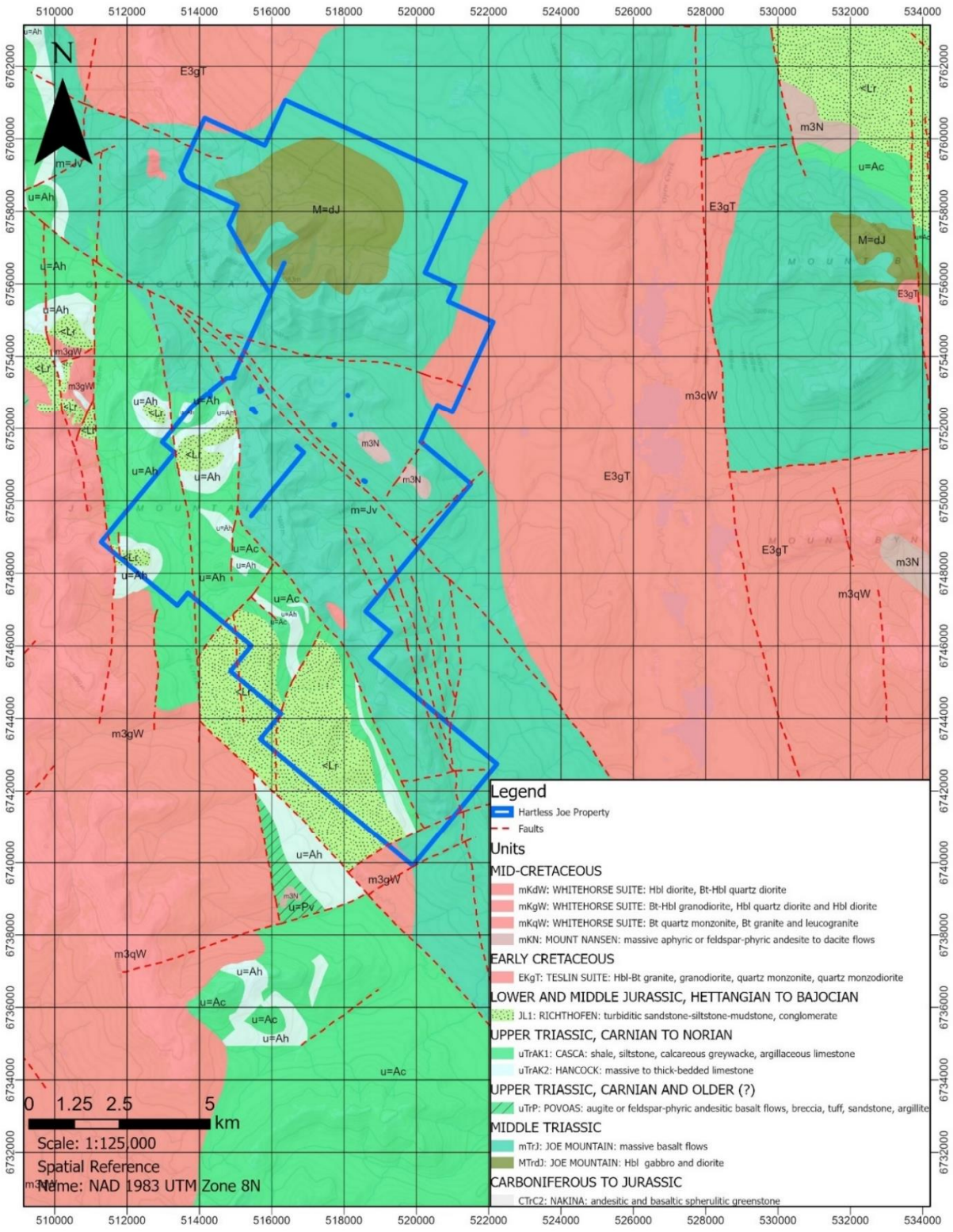

FIGURE 7-3: PROSPECT SCALE GEOLOGY AT THE HARTLESS JOE PROPERTY

7.3 Prospect Scale Geology

The **Grumpy Showing** lies in the west-central part of the property, as seen below in Figure 7-4, at the head of Cap Creek. It covers Joe Mountain Formation volcanics and volcaniclasics, on the eastern side of a major north-trending fault. The showing was discovered by Craig Hart and Julie Hunt (1997) during a YGS regional mapping program, and originally described as occupying a fault zone at the head of Cap Creek. A grab sample collected from a north-trending, siliceous, felsic dyke, containing quartz stringers, yielded 10.6 g/t gold (Hart, 1997). Subsequent work has delineated three separate areas of mineralization: 1) quartz-carbonate talus on a steep, west-facing slope, located immediately uphill from the fault zone (Area A); 2) a 30 cm wide, shallowly dipping quartz-rich horizon (Area B), located 180 m north of Area A; and 3) quartz float associated with the surface trace of the GG fault (Area C), located 300 m east of Area A. Float samples collected from all three areas have yielded high gold values. Many samples from areas A and B are enriched in arsenic, and some of the samples also have very high silver content. Table 7-2 compiles the most significant assay results from the Grumpy Showing (Morton, 2020).

TABLE 7-2: SIGNIFICANT RESULTS FROM THE GRUMPY SHOWING (MORTON, 2020)

Sample	Area	Au (g/t)	Ag (g/t)	As (ppm)	Sb (ppm)	Cu (%)	Pb (%)	Zn (%)
M011214	A	251	1270	413	148	0.02	0.93	0.13
W599126*	A	62.3	4380	1050	785	0.09	0.96	0.05
B395831	A	55.3	5010	143	1590	0.09	0.55	0.06
W591773	B?	36.3	54	712	3	0.00	0.27	0.00
C105714	B	27	466	190	76	0.01	0.1	0.34
B395832	A	18.5	2310	213	364	0.11	0.73	0.06
M011209	A	15.65	4540	139	1350	0.01	0.62	0.03
C105707	C	9.97	3.8	66	13	0.01	0.04	0.06
W599140*	B	8.39	14.45	407	4.55	0.01	0.03	0.02
W599128*	B	7.88	11.65	358	4.57	0.01	0.03	0.04
K283907*	B	7.26	3.08	5770	9.24	0	0	0.01
B395833	A	5.32	50	5310	17	0.01	0.02	0.01
M011211	A	3.54	82.7	51	16	0.01	0.05	0.12
C105716	B	3.03	4	3770	7	0	0	0
W599141	B	2.98	181	252	55.9	0.02	0.01	0.21
M011212	A	2.17	339	94	98	0.02	0.11	0.14
B395830	A	0.8	211	453	80	0.02	0	0.01

Area A covers an approximately 100 m by 100 m zone of quartz-carbonate talus that occurs within a narrow gully and on an adjacent, steep west-facing slope. The talus typically exhibits a syntaxial or comb texture, and sulphide minerals appear as millimeter-scale bands and blebs. Sulphide minerals comprise pyrite, galena, minor chalcopyrite and an unidentified grey-black mineral. Microscopic examination of

polished sections has identified the presence of grey-black tellurides or sulphosalts developed along the grain boundaries of known sulphide's (Drechsler, 2013). Rocks from this area have yielded grades of up to 251 g/t gold and 5010 g/t silver.

Area B comprises a 30 cm thick, banded, quartz-rich vein or exhalative horizon, which has been traced along a 25 m strike length and is the source of a 200m long float train of mineralized talus. It is hosted within a volcanic conglomerate (mTrJ1), located immediately above the contact with pillowed basalt (mTrJ1). Bedding measurements in overlying volcaniclastic rocks dip steeply to the south, and the horizon appears to be aligned sub-parallel with this orientation. Mineralization comprises ribbons of arsenopyrite, lesser pyrite and trace chalcopyrite, which is rimmed by malachite. Outcrop samples collected from the vein returned grades of up to 8.39 g/t gold and 181 g/t silver (Morton, 2019). In 2019, a float sample collected 60 m south-southwest of outcrop exposures of the horizon, returned 36.3 g/t gold and 53.5 g/t silver. This sample comprised scorodite-stained, rusty weathering quartz, hosting bands of pyrite, arsenopyrite and minor galena. (Morton, 2020).

Area C covers the north-trending GG fault, which forms a prominent topographic linear. It cuts volcaniclastic rocks and a series of steeply-dipping, northwest-striking rhyolite dykes, which converge with the fault. Grab samples of quartz, collected from the topographic linear, have assayed up to 9.97 g/t gold. In 2018, a hand trench was excavated, perpendicular to the linear, to expose the source of the mineralized float. The trench failed to reach bedrock, but talus and subcrop along the floor of the trench was sampled continuously for 11 m. One sample, across a section of abundant orange weathering quartz hosting trace amounts of fine-grained pyrite and galena, returned 9.57 g/t gold over 2 m (Morton, 2019).

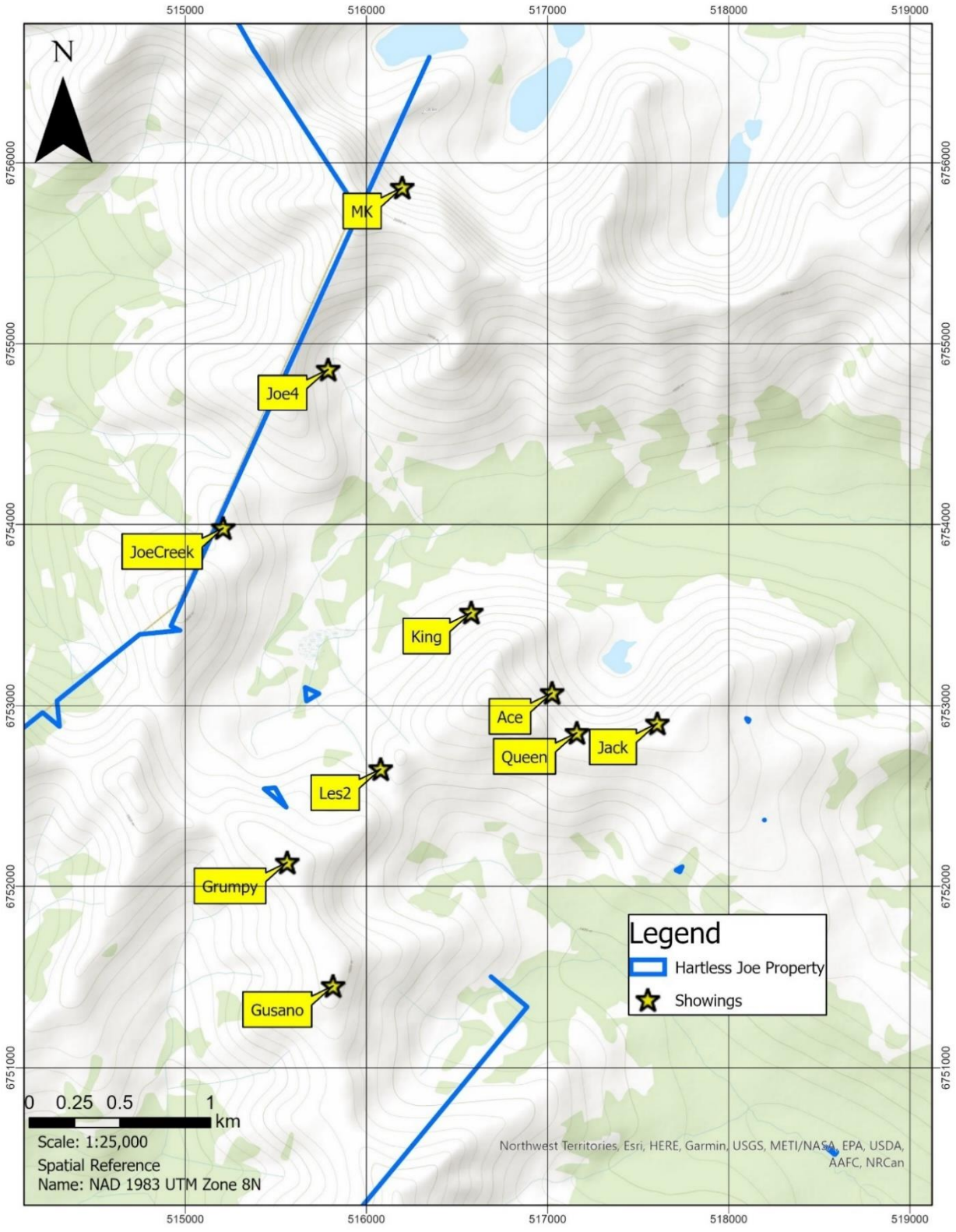

FIGURE 7-4: SIGNIFICANT SHOWINGS AT THE HARTLESS JOE PROPERTY

The **Gusano Showing** lies 600 m south of the Grumpy Showing, immediately uphill from the surface trace of the fault that crosses Area C. It covers a 600 m by 200 m talus field of banded and mineralized quartz boulders in an area of recessive, thin-bedded, calcareous mudstone. Samples from milky quartz boulders (up to 40 cm in diameter), hosting bands and disseminations of pyrite, arsenopyrite and galena, have yielded values of up to 49.8 g/t gold and 365 g/t silver. In 2018, a 29 m long hand trench exposed a dark orange weathering, banded quartz vein. The vein is estimated to be 50 cm wide and is immediately adjacent to a quartz-eye rhyolite dyke. Continuous chip samples taken across the vein and rhyolite wall rock returned a weighted average grade of 1.31 g/t gold over 7 m (Morton, 2019).

The **Les 2 Showing** is located 430 m northeast of the Grumpy Showing, along a north west trending fault, and is associated with a recessive topographic linear, results from this area are shown below in Figure 7-3. In 2005, two float samples of light orange weathering, milky white quartz vein and siliceous green wallrock, with abundant galena and pyrite, returned 117 and 76.1 g/t silver. Another sample, comprising mineralized jasperoid with moderate white to yellow quartz stockwork veinlets, minor magnetite, and orange limonitic pits, returned 0.99 g/t gold (Wengzynowski, 2006). In 2018, a float sample consisting of a 5 cm wide quartz vein in basalt, with clots of galena and pyrite, returned 212 g/t silver (Morton, 2019). In 2019, follow-up prospecting failed to locate the source of the 2018 float but resulted in the separate discovery of an approximately three centimeter wide, slightly rusty quartz vein, with pyrite and minor galena along selvages, which returned 76.9 g/t silver and 3100 ppm lead (Morton, 2020).

TABLE 7-3: SIGNIFICANT RESULTS FROM THE LES 2 SHOWING (MORTON, 2020)

Sample	Au(g/t)	Ag(g/t)	As(ppm)	Sb(ppm)	Cu(%)	Pb(%)	Zn(%)
B395846	0.02	31.4	10	1	0	0.09	0
B395847	0.02	37.9	26	1	0.1	0.08	0.01
B395902	0.02	117	1	1	0	0.25	0
B395903	0.07	76.1	11	1	0.02	0.66	0
W599146	0.27	212	2	1	0.02	0.08	0.02
W591776	0.12	76.9	4	4	0	0.31	0

The **King Showing**, which was previously referred to as the Les 7 Showing, lies 900m northeast of the Les 2 Showing. The showing comprises a mineralized quartz-rich band in outcrop, which has been traced along an 82m strike length and is approximately 50 to 60cm wide. The quartz band is hosted in a recessive, limey and chloritic, volcanic mudstone, which forms the top of a volcanic flow. The mudstone is approximately two to four meters thick. Sulphide minerals within the quartz-rich band, which is either a flat-lying vein or an exhalative horizon, include galena, pyrite and chalcopyrite. Enveloping mineralization in the mudstone unit comprises malachite, azurite, plumbo-jarosite(?) and disseminated pyrite (Morton, 2020)

In 2015, a continuous chip sample collected across the mineralized band yielded 60 g/t gold, 554 g/t silver, 5.01% lead and 0.35% copper over 1.2 m (Morton, 2016). In 2016, hand trenching better exposed the mineralized band at this location, and chip samples returned 22.3 g/t gold, 195 g/t silver, 4.5% zinc, 2.0% lead and 0.22% copper over 0.5 m. The band was also exposed in a hand trench dug 82 m to the east, where it yielded 43.0 g/t gold, 376 g/t silver, 1.3% zinc, 2.0% lead and 0.1% copper over 2.1 m. A third hand trench, located 34 m southwest of the first trenches, intersected the favorable mudstone unit but failed to expose the mineralized band (Morton, 2017). Table 7-4 compiles significant assay results from the King Showing.

TABLE 7-4: SIGNIFICANT RESULTS FROM THE KING SHOWING (MORTON, 2020)

Type	Sample	Au(g/t)	Ag(g/t)	As(ppm)	Sb(ppm)	Cu(%)	Pb(%)	Zn(%)
Float	C105732	73	183	111	68	0.1	2.95	0.22
Float	M652141	0.058	20.8	5.1	1.11	3.31	0	0.01
Chip sample 1.2m	R608488	60	554	555	56.3	0.35	5.01	2.32
Chip sample 0.5m	K288995	23.2	195	146	38.1	0.22	2.02	4.45
Chip sample 2.1m	K288999-K289000	43	376	43.5	86	0.14	2.04	1.31

The **Ace Showing** is located 420 m southeast of the King Showing, and covers a 10 cm wide, flat-lying, quartz-carbonate vein or exhalative horizon, which has been traced along a 95 m strike length. It sits above a pale, feldspar-phyric latite(?) dyke, and below a thin-bedded volcanic mudstone, which is overlain by pillowed basalt. Sulphides comprise less than 10% of the mineralized vein, and include pyrite, galena, sphalerite and rare tetrahedrite. Malachite and limonite are also present.

This showing was discovered in 1967, and a historical channel sample reportedly assayed 27.4 g/t gold, 78.9 g.t silver, 2.2% lead and 1.9% zinc over 10 cm (Deklerk and Traynor, 2017). Sampling of mineralized talus in the area has returned up to 190.5 g/t gold and 5780 g/t silver (Wengzynowski, 2006). In 2016, four outcrop samples of the vein, collected over a 95 m strike length, returned an average grade of 7.4 g/t gold and 462.5 g/t silver (Morton, 2017). Table 7-5 lists significant assay results from the Ace Showing.

TABLE 7-5: SIGNIFICANT RESULTS FROM THE ACE SHOWING (MORTON, 2020)

Sample	Au(g/t)	Ag(g/t)	As(ppm)	Sb(ppm)	Cu(%)	Pb(%)	Zn(%)
P396841	149	53.8	2	3	0.05	0.6	0.04
B395837	190.5	5780	167	1350	0.13	5.58	0.06
K288977	16.85	1420	53.7	123	0.2	0.44	0.50
K288978	3.8	82.8	11.7	5.53	0.02	0.09	<0.01
K288979	3.69	180	170.5	15.1	0.04	0.27	0.13
K288980	5.26	167	204	17.85	0.03	0.17	0.07

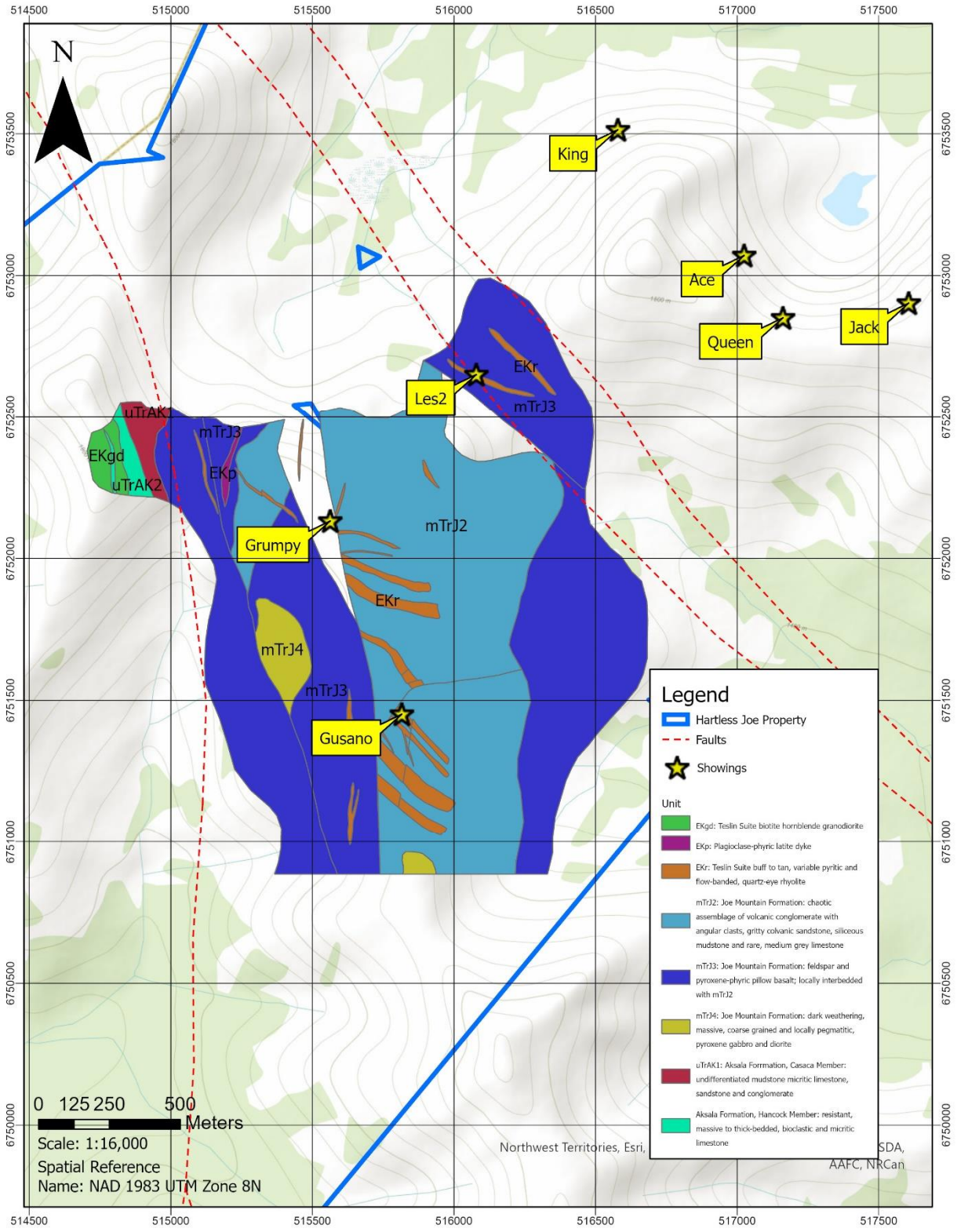

FIGURE 7-5: DETAILED GEOLOGY AT THE HARTLESS JOE PROPERTY

The **Queen Showing** was discovered in 2016, and lies 120 m south of the Ace Showing. It consists of a 50 cm wide, flat-lying, rusty weathering, coarse crystalline quartz vein, exposed along a strike length of approximately 25 m. The vein is hosted in a narrow volcanic mudstone bed at the margin of a 1.1 m wide, plagioclase-phyric, latite dyke. Sulphide minerals are scarce in the vein, but fine grained native gold is observed in illite-filled fractures, with rare chalcopyrite and galena. In 2016, continuous chip sampling across the vein yielded 462 g/t gold, 79.6 g/t silver, 0.28% copper and 1% lead over 40 cm (Morton, 2017).

The **Jack Showing** was also discovered in 2016. It is located 350 m east of the Queen Showing, and comprises a 25 cm wide, flat-lying, rusty weathering, coarse crystalline quartz vein. The vein is hosted in a narrow horizon of volcanic mudstone, and contains rare clots of pyrite, chalcopyrite and goethite. In 2016, an outcrop sample returned 4.53 g/t gold (Morton, 2017).

The **Joe Creek Showing** lies 1320 m northwest of the King Showing, along a northwesttrending fault, that is marked by a recessive topographic linear. This showing was discovered by Craig Hart and Julie Hunt (1997) and covers banded and massive quartz talus with sparsely disseminated pyrite and arsenopyrite. In 2005, a sample collected from the showing yielded 46.5 g/t silver (Wengzynowski, 2006).

The **MK Showing** was discovered in 2017, and is located 1920 m north-northeast of the Joe Creek Showing. It covers a shallowly dipping quartz vein that occupies the margin of an approximately four metre wide, stratigraphy-parallel, leucocratic dyke. Five rock samples of the vein, each hosting varying amounts of galena, arsenopyrite, pyrite and minor chalcopyrite, returned an average grade of 23.8 g/t gold and 56.8 g/t silver, with peak values of 37.5 g/t gold and 91.7 g/t silver. Copper values were generally low (Morton, 2018).

The **Joe 4 Showing** lies 880 m northeast of the Joe Creek Showing and covers mineralized quartz vein and quartz-healed breccia talus in a northwest-trending gully. It is located near a boulder field of Algoma-type quartz-hematite boulders. Significant results from this showing are found below in Table 7-6. In 2005, a sample of quartz-cemented andesite breccia returned 16.4 g/t silver and 1.81% copper. Sulphide minerals in this sample included pyrite, chalcopyrite, pyrrhotite, and an unknown blue mineral (covellite?) hosted within both the quartz matrix and andesite clasts. Another more weakly mineralized sample of breccia returned 22.4 g/t silver (Wengzynowski, 2006). In 2018, a sample of rusty weathering and malachite-stained, quartz-after-calcite breccia, with abundant fine grained pyrite and chalcopyrite, yielded 2.27% copper. The source of the float has not been identified (Morton, 2019).

TABLE 7-6: SIGNIFICANT RESULTS FROM THE JOE 4 SHOWING (MORTON, 2020)

Sample	Au(g/t)	Ag(g/t)	As(ppm)	Sb(ppm)	Cu(%)	Pb(%)	Zn(%)
B395828	0.02	4.8	8	1	1.91	0	0.02
B395839	0.58	22.4	5	8	0.01	0.03	0.00
B395841	0.17	16.4	10	5	1.81	0.01	0.01
B395839	0.58	22.4	5	8	0.01	0.03	trace
K293599	0.01	11.7	7	0	2.27	0	0.34

In 2019, prospecting 650 m southwest of the Gusano Showing, about half-way down a steep west-facing slope, identified mineralized float comprising light to dark grey, banded quartz, with bands of hematite as well as unidentified, very fine grained sulphides. This material returned 12.55 g/t gold and 494 g/t silver, and has not been followed-up. Another sample, collected 650m northwest of the Gusano Showing, consisting of rusty weathering, pitted rhyolite, hosting blebs of pyrite and lesser arsenopyrite, yielded 1360 ppm copper (Morton, 2020).

8 Deposit Types

The main target at Hartless Joe is gold and silver bearing epithermal style mineralization that occurs within veins, silica and carbonate breccias and as stratigraphically controlled horizons. Throughout the years of exploration at Hartless Joe, nine showings of this type have been found on this property, referred to as: Grumpy, Gusano, Joe Creek, Les 2, MK, Ace, King, Queen, and Jack. Many of the occurrences observed in outcrop have bedding-parallel orientation. As a result, most of the showings in this report are described as veins, but some may be exhalative in nature (Morton, 2020).

The nine occurrences are characterized by varying amounts of gold and silver, with trace to minor amounts of copper, lead and zinc. Mercury and antimony in rock values are erratically distributed and not appreciably enriched in zones of mineralization. Arsenic is strongly associated with gold mineralization at the Grumpy Showing, where samples have yielded arsenic values of up to 5310 ppm. The remaining gold occurrences are characterized by low arsenic values. A tenth mineral occurrence, the Joe 5 Showing, covers quartz breccia that is characterized by high copper to gold ratios. All of the mineral occurrences are hosted in Joe Mountain Formation volcanics and volcaniclastics (Morton, 2020).

Algoma-type iron formations, comprising quartz-hematite-magnetite mineralization, have also been identified within Joe Mountain Formation. The first noted by Piercy (2005) next to the Joe 4 Showing. This was interpreted as a hydrothermal-exhalative precipitate developed in association with submarine vent. Algoma-type iron formations are commonly found in association with volcanogenic massive sulphide (VMS) mineralization and are usually formed further from the heat source.

9 Exploration

9.1 Soil Geochemical Surveys

Soil geochemical sampling has been performed on the Hartless Joe property since 2005, and the most recent geochemical program took place in 2019. They have mostly been conducted on a widely spaced reconnaissance scale, however tighter sampling has taken place around the Grumpy and Ace showings. Maps showing the main geochemical results for this are found in Figures 9-1 to 9-6.

Soil development on the property is variable and includes glacial overburden, especially in low lying areas and talus fines on upper slopes. There is large cluster of anomalous values in the vicinity of the Grumpy showing, where numerous samples taken in a 1200 by 600 m area exceeded 100 ppb gold (Figure 9-1), with one value reaching 1370 ppb gold. Samples at the Ace showing returned generally lower results, averaging between 20 to 100 ppb gold. There is also a large cluster of anomalous gold, silver and copper values centered on the King showing. Soil samples collected here yielded values of up to 1440 ppb gold, 8.19 ppm silver and 985 ppm copper. The highest gold value on the entire Hartless Joe property came from a reconnaissance sample taken near the Joe Creek showing, returning 2230 ppb gold.

Moderate to strong gold, silver and lead values have been identified in a number of other areas on the property, forming lines up to 300 m long near some of the showings. Zinc is subdued across most of the property, however there is an area of six samples around the MK Showing which are notably enriched in zinc.

Soil geochemistry on the property exhibits a marked north-south metal zonation. Samples near the MK and King showings are notably enriched in copper and zinc, while samples collected in the Grumpy area are strongly enriched in arsenic. This lateral zonation may represent a hydrothermal fluid temperature gradient, or overprinting phases of mineralization.

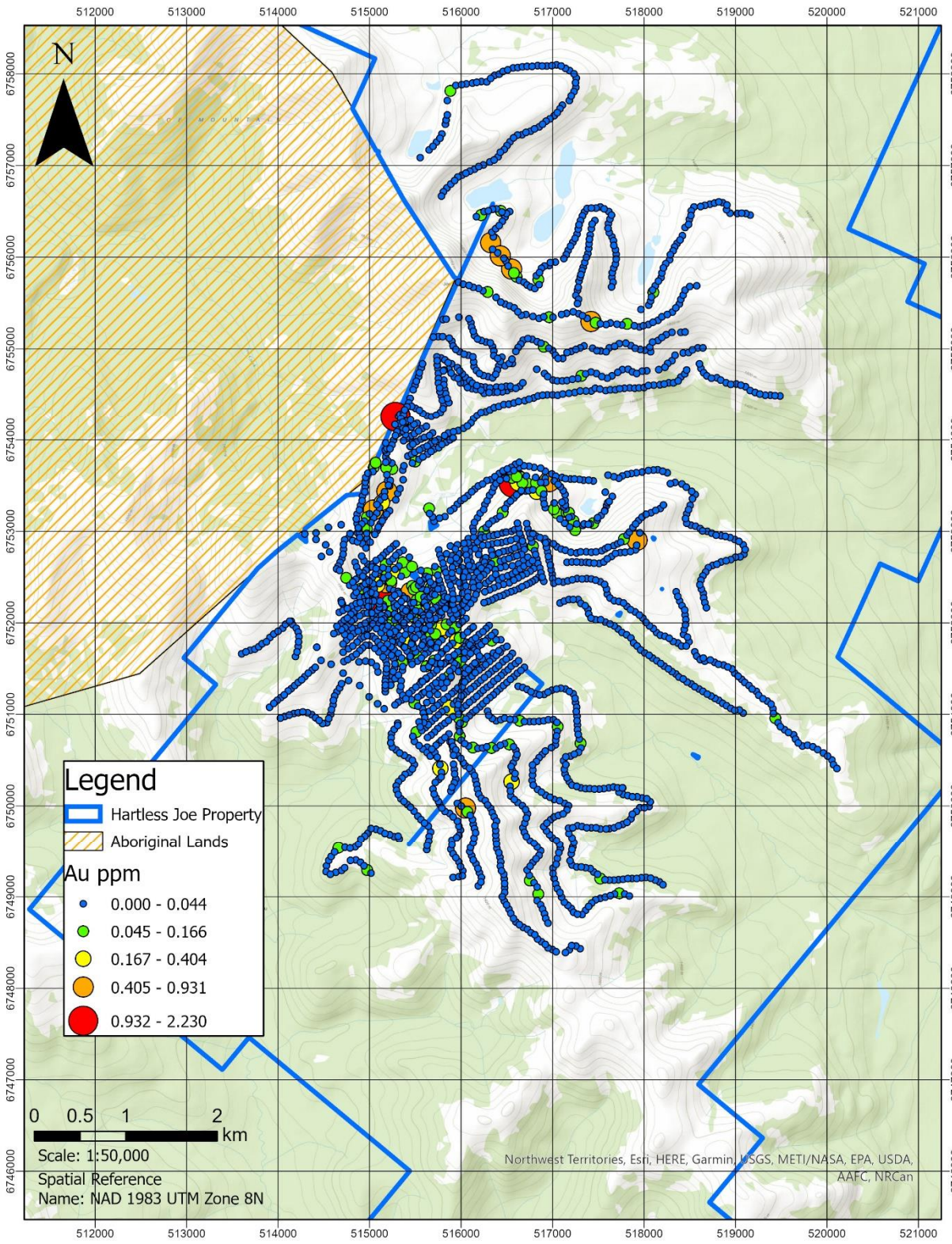

FIGURE 9-1: HARTLESS JOE: GOLD IN SOIL

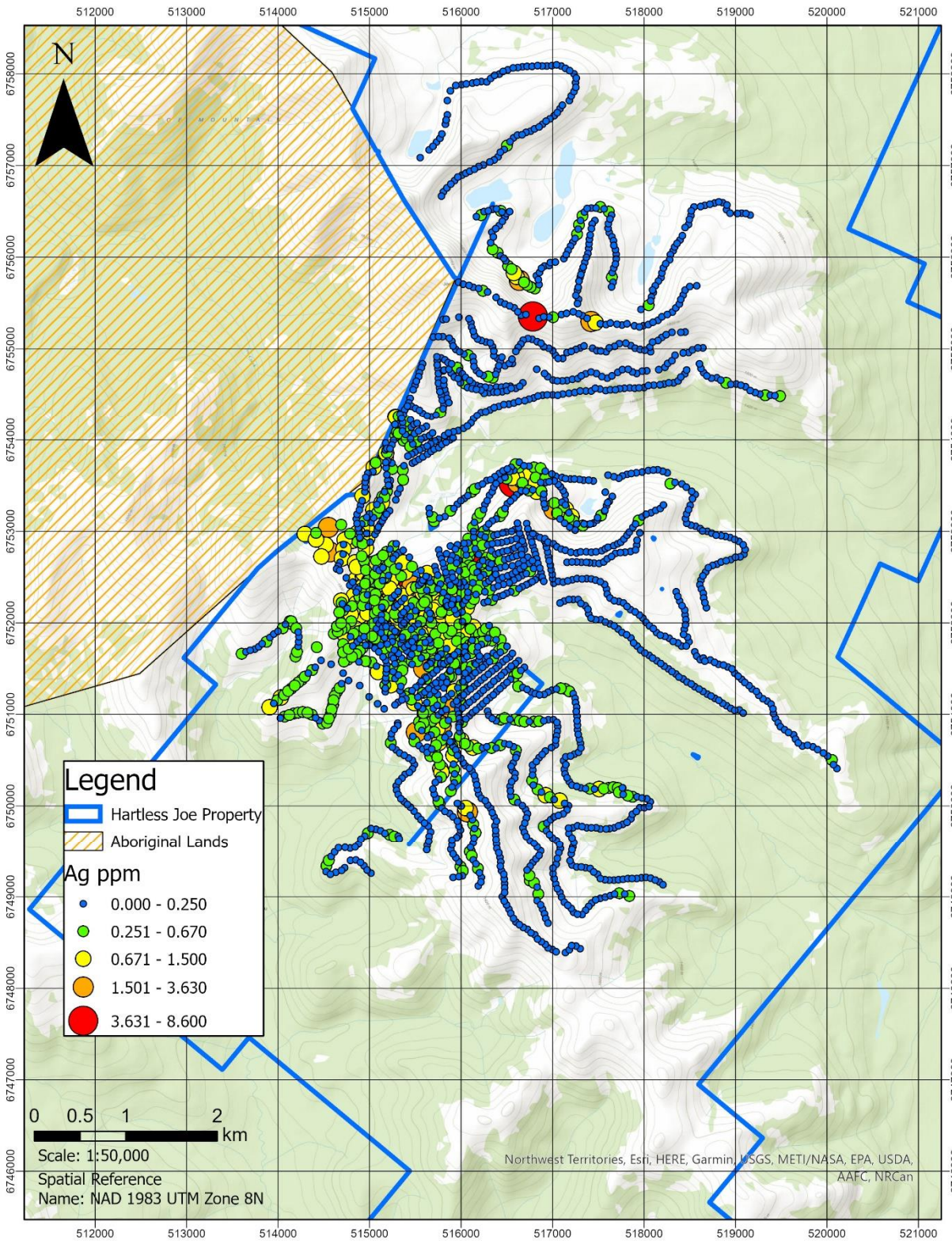

FIGURE 9-2: HARTLESS JOE: SILVER IN SOIL

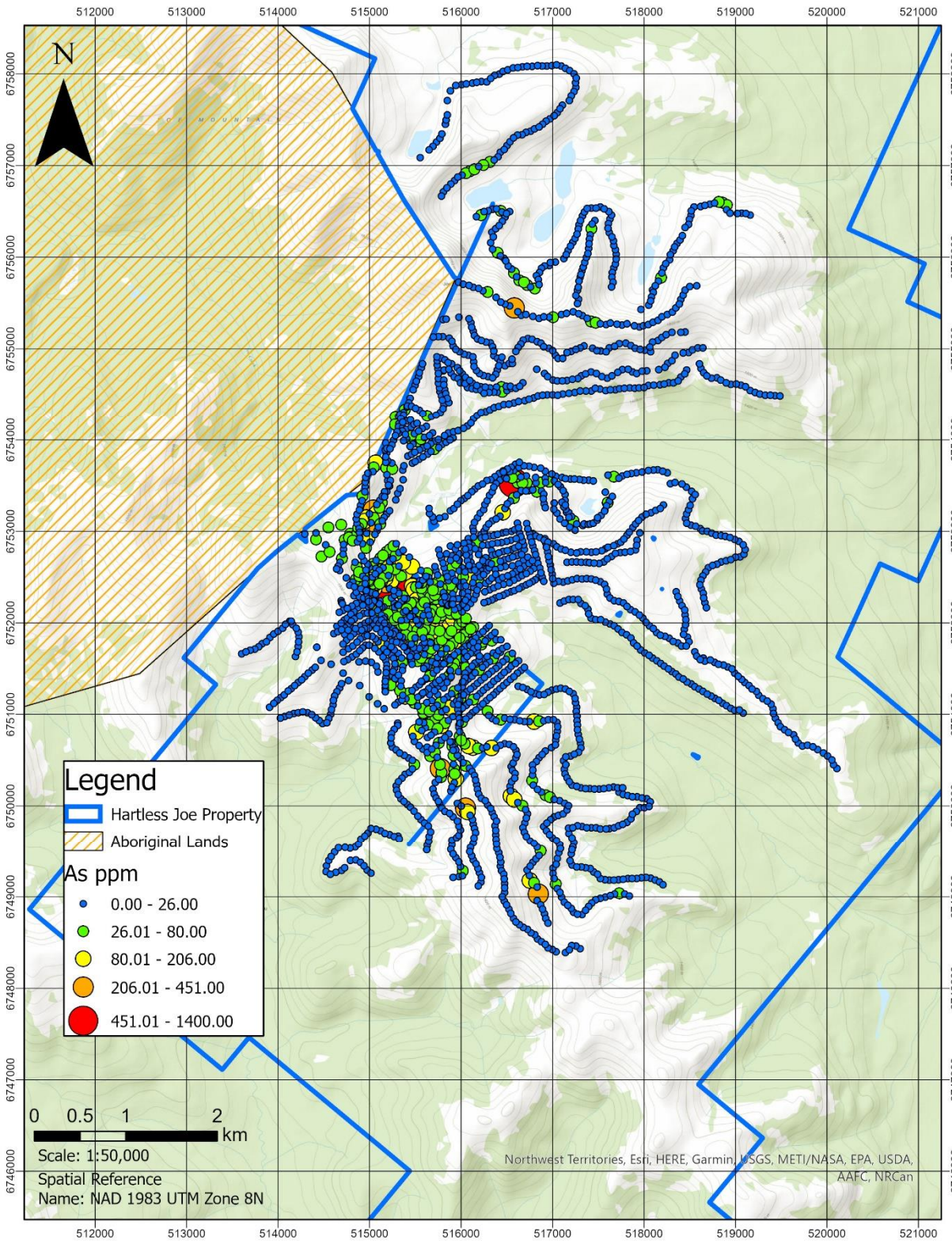

FIGURE 9-3: HARTLESS JOE: ARSENIC IN SOIL

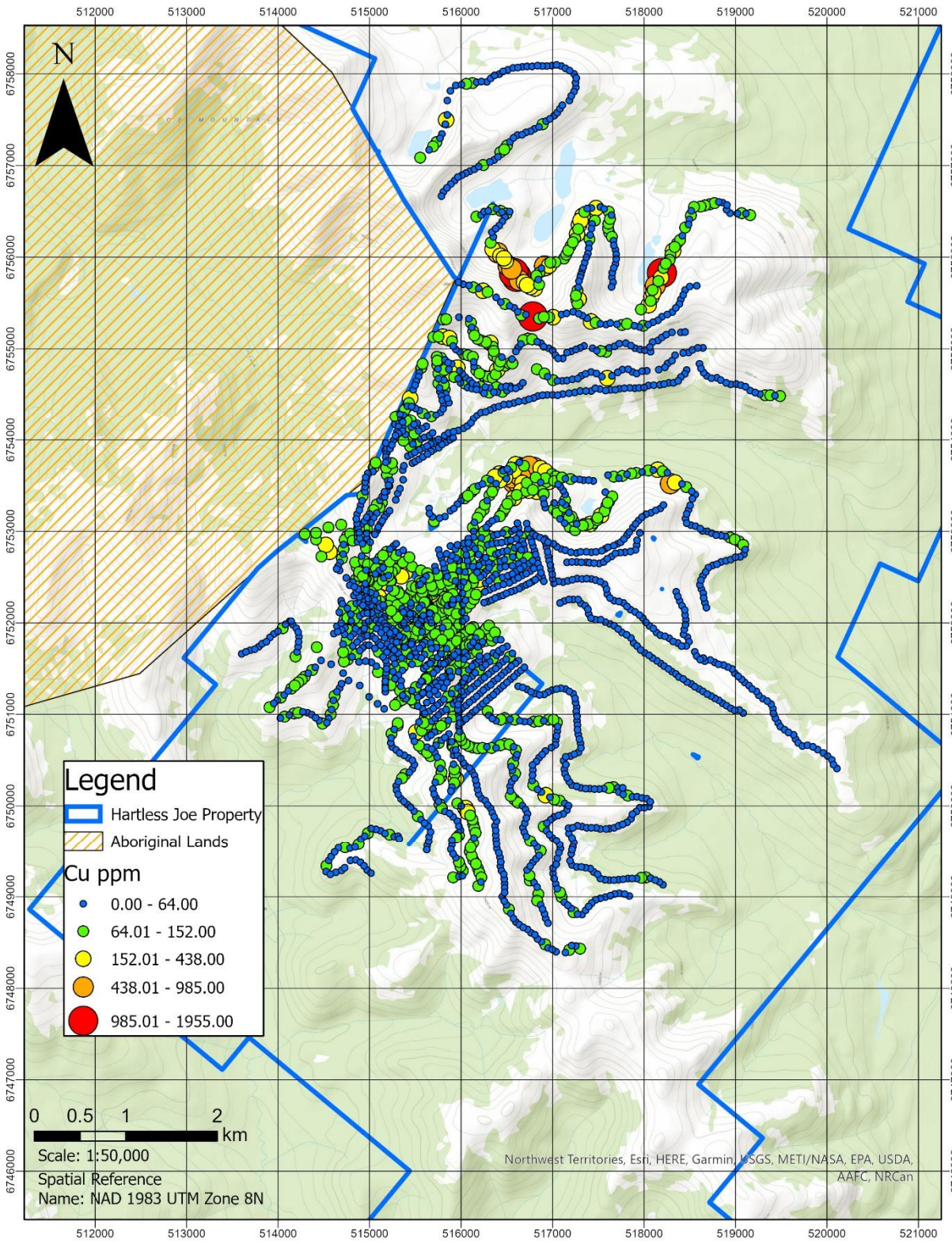

FIGURE 9-4: HARTLESS JOE: COPPER IN SOIL

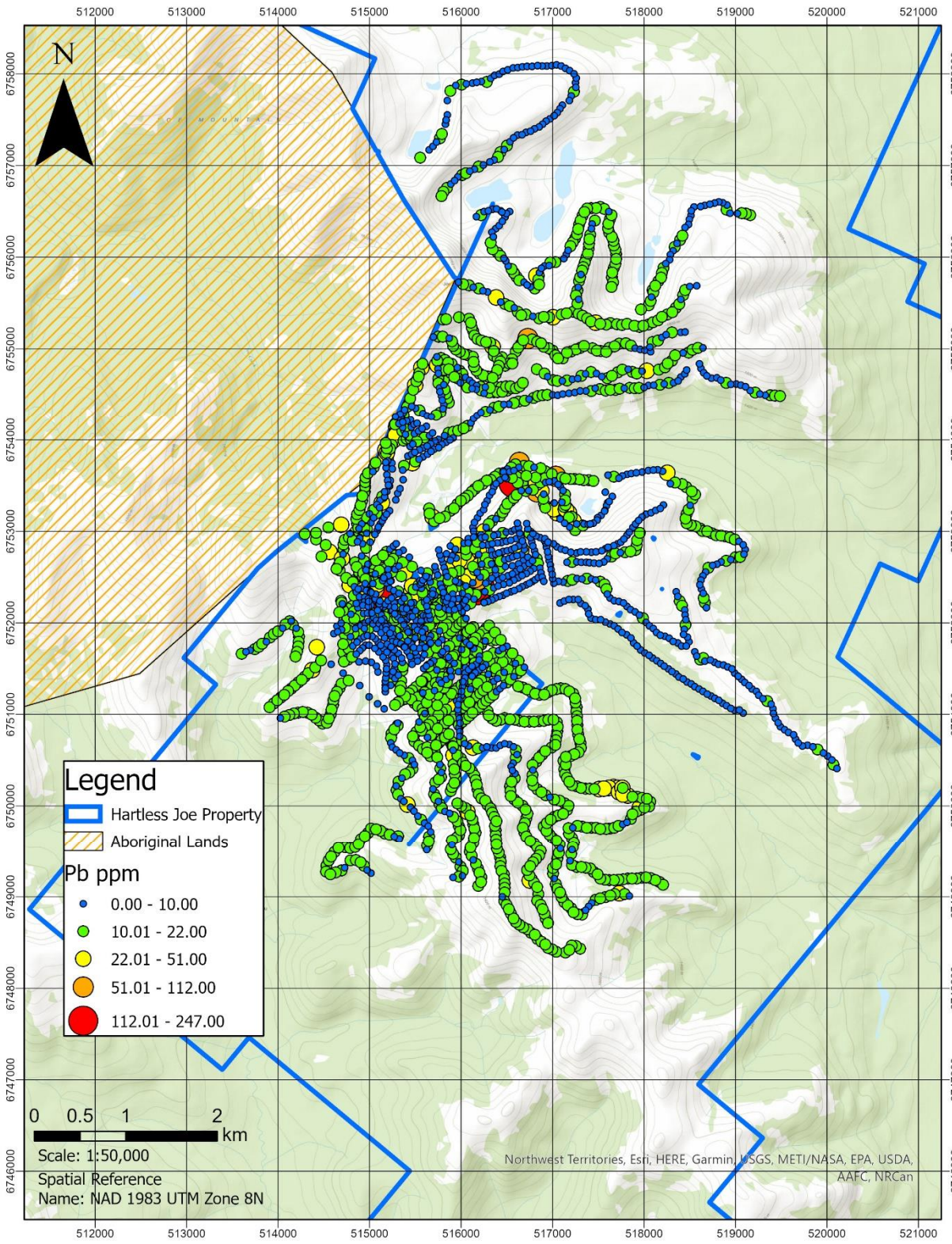

FIGURE 9-5: HARTLESS JOE: LEAD IN SOIL

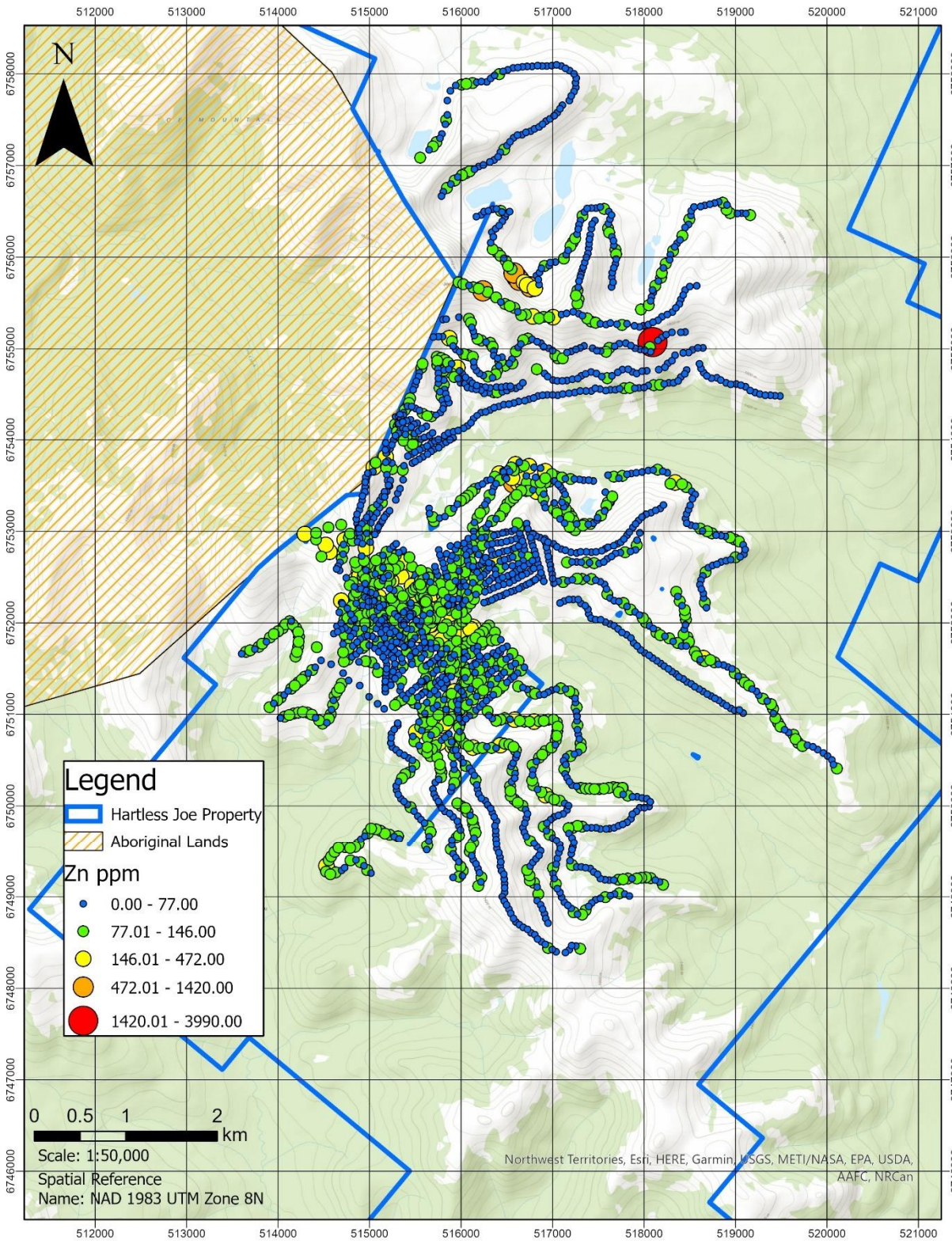

FIGURE 9-6: HARTLESS JOE: ZINC IN SOIL

9.2 Geophysical Surveys

9.2.1 Previous Years Geophysical Surveys

In 2007 ATAC Resources hired Geotech Ltd. of Aurora, Ontario to fly a helicopter-borne variable time domain electromagnetic (VTEM) survey across the property. That same year, they also performed an induced polarization (IP) and resistivity survey on two line located 520 m apart in the vicinity of the Grumpy Showing (S. Eaton, 2008). All maps and figures of the geophysical surveys are provided by Archer Cathro and Associated Ltd.

The total field magnetic readings on the Hartless Joe property range from 56900 nT to 58400 nT, which is characterized as high contrast (S. Eaton, 2008). Most of the highest readings are underlain by mafic volcanic rock units in the northern and eastern parts of the block. These observations can be made on this data. An isolated ovoid magnetic high in the southwestern corner of the block, shown in Figure 9-7, could represent a buried mafic pluton. There is a general north to northwest trending fabric to the data, and some of the magnetic lows correspond with known fault structures.

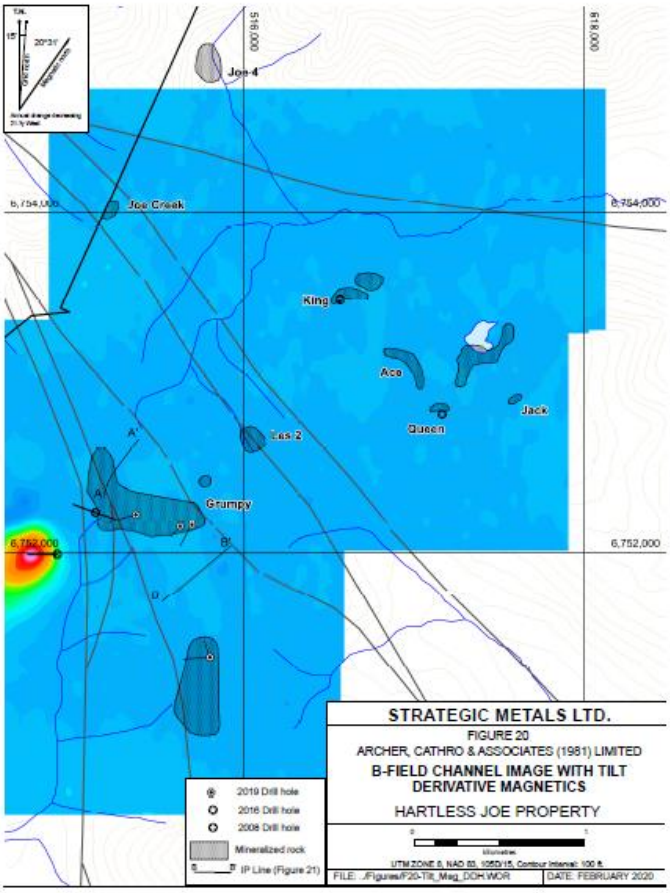

FIGURE 9-7: B-FIELD CHANNEL IMAGE WITH TILE DERIVATIVE MAGNETICS (MORTON, 2020)

The VTEM survey identified an anomaly in the southwestern part of the block, which is mostly underlain by sediments. It is about 500m long and 200m wide and is weakly conductive. The conducted area is around 150m below surface and was interpreted as possibly representing a shallowly dipping horizon contouring disseminated sulphide materials (S. Eaton, 2008). This anomaly was targeted in 2008 drilling and only returned minor amounts of sulphide materials.

The northwesterly IP line features a large anomaly with low chargeability that is suggestive of dominantly pyritic stratigraphically controlled mineralization (S. Eaton, 2008). As shown in Figure 9-8, the highest chargeability reading was obtained at the south end of this line, where well mineralized vein float has been discovered. The southeasterly line appears to delineate the GG fault boundary between conductive rocks in the northeastern half of the line, with inert rocks in the southwestern half. The near surface conductors have been interpreted as northwest-trending, pyrite-bearing, rhyolite dykes, however, a deeper zone of conductivity remains unexplained. Three chargeability features are modelled to come to surface in areas where strong gold-in-soil geochemical anomalies have been outlined.

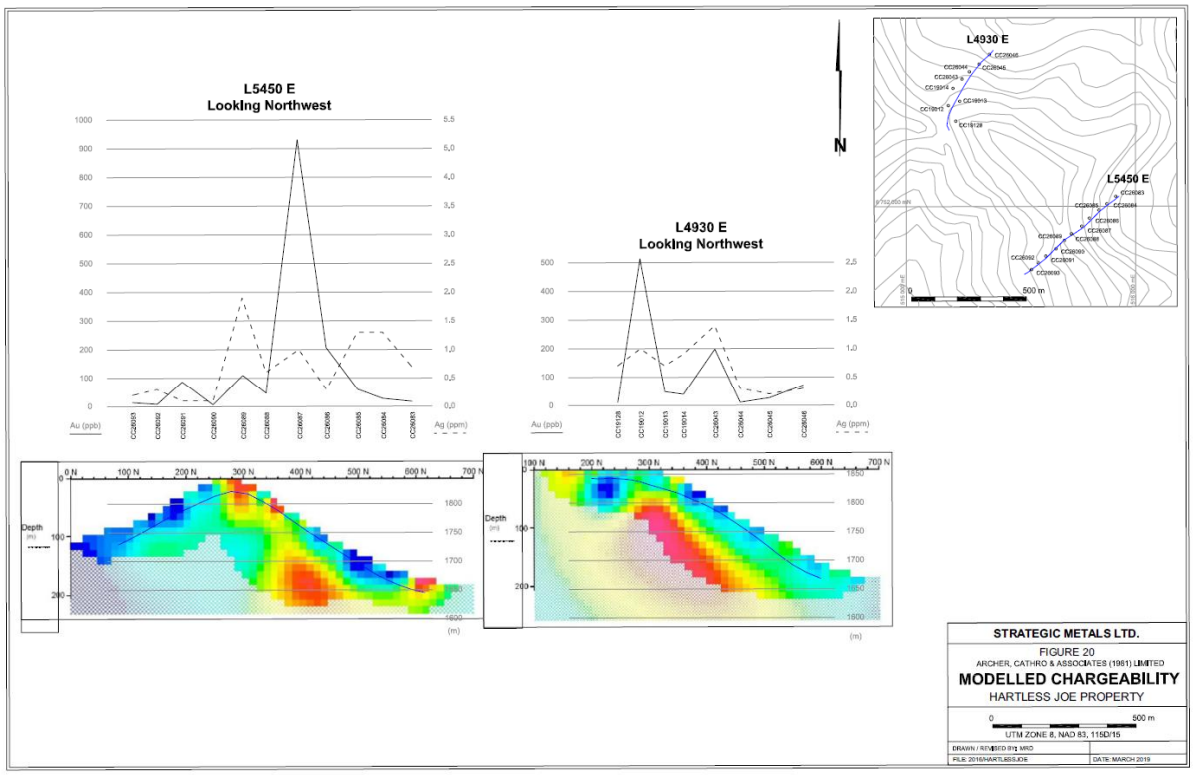

FIGURE 9-8: MODELLED CHARGEABILITY (MORTON, 2020)

In October 2015, airborne LIDAR surveys were completed across much of the current property (Morton, 2016). These surveys highlighted a number of curvi-linear and linear

geomorphological features in the central part of the property, which are interpreted as shallowly dipping bedding planes and steeply dipping faults.

9.2.2 2020 Quantum Direct Matter Indicator (QDMI) Survey

In 2020, SOAR Metals Canada contracted ITI to lead the Hartless Joe exploration program and implement its Integrative Exploration Model (IEM) methodologies and geophysical analysis involving Quantum Geoelectrophysics (QGEP). QGEP is an emerging field of non-classical and non-seismic geophysical theory and practice that combines classical physics, atmospheric physics, and quantum physics. Results from this program are found in Figures 9-9 and 9-10 below.

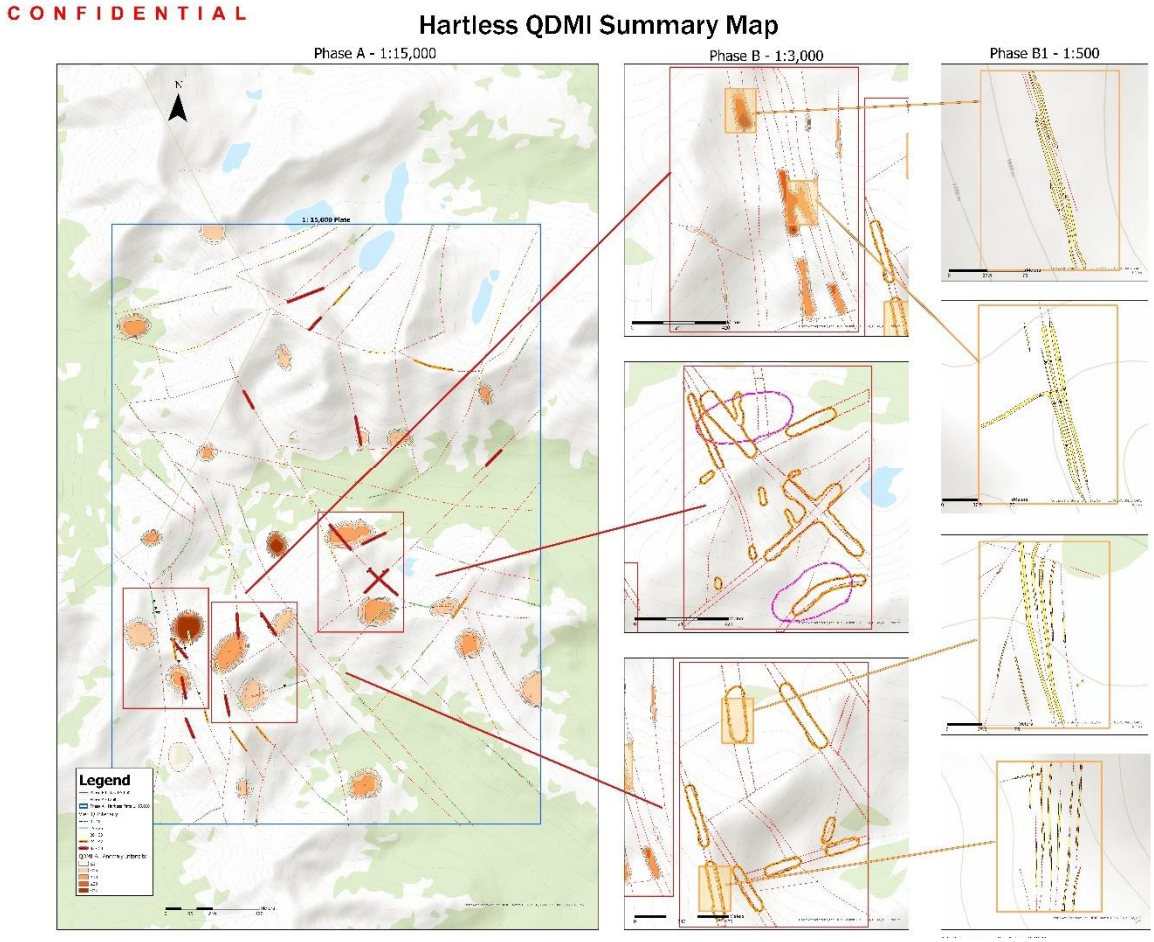

FIGURE 9-9: HARTLESS JOE PROPERTY QDMI SUMMARY

QDMI Technologies and IEM Methodologies have been researched, developed, field tested and applied over the past twenty years to remotely sense (via satellite) target substance electromagnetic resonant frequency (EMRF) or directly sense (via area intensity surveys) on the surface, and sub surface (via vertical scanning or vertical

virtual well surveys). This was designed and tested to assist with the identification and delineation of natural resources including precious metals and base metal resources.

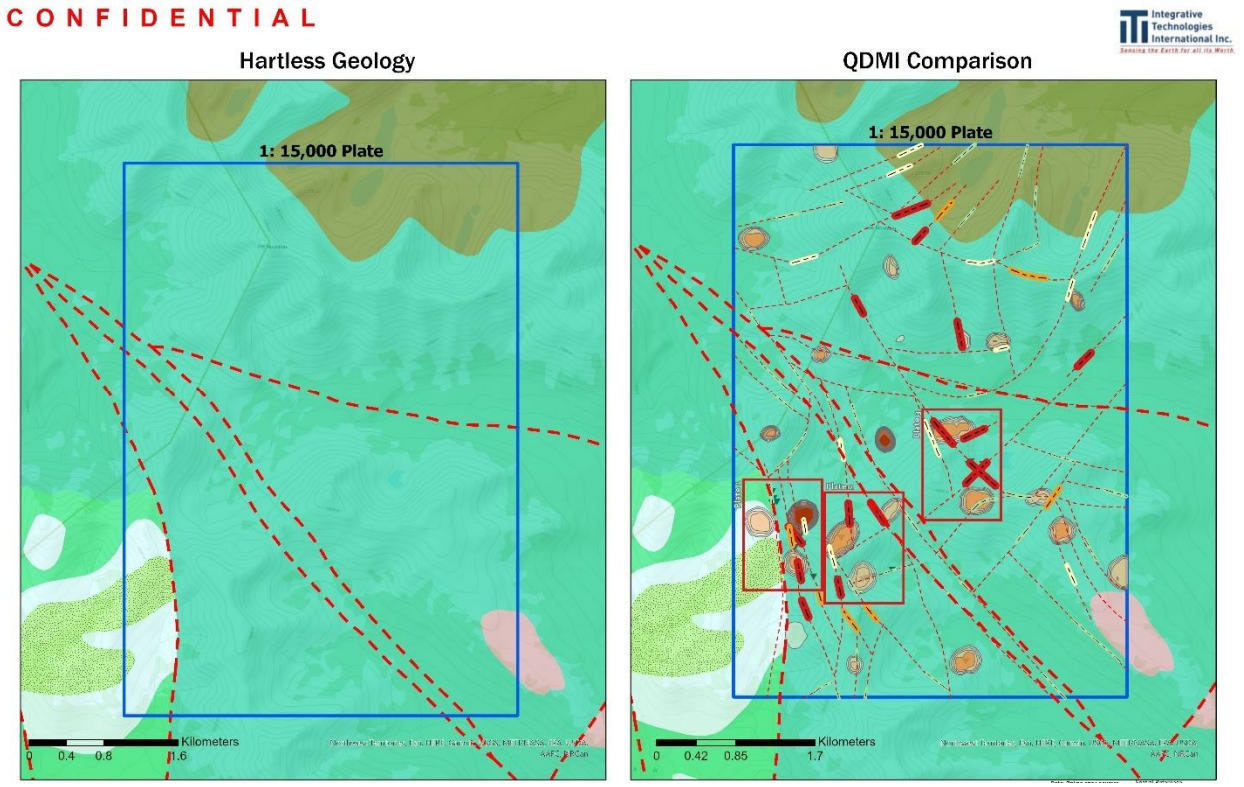

FIGURE 9-10: QDMI DETAIL GEOLOGY

ITI completed a series of QDMI surveys in the area targeting gold throughout key areas of interest within the Hartless Joe property. This survey identified multiple anomalies, which served as major target areas for the 2020 drill program. The QDMI analysis was run up to 1:100 scale over drill target areas.

9.3 Geologic Mapping and Rock Sampling

9.3.1 Previous Years Rock Sampling Programs

Various rock geochemical sampling programs have taken place in the Hartless Joe property between 2005 and 2019 (Figure 9-11). The 2005 program centered around the Les 2 and what is now known as the Ace showing. The Ace showing was the large find from the 2005 sampling program, as it returned values of 5780 ppm silver and 190.5 ppm gold. The rest of the 2005 program had low returns, with few other values registering any significant results.

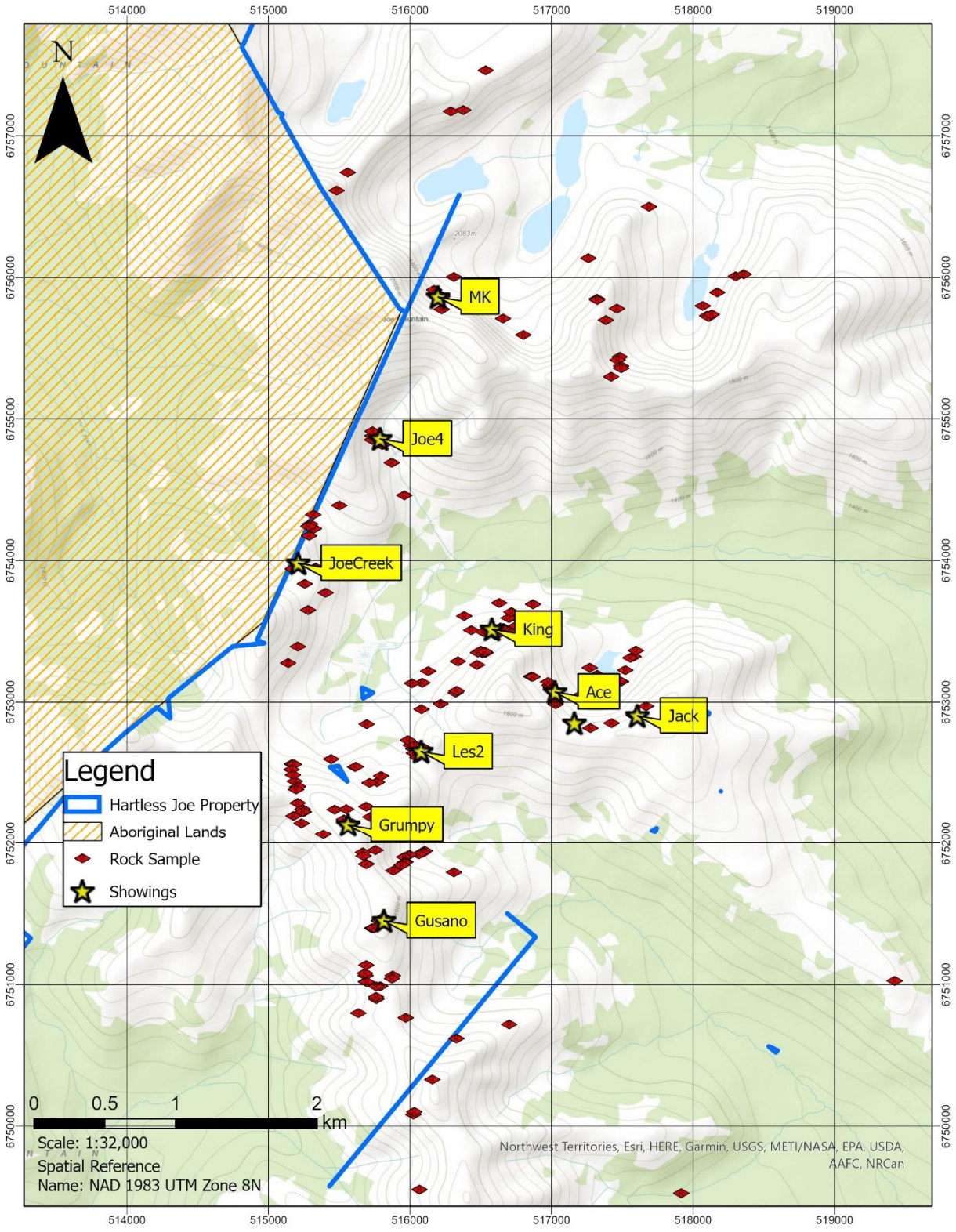

FIGURE 9-11: PREVIOUS YEARS ROCK SAMPLES AT HARTLESS JOE

Rock sampling continued in 2007, with the program revolving primarily around the Grumpy Showing. The highlight of this program occurred northeast what is now known as the King Showing, with a rock sample returning values of 183 ppm silver and 73 ppm gold. A small rock sampling program took place in 2012, taking only 7 samples, with no significant gold or silver values being returned. In 2015, another small rock sampling program occurred, leading to the discovery of the King Showing. 9 samples were taken with the highlight being the King showing which returned values of 554 ppm silver and 60 ppm gold.

Sampling continued throughout 2016 and 2017, concentrated mostly around the Ace and King showings. These programs continued the pattern of discovering a new showing, such as the 2016 discovery of the Queen Showing. This sample returned values of 79.6 ppm silver and 429 ppm gold.

2018 and 2019 rock sampling programs both centered around the Grumpy and Gussano showings. The best sample between these two programs came just northwest of the Grumpy showing, returning a gold value of 62.3 ppm and a silver value of 4380 ppm.

9.3.2 2020 Rock Sampling Program

In 2020, an outcrop sampling program was conducted by ITI (Figure 9-12). This program was centered around the Ace, Queen (Figure 9-13), Les 2 and Grumpy showings. This program helped understand the structure and showing in the area, as well as providing further geochemical mapping. ArcGIS “Collector” software in conjunction with high-resolution Global Navigation Satellite System (GNSS) receivers were used for gathering spatial and geologic data in the field.

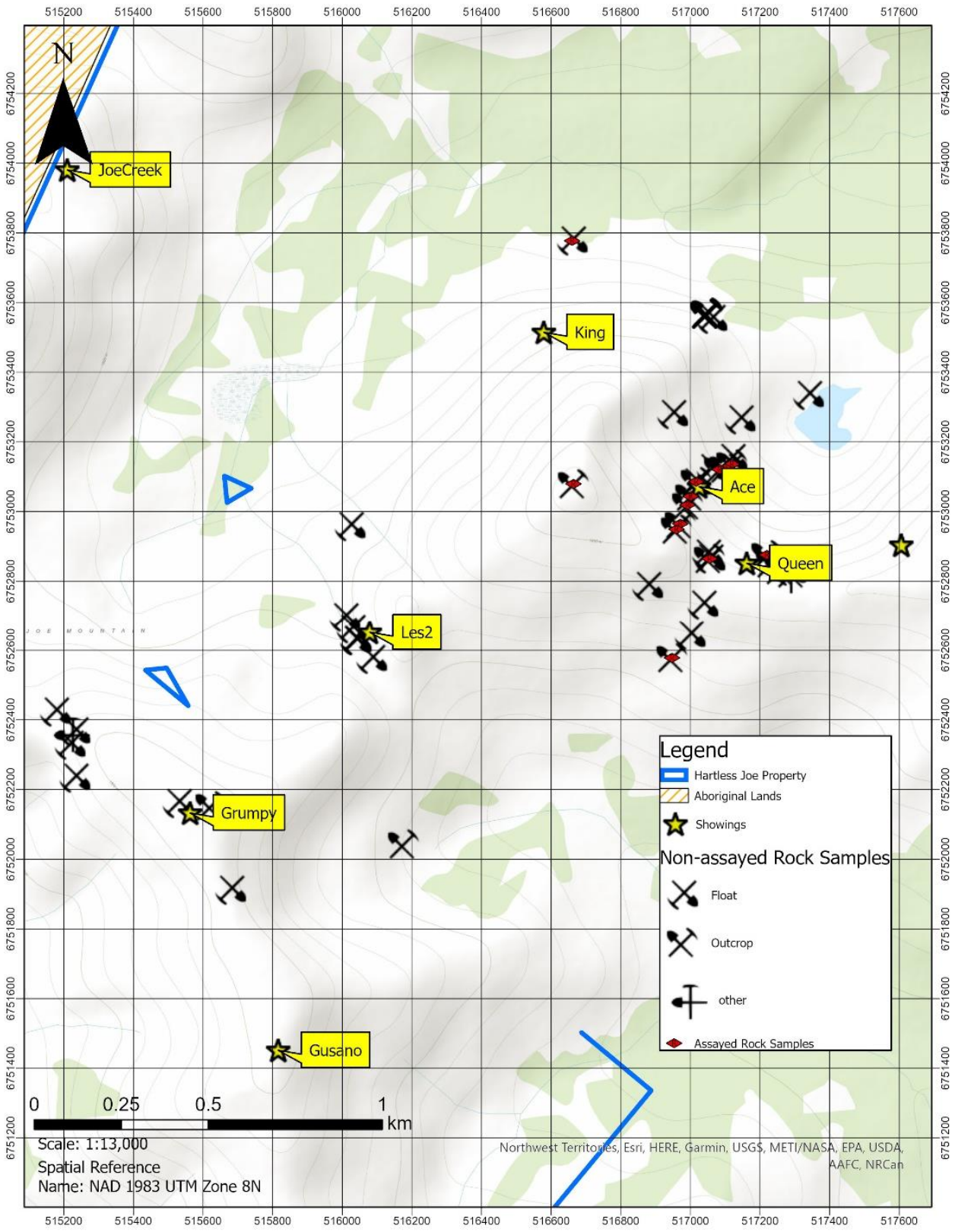

FIGURE 9-12: 2020 ROCK SAMPLING PROGRAM

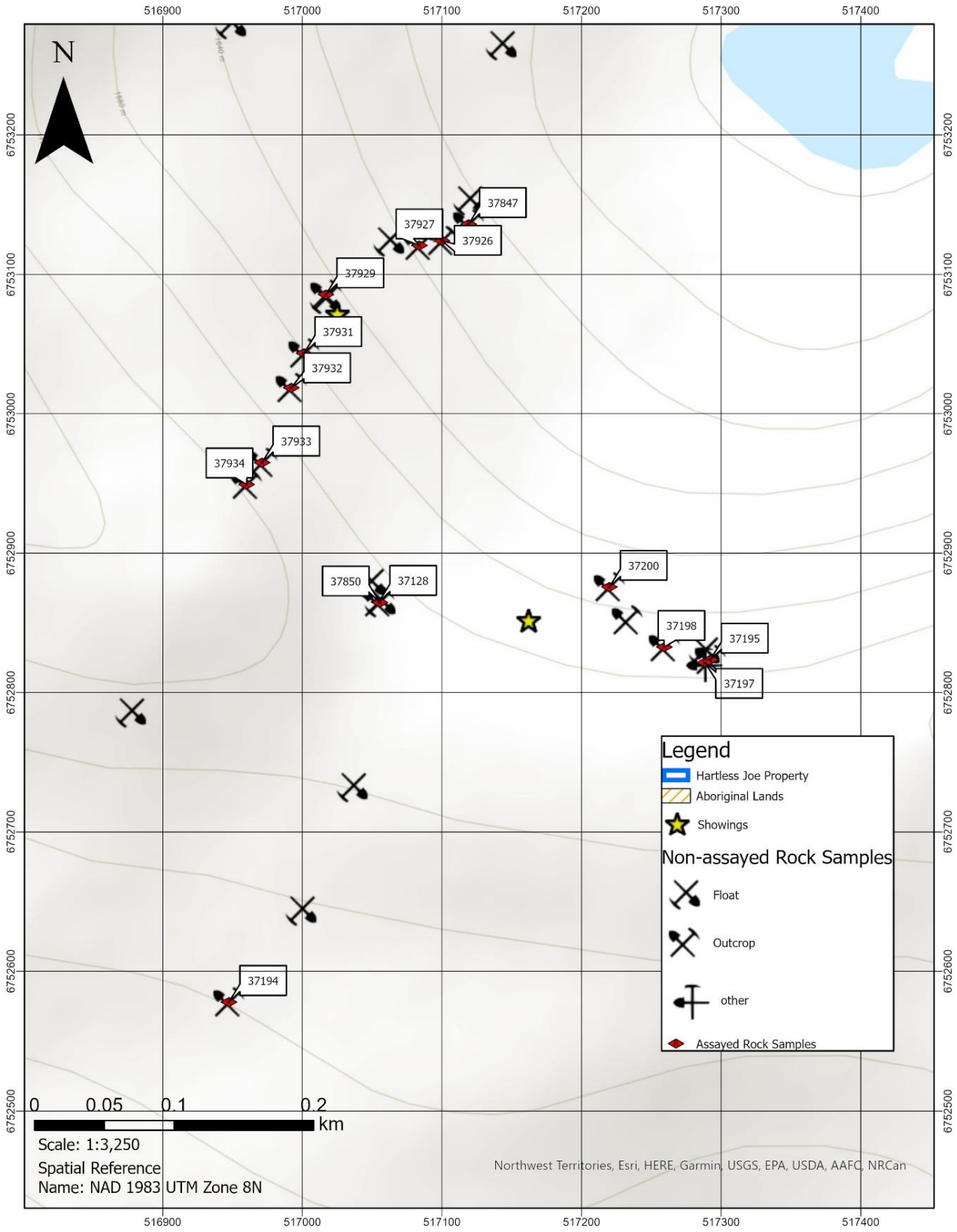

FIGURE 9-13: 2020 QUEEN/ ACE ROCK SAMPLING

TABLE 9-1: 2020 ROCK SAMPLING ASSAY DATA

Sample Number	Au (ppm)	Ag (ppm)	As (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)
37128	0.038	10.95	11.95	54	97.1	355
37129	<0.005	0.072	1.88	22.5	1.26	95.4
37192	0.015	1.605	0.39	4240	1.03	218
37194	<0.005	0.078	1.29	83.7	0.83	80
37197	<0.005	0.049	1.35	43	0.78	15.1
37198	0.007	0.037	0.92	62.1	0.46	95.8
37199A	<0.005	0.035	2.55	68.5	1.92	71.2
37199B	<0.005	0.059	2.11	94	0.77	72.7
37200	<0.005	0.036	1.5	46.1	1.52	57.4
37847	<0.005	0.09	1.94	62.8	1.19	94.6
37850	0.379	1.625	27.8	7.31	85	30
37926	<0.005	0.067	1.55	63.8	1.34	93.2
37927	<0.005	0.036	0.91	48.5	0.91	96.6
37929	<0.005	0.122	3.41	55.7	1.66	75
37931	<0.005	0.036	0.59	5.49	4.42	29.4
37932	<0.005	0.083	0.58	57.9	2.21	57.8
37933	<0.005	0.096	3.26	1.68	5.25	18
37934	<0.005	0.021	5.16	44.4	0.34	71.5
37938	<0.005	0.159	3.75	9.96	15.8	66.8
37936	<0.005	0.021	1.01	2.32	0.65	2.6
37937	0.008	0.533	6.66	1.85	8.51	4.8

9.4 Previous Years Drilling Campaigns

In 2008, a total of 612.2 m of diamond drilling was completed in three holes on the Hartless Joe property (D. Eaton, 2008). The holes tested a VTEM anomaly and part of the Grumpy Showing at depth.

Hole HJ08-01 targeted a VTEM anomaly identified by ATAC Resources in 2007. It intersected mostly dark grey, fetid limestone, which is cut by numerous narrow dykes and sills comprised of feldspar±quartz porphyry and diorite in composition. Neither type of intrusion significantly altered the adjacent wallrocks, but pyrite is locally developed. Samples of the pyritic limestone and feldspar porphyry returned low values for gold, silver and associated pathfinder metals.

Holes HJ08-02 and HJ08-03 were drilled in opposite directions from the same drill pad at the Grumpy Showing. A number of felsic dykes, up to 30 m wide, were intersected near the collars of each hole. The holes also cut numerous, 1 to 10 cm wide, quartz±carbonate veinlets. Sedimentary rocks were most abundant in the lower part of the westerly directed hole (HJ08-02), while volcanic rocks dominate the bottom half of the easterly directed hole (HJ08-03), beneath a strong gouge-filled fault. Although pyrite

was widely dispersed and locally abundant in the holes, only low gold and silver values were obtained. Key pathfinder minerals observed in mineralized float, such as arsenopyrite and galena, were absent. Hole HJ08-03 was terminated in a gougy fault zone about 50 m above its target depth. This hole does not appear to have reached the down-dip projection of gold- and silver-rich vein float in the overlying talus.

In 2012, Strategic Metals constructed a drill pad near the centre of the Grumpy Showing, about 400 m east of the collars of holes HJ08-02 and -03. This pad was positioned to test across strong soil geochemical trends and mineralized float trains, but no drilling was performed that year.

In 2016, Strategic Metals completed a total of 367.3 m of diamond drilling in six holes. Holes HJ-16-01 to HJ-16-05 were all drilled from the same pad at the King Showing, in a radial pattern designed to test 22 m to 53 m down-dip of the flat-lying mineralized horizon. Every hole but HJ-16-04 intersected the favourable volcanic mudstone unit, which is divided into two distinct sub-units: an upper, black, pyritic and bioturbated mudstone with rare, mm-scale, trace fossil burrows; and a lower, tan to medium grey, brecciated mudstone with deformed, elongate rip-up(?) clasts in a dark mud matrix. Patches, bands and ribbons of quartz and quartz-carbonate occur throughout the horizon, but are most concentrated at the contact between the two sub-units, and are associated with strong silica- and hematite-alteration. The quartz is often banded and is locally colloform, brecciated and undulatory. Moderate, very fine grained pyrite occurs with quartz and both mudstone units: as disseminations, round clots in mudstone, and along selvages of quartz-carbonate ribbons. Rare, very fine-grained sphalerite, chalcopyrite and trace galena is associated with the most intense alteration. Three of the holes, HJ-16-01, -03, and -05, returned elevated values for gold and silver, but failed reproduce the strong results obtained from surface samples. Table 9-2 summarizes the results below.

TABLE 9-2: 2016 DIAMOND DRILLING ASSAY HIGHLIGHTS (MORTON, 2020)

Hole	From (m)	To (m)	Interval (m)	Au (g/t)	Ag (g/t)
HJ-16-01	4.98	5.22	0.66	0.73	4.98
HJ-16-01	22.42	25.2	2.78	1.57	44.7
HJ-16-03	30.12	31.73	1.61	0.97	3.92
HJ-16-05	29.77	30.63	0.86	0.32	14.95

One hole, HJ-16-06, targeted the Queen Showing, approximately 20 m down-dip from the surface exposure. This hole cut a 0.21 m wide, plagioclase-phyric, latite dyke, which was hosted in a 6.86 m wide interval of dark, calcareous mudstone. One unmineralized, five centimetre wide, quartz-sericite vein was intersected near the bottom of the mudstone interval. The geochemical response for all elements of interest was low.

In 2019, Strategic Metals drilled a total of 854.1 m in five diamond drill holes, which were directed toward the Grumpy and Gusano showings. At the Grumpy Showing, two holes (HJ-19- 01 and -05) targeted the down-dip extension of the GG fault, while a third hole (HJ-19-02) targeted a float train of gold-bearing quartz at Area A. At the Gusano

Showing, hole HJ-19-03 targeted a quartz vein exposed in a 2018 hand trench, while hole HJ-19-04, collared from the same drill pad, was directed toward gold-bearing float and the southern extension of the GG fault. Two holes in the 2019 drilling program were particularly interesting returning elevated gold values of 5.8 g/t and 3.88 g/t in holes HJ-19-03 and HJ-19-04 respectively. Table 9-3 outlines the highlights of the 2019 drilling program. Locations of all drillholes from previous years are shown in Figure 9-14.

TABLE 9-3: 2019 DIAMOND DRILLING ASSAY HIGHLIGHTS (MORTON, 2020)

Hole	From (m)	To (m)	Interval (m)	Au (g/t)	Ag (g/t)
HJ-19-01	39.09	40.26	1.17	0.51	1.59
HJ-19-03	28.45	30.15	1.7	2.8	2.19
including	28.45	29.06	0.61	5.8	2.61
HJ-19-03	103.88	104.55	0.67	0.85	3.05
HJ-19-04	38.85	40.05	1.2	0.76	0.89
HJ-19-04	163.52	164.39	4.78	1.86	5.45
including	164.39	166	1.22	3.88	8.85

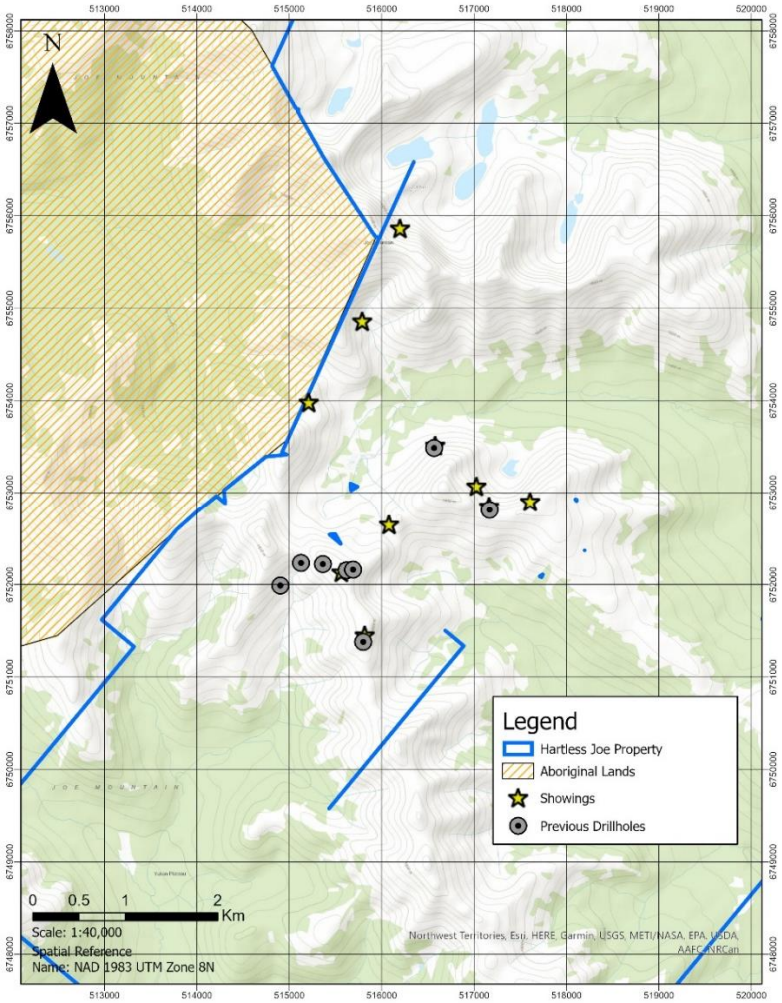

FIGURE 9-14: PREVIOUS DIAMOND DRILLHOLE LOCATIONS

9.5 Unmanned Aerial Vehicle (UAV) Flyovers

Over the course of the 2020 exploration and drilling program at Hartless Joe, UAV (drone) technology was used to map on several areas of interest. Initial UAV mapping was completed on the Hartless Joe property in June - August 2020. The planned UAV flights captured high-resolution imagery, which was then processed using photogrammetry methods, and tied to GNSS grade ground control points collected in the field. This work was post processed into 'orthomosiac' images, DSM's and DTM's, enabling the creation of 3D topography surfaces for drill planning. These images were used to calibrate the QDMI satellite geophysical datasets, assisted with mapping key exploratory road and path access and provide an environmental baseline prior to the drilling program.

All UAV flights were designed and flown by licensed UAV pilots, with adherence to all Canadian Aviation Regulations including visual-line-of-site requirements.

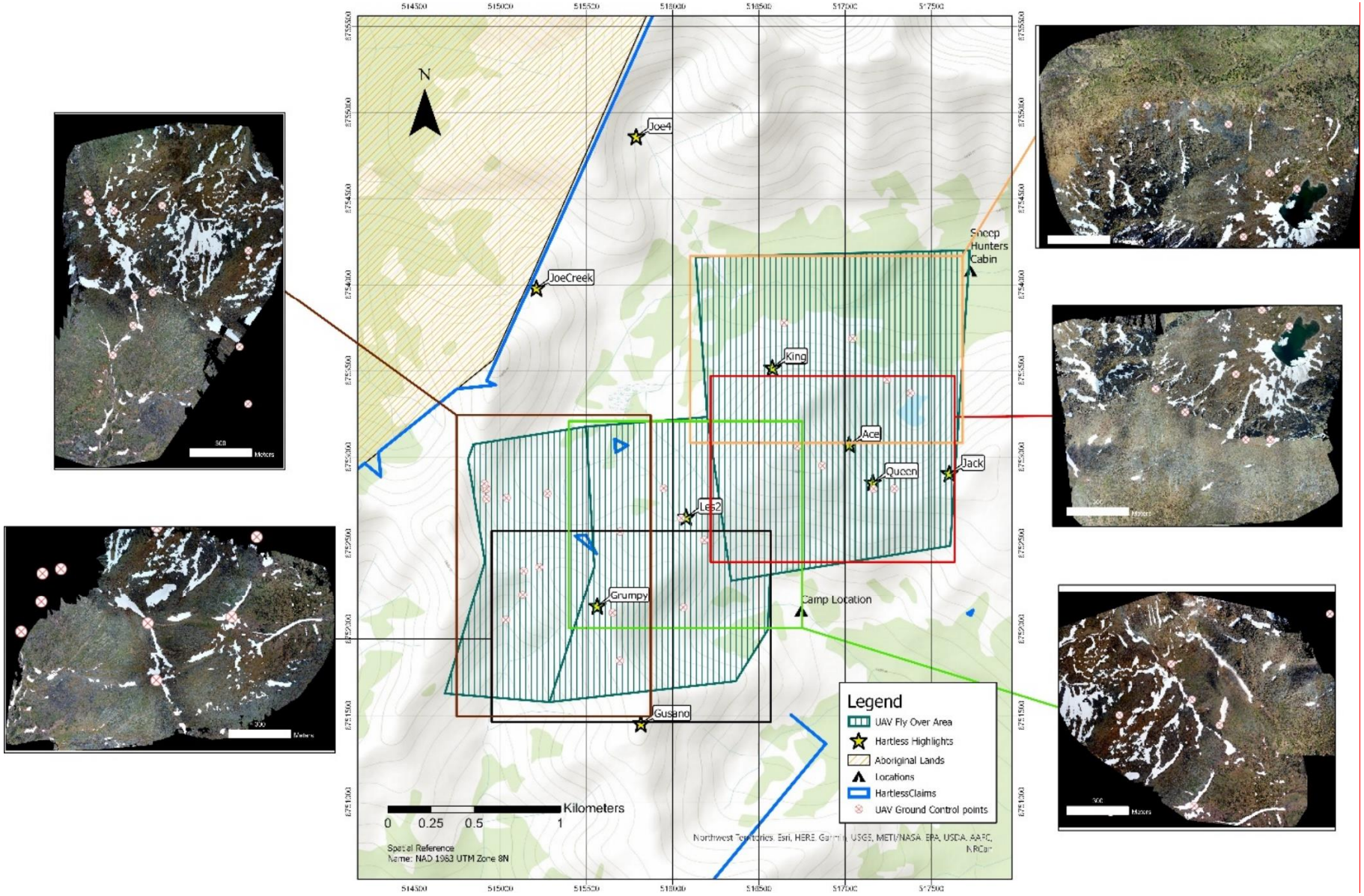

FIGURE 9-15: DRONE SCANNING OVERVIEW

10 Drilling

The 2020 drilling program at Hartless Joe took place in July and August of 2020. Upon completion of the drill program, a total depth of 901.9 m of NTW diameter core was drilled in 12 diamond drill holes. All core was logged, cut, and sampled on site. The holes were selectively sampled and intervals chosen for analysis were split, with one-half bagged and sent for analysis and the other half returned to the core boxes. Drill core samples were processed in batches of up to 40 samples with each batch including two standard, two blank, one quarter duplicate and one coarse reject duplicate sample. All core samples were sent to the ALS Mineral laboratory in Whitehorse, where they were crushed to 90% passing 2 mm before a 1 kg split was pulverized to better than 95% passing 106 microns. Splits of the pulverized fractions were then sent to ALS Minerals in North Vancouver, where they were dissolved in a four-acid solution and analyzed for analyzed for 51 elements using an aqua regia digestion followed by inductively coupled plasma combined with mass spectroscopy and atomic emission spectroscopy (ME-MS41). An additional 30 g charge was further analyzed for gold by fire assay and inductively coupled plasma-mass spectroscopy finish (Au-ICP21). Detailed geochemical analysis from ALS Minerals can be found in Appendix II.

The drill sites were chosen based off historic geological mapping, structural analysis from previous drilling programs and the Quantum Direct Matter Indicator (QDMI) geophysical analysis provided by ITI. The targets throughout drilling were key geological contacts and structures with a focus on gold and other precious metals.

Geologic, geotechnical and XRF analysis was performed by the ITI and Archer Cathro field teams, while on site. All hole descriptions were based on field descriptions by Jack Morton, a senior geologist with Archer Cathro and Associates. Geological logs and geotechnical data can be found in Appendix III.

On site drilling data, including drill collar locations (Table 10-1), were collected via Global Navigation Satellite System (GNSS) GPS receivers and ArcGIS collector software, seen in Figure 10-1 below. Downhole surveys were performed after each drilled hole, to verify drill path. All data collected while in the field was imported into 2D and 3D mapping software for further resource modelling and drill target selection in real time. Further analysis mapping and modelling has taken place post drilling in 2020 and in 2021.

TABLE 10-1: 2020 DRILL HOLES

Hole Name	Easting	Northing	Elevation	Depth	Azimuth	Dip
HJ-20-01A	514913.7	6752812.9	1641.657	42.7	67.317	-75.36
HJ-20-01B	514912.3481	6752810.3	1642.2196	41.15	168.32	-59.14
HJ-20-01C	514912.6	6752810.3	1642.2662	50	149.58	-62.15
HJ-20-02A	515223.56	6752363.11	1786.49	89.92	322	-66.81
HJ-20-02B	515224.15	6752363	1786.49	109.73	348.61	-55.93

HJ-20-02C	515223.99	6752364	1786.49	106.68	356.51	-57.04
HJ-20-03A	515728.069	6752551.103	1641.9	115.82	357.98	-55.36
HJ-20-03B	515727.859	6752551.673	1641.8	120.4	15.126	-52.94
HJ-20-03C	515728.669	6752551.553	1643.2	79.25	41.1	-45.53
HJ-20-03D	515728.329	6752550.613	1641.7	48.77	100.48	-45.79
HJ-20-04A	515692.32	6751816.2	1833.42	103.63	30.259	-64.8
HJ-20-04B	515690.5	6751816	1833.461	51.82	323.2	-45.26

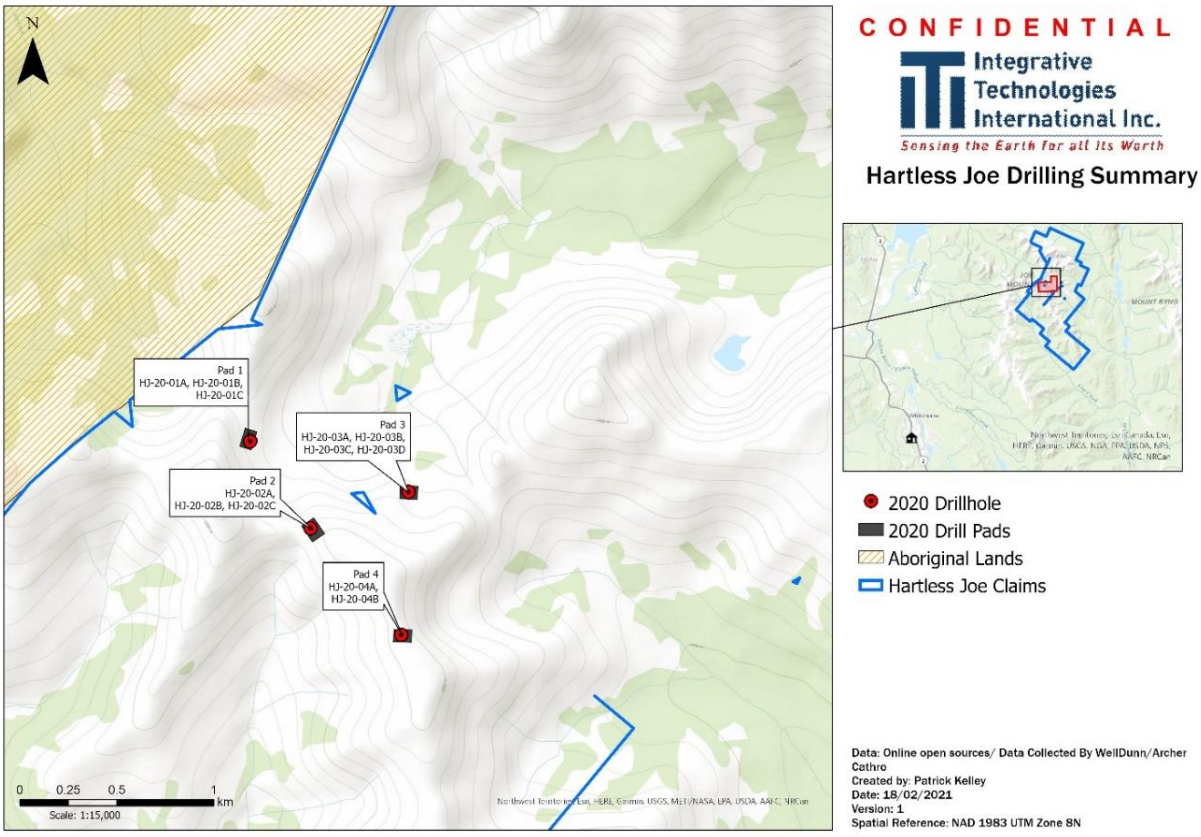

FIGURE 10-1: 2020 DRILLING OVERVIEW

10.1 **Pad 1**

10.1.1 Hole HJ-20-01A

Description: Hole HJ-20-01A (Figure 10-2) intersected primarily basalt with dykes, volcanic rubble and gouge zones. At the top of the hole the basalt occurs in 2-3 m intervals with disseminated pyrrhotite throughout and some calcite veinlets. At 22.86 m a larger, 12 m of basalt is intensely fractured with clast-supported basalt breccia. This area also contains pyrrhotite and a network of mm-scale fractures filled with chlorite. The dyke zones occur fairly-shallow in the hole and are a pale grey bleached feldspar. The volcanic rubble is characterized by broken-up chlorite and clay rich zones up to 2-3 m throughout the hole.

The assays from this hole did not return many results of note, as it was drilled at 75 degrees. Drilling a vertical hole, provided fewer opportunities to hit targets.

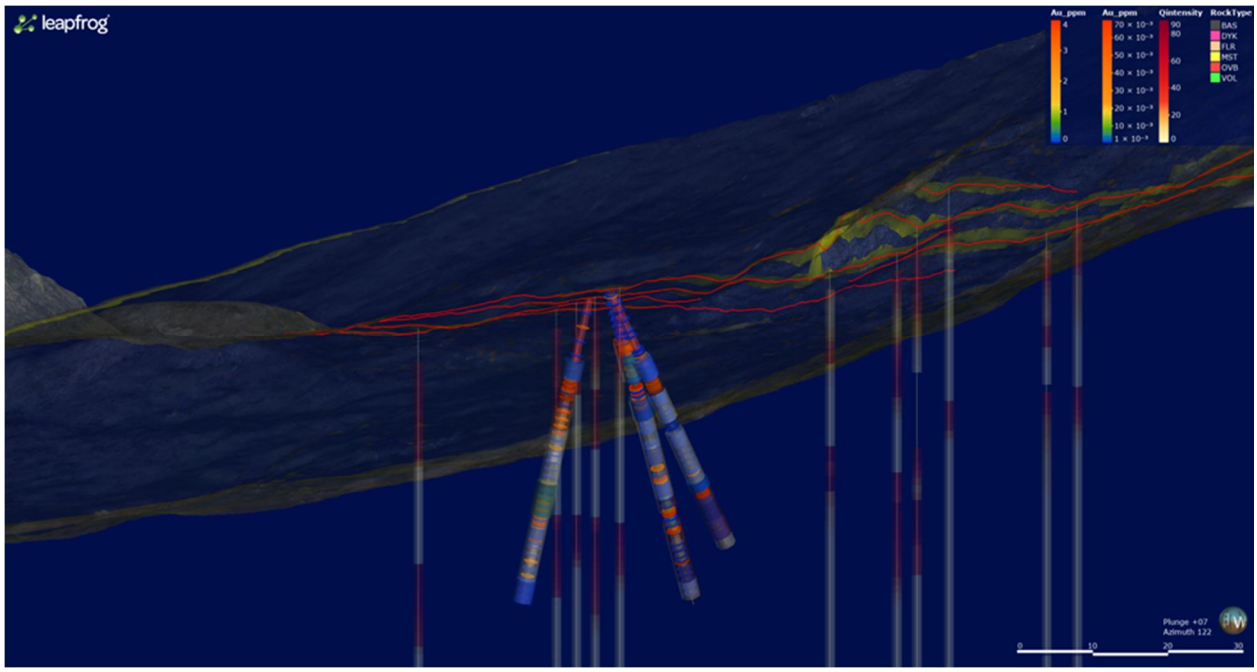

FIGURE 10-2: 3D MODEL OF PAD 1

10.1.2 Hole HJ-20-01B

Description: Hole HJ-20-01B is basalt from top to bottom with various inclusions and veins going through the hole. It is primarily a strongly silica altered basalt with masses of disseminated orange oxide on the fracture surfaces. It also contains millimeter scale gashes of quartz carbonate and trace clots of pyrite. The biggest changes throughout the hole are the number of fractures and it has an intensely fractures zone from 17-20.5 m in depth.

There were no assay highlights throughout this hole.

10.1.3 Hole HJ-20-01C

Description: HJ-20-01C is predominately basalt with dykes, mudstone and volcaniclastic inclusions throughout. The basalt is intensely fractured to rubble from 11.5 to 24.5 m and from 24.7 to 29.1 m before transitioning to an unaltered unfractured “blocky” rock from 29.1-30.1 m, seen below in Figure 10-3. From there it transitions back to the intensely fractured basalt. Above and below the “blocky” zone there are thin fractures with trace pyrite throughout. The mudstone which occurs four times throughout the hole has moderate clay alteration but no sulphides or mineralization of note. There are two dykes near the top of the hole, composed primarily of andesite. They are both around 15 cm wide with millimeter scale quartz-carbonate veinlets, which host euhedral

pyrite. This hole returned a highlight of 1.01 g/t silver over a 3-metre interval, at 24.38 to 27.43 m.

FIGURE 10-3: CORE FROM HOLE HJ-20-01C

10.2 **Pad 2**

10.2.1 Hole HJ-20-02A

Description: HJ-20-02A contains interbedded layers of mudstone and basalt from top to bottom. The basalt layers are a pillow basalt with numerous hairline fractures and veinlets. The veinlets are filled with chlorite/calcite and are moderately oxidized. Throughout the hole, there are around 20 cm sections of inter-flow volcanic mudstone hosting trace amounts of pyrite and circular fossils. The section with 1.04 g/t of gold is a brown/maroon basalt hosting trace pyrrhotite, numerous hairline fractures filled with sericite and millimeter scale ribbons of white quartz.

This hole returned positive results, as there was Arsenic throughout, spiking at 333 ppm from 36-38.18 m. Over the same interval, gold spiked at 1.04 g/t.

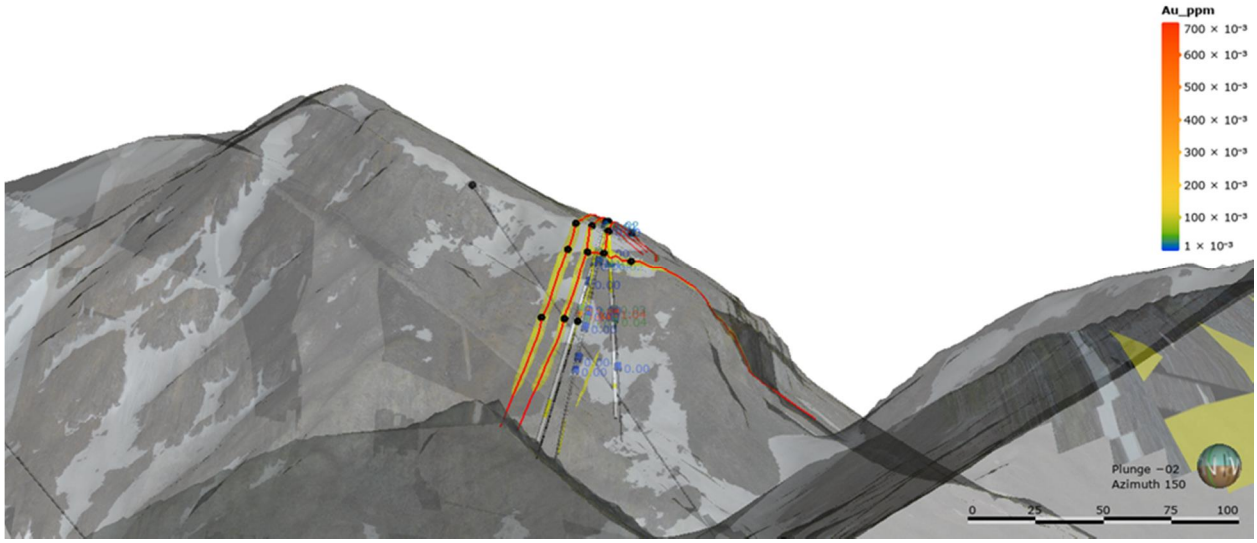

FIGURE 10-4: 3D MODEL WITH TOPOGRAPHY OF PAD 2

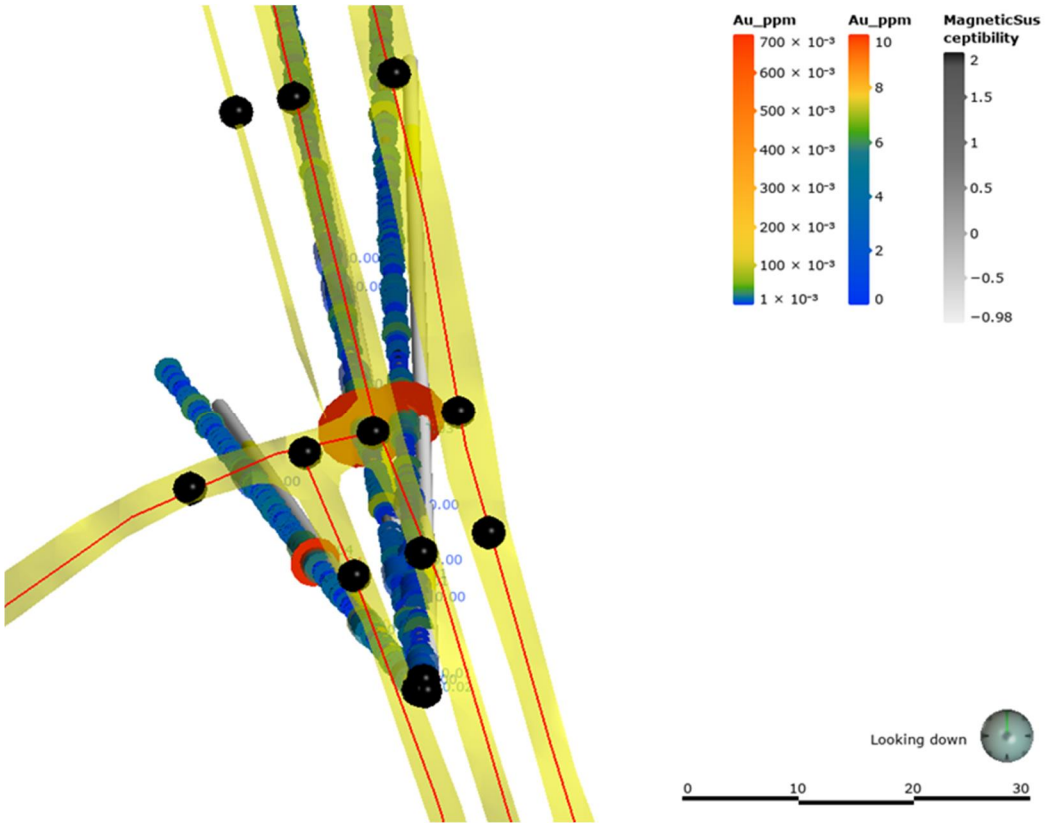

FIGURE 10-5: 3D MODEL SHOWING CORRELATION BETWEEN QDMI AND GOLD ASSAY RESULTS

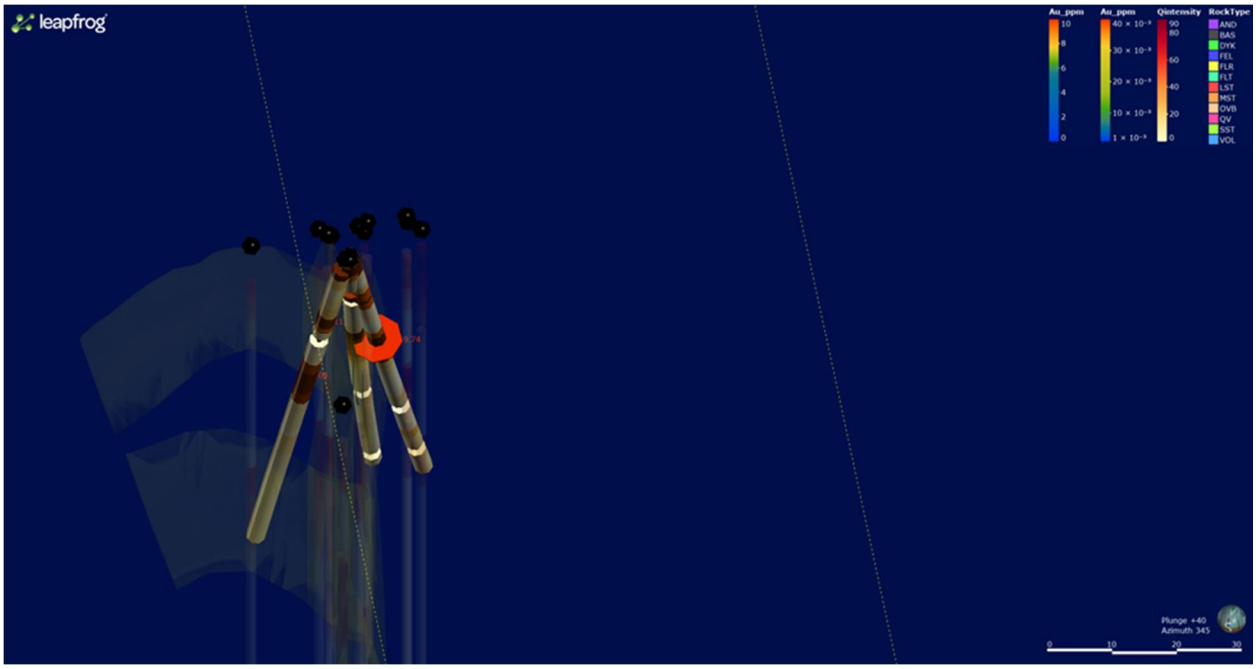

FIGURE 10-6: 3D MODEL OF DRILLHOLES ON PAD 2

FIGURE 10-7: CORE FROM HOLE HJ-20-02A

10.2.2 Hole HJ-20-02B

Description: HJ-20-02B has very similar lithology to HJ-20-02A containing a pillow basalt interbedded with a thin (around 20-30 cm) layer of volcanic mudstone. The basalt is a pillow basalt cut by millimeter scale veinlets of chlorite, sericite and calcite with maroon to red hematite alteration along them. The major zone of interest from 40.9-42 m is a pillow basalt with a bubbly texture hosting disseminated, soft mx, seen below in Figure 10-8. Trace euhedral pyrite is observed throughout this interval. The mudstone is a chloritic volcanic mudstone with rounded clasts of pillow basalts, cut by calcareous veinlets. The mudstone hosts around 4 mm plebs of pyrite.

This hole again hit targets with arsenic spiking at 1535 ppm from 40.9 to 42m and gold spiking at 1.56 g/t over the same interval, seen below in Figure 10-9.

FIGURE 10-8: CORE FROM HOLE HJ-20-02B

FIGURE 10-9: KEY INTERVAL IN HOLE HJ-20-02B

10.2.3 Hole HJ-20-02C

Description: Hole HJ-20-03C is predominantly basalt with trace layers of around 20 cm mudstone throughout. The key zone is a 40 cm quartz vein which cuts through at 42-42.4 m depth seen below in Figures 10-10 and 10-11. The basalt is pillow basalt with the same lithology as the other two holes drilled on the pad. The quartz vein is the area of particular interest. This section is banded quartz and sericite bands, with the sericite containing various sulphide minerals. This interval is where the 9.74 g/t gold result occurred.

This was the most successful hole of the program returning arsenic values over 1000 ppm throughout and with a gold highlight of 9.74 g/t from 42 to 42.4 m.

FIGURE 10-10: CORE FROM HOLE HJ-20-02C

FIGURE 10-11: KEY ZONE FROM HOLE HJ-20-02C

10.3 **Pad 3**

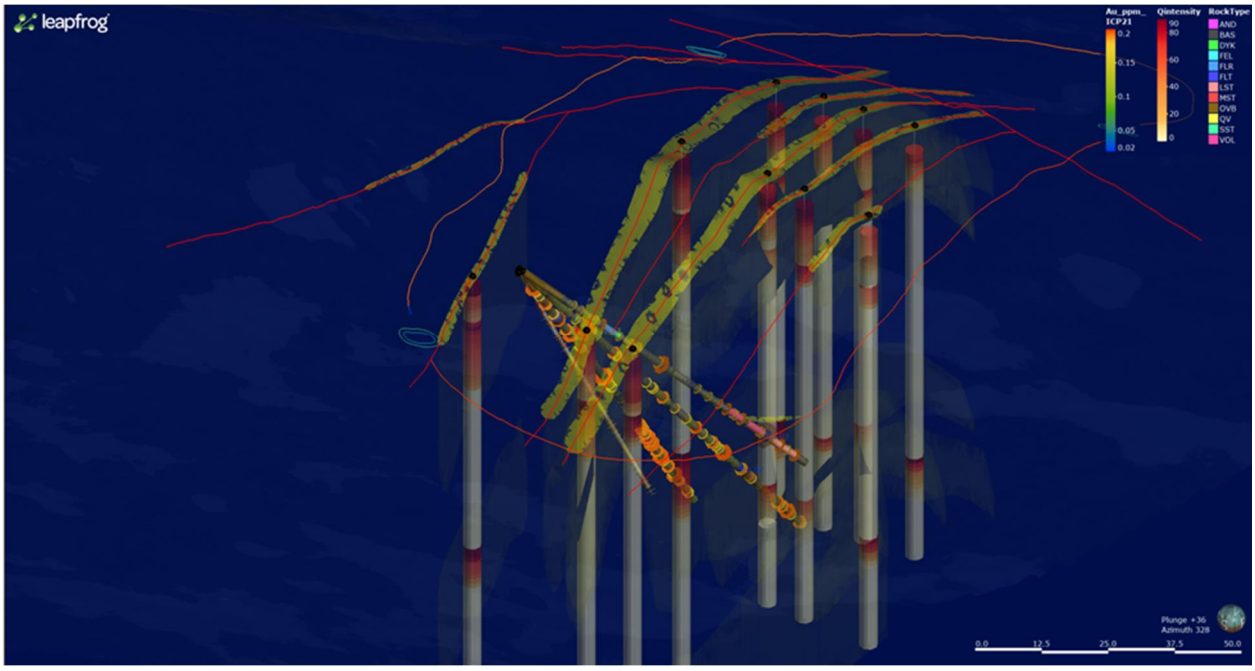

FIGURE 10-12: 3D MODEL OF PAD 3

10.3.1 Hole HJ-20-03A

Description: Hole HJ-20-03A is primarily calcareous and pillow basalt with volcanic mudstone from 21.44-25.47 m and dyke from 108.64-111.49 m. The basalt contains millimeter scale ribbon like veinlets of calcite and chlorite on every fracture surface, containing trace amount of pyrite.

The only assay highlight from this hole is an anomalous zone of 10.75% iron from 85.34 to 88.39 m

10.3.2 Hole HJ-20-03B

Description: HJ-20-03B is primarily basalt from top to bottom with 50 cm dykes of andesite and 1 m volcanic mudstone inclusions. The basalt is a moderately fractured and calcareous containing millimeter scale fractures and gashes filed with calculate. From 37.88-38.34 m the basalt is non-calcareous rubble, differing from the rest of the hole. The dykes, occurring from 22.7-23.46 m and 94.57-5-95.03 m are composed of andesite with small fractures filled with carbonate and sericite. These fractures contain trace pyrite disseminated throughout.

There were no assay highlights recorded in this hole.

10.3.3 Hole HJ-20-03C

Description: Hole HJ-20-03C is primarily basalt with volcanic mudstone and limestone inclusions. It also passes through a fault at 22.56-25.6 m. The basalt is primarily a

moderately fractured and non-calcareous with millimeter wide hairline fractures filled with calcite, dark brown oxidation and pale white-green clay. Through the fault zone, the lithology does not change, however it is rubble. There is one lithology change at 22.9-23.17 m where it is a bright orange oxidation. The fault has an abrupt contact with the dyke below. The dyke is andesite with some feldspar. The feldspar is weakly altered to carbonate and sparse. This hole also contained a volcanic limestone unit from 68.5-76.44 m. The limestone is weakly calcareous with hairline fractures filled with calcite and trace fossils.

The only assay highlight in this hole is a 215 ppm arsenic reading from 67.1 to 68.5 m.

10.3.4 Hole HJ-20-03D

Description: HJ-20-04D is basalt top to bottom. It is a medium grey, generally weakly calcareous basalt with millimeter scale fractures and gashes, typically filled with calcite and chlorite.

There are no assay highlights to report from this hole.

10.4 Pad 4

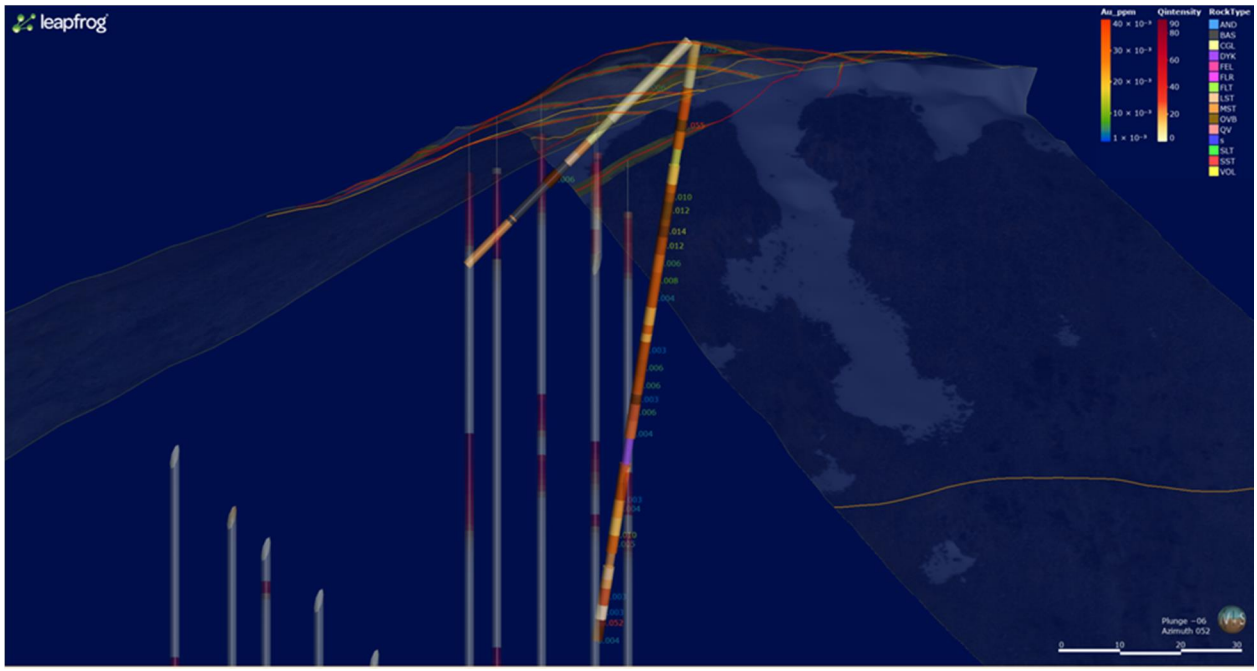

FIGURE 10-13: 3D MODEL OF PAD 4

10.4.1 Hole HJ-20-04A

Description: Hole HJ-20-04A was drilled to a depth of 103.63 m. This hole contains many different variations of rock, with mudstone, volcanics, limestone, basalt and dykes all appearing throughout the hole. The main lithologies however are volcanics at the top of the hole, to around 31 m, mudstone until around 90 m, and the remaining 13 m being

primarily dyke. The volcanics are a mixture of strongly calcareous polymictic conglomerate and a medium green, variably calcareous volcanic sandstone. This area, to around 30 m, contains little mineralization. The mudstone portion of the hole is a strongly calcareous, black volcanic mudstone and mudstone conglomerate. It contains significantly more mineralization with large sections of pyrite, as well as hosting dendritic manganese. The third section of the hole is a weakly to moderately silicified andesite dyke. It contains weakly disseminated grains of biotite, feldspar and calcite.

The assay results from this hole were disappointing, containing poor results outside of arsenic values over 100 ppm in small intervals throughout the hole.

10.4.2 Hole HJ-20-04B

Description: Hole HJ-20-04B was drilled to a depth of 51.82 m. This hole is primarily conglomerate and mudstone, with narrow bands of limestone and basalt in the bottom half of the hole. The first 25 m are a calcareous, medium grey, weakly sorted, clast-supported conglomerate, with sub-angular to sub-rounded clasts of limestone, sandstone, mudstone and basalt. There is little to no mineralization in this interval. The remainder of the hole is primarily mudstone and basalt. The mudstone is a black, weakly oxidized mudstone conglomerate with small clasts of basalt and limestone. Again, there is little mineralization through this zone. The basalt, located around 30 to 40 m deep, is grey and calcareous. It contains millimeter scale fractures, filled with calcite and quartz.

This hole again contained no precious metal values of note from the assay results.

11 Interpretation and Conclusions

The Hartless Joe property covers several high-grade gold and silver prospects. They are hosted within a package of volcanic and sedimentary rocks that are cut by numerous large-scale and complex faults. Most of the known mineral occurrences are characterized as low-sulphidation, epithermal-type; however, strong copper and zinc geochemical values in the northern part of the property, as well as the presence of Algoma-type iron occurrences, suggest that the property is also prospective for VMS-type mineralization. Occurrences of flat-lying, banded, mineralized quartz may be flat-lying veins developed preferentially in intra-volcanic mudstones, or subaqueous exhalative horizons (Morton, 2020).

The 2020 exploration and drilling program at the Hartless Joe property was a productive first year for SOAR Metals Canada 2020. Exploration, geophysics and the Hartless Joe drilling program provided promising results and a better understanding of structure, geological environment and pathfinder elements for gold resources.

The initial exploration program in June was key to ITI field team's introduction to the regional geological environment and overall project logistics and operations for the

subsequent drilling program. The extensive Quantum Direct Matter Indicator (QDMI) geophysics program was crucial to 3D modelling of high potential resource targets and significantly assisted with the drill targeting program in the field. The use of Global Navigation Satellite System (GNSS) receivers for GPS mapping of samples and core hole drill targets, in combination with UAV scans provided the project with exceptionally high-resolution accuracy to 2D and 3D resource mapping and modelling.

The overall drill program at Hartless Joe encompassed 901m of drilling in 12 holes, on four separate pads. highlights from the 2020 drill program include: 9.74 g/t gold and 7.82 g/t Silver over 0.4 m in hole HJ-20-02C. These results were found in a banded quartz vein with sericite bands, and are a promising find. The strong gold results were found in conjunction with a very high arsenic value as well of over 1000 ppm. Adjacent holes of HJ-20-02B and HJ-20-02A also showed promising results of 1.56 g/t gold over 1.1 m and 1.04 g/t gold over 2.18 m, respectively.

12 Recommendations

The Hartless Joe property has considerable potential for success. Follow ups on the Grumpy area showings would be an advisable course of action for the future, with grab samples up to 251 g/t Au in this area, there is still potential for a significant find in this area. Attempting to intersect the GG fault again in this area should be a priority, two drill pads from the 2020 season are in ideal locations for this. The historic grab sample at the Queen showing of 462 g/t gold is worth following up on; a drill pad at the top of the cliff is already constructed and may be worth further investigation.

A full 3D geological model is recommended from the 2017 field exploration done by the YGS, this could be incorporated into drilling data, and geochemistry to further understand the areas full potential.

Historic faulting splays are also noted at the southern end of the property, with this being an unexplored area of the Hartless play, it is advisable to conduct early-stage prospecting in this area.

13 References

Bordet, E. 2016 Preliminary results on the Middle Triassic-Middle Jurassic stratigraphy and structure of the Teslin Mountain area, southern Yukon. In: Yukon Exploration and Geology 2015, K. E. MacFarlane and M. G. Nordling (eds.), Yukon Geological Survey, p. 43-61.

Bordet, E. 2017 Updates on the Middle Trassic-Middle Jurassic stratigraphy and structure of the Teslin Mountain and east Lake Labarge areas, south-central Yukon. In: Yukon Exploration and Geology 2016, K. E. MacFarlane and L. H. Weston (eds.), Yukon Geological Survey, p. 1-24.

Bordet, E., Crowley, J.L., Piercey, S.J. 2019 Geology of the eastern Lake Laberge area (105E), south-central Yukon; Yukon Geological Survey, Open File 2019-1.

Colpron, M. and Nelson, J. L. 2011 A Digital atlas of terranes for the Northern Cordillera; Yukon Geological Survey and BC Geology Survey, BCGS GeoFile 2011-11 http://www.geology.gov.yk.ca/pdf/CanCord_terranes_2011.pdf

Deklerk, R. and Traynor, S. (compilers) 2017 Minfile detail report on Ace (105D 051) and Grumpy (105D 203); available at:

http://ygsftp.gov.yk.ca/publications/minfile/text_files/105D/105D051.pdf

http://servlet.gov.yk.ca/ygsmin/occurrence.do?occurrenceID=105D+203

Drechsler, S. 2013 Assessment report describing soil and rock geochemical sampling and drill pad construction at the Hartless Joe property; report prepared for Strategic Metals Ltd. by Archer, Cathro & Associates (1981) Limited.

Eaton, D. 2008 Assessment report describing diamond drilling at the Hartless Joe property; report prepared for ATAC Resources Ltd. and Ferus Resources Ltd. by Archer, Cathro & Associates (1981) Limited.

Eaton, S. 2008 Assessment report describing geochemical sampling, prospecting and geophysical surveys at the Hartless Joe property; report prepared.

Gordey, S.P. and Makepeace, A.J. (compilers) 2003 Yukon digital geology, version 2.0, Geological Survey of Canada, Open File 1749 and Yukon Geological Survey, Open File 2003-9 (D).

Hart, C.J.R. 1997 A transect across northern Stikinia: geology of the northern Whitehorse map area, southern Yukokn Territory (105D/13-16); Exploration and Geological Services Division, Yukon Region, Indian and Northern Affairs Canada, Bulletin 8, p. 112.

Hart, C.J.R. and Hunt, J.A. 1997 Geology of Joe Mountain map area, southern Yukon (105D/15); Exploration and Geological Services Division, Yukon Region, Indian and Northern Affairs Canada, Geoscience Map 1997-6, 1:50,000 scale.

Heon, D. (compiler) 2003 Yukon Regional Geochemical Database 2003- stream sediment analyses. Exploration and Geological Services Division, Yukon Region, Indian and Northern Affairs Canada

Lowey, G.W. 2005 Sedimentology, stratigraphy and source rock potential of the Richthofen formation (Jurassic), northern Whitehorse Trough, Yukon. In: Yukon Exploration and Geology 2004, D.S. Emond, L.L. Lewis and G.D. Bradshaw (eds.) Yukon Geological Survey, pp. 177-191.

Morton, J. 2016 Assessment report describing prospecting, geochemical sampling and LiDAR surveying on the Hartless Joe property; report prepared by Archer, Cathro & Associates (1981) Limited for Strategic Metals Ltd.

Morton, J. 2017 Assessment report describing diamond drilling, hand trenching, prospecting, geochemical sampling and heritage studies at the Hartless Joe property; report prepared by Archer, Cathro & Associates (1981) Limited for Strategic Metals Ltd.

Morton, J. 2018 Assessment report describing prospecting and geochemical sampling at the Hartless Joe property; report prepared by Archer, Cathro & Associates (1981) Limited for Strategic Metals Ltd.

Morton, J. 2019 Assessment report describing trenching, geological mapping, prospecting and geochemical sampling at the Hartless Joe property; report prepared by Archer, Cathro & Associates (1981) Limited for Strategic Metals Ltd.

Morton, J. 2020 Assessment report describing Geological mapping, Prospecting, Geochemical Sampling and Diamond Drilling at the Hartless Joe property; report prepared by Archer, Cathro & Associates (1981) Limited for Strategic Metals Ltd.

Nelson, J., Colpron, M., and Israel, S. 2013 The Cordillera of British Columbia, Yukon and Alaska: tectonics and metallogeny; in Tectonics, metallogeny and discovery: the North American cordillera and similar accretionary settings, Colpron, M., Bissig, T., Rusk, B., and Thompson, J.F.H. (eds.), Society of Economic Geologists, Special Publication 17, p. 53-109.

Nelson, J., Colpron, M., and Israel, S. 2013 The Cordillera of British Columbia, Yukon and Alaska: tectonics and metallogeny; in Tectonics, metallogeny and discovery: the North American cordillera and similar accretionary settings, Colpron, M., Bissig, T., Rusk, B., and Thompson, J.F.H. (eds.), Society of Economic Geologists, Special Publication 17, p. 53-109.

Piercey, S.J. 2005 Reconnaissance geological and geochemical studies of the Joe Mountain Formation, Joe Mountain region (NTS 105D/15), Yukon. In: Yukon Exploration and Geology 2004, D.S. Emond, L.L. Lewis and G.D. Bradshaw (eds.) Yukon Geological Survey, pp. 213-226.

Wengzynowski, W.A. 2006 Assessment Report describing Prospecting and Soil Geochemistry on the Hartless Joe Property; report for ATAC Resources Ltd, p. 8.

Wheeler, J.O. 1961 Whitehorse map-area, Yukon Territory; Geological Survey of Canada Memoir 312; scale 1:253,400.

Yukon Geological Survey 2015 MapViewer Online http://mapservices.gov.yk.ca/Mining/WebMap.aspx

Appendix I
Statement of Expenditures

Statement of Expenditures
Hartless Joe Property

Drilling Expenditures	
Platinum Diamond Drilling	
Statement 1011	$ 213,365.00
Helicopter Support	
Capital Helicopters	
Invoice Number 104785	$ 32,614.86
Total Expenditures Filed	$ 245,979.86

Elizabeth Smith
23-Feb-21

Appendix II
Certificates Of Analysis

ALS Canada Ltd.
2103 Dollarton Hwy
North Vancouver BC V7H 0A7
Phone: +1 604 984 0221 Fax: +1 604 984 0218
www.alsglobal.com/geochemistry

To: ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED
1016-510 W HASTINGS ST
VANCOUVER BC V6B 1L8

Page: 1
Total # Pages: 2 (A - D)
Plus Appendix Pages
Finalized Date: 25-AUG-2020
Account: F

CERTIFICATE WH20165101

Project: Hartless Joe

This report is for 40 Drill Core samples submitted to our lab in Whitehorse, YT, Canada on 31-JUL-2020.

The following have access to data associated with this certificate:

HEATHER BURRELL	MATT DUMALA	CRAIG DUNN
STEVE ISRAEL	JACK MORTON	SCOTT NEWMAN
Liz SMITH		

SAMPLE PREPARATION

ALS CODE	DESCRIPTION
WEI-21	Received Sample Weight
LOG-21	Sample logging - ClientBarCode
CRU-QC	Crushing QC Test
PUL-QC	Pulverizing QC Test
CRU-31	Fine crushing - 70% <2mm
SPL-21	Split sample - riffle splitter
PUL-31	Pulverize up to 250g 85% <75 um
LOG-23	Pulp Login - Rcvd with Barcode
LOG-21d	Sample logging - ClientBarCode Dup
SPL-21d	Split sample - duplicate
PUL-31d	Pulverize Split - duplicate

ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	INSTRUMENT
Au-ICP21	Au 30g FA ICP-AES Finish	ICP-AES
ME-MS41	Ultra Trace Aqua Regia ICP-MS	

This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

See Appendix Page for comments regarding this certificate

Signature:
Saa Traxler, General Manager, North Vancouver

ALS Canada Ltd.
2103 Dollarton Hwy
North Vancouver BC V7H 0A7
Phone: +1 604 984 0221 Fax: +1 604 984 0218
www.alsglobal.com/geochemistry

To: ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED
1016-510 W HASTINGS ST
VANCOUVER BC V6B 1L8

Page: 2 - A
Total # Pages: 2 (A - D)
Plus Appendix Pages
Finalized Date: 25-AUG-2020
Account: F

Project: Hartless Joe

CERTIFICATE OF ANALYSIS WH20165101

Sample Description	Method / Analyte / Units / LOD	WEI-21 Recvd Wt. kg 0.02	ME-MS41 Ag ppm 0.01	ME-MS41 Al % 0.01	ME-MS41 As ppm 0.1	ME-MS41 Au ppm 0.02	ME-MS41 B ppm 10	ME-MS41 Ba ppm 10	ME-MS41 Be ppm 0.05	ME-MS41 Bi ppm 0.01	ME-MS41 Ca % 0.01	ME-MS41 Cd ppm 0.01	ME-MS41 Ce ppm 0.02	ME-MS41 Co ppm 0.1	ME-MS41 Cr ppm 1	ME-MS41 Cs ppm 0.05
B0051001		3.30	0.12	0.66	7.9	<0.02	<10	50	0.20	0.07	19.05	0.08	10.60	4.9	15	0.43
B0051002		4.29	0.05	3.03	12.2	<0.02	<10	20	0.41	0.05	2.77	0.12	17.10	32.0	15	0.96
B0051003		6.20	0.09	3.49	15.4	<0.02	<10	30	0.43	0.04	3.66	0.12	17.75	33.1	16	1.82
B0051004		7.14	0.46	2.73	6.6	<0.02	<10	170	0.34	0.03	6.35	0.13	12.20	22.7	15	1.96
B0051005		4.81	0.29	3.21	2.0	<0.02	<10	40	0.29	0.02	4.86	0.11	10.45	26.5	7	1.38
B0051006		6.14	0.24	2.93	1.4	<0.02	<10	60	0.34	0.02	4.53	0.13	10.50	25.5	7	2.62
B0051007		7.03	0.24	3.60	3.0	<0.02	<10	30	0.33	0.02	4.80	0.12	10.40	27.5	8	2.49
B0051008		3.89	0.23	2.63	10.1	<0.02	<10	30	0.28	0.06	6.83	0.13	8.47	25.6	7	1.35
B0051009		0.26	31.4	4.44	137.0	1.68	<10	40	0.21	10.75	4.35	34.1	11.90	85.8	53	0.93
B0051010		5.71	0.29	2.39	6.8	<0.02	<10	100	0.37	0.08	6.06	0.19	8.23	24.2	6	1.86
B0051011		4.68	0.21	2.90	3.5	<0.02	<10	140	0.39	0.02	4.45	0.13	9.52	28.0	7	2.76
B0051012		6.47	0.28	2.11	3.4	<0.02	<10	50	0.41	0.02	4.40	0.12	8.91	26.0	6	2.65
B0051013		3.31	0.23	2.09	2.9	<0.02	<10	80	0.53	0.02	4.57	0.11	8.78	26.3	5	3.83
B0051014		4.12	0.18	3.20	1.9	<0.02	<10	290	0.31	0.02	4.73	0.13	10.40	26.5	7	3.56
B0051015		9.28	0.13	2.85	4.8	<0.02	<10	360	0.32	0.03	4.84	0.13	18.45	25.1	12	4.73
B0051016		6.33	0.65	3.10	2.9	<0.02	<10	40	0.37	0.02	7.19	0.14	11.15	32.9	119	1.14
B0051017		3.44	0.10	3.18	16.5	<0.02	<10	30	0.44	0.02	3.95	0.30	20.4	42.0	34	0.98
B0051018		2.60	0.08	2.52	17.7	<0.02	<10	100	0.55	0.02	3.30	0.24	22.5	41.7	28	1.03
B0051019		3.73	0.02	0.33	2.0	<0.02	<10	290	0.17	0.02	2.05	0.03	23.7	3.1	2	1.56
B0051020		6.05	0.02	0.36	2.3	<0.02	<10	70	0.20	0.01	1.90	0.02	26.1	3.4	2	1.82
B0051021		4.32	0.01	0.33	2.6	<0.02	<10	80	0.20	0.01	1.89	0.02	27.7	3.5	3	1.93
B0051022		2.27	0.01	0.31	3.0	<0.02	<10	80	0.23	0.02	1.84	0.01	29.9	3.6	2	2.08
B0051023		3.86	0.02	0.45	2.6	<0.02	<10	80	0.19	0.01	1.61	0.01	28.2	3.5	3	1.55
B0051024		3.11	0.02	0.30	3.7	<0.02	<10	70	0.19	0.02	1.92	0.01	29.5	3.5	2	1.83
B0051025		4.06	0.02	0.31	3.6	<0.02	<10	80	0.19	0.02	1.92	0.01	29.3	3.7	3	1.75
B0051026		7.66	0.01	0.26	3.7	<0.02	<10	60	0.20	0.01	1.68	0.02	26.8	3.2	2	1.82
B0051027		0.06	19.80	1.79	18.0	9.73	<10	90	0.35	0.20	1.21	3.34	17.15	20.1	25	1.63
B0051028		2.50	0.12	0.59	22.5	0.02	<10	40	0.28	0.05	2.18	0.06	19.80	12.9	6	2.08
B0051029		5.56	0.09	3.38	13.9	<0.02	<10	140	0.63	0.05	3.79	0.18	23.3	37.8	70	2.95
B0051030		5.16	0.01	0.02	0.5	<0.02	<10	10	<0.05	0.04	>25.0	0.01	0.92	0.5	1	<0.05
B0051031		5.88	0.02	0.34	21.0	<0.02	<10	60	0.18	0.02	1.84	0.02	25.5	3.6	2	1.82
B0051032		6.44	0.02	0.30	13.1	<0.02	<10	70	0.18	0.02	2.02	0.02	28.0	3.7	2	1.57
B0051033		3.05	0.02	0.35	3.7	<0.02	<10	70	0.22	0.02	1.52	0.01	28.7	3.2	2	1.59
B0051034		2.33	0.21	0.54	12.0	<0.02	<10	60	0.19	0.06	21.4	0.12	10.30	4.6	14	0.71
B0051035		3.55	0.25	0.70	12.7	<0.02	<10	60	0.20	0.06	18.05	0.21	11.15	6.2	17	0.71
B0051036		4.21	0.15	2.35	4.1	<0.02	<10	60	0.23	0.05	4.04	0.12	9.75	25.7	91	0.71
B0051037		4.82	0.14	3.34	2.0	<0.02	<10	40	0.44	0.01	6.05	0.15	12.15	38.3	132	0.81
B0051038		<0.02	0.14	3.46	1.9	<0.02	<10	40	0.41	0.01	6.29	0.14	12.30	38.4	137	0.83
B0051039		6.69	0.09	2.84	9.6	<0.02	<10	30	0.55	0.02	3.77	0.17	14.80	35.6	78	1.75
B0051040		2.98	0.02	0.41	2.7	<0.02	<10	80	0.17	0.02	1.44	0.02	26.0	3.0	3	2.56

***** See Appendix Page for comments regarding this certificate *****

ALS Canada Ltd.
2103 Dollarton Hwy
North Vancouver BC V7H 0A7
Phone: +1 604 984 0221 Fax: +1 604 984 0218
www.alsglobal.com/geochemistry

To: ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED
1016-510 W HASTINGS ST
VANCOUVER BC V6B 1L8

Project: Hartless Joe

CERTIFICATE OF ANALYSIS WH20165101

Sample Description	Method	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41
	Analyte	Cu	Fe	Ca	Ce	Hf	Hg	In	K	La	Li	Mg	Mn	Mo	Na	Nb
	Units	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	ppm
	LOD	0.2	0.01	0.05	0.05	0.02	0.01	0.005	0.01	0.2	0.1	0.01	5	0.05	0.01	0.05
B0051001		19.0	1.37	2.58	<0.05	0.20	<0.01	0.012	0.06	7.3	7.9	0.53	352	0.95	0.03	<0.05
B0051002		47.6	6.89	13.25	0.15	0.13	<0.01	0.070	0.04	6.1	11.8	2.41	953	0.47	0.07	0.05
B0051003		46.4	7.95	14.10	0.13	0.06	<0.01	0.086	0.05	6.4	16.2	2.75	1210	0.47	0.03	<0.05
B0051004		78.9	6.54	9.02	0.06	0.08	<0.01	0.052	0.10	4.8	20.4	2.01	1120	1.06	0.03	<0.05
B0051005		133.5	7.82	11.45	0.08	0.03	0.01	0.060	0.08	3.4	27.3	1.82	1350	0.54	0.04	<0.05
B0051006		142.0	7.68	9.17	0.07	0.05	0.01	0.055	0.08	3.4	23.0	2.02	1340	0.44	0.03	<0.05
B0051007		146.5	7.61	11.75	0.07	0.06	0.01	0.054	0.10	3.4	27.0	1.94	1370	0.45	0.03	<0.05
B0051008		132.0	7.29	11.65	0.09	0.02	0.02	0.055	0.07	2.8	21.9	1.74	1360	0.56	0.03	<0.05
B0051009		6800	8.29	6.28	0.09	0.10	0.45	2.42	0.22	6.2	5.0	1.06	579	48.6	0.30	0.12
B0051010		132.0	7.72	8.18	0.07	0.02	0.02	0.058	0.08	2.6	22.3	1.72	1440	0.41	0.03	<0.05
B0051011		133.5	7.95	9.63	0.07	0.03	0.02	0.057	0.10	3.0	25.9	1.96	1360	0.36	0.04	<0.05
B0051012		141.0	7.99	7.37	0.06	0.02	0.02	0.065	0.10	2.9	22.0	1.92	1420	0.34	0.03	<0.05
B0051013		121.0	8.18	7.01	0.05	0.02	0.02	0.060	0.12	2.6	21.0	1.89	1340	0.38	0.03	<0.05
B0051014		141.5	7.52	10.55	0.09	0.13	0.02	0.050	0.07	3.4	26.1	1.86	1350	0.40	0.03	<0.05
B0051015		119.0	6.49	9.52	0.07	0.10	0.02	0.047	0.08	8.6	21.9	1.72	1190	0.61	0.03	<0.05
B0051016		46.4	6.80	12.65	0.08	0.06	0.01	0.066	0.03	3.9	18.0	3.08	1160	2.01	0.03	<0.05
B0051017		39.3	8.04	18.90	0.14	0.05	0.01	0.115	0.02	7.3	16.8	3.02	1170	0.43	0.03	<0.05
B0051018		32.6	8.18	15.10	0.13	0.08	0.01	0.106	0.02	8.8	20.1	2.77	1180	1.15	0.03	<0.05
B0051019		3.7	1.22	1.06	<0.05	0.38	0.01	0.007	0.15	15.0	0.8	0.34	292	0.36	0.06	<0.05
B0051020		1.1	1.25	0.88	<0.05	0.54	<0.01	0.005	0.15	16.2	1.1	0.26	241	0.11	0.04	<0.05
B0051021		2.0	1.36	0.95	<0.05	0.44	<0.01	0.005	0.17	17.2	1.0	0.38	297	0.17	0.05	<0.05
B0051022		2.5	1.31	0.96	<0.05	0.46	0.01	<0.005	0.16	18.3	1.0	0.37	286	0.10	0.05	<0.05
B0051023		0.8	1.36	1.35	<0.05	0.59	<0.01	0.005	0.16	17.5	1.8	0.14	237	0.32	0.05	<0.05
B0051024		1.7	1.34	0.76	<0.05	0.50	<0.01	<0.005	0.15	18.3	0.5	0.13	282	0.29	0.04	<0.05
B0051025		1.0	1.43	0.96	<0.05	0.40	<0.01	0.005	0.16	18.3	0.6	0.41	303	0.19	0.06	<0.05
B0051026		2.1	1.27	0.82	<0.05	0.33	<0.01	0.006	0.15	16.5	0.6	0.36	286	0.12	0.05	<0.05
B0051027		156.5	3.56	5.56	0.06	0.33	0.08	0.027	0.25	7.9	20.4	0.91	796	26.4	0.06	0.05
B0051028		11.4	2.65	2.70	<0.05	0.26	<0.01	0.029	0.09	11.1	5.7	0.82	545	2.17	0.06	<0.05
B0051029		37.7	8.41	15.15	0.08	0.07	<0.01	0.099	0.06	9.1	23.2	3.11	1200	0.65	0.09	<0.05
B0051030		1.2	0.08	0.07	<0.05	<0.02	<0.01	<0.005	<0.01	1.1	0.5	0.48	87	0.05	0.01	0.07
B0051031		2.3	1.31	0.91	<0.05	0.38	<0.01	0.006	0.15	16.0	0.9	0.46	292	0.09	0.04	<0.05
B0051032		0.9	1.33	0.80	<0.05	0.42	<0.01	0.005	0.16	17.2	0.6	0.39	281	0.16	0.04	<0.05
B0051033		0.9	1.20	0.83	<0.05	0.44	<0.01	0.005	0.16	18.0	1.4	0.43	264	0.08	0.03	<0.05
B0051034		12.9	1.37	2.00	<0.05	0.19	0.01	0.011	0.07	8.4	6.3	0.43	402	0.92	0.02	0.11
B0051035		20.0	1.71	2.08	<0.05	0.19	<0.01	0.013	0.09	8.2	7.6	0.59	371	1.29	0.02	0.05
B0051036		46.6	4.75	9.12	0.06	0.20	<0.01	0.040	0.07	4.1	12.7	2.04	815	0.43	0.07	<0.05
B0051037		49.1	7.52	14.50	0.10	0.09	<0.01	0.086	0.01	4.1	22.3	3.10	1340	0.41	0.03	<0.05
B0051038		48.5	7.82	14.30	0.09	0.08	0.01	0.084	0.01	4.1	22.3	3.22	1420	0.39	0.04	<0.05
B0051039		50.4	6.81	12.65	0.07	0.07	<0.01	0.080	0.05	6.6	19.9	3.21	941	0.73	0.03	<0.05
B0051040		3.5	1.17	1.07	<0.05	0.48	<0.01	0.007	0.16	17.3	0.9	0.18	223	0.31	0.05	<0.05

***** See Appendix Page for comments regarding this certificate *****

ALS Canada Ltd.
2103 Dollarton Hwy
North Vancouver BC V7H 0A7
Phone: +1 604 984 0221 Fax: +1 604 984 0218
www.alsglobal.com/geochemistry

To: ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED
1016-510 W HASTINGS ST
VANCOUVER BC V6B 1L8

Project: Hartless Joe

CERTIFICATE OF ANALYSIS WH20165101

Sample Description	Method	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41
	Analyte	Ni	P	Pb	Rb	Re	S	Sb	Sc	Se	Sn	Sr	Ta	Te	Th	Ti
	Units	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
	LOD	0.2	10	0.2	0.1	0.001	0.01	0.05	0.1	0.2	0.2	0.2	0.01	0.01	0.2	0.005
B0051001		9.2	510	3.0	2.0	0.001	0.18	0.46	2.9	0.6	<0.2	527	<0.01	0.03	2.0	<0.005
B0051002		21.0	1040	1.3	1.5	0.002	0.30	0.41	18.7	0.2	0.5	44.0	<0.01	0.01	0.4	0.201
B0051003		18.8	1130	1.0	1.9	0.002	0.19	0.43	23.7	0.3	0.4	94.1	<0.01	0.01	0.3	0.133
B0051004		11.8	760	1.1	3.5	0.002	0.10	0.32	18.4	0.3	0.2	198.0	<0.01	0.01	0.4	0.048
B0051005		5.8	760	0.6	2.5	0.002	0.04	0.20	21.5	<0.2	<0.2	154.5	<0.01	0.02	0.2	0.012
B0051006		5.5	730	0.7	2.8	0.001	0.08	0.26	21.3	<0.2	0.2	184.5	<0.01	0.01	0.2	0.007
B0051007		5.8	750	0.8	3.3	0.001	0.11	0.17	20.3	0.2	0.2	151.5	<0.01	<0.01	0.2	0.011
B0051008		5.1	660	1.3	2.6	0.002	0.25	0.23	20.5	0.4	0.2	232	<0.01	0.02	0.2	0.009
B0051009		339	630	8550	13.8	0.016	6.54	24.4	4.2	13.6	5.8	67.5	<0.01	0.74	2.0	0.047
B0051010		5.6	670	7.2	2.5	0.002	0.23	0.22	21.5	0.3	<0.2	241	<0.01	0.01	0.2	0.005
B0051011		6.0	730	1.6	3.2	0.002	0.09	0.17	22.5	<0.2	<0.2	139.5	<0.01	0.01	0.2	0.007
B0051012		5.8	730	1.2	3.0	0.001	0.09	0.21	24.0	0.3	<0.2	133.0	<0.01	0.01	0.2	<0.005
B0051013		5.6	740	1.3	3.9	0.002	0.17	0.21	23.6	0.2	<0.2	155.0	<0.01	0.01	0.2	<0.005
B0051014		5.7	720	0.9	2.6	0.001	0.11	0.28	19.4	<0.2	0.3	161.5	<0.01	0.01	0.2	0.030
B0051015		10.8	760	1.7	3.2	0.002	0.11	0.39	17.6	0.2	0.3	187.0	<0.01	0.01	0.8	0.013
B0051016		56.4	710	1.0	1.1	0.001	0.19	0.33	24.3	0.3	0.2	206	<0.01	0.01	0.3	0.011
B0051017		30.4	1250	1.1	0.5	0.002	0.26	0.33	22.6	0.2	0.2	111.0	<0.01	<0.01	0.2	0.013
B0051018		29.7	1230	2.2	0.7	0.003	0.17	0.35	22.5	0.2	0.2	154.5	<0.01	0.01	0.7	0.010
B0051019		1.9	350	8.1	4.7	<0.001	0.05	0.14	1.0	<0.2	<0.2	75.4	<0.01	0.01	5.0	<0.005
B0051020		2.1	370	6.2	4.8	<0.001	0.03	0.16	1.0	<0.2	<0.2	57.2	<0.01	<0.01	5.5	<0.005
B0051021		2.3	390	6.0	5.1	<0.001	0.03	0.12	1.0	<0.2	<0.2	61.3	<0.01	0.01	5.4	<0.005
B0051022		2.2	390	5.7	5.3	<0.001	0.03	0.13	1.1	<0.2	0.2	60.5	<0.01	<0.01	5.8	<0.005
B0051023		2.5	390	5.6	4.9	<0.001	0.03	0.14	1.0	<0.2	<0.2	44.7	<0.01	0.01	6.1	<0.005
B0051024		2.0	390	6.2	4.7	<0.001	0.03	0.18	1.0	<0.2	<0.2	49.2	<0.01	0.01	6.0	<0.005
B0051025		2.5	380	5.3	5.2	<0.001	0.03	0.14	1.0	0.2	<0.2	66.8	<0.01	0.01	6.2	<0.005
B0051026		2.0	360	6.7	4.7	<0.001	0.03	0.12	0.9	<0.2	<0.2	56.5	<0.01	<0.01	5.4	<0.005
B0051027		16.5	640	34.0	10.6	0.004	1.10	0.37	7.0	1.8	0.8	58.2	<0.01	10.40	0.9	0.071
B0051028		8.2	580	17.5	3.0	0.001	0.32	1.58	6.4	<0.2	<0.2	81.1	<0.01	0.03	3.2	<0.005
B0051029		56.7	1160	3.3	2.2	0.001	0.36	0.90	25.5	0.3	0.5	176.5	<0.01	0.01	0.8	0.015
B0051030		0.7	60	0.4	0.2	<0.001	0.02	0.07	0.2	0.3	<0.2	78.3	<0.01	0.01	<0.2	<0.005
B0051031		2.6	370	6.6	4.8	<0.001	0.05	0.23	1.1	0.2	<0.2	60.9	<0.01	<0.01	5.5	<0.005
B0051032		2.4	380	5.4	5.3	<0.001	0.03	0.20	1.0	0.2	<0.2	62.3	<0.01	0.01	5.8	<0.005
B0051033		2.1	380	5.4	5.5	<0.001	0.03	0.13	0.9	0.2	<0.2	56.3	<0.01	0.01	5.7	<0.005
B0051034		10.9	520	5.4	2.1	0.002	0.10	0.69	2.7	0.9	<0.2	442	<0.01	0.02	2.3	0.015
B0051035		15.8	580	2.9	2.8	0.002	0.12	0.85	3.6	0.9	<0.2	490	<0.01	0.03	1.5	0.012
B0051036		41.0	590	2.4	3.0	0.001	0.14	0.26	13.5	0.3	0.3	105.0	<0.01	<0.01	0.7	0.161
B0051037		62.8	760	0.8	0.4	0.001	0.15	0.20	27.9	0.4	0.3	195.0	<0.01	0.01	<0.2	0.027
B0051038		62.6	780	0.7	0.4	0.001	0.16	0.18	27.3	0.4	0.3	198.5	<0.01	0.01	<0.2	0.028
B0051039		46.2	940	3.6	1.6	0.001	0.11	0.26	24.2	0.5	0.2	128.5	<0.01	<0.01	0.7	0.007
B0051040		2.1	370	8.8	5.3	<0.001	0.02	0.22	1.2	0.3	<0.2	36.4	<0.01	<0.01	5.4	<0.005

***** See Appendix Page for comments regarding this certificate *****

ALS Canada Ltd.
2103 Dollarton Hwy
North Vancouver BC V7H 0A7
Phone: +1 604 984 0221 Fax: +1 604 984 0218
www.alsglobal.com/geochemistry

To: ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED
1016-510 W HASTINGS ST
VANCOUVER BC V6B 1L8

Project: Hartless Joe

CERTIFICATE OF ANALYSIS WH20165101

Sample Description	Method / Analyte / Units / LOD	ME-MS41 Tl ppm 0.02	ME-MS41 U ppm 0.05	ME-MS41 V ppm 1	ME-MS41 W ppm 0.05	ME-MS41 Y ppm 0.05	ME-MS41 Zn ppm 2	ME-MS41 Zr ppm 0.5	Au-ICP21 Au ppm 0.001
B0051001		0.02	0.78	22	0.09	6.88	30	8.8	0.002
B0051002		0.02	0.09	297	0.17	23.2	90	2.9	<0.001
B0051003		0.03	0.16	311	0.22	20.4	108	1.3	<0.001
B0051004		0.04	0.36	174	1.28	16.35	84	1.9	<0.001
B0051005		0.03	0.16	209	0.71	16.35	100	0.7	<0.001
B0051006		0.03	0.22	178	0.15	17.60	95	0.7	<0.001
B0051007		0.03	0.21	201	0.11	15.25	99	1.4	<0.001
B0051008		0.02	0.13	197	0.15	15.00	93	0.5	0.005
B0051009		1.70	4.35	293	2.41	7.22	7630	3.3	1.655
B0051010		0.02	0.11	183	0.11	13.55	98	0.5	0.006
B0051011		0.03	0.11	183	0.11	14.70	106	0.6	<0.001
B0051012		0.03	0.11	173	0.17	13.90	100	0.5	<0.001
B0051013		0.04	0.12	162	0.15	12.90	109	0.5	<0.001
B0051014		0.02	0.07	179	0.12	15.95	108	2.6	<0.001
B0051015		0.03	0.17	154	0.09	13.95	95	2.6	0.001
B0051016		<0.02	0.69	193	1.28	16.25	89	2.9	0.001
B0051017		<0.02	1.30	294	0.09	35.7	116	3.1	<0.001
B0051018		<0.02	1.41	272	0.12	36.9	125	2.5	<0.001
B0051019		0.04	0.84	5	<0.05	3.03	36	16.2	<0.001
B0051020		0.04	0.84	3	<0.05	3.52	32	21.8	<0.001
B0051021		0.04	1.44	3	<0.05	3.36	31	18.0	<0.001
B0051022		0.04	1.47	3	<0.05	3.54	31	19.4	<0.001
B0051023		0.04	0.98	4	<0.05	3.41	32	23.6	<0.001
B0051024		0.05	0.91	2	<0.05	3.74	51	22.0	<0.001
B0051025		0.05	1.09	3	<0.05	3.63	33	18.1	<0.001
B0051026		0.04	0.96	3	<0.05	3.09	32	15.0	<0.001
B0051027		0.26	0.38	72	0.70	7.67	105	10.0	9.77
B0051028		0.07	0.82	47	0.09	11.30	52	10.5	0.002
B0051029		0.05	0.72	249	0.08	33.2	133	2.3	<0.001
B0051030		<0.02	0.17	<1	<0.05	2.15	4	<0.5	<0.001
B0051031		0.05	0.73	4	<0.05	3.45	38	16.5	<0.001
B0051032		0.04	0.78	2	<0.05	3.51	34	16.4	<0.001
B0051033		0.04	0.82	3	<0.05	3.32	28	18.5	<0.001
B0051034		0.03	1.23	15	0.17	6.95	31	9.0	0.063
B0051035		0.04	1.08	29	0.13	7.46	39	8.2	0.004
B0051036		0.04	0.27	134	0.23	14.30	71	5.5	0.003
B0051037		<0.02	0.40	227	0.08	17.70	89	2.7	0.001
B0051038		<0.02	0.40	235	0.08	17.80	92	2.6	<0.001
B0051039		<0.02	0.84	218	0.09	22.6	89	2.6	0.002
B0051040		0.05	0.82	5	0.05	3.51	36	20.7	<0.001

***** See Appendix Page for comments regarding this certificate *****

ALS Canada Ltd.
2103 Dollarton Hwy
North Vancouver BC V7H 0A7
Phone: +1 604 984 0221 Fax: +1 604 984 0218
www.alsglobal.com/geochemistry

To: ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED
1016-510 W HASTINGS ST
VANCOUVER BC V6B 1L8

Page: Appendix 1
Total # Appendix Pages: 1
Finalized Date: 25-AUG-2020
Account: F

Project: Hartless Joe

CERTIFICATE OF ANALYSIS WH20165101

CERTIFICATE COMMENTS

ANALYTICAL COMMENTS

Applies to Method: Gold determinations by this method are semi-quantitative due to the small sample weight used (0.5g).
ME-MS41

LABORATORY ADDRESSES

Applies to Method: Processed at ALS Whitehorse located at 78 Mt. Sima Rd, Whitehorse, YT, Canada.

CRU-31	CRU-QC	LOG-21	LOG-21d
LOG-23	PUL-31	PUL-31d	PUL-QC
SPL-21	SPL-21d	WEI-21	

Applies to Method: Processed at ALS Vancouver located at 2103 Dollarton Hwy, North Vancouver, BC, Canada.

Au-ICP21	ME-MS41

ALS Canada Ltd.
2103 Dollarton Hwy
North Vancouver BC V7H 0A7
Phone: +1 604 984 0221 Fax: +1 604 984 0218
www.alsglobal.com/geochemistry

To: ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED
1016-510 W HASTINGS ST
VANCOUVER BC V6B 1L8

Page: 1
Total # Pages: 2 (A - D)
Plus Appendix Pages
Finalized Date: 8-SEP-2020
Account: F

CERTIFICATE WH20180576

Project: Hartless Joe
P.O. No.: BATCH 2
This report is for 1 Drill Core sample submitted to our lab in Whitehorse, YT, Canada on 3-AUG-2020.
The following have access to data associated with this certificate:

HEATHER BURRELL STEVE ISRAEL LIZ SMITH	MATT DUMALA JACK MORTON	CRAIG DUNN SCOTT NEWMAN

SAMPLE PREPARATION

ALS CODE	DESCRIPTION
WEI-21	Received Sample Weight
LOG-21	Sample logging - ClientBarCode
BAG-01	Bulk Master for Storage
PUL-QC	Pulverizing QC Test
CRU-32	Fine Crushing 90% <2mm
SPL-21	Split sample - riffle splitter
PUL-32	Pulverize 1000g to 85% < 75 um

ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	INSTRUMENT
Au-ICP21	Au 30g FA ICP-AES Finish	ICP-AES
ME-MS41	Ultra Trace Aqua Regia ICP-MS	

This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

***** See Appendix Page for comments regarding this certificate *****

Signature:
Saa Traxler, General Manager, North Vancouver

ALS Canada Ltd.
2103 Dollarton Hwy
North Vancouver BC V7H 0A7
Phone: +1 604 984 0221 Fax: +1 604 984 0218
www.alsglobal.com/geochemistry

To: ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED
1016-510 W HASTINGS ST
VANCOUVER BC V6B 1L8

Page: 2 - A
Total # Pages: 2 (A - D)
Plus Appendix Pages
Finalized Date: 8-SEP-2020
Account: F

Project: Hartless Joe

CERTIFICATE OF ANALYSIS WH20180576

Sample Description	Method / Analyte / Units / LOD	WEI-21 Recvd Wt. kg 0.02	ME-MS41 Ag ppm 0.01	ME-MS41 Al % 0.01	ME-MS41 As ppm 0.1	ME-MS41 Au ppm 0.02	ME-MS41 B ppm 10	ME-MS41 Ba ppm 10	ME-MS41 Be ppm 0.05	ME-MS41 Bi ppm 0.01	ME-MS41 Ca % 0.01	ME-MS41 Cd ppm 0.01	ME-MS41 Ce ppm 0.02	ME-MS41 Co ppm 0.1	ME-MS41 Cr ppm 1	ME-MS41 Cs ppm 0.05
B0051071		5.99	1.87	3.50	333	0.84	<10	30	0.27	0.02	7.37	0.50	4.73	35.3	163	6.55

***** See Appendix Page for comments regarding this certificate *****

ALS Canada Ltd.
2103 Dollarton Hwy
North Vancouver BC V7H 0A7
Phone: +1 604 984 0221 Fax: +1 604 984 0218
www.alsglobal.com/geochemistry

To: ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED
1016-510 W HASTINGS ST
VANCOUVER BC V6B 1L8

Project: Hartless Joe

CERTIFICATE OF ANALYSIS WH20180576

Sample Description	Method Analyte Units LOD	ME-MS41 Cu ppm 0.2	ME-MS41 Fe % 0.01	ME-MS41 Ga ppm 0.05	ME-MS41 Ce ppm 0.05	ME-MS41 Hf ppm 0.02	ME-MS41 Hg ppm 0.01	ME-MS41 In ppm 0.005	ME-MS41 K % 0.01	ME-MS41 La ppm 0.2	ME-MS41 Li ppm 0.1	ME-MS41 Mg % 0.01	ME-MS41 Mn ppm 5	ME-MS41 Mo ppm 0.05	ME-MS41 Na % 0.01	ME-MS41 Nb ppm 0.05
80051071		55.1	6.64	10.00	0.09	0.04	<0.01	0.052	0.63	1.6	34.1	3.20	900	0.98	0.02	<0.05

***** See Appendix Page for comments regarding this certificate *****

ALS Canada Ltd.
2103 Dollarton Hwy
North Vancouver BC V7H 0A7
Phone: +1 604 984 0221 Fax: +1 604 984 0218
www.alsglobal.com/geochemistry

To: ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED
1016-510 W HASTINGS ST
VANCOUVER BC V6B 1L8

Page: 2 - C
Total # Pages: 2 (A - D)
Plus Appendix Pages
Finalized Date: 8-SEP-2020
Account: F

Project: Hartless Joe

CERTIFICATE OF ANALYSIS WH20180576

Sample Description	Method	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41
	Analyte	Ni	P	Pb	Rb	Re	S	Sb	Sc	Se	Sn	Sr	Ta	Te	Th	Ti
	Units	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
	LOD	0.2	10	0.2	0.1	0.001	0.01	0.05	0.1	0.2	0.2	0.2	0.01	0.01	0.2	0.005
B0051071		99.0	520	17.7	20.8	0.001	0.60	0.70	23.2	0.6	0.3	153.5	<0.01	0.02	<0.2	0.102

***** See Appendix Page for comments regarding this certificate *****

ALS Canada Ltd.
2103 Dollarton Hwy
North Vancouver BC V7H 0A7
Phone: +1 604 984 0221 Fax: +1 604 984 0218
www.alsglobal.com/geochemistry

To: ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED
1016-510 W HASTINGS ST
VANCOUVER BC V6B 1L8

Page: 2 - D
Total # Pages: 2 (A - D)
Plus Appendix Pages
Finalized Date: 8-SEP-2020
Account: F

Project: Hartless Joe

CERTIFICATE OF ANALYSIS WH20180576

Sample Description	Method Analyte Units LOD	ME-MS41 Tl ppm 0.02	ME-MS41 U ppm 0.05	ME-MS41 V ppm 1	ME-MS41 W ppm 0.05	ME-MS41 Y ppm 0.05	ME-MS41 Zn ppm 2	ME-MS41 Zr ppm 0.5	Au-ICP21 Au ppm 0.001
B0051071		0.18	<0.05	166	6.95	10.15	104	1.1	1.040

***** See Appendix Page for comments regarding this certificate *****

ALS Canada Ltd.
2103 Dollarton Hwy
North Vancouver BC V7H 0A7
Phone: +1 604 984 0221 Fax: +1 604 984 0218
www.alsglobal.com/geochemistry

To: ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED
1016-510 W HASTINGS ST
VANCOUVER BC V6B 1L8

Page: Appendix 1
Total # Appendix Pages: 1
Finalized Date: 8-SEP-2020
Account: F

Project: Hartless Joe

CERTIFICATE OF ANALYSIS WH20180576

CERTIFICATE COMMENTS

ANALYTICAL COMMENTS

Applies to Method: Gold determinations by this method are semi-quantitative due to the small sample weight used (0.5g).
ME-MS41

LABORATORY ADDRESSES

Applies to Method: Processed at ALS Whitehorse located at 78 Mt. Sima Rd, Whitehorse, YT, Canada.

BAG-01	CRU-32	LOG-21	PUL-32
PUL-QC	SPL-21	WEI-21	

Applies to Method: Processed at ALS Vancouver located at 2103 Dollarton Hwy, North Vancouver, BC, Canada.

Au-ICP21	ME-MS41

ALS Canada Ltd.
2103 Dollarton Hwy
North Vancouver BC V7H 0A7
Phone: +1 604 984 0221 Fax: +1 604 984 0218
www.alsglobal.com/geochemistry

To: ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED
1016-510 W HASTINGS ST
VANCOUVER BC V6B 1L8

Page: 1
Total # Pages: 2 (A - D)
Plus Appendix Pages
Finalized Date: 8-SEP-2020
Account: F

CERTIFICATE WH20165982

Project: Hartless Joe

P.O. No.: BATCH 2

This report is for 39 Drill Core samples submitted to our lab in Whitehorse, YT, Canada on 3-AUG-2020.

The following have access to data associated with this certificate:

HEATHER BURRELL STEVE ISRAEL LIZ SMITH	MATT DUMALA JACK MORTON	CRAIG DUNN SCOTT NEWMAN

SAMPLE PREPARATION

ALS CODE	DESCRIPTION
WEI-21	Received Sample Weight
LOG-21	Sample logging - ClientBarCode
CRU-QC	Crushing QC Test
PUL-QC	Pulverizing QC Test
CRU-31	Fine crushing - 70% <2mm
SPL-21	Split sample - riffle splitter
PUL-31	Pulverize up to 250g 85% <75 um

ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	INSTRUMENT
Au-ICP21	Au 30g FA ICP-AES Finish	ICP-AES
ME-MS41	Ultra Trace Aqua Regia ICP-MS	

This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

***** See Appendix Page for comments regarding this certificate *****

Signature:
Saa Traxler, General Manager, North Vancouver

ALS Canada Ltd.
2103 Dollarton Hwy
North Vancouver BC V7H 0A7
Phone: +1 604 984 0221 Fax: +1 604 984 0218
www.alsglobal.com/geochemistry

To: ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED
1016-510 W HASTINGS ST
VANCOUVER BC V6B 1L8

Project: Hartless Joe

CERTIFICATE OF ANALYSIS WH20165982

Sample Description	Method Analyte Units LOD	WEI-21 Recvd Wt. kg 0.02	ME-MS41 Ag ppm 0.01	ME-MS41 Al % 0.01	ME-MS41 As ppm 0.1	ME-MS41 Au ppm 0.02	ME-MS41 B ppm 10	ME-MS41 Ba ppm 10	ME-MS41 Be ppm 0.05	ME-MS41 Bi ppm 0.01	ME-MS41 Ca % 0.01	ME-MS41 Cd ppm 0.01	ME-MS41 Ce ppm 0.02	ME-MS41 Co ppm 0.1	ME-MS41 Cr ppm 1	ME-MS41 Cs ppm 0.05
B0051041		3.57	0.05	0.51	2.6	<0.02	<10	90	0.20	0.01	1.58	0.02	32.1	3.9	3	2.01
B0051042		5.75	1.01	0.59	5.0	<0.02	<10	100	0.22	0.04	4.36	0.03	23.7	4.6	8	1.84
B0051043		3.06	0.37	0.73	5.1	<0.02	<10	110	0.34	0.02	2.63	0.03	26.5	7.9	23	2.41
B0051044		2.29	0.06	3.83	3.5	<0.02	<10	4380	0.79	0.04	4.80	0.15	30.0	29.6	156	4.69
B0051045		4.43	0.08	0.96	3.6	<0.02	<10	140	0.25	0.07	1.53	0.04	25.6	8.3	23	2.76
B0051046		5.50	0.06	2.98	14.0	<0.02	<10	240	0.54	0.01	3.28	0.12	17.30	35.4	89	1.27
B0051047		3.96	0.06	2.90	12.4	<0.02	<10	30	0.58	0.01	3.77	0.16	16.75	37.4	77	1.01
B0051048		2.17	0.05	2.83	10.4	<0.02	<10	50	0.55	0.01	3.86	0.16	15.70	33.3	77	0.98
B0051049		6.29	0.06	1.92	13.5	<0.02	<10	90	0.54	0.01	4.41	0.16	14.95	32.1	58	1.16
B0051050		5.96	0.05	1.61	19.9	<0.02	<10	50	0.50	0.01	4.08	0.12	13.50	30.6	71	0.99
B0051051		5.52	0.07	0.91	19.1	<0.02	<10	350	0.28	0.03	3.23	0.08	15.70	13.8	18	2.82
B0051052		5.06	0.03	0.74	4.6	<0.02	<10	90	0.20	0.02	2.17	0.02	24.9	3.8	3	3.70
B0051053		7.73	0.96	3.39	50.2	<0.02	<10	20	0.24	0.02	4.86	0.12	9.10	37.4	195	1.51
B0051054		9.61	0.11	3.67	7.8	<0.02	<10	180	0.38	0.01	4.64	0.12	10.85	38.5	233	6.60
B0051055		4.65	0.07	4.86	2.5	<0.02	<10	20	0.40	0.01	4.56	0.12	11.00	38.1	250	6.04
B0051056		5.32	0.06	3.06	4.1	<0.02	<10	140	0.25	0.01	4.89	0.18	9.88	41.3	222	8.38
B0051057		9.32	0.20	3.31	6.2	<0.02	<10	20	0.28	0.01	4.55	0.11	8.73	36.3	210	7.01
B0051058		9.24	0.16	4.14	8.5	<0.02	<10	20	0.25	0.01	5.10	0.13	7.41	38.0	219	5.32
B0051059		0.25	31.7	4.49	142.0	1.52	<10	50	0.25	9.22	4.38	34.7	12.75	88.6	55	1.05
B0051060		7.73	0.23	3.91	54.3	<0.02	<10	10	0.21	0.01	5.49	0.19	6.81	39.2	220	2.34
B0051061		1.84	0.32	4.04	114.0	0.10	<10	10	0.25	0.01	5.47	0.14	6.67	40.2	214	2.98
B0051062		4.29	0.13	3.31	17.9	<0.02	<10	10	0.22	0.01	6.51	0.12	8.21	35.9	210	1.78
B0051063		7.54	0.07	3.03	4.5	<0.02	<10	10	0.22	0.01	5.92	0.15	7.34	31.8	200	3.03
B0051064		6.76	0.02	2.58	1.0	<0.02	<10	20	0.12	0.01	4.29	0.11	5.42	26.8	149	3.05
B0051065		<0.02	0.02	2.67	1.2	<0.02	<10	20	0.14	0.01	4.46	0.13	5.75	30.3	155	3.34
B0051066		8.81	0.01	2.53	1.4	<0.02	<10	10	0.15	0.01	2.71	0.11	4.90	25.8	149	1.54
B0051067		7.47	0.03	2.99	4.1	<0.02	<10	20	0.17	0.01	3.78	0.12	5.39	31.2	175	3.20
B0051068		0.06	18.30	1.80	16.4	9.19	<10	90	0.36	0.21	1.24	3.34	17.75	19.6	25	1.74
B0051069		9.00	0.26	3.97	33.2	<0.02	<10	20	0.28	0.01	5.35	0.13	7.10	37.5	227	5.04
B0051070		3.70	1.45	3.74	64.5	<0.02	<10	10	0.16	0.01	6.69	0.13	6.15	33.9	198	1.01
B0051072		5.06	<0.01	0.05	0.3	<0.02	<10	10	<0.05	0.02	>25.0	0.01	1.02	0.7	2	0.05
B0051073		8.30	0.46	4.48	105.5	0.04	<10	10	0.27	0.01	5.33	0.15	7.14	38.4	213	3.33
B0051074		8.52	0.12	3.69	36.6	<0.02	<10	10	0.19	0.01	7.64	0.15	6.26	35.2	199	1.70
B0051075		8.58	0.04	3.28	4.8	<0.02	<10	<10	0.17	0.01	4.66	0.12	4.12	27.9	152	1.18
B0051076		9.42	0.04	2.22	4.1	<0.02	<10	<10	0.12	0.01	4.30	0.11	3.90	25.4	117	0.66
B0051077		9.32	0.03	2.86	4.3	<0.02	<10	<10	0.09	0.01	4.68	0.11	4.19	31.4	140	0.83
B0051078		4.62	0.03	2.01	1.9	<0.02	<10	<10	0.09	0.01	4.89	0.07	4.23	25.5	112	0.54
B0051079		5.89	0.05	2.73	6.9	<0.02	<10	<10	0.13	0.10	4.98	0.09	4.38	29.4	132	0.85
B0051080		2.70	0.04	5.51	6.2	<0.02	<10	<10	0.18	0.01	6.11	0.11	3.72	45.4	255	1.88

***** See Appendix Page for comments regarding this certificate *****

ALS Canada Ltd.
2103 Dollarton Hwy
North Vancouver BC V7H 0A7
Phone: +1 604 984 0221 Fax: +1 604 984 0218
www.alsglobal.com/geochemistry

To: ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED
1016-510 W HASTINGS ST
VANCOUVER BC V6B 1L8

Page: 2 - B
Total # Pages: 2 (A - D)
Plus Appendix Pages
Finalized Date: 8-SEP-2020
Account: F

Project: Hartless Joe

CERTIFICATE OF ANALYSIS WH20165982

Sample Description	Method	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41
	Analyte	Cu	Fe	Ca	Ce	Hf	Hg	In	K	La	Li	Mg	Mn	Mo	Na	Nb
	Units	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	ppm
	LOD	0.2	0.01	0.05	0.05	0.02	0.01	0.005	0.01	0.2	0.1	0.01	5	0.05	0.01	0.05
B0051041		2.0	1.39	1.60	<0.05	0.54	0.01	0.007	0.17	20.0	1.7	0.17	242	0.32	0.07	<0.05
B0051042		9.5	1.51	1.67	<0.05	0.42	<0.01	0.009	0.18	15.4	2.5	0.46	290	3.10	0.06	<0.05
B0051043		6.4	1.97	1.78	<0.05	0.35	<0.01	0.014	0.16	15.7	5.1	0.79	361	1.44	0.05	<0.05
B0051044		25.3	5.35	8.46	0.11	0.23	0.01	0.046	0.10	13.9	19.8	2.70	811	0.94	0.31	<0.05
B0051045		15.6	2.28	3.77	<0.05	0.30	<0.01	0.017	0.15	15.5	5.6	0.84	335	1.22	0.06	<0.05
B0051046		39.3	7.16	14.80	0.12	0.05	<0.01	0.081	0.02	6.2	24.1	3.70	915	0.27	0.05	<0.05
B0051047		50.6	7.62	15.30	0.10	0.04	<0.01	0.089	0.01	5.6	23.2	4.04	903	0.25	0.04	<0.05
B0051048		51.3	7.46	14.25	0.09	0.03	<0.01	0.080	0.01	5.4	20.3	4.00	907	0.31	0.04	<0.05
B0051049		50.7	7.51	9.97	0.08	0.03	0.01	0.083	0.02	5.4	20.7	3.53	916	0.73	0.03	<0.05
B0051050		31.7	7.40	7.07	0.09	0.03	0.01	0.090	0.03	4.5	17.2	2.88	985	0.30	0.03	<0.05
B0051051		19.8	2.84	2.19	<0.05	0.18	0.02	0.026	0.16	9.4	8.4	1.44	471	1.50	0.02	<0.05
B0051052		2.4	1.41	1.60	<0.05	0.26	<0.01	0.006	0.22	16.0	4.7	0.70	338	0.13	0.02	<0.05
B0051053		58.4	6.98	12.15	0.16	0.08	<0.01	0.058	0.07	3.5	25.3	3.39	1040	2.07	0.04	<0.05
B0051054		49.5	6.71	13.20	0.25	0.19	0.01	0.069	0.35	4.0	23.7	3.34	883	0.22	0.07	<0.05
B0051055		61.9	9.19	15.50	0.40	0.41	<0.01	0.077	0.30	3.9	26.7	4.49	961	0.18	0.06	0.10
B0051056		64.9	6.01	11.75	0.26	0.55	<0.01	0.059	0.30	3.6	17.0	2.75	802	0.22	0.10	0.08
B0051057		56.4	7.11	12.90	0.25	0.40	<0.01	0.062	0.17	2.9	19.6	3.10	873	0.24	0.10	0.09
B0051058		57.7	8.21	15.20	0.26	0.20	<0.01	0.070	0.19	2.8	25.9	3.71	1040	0.18	0.07	<0.05
B0051059		6740	8.34	6.61	0.11	0.11	0.47	2.52	0.22	6.7	5.8	1.09	589	52.3	0.31	0.16
B0051060		54.3	7.33	13.65	0.22	0.09	0.01	0.066	0.05	2.5	28.6	3.32	1120	0.33	0.05	<0.05
B0051061		59.8	7.76	14.20	0.17	0.10	<0.01	0.071	0.06	2.5	29.2	3.38	1010	0.67	0.05	<0.05
B0051062		43.8	6.25	11.35	0.30	0.27	<0.01	0.056	0.04	2.9	24.1	2.61	930	0.17	0.07	0.07
B0051063		55.2	5.73	10.40	0.27	0.64	<0.01	0.049	0.06	2.5	21.1	2.66	1010	0.25	0.09	0.16
B0051064		57.8	4.88	9.75	0.20	0.54	<0.01	0.024	0.14	1.8	16.4	2.22	803	0.26	0.08	0.13
B0051065		61.5	5.12	10.55	0.21	0.58	<0.01	0.022	0.14	1.9	17.9	2.34	828	0.28	0.08	0.14
B0051066		53.1	4.93	9.24	0.23	0.54	<0.01	0.022	0.05	1.6	18.5	1.99	665	0.19	0.09	0.15
B0051067		54.6	5.65	10.80	0.23	0.58	<0.01	0.034	0.15	1.7	18.7	2.52	795	0.15	0.09	0.15
B0051068		154.0	3.59	5.44	0.08	0.36	0.06	0.025	0.25	7.8	20.1	0.92	787	25.3	0.06	0.06
B0051069		49.1	7.17	13.50	0.34	0.34	<0.01	0.067	0.29	2.5	23.3	3.45	957	0.20	0.06	0.10
B0051070		42.7	6.77	11.60	0.14	0.04	<0.01	0.060	0.07	2.2	29.3	3.10	857	0.19	0.04	<0.05
B0051072		2.0	0.13	0.18	0.07	<0.02	<0.01	<0.005	0.01	1.1	0.9	0.58	95	<0.05	0.01	0.08
B0051073		55.4	7.62	12.65	0.13	0.07	<0.01	0.062	0.21	2.6	34.0	4.03	891	0.29	0.04	<0.05
B0051074		51.9	6.31	11.55	0.15	0.31	<0.01	0.053	0.07	2.2	26.1	3.24	1070	0.41	0.04	0.08
B0051075		50.4	5.63	9.40	0.15	0.62	<0.01	0.017	0.03	1.4	24.0	2.94	1020	0.29	0.06	0.15
B0051076		56.2	3.85	6.66	0.12	0.65	<0.01	0.013	0.03	1.3	15.9	1.76	767	0.31	0.09	0.15
B0051077		61.8	4.99	8.10	0.13	0.69	<0.01	0.011	0.02	1.4	21.4	2.41	1000	0.34	0.07	0.17
B0051078		54.7	3.58	6.56	0.10	0.72	<0.01	0.011	0.02	1.5	13.2	1.57	714	0.39	0.08	0.14
B0051079		55.2	4.50	8.34	0.14	0.63	<0.01	0.010	0.02	1.5	18.4	2.17	776	0.47	0.09	0.17
B0051080		72.0	9.24	15.20	0.21	0.55	<0.01	0.015	0.01	1.1	42.3	4.85	1220	1.03	0.02	0.18

***** See Appendix Page for comments regarding this certificate *****

ALS Canada Ltd.
2103 Dollarton Hwy
North Vancouver BC V7H 0A7
Phone: +1 604 984 0221 Fax: +1 604 984 0218
www.alsglobal.com/geochemistry

To: ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED
1016-510 W HASTINGS ST
VANCOUVER BC V6B 1L8

Page: 2 - C
Total # Pages: 2 (A - D)
Plus Appendix Pages
Finalized Date: 8-SEP-2020
Account: F

Project: Hartless Joe

CERTIFICATE OF ANALYSIS WH20165982

Sample Description	Method	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41
	Analyte	Ni	P	Pb	Rb	Re	S	Sb	Sc	Se	Sn	Sr	Ta	Te	Th	Ti
	Units	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
	LOD	0.2	10	0.2	0.1	0.001	0.01	0.05	0.1	0.2	0.2	0.2	0.01	0.01	0.2	0.005
B0051041		2.6	380	5.4	5.6	<0.001	0.01	0.18	1.2	0.2	<0.2	36.2	<0.01	0.01	6.4	<0.005
B0051042		5.1	400	5.3	5.5	<0.001	0.05	0.26	1.6	0.3	<0.2	94.6	<0.01	<0.01	5.3	0.008
B0051043		20.3	450	5.8	5.0	<0.001	0.05	0.26	4.7	0.4	<0.2	97.5	<0.01	0.01	5.7	<0.005
B0051044		117.5	940	4.4	4.3	<0.001	0.08	0.51	23.0	<0.2	0.4	372	<0.01	0.01	2.4	0.045
B0051045		14.5	440	12.0	5.2	<0.001	0.04	0.24	4.6	0.4	<0.2	62.8	<0.01	0.01	4.1	<0.005
B0051046		45.1	830	0.9	0.8	<0.001	0.01	0.15	27.1	<0.2	0.3	168.5	<0.01	<0.01	0.3	0.013
B0051047		41.4	790	0.8	0.5	<0.001	0.01	0.09	25.8	0.2	0.3	227	<0.01	0.01	0.2	0.011
B0051048		38.6	780	0.7	0.5	<0.001	0.01	0.10	23.2	<0.2	0.3	212	<0.01	<0.01	<0.2	0.010
B0051049		36.8	790	0.8	0.7	<0.001	0.02	0.17	23.6	<0.2	0.3	248	<0.01	0.01	<0.2	0.006
B0051050		36.9	820	1.2	0.8	0.002	0.06	0.30	29.0	<0.2	0.2	235	<0.01	0.01	0.2	0.006
B0051051		16.3	410	8.8	5.1	<0.001	0.02	0.37	7.0	<0.2	<0.2	142.5	<0.01	0.01	2.8	<0.005
B0051052		2.8	380	10.5	7.2	<0.001	0.01	0.15	1.5	<0.2	<0.2	71.2	<0.01	0.01	5.0	<0.005
B0051053		100.5	630	1.0	2.5	0.001	0.17	0.59	27.5	<0.2	0.2	126.5	<0.01	0.01	0.4	0.050
B0051054		103.5	580	0.2	10.2	<0.001	0.02	0.27	31.8	<0.2	0.4	108.5	<0.01	0.01	0.2	0.178
B0051055		102.0	510	<0.2	8.9	<0.001	0.02	0.24	32.5	0.3	0.7	99.8	<0.01	<0.01	<0.2	0.324
B0051056		113.5	600	0.2	9.7	<0.001	0.09	0.55	20.9	0.3	0.5	97.7	<0.01	0.02	0.2	0.388
B0051057		101.5	560	0.2	5.9	<0.001	0.13	1.07	21.7	0.3	0.5	95.6	0.01	<0.01	0.2	0.316
B0051058		106.0	510	<0.2	6.1	<0.001	0.08	0.36	27.3	<0.2	0.3	96.5	<0.01	0.01	<0.2	0.143
B0051059		336	620	8540	14.5	0.018	6.57	26.4	4.8	13.6	6.0	69.5	<0.01	0.67	2.3	0.057
B0051060		112.0	620	4.9	1.6	<0.001	0.16	0.39	29.5	0.2	<0.2	117.5	<0.01	0.01	<0.2	0.038
B0051061		105.0	630	2.0	2.1	<0.001	0.31	0.44	29.1	<0.2	0.3	121.5	<0.01	0.03	<0.2	0.035
B0051062		96.6	550	0.9	1.3	0.001	0.15	0.69	28.0	0.2	0.3	120.5	0.01	0.01	<0.2	0.197
B0051063		91.3	530	0.4	2.0	<0.001	0.08	0.44	21.4	<0.2	0.5	71.8	0.01	0.01	<0.2	0.481
B0051064		87.5	480	0.2	3.7	0.001	0.13	0.19	7.7	<0.2	0.4	48.5	0.01	<0.01	<0.2	0.433
B0051065		91.5	490	0.2	4.0	<0.001	0.13	0.21	8.8	<0.2	0.4	52.2	0.01	<0.01	<0.2	0.449
B0051066		80.8	490	0.2	1.5	<0.001	0.19	0.29	8.0	0.3	0.5	28.3	0.01	0.01	<0.2	0.413
B0051067		92.3	500	0.2	4.4	<0.001	0.07	0.24	10.0	0.2	0.5	36.2	0.01	0.02	<0.2	0.466
B0051068		16.1	620	32.3	10.8	0.005	1.10	0.39	7.3	1.2	0.7	58.9	<0.01	10.40	0.9	0.077
B0051069		102.5	630	0.6	8.9	0.001	0.07	0.32	32.1	<0.2	0.5	65.7	0.01	0.02	<0.2	0.341
B0051070		86.9	650	1.7	1.9	<0.001	0.23	0.34	25.9	0.2	0.2	111.5	<0.01	<0.01	<0.2	0.066
B0051072		1.0	60	0.3	0.3	<0.001	<0.01	<0.05	0.3	<0.2	<0.2	78.3	<0.01	<0.01	<0.2	<0.005
B0051073		107.0	610	0.8	6.4	0.001	0.20	2.32	27.8	<0.2	0.2	112.5	<0.01	<0.01	<0.2	0.081
B0051074		103.5	540	0.5	1.9	0.001	0.29	0.21	20.8	0.4	0.3	90.5	<0.01	0.02	<0.2	0.211
B0051075		85.1	480	<0.2	0.8	<0.001	0.11	0.20	7.9	<0.2	0.4	29.2	0.01	<0.01	<0.2	0.447
B0051076		78.6	490	<0.2	0.8	0.002	0.16	0.15	5.0	0.3	0.4	31.6	<0.01	0.02	<0.2	0.410
B0051077		91.6	510	<0.2	0.5	<0.001	0.12	0.09	5.5	<0.2	0.4	28.4	0.01	0.01	<0.2	0.441
B0051078		82.9	520	<0.2	0.5	0.001	0.21	0.06	4.5	0.4	0.4	34.4	0.01	0.01	<0.2	0.397
B0051079		86.6	540	0.5	0.6	<0.001	0.14	0.34	5.7	0.5	0.4	36.6	0.01	<0.01	<0.2	0.428
B0051080		130.0	610	<0.2	0.4	0.001	0.02	0.12	14.4	<0.2	0.6	50.7	0.01	0.01	<0.2	0.578

***** See Appendix Page for comments regarding this certificate *****

ALS Canada Ltd.
2103 Dollarton Hwy
North Vancouver BC V7H 0A7
Phone: +1 604 984 0221 Fax: +1 604 984 0218
www.alsglobal.com/geochemistry

To: ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED
1016-510 W HASTINGS ST
VANCOUVER BC V6B 1L8

Page: 2 - D
Total # Pages: 2 (A - D)
Plus Appendix Pages
Finalized Date: 8-SEP-2020
Account: F

Project: Hartless Joe

CERTIFICATE OF ANALYSIS WH20165982

Sample Description	Method	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	Au-ICP21
	Analyte	Tl	U	V	W	Y	Zn	Zr	Au
	Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
	LOD	0.02	0.05	1	0.05	0.05	2	0.5	0.001
B0051041		0.05	0.83	5	0.19	4.03	34	21.1	<0.001
B0051042		0.05	0.92	9	5.38	4.30	32	18.9	<0.001
B0051043		0.05	1.42	18	1.51	5.44	36	18.2	<0.001
B0051044		0.03	0.88	127	<0.05	16.90	70	18.4	<0.001
B0051045		0.04	0.90	35	0.08	5.46	45	15.1	<0.001
B0051046		<0.02	0.71	228	0.05	22.5	80	3.8	<0.001
B0051047		<0.02	0.40	225	<0.05	17.05	82	1.3	<0.001
B0051048		<0.02	0.40	219	<0.05	16.15	79	1.1	<0.001
B0051049		<0.02	1.10	211	<0.05	16.70	86	2.9	<0.001
B0051050		<0.02	0.26	230	0.09	23.0	89	0.8	<0.001
B0051051		0.05	0.50	53	0.13	5.99	55	7.4	<0.001
B0051052		0.06	0.84	8	0.07	3.42	38	12.2	<0.001
B0051053		0.03	0.09	200	0.45	11.90	83	2.4	0.003
B0051054		0.11	0.06	243	<0.05	12.55	83	6.5	<0.001
B0051055		0.11	<0.05	247	<0.05	16.80	91	12.9	<0.001
B0051056		0.11	0.10	224	<0.05	19.75	76	15.6	<0.001
B0051057		0.08	<0.05	208	<0.05	18.75	79	13.2	<0.001
B0051058		0.07	<0.05	211	<0.05	12.80	85	5.7	<0.001
B0051059		1.75	4.77	299	2.48	7.62	7780	3.8	1.395
B0051060		0.03	0.09	223	0.21	12.15	85	2.3	0.020
B0051061		0.03	<0.05	208	0.11	12.90	88	2.3	0.107
B0051062		0.03	0.08	208	0.10	17.05	71	8.5	<0.001
B0051063		0.03	0.12	200	0.10	19.35	66	17.8	<0.001
B0051064		0.05	0.07	121	0.21	15.30	53	13.9	<0.001
B0051065		0.05	0.07	125	0.23	16.25	56	16.2	0.002
B0051066		0.03	<0.05	109	0.08	15.45	54	15.3	<0.001
B0051067		0.06	0.10	144	0.11	16.95	62	17.5	<0.001
B0051068		0.25	0.39	73	0.81	7.61	105	10.0	9.77
B0051069		0.11	0.05	239	0.12	16.95	82	9.9	<0.001
B0051070		<0.02	<0.05	213	0.13	11.15	81	0.9	0.028
B0051072		<0.02	0.20	1	<0.05	2.35	2	<0.5	<0.001
B0051073		0.07	<0.05	219	1.15	13.45	84	2.0	0.040
B0051074		0.02	0.15	198	0.34	14.35	69	8.2	<0.001
B0051075		<0.02	0.33	129	0.29	13.35	55	19.4	<0.001
B0051076		<0.02	0.14	88	0.11	12.05	43	22.4	<0.001
B0051077		<0.02	0.14	98	0.10	13.75	53	22.9	<0.001
B0051078		<0.02	0.09	84	0.14	12.15	41	21.4	<0.001
B0051079		<0.02	0.10	100	0.37	12.70	52	22.9	<0.001
B0051080		<0.02	0.12	249	1.10	17.95	93	15.9	<0.001

***** See Appendix Page for comments regarding this certificate *****

ALS Canada Ltd.
2103 Dollarton Hwy
North Vancouver BC V7H 0A7
Phone: +1 604 984 0221 Fax: +1 604 984 0218
www.alsglobal.com/geochemistry

To: ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED
1016-510 W HASTINGS ST
VANCOUVER BC V6B 1L8

Page: Appendix 1
Total # Appendix Pages: 1
Finalized Date: 8-SEP-2020
Account: F

Project: Hartless Joe

CERTIFICATE OF ANALYSIS WH20165982

CERTIFICATE COMMENTS

ANALYTICAL COMMENTS

Applies to Method: Gold determinations by this method are semi-quantitative due to the small sample weight used (0.5g).
ME-MS41

LABORATORY ADDRESSES

Applies to Method: Processed at ALS Whitehorse located at 78 Mt. Sima Rd, Whitehorse, YT, Canada.

CRU-31	CRU-QC	LOG-21	PUL-31
PUL-QC	SPL-21	WEI-21	

Applies to Method: Processed at ALS Vancouver located at 2103 Dollarton Hwy, North Vancouver, BC, Canada.

Au-ICP21	ME-MS41

ALS Canada Ltd.
2103 Dollarton Hwy
North Vancouver BC V7H 0A7
Phone: +1 604 984 0221 Fax: +1 604 984 0218
www.alsglobal.com/geochemistry

To: ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED
1016-510 W HASTINGS ST
VANCOUVER BC V6B 1L8

Finalized Date: 8-SEP-2020
Account: F

CERTIFICATE WH20167390

Project: hartless Joe

This report is for 1 Drill Core sample submitted to our lab in Whitehorse, YT, Canada on 5-AUG-2020.

The following have access to data associated with this certificate:

HEATHER BURRELL STEVE ISRAEL LIZ SMITH	MATT DUMALA JACK MORTON	CRAIG DUNN SCOTT NEWMAN

SAMPLE PREPARATION

ALS CODE	DESCRIPTION
WEI-21	Received Sample Weight
LOG-21	Sample logging - ClientBarCode
CRU-QC	Crushing QC Test
PUL-QC	Pulverizing QC Test
CRU-32	Fine Crushing 90% <2mm
SPL-21	Split sample - riffle splitter
PUL-32	Pulverize 1000g to 85% < 75 um
BAG-01	Bulk Master for Storage

ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	INSTRUMENT
Au-ICP21	Au 30g FA ICP-AES Finish	ICP-AES
ME-MS41	Ultra Trace Aqua Regia ICP-MS	

This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

***** See Appendix Page for comments regarding this certificate *****

Signature:
Saa Traxler, General Manager, North Vancouver

ALS Canada Ltd.
2103 Dollarton Hwy
North Vancouver BC V7H 0A7
Phone: +1 604 984 0221 Fax: +1 604 984 0218
www.alsglobal.com/geochemistry

To: ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED
1016-510 W HASTINGS ST
VANCOUVER BC V6B 1L8

Page: 2 - A
Total # Pages: 2 (A - D)
Plus Appendix Pages
Finalized Date: 8-SEP-2020
Account: F

Project: hartless Joe

CERTIFICATE OF ANALYSIS WH20167390

Sample Description	Method Analyte Units LOD	WEI-21 Recvd Wt. kg 0.02	ME-MS41 Ag ppm 0.01	ME-MS41 Al % 0.01	ME-MS41 As ppm 0.1	ME-MS41 Au ppm 0.02	ME-MS41 B ppm 10	ME-MS41 Ba ppm 10	ME-MS41 Be ppm 0.05	ME-MS41 Bi ppm 0.01	ME-MS41 Ca % 0.01	ME-MS41 Cd ppm 0.01	ME-MS41 Ce ppm 0.02	ME-MS41 Co ppm 0.1	ME-MS41 Cr ppm 1	ME-MS41 Cs ppm 0.05
B0051112		3.23	2.23	2.89	1535	1.61	<10	30	0.33	0.02	6.93	1.21	5.32	36.1	142	6.95

***** See Appendix Page for comments regarding this certificate *****

ALS Canada Ltd.
2103 Dollarton Hwy
North Vancouver BC V7H 0A7
Phone: +1 604 984 0221 Fax: +1 604 984 0218
www.alsglobal.com/geochemistry

To: ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED
1016-510 W HASTINGS ST
VANCOUVER BC V6B 1L8

Project: hartless Joe

CERTIFICATE OF ANALYSIS WH20167390

Sample Description	Method	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41
	Analyte	Cu	Fe	Ga	Ce	Hf	Hg	In	K	La	Li	Mg	Mn	Mo	Na	Nb
	Units	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	ppm
	LOD	0.2	0.01	0.05	0.05	0.02	0.01	0.005	0.01	0.2	0.1	0.01	5	0.05	0.01	0.05
B0051112		56.6	6.03	8.99	0.10	0.06	<0.01	0.051	0.62	1.8	30.3	2.75	966	0.74	0.01	<0.05

***** See Appendix Page for comments regarding this certificate *****

ALS Canada Ltd.
2103 Dollarton Hwy
North Vancouver BC V7H 0A7
Phone: +1 604 984 0221 Fax: +1 604 984 0218
www.alsglobal.com/geochemistry

To: ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED
1016-510 W HASTINGS ST
VANCOUVER BC V6B 1L8

Page: 2 - C
Total # Pages: 2 (A - D)
Plus Appendix Pages
Finalized Date: 8-SEP-2020
Account: F

Project: hartless Joe

CERTIFICATE OF ANALYSIS WH20167390

Sample Description	Method	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41
	Analyte	Ni	P	Pb	Rb	Re	S	Sb	Sc	Se	Sn	Sr	Ta	Te	Th	Ti
	Units	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
	LOD	0.2	10	0.2	0.1	0.001	0.01	0.05	0.1	0.2	0.2	0.2	0.01	0.01	0.2	0.005
B0051112		97.3	560	15.3	19.4	0.001	1.18	2.00	19.0	0.9	0.2	192.5	<0.01	0.03	<0.2	0.079

***** See Appendix Page for comments regarding this certificate *****

ALS Canada Ltd.
2103 Dollarton Hwy
North Vancouver BC V7H 0A7
Phone: +1 604 984 0221 Fax: +1 604 984 0218
www.alsglobal.com/geochemistry

To: ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED
1016-510 W HASTINGS ST
VANCOUVER BC V6B 1L8

Page: 2 - D
Total # Pages: 2 (A - D)
Plus Appendix Pages
Finalized Date: 8-SEP-2020
Account: F

Project: hartless Joe

CERTIFICATE OF ANALYSIS WH20167390

Sample Description	Method	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	Au-ICP21
	Analyte	Tl	U	V	W	Y	Zn	Zr	Au
	Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
	LOD	0.02	0.05	1	0.05	0.05	2	0.5	0.001
B0051112		0.21	<0.05	143	2.52	10.55	148	1.2	1.565

***** See Appendix Page for comments regarding this certificate *****

ALS Canada Ltd.
2103 Dollarton Hwy
North Vancouver BC V7H 0A7
Phone: +1 604 984 0221 Fax: +1 604 984 0218
www.alsglobal.com/geochemistry

To: ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED
1016-510 W HASTINGS ST
VANCOUVER BC V6B 1L8

Page: Appendix 1
Total # Appendix Pages: 1
Finalized Date: 8-SEP-2020
Account: F

Project: hartless Joe

CERTIFICATE OF ANALYSIS WH20167390

CERTIFICATE COMMENTS

ANALYTICAL COMMENTS

Applies to Method: Gold determinations by this method are semi-quantitative due to the small sample weight used (0.5g).
ME-MS41

LABORATORY ADDRESSES

Applies to Method: Processed at ALS Whitehorse located at 78 Mt. Sima Rd, Whitehorse, YT, Canada.

BAG-01	CRU-32	CRU-QC	LOG-21
PUL-32	PUL-QC	SPL-21	WEI-21

Applies to Method: Processed at ALS Vancouver located at 2103 Dollarton Hwy, North Vancouver, BC, Canada.

Au-ICP21	ME-MS41

ALS Canada Ltd.
2103 Dollarton Hwy
North Vancouver BC V7H 0A7
Phone: +1 604 984 0221 Fax: +1 604 984 0218
www.alsglobal.com/geochemistry

To: ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED
1016-510 W HASTINGS ST
VANCOUVER BC V6B 1L8

Page: 1
Total # Pages: 2 (A - D)
Plus Appendix Pages
Finalized Date: 8-SEP-2020
Account: F

CERTIFICATE WH20167387

Project: Hartless Joe
P.O. No.: BATCH 3
This report is for 39 Drill Core samples submitted to our lab in Whitehorse, YT, Canada on 5-AUG-2020.
The following have access to data associated with this certificate:

HEATHER BURRELL STEVE ISRAEL LIZ SMITH	MATT DUMALA JACK MORTON	CRAIG DUNN SCOTT NEWMAN

SAMPLE PREPARATION

ALS CODE	DESCRIPTION
WEI-21	Received Sample Weight
LOG-21	Sample logging - ClientBarCode
CRU-QC	Crushing QC Test
PUL-QC	Pulverizing QC Test
CRU-31	Fine crushing - 70% <2mm
SPL-21	Split sample - riffle splitter
PUL-31	Pulverize up to 250g 85% <75 um
LOG-23	Pulp Login - Rcvd with Barcode
LOG-21d	Sample logging - ClientBarCode Dup
SPL-21d	Split sample - duplicate
PUL-31d	Pulverize Split - duplicate

ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	INSTRUMENT
Au-ICP21	Au 30g FA ICP-AES Finish	ICP-AES
ME-MS41	Ultra Trace Aqua Regia ICP-MS	

This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.
***** See Appendix Page for comments regarding this certificate *****

Signature:
Saa Traxler, General Manager, North Vancouver

ALS Canada Ltd.
2103 Dollarton Hwy
North Vancouver BC V7H 0A7
Phone: +1 604 984 0221 Fax: +1 604 984 0218
www.alsglobal.com/geochemistry

To: ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED
1016-510 W HASTINGS ST
VANCOUVER BC V6B 1L8

Project: Hartless Joe

CERTIFICATE OF ANALYSIS WH20167387

Sample Description	Method Analyte Units LOD	WEI-21 Recvd Wt. kg 0.02	ME-MS41 Ag ppm 0.01	ME-MS41 Al % 0.01	ME-MS41 As ppm 0.1	ME-MS41 Au ppm 0.02	ME-MS41 B ppm 10	ME-MS41 Ba ppm 10	ME-MS41 Be ppm 0.05	ME-MS41 Bi ppm 0.01	ME-MS41 Ca % 0.01	ME-MS41 Cd ppm 0.01	ME-MS41 Ce ppm 0.02	ME-MS41 Co ppm 0.1	ME-MS41 Cr ppm 1	ME-MS41 Cs ppm 0.05
B0051081		8.81	0.03	3.24	6.2	<0.02	<10	<10	0.11	0.01	4.34	0.08	3.52	31.1	152	0.65
B0051082		8.11	0.03	2.53	4.1	<0.02	<10	<10	0.10	0.02	4.77	0.05	3.69	28.5	120	0.60
B0051083		9.25	0.02	2.79	2.5	<0.02	<10	10	0.10	0.01	4.83	0.06	3.66	28.6	117	0.59
B0051084		8.56	0.03	2.92	3.0	<0.02	<10	10	0.14	0.01	3.98	0.10	4.49	28.0	130	0.89
B0051085		8.32	0.03	2.68	1.6	<0.02	<10	30	0.25	0.01	5.08	0.13	6.48	31.4	160	5.79
B0051086		8.59	0.02	2.60	0.7	<0.02	<10	10	0.18	0.01	2.99	0.13	3.73	26.2	140	0.49
B0051087		8.05	0.03	2.60	1.1	<0.02	<10	10	0.15	0.01	2.83	0.14	4.06	26.5	143	0.65
B0051088		0.06	18.45	1.86	16.9	9.42	<10	100	0.35	0.22	1.28	3.32	18.00	19.8	26	1.81
B0051089		8.19	0.05	3.54	1.1	<0.02	<10	10	0.20	0.02	2.71	0.14	3.79	31.0	148	0.89
B0051090		8.03	0.03	3.50	1.3	<0.02	<10	10	0.25	0.01	3.33	0.11	4.71	28.8	155	2.02
B0051091		8.03	0.03	2.27	0.9	<0.02	<10	10	0.15	0.01	3.01	0.11	4.24	26.8	132	0.82
B0051092		4.33	0.04	3.02	1.7	<0.02	<10	10	0.15	0.01	4.90	0.11	5.07	23.9	105	0.94
B0051093		2.07	10.75	2.60	93.3	0.02	<10	30	0.34	0.04	4.93	0.15	6.79	28.7	126	1.34
B0051094		6.81	2.38	3.81	62.8	<0.02	<10	<10	0.30	0.01	5.02	0.12	7.20	38.4	216	1.29
B0051095		7.87	0.31	4.35	14.1	<0.02	<10	10	0.35	0.01	5.21	0.14	7.08	41.6	237	3.99
B0051096		7.89	0.10	4.27	2.2	<0.02	<10	30	0.37	0.01	4.41	0.10	8.85	38.3	252	7.26
B0051097		8.00	0.27	4.37	4.8	<0.02	<10	20	0.31	0.01	4.85	0.09	8.13	41.7	244	6.93
B0051098		8.55	0.31	4.09	9.4	<0.02	<10	10	0.28	0.01	5.63	0.11	8.11	39.0	224	4.48
B0051099		4.27	0.30	3.80	10.0	<0.02	<10	10	0.28	0.01	5.49	0.10	7.71	38.5	223	4.28
B0051100		4.57	0.60	3.84	40.2	<0.02	<10	10	0.22	0.01	6.36	0.12	5.81	36.1	190	2.26
B0051101		1.71	0.53	0.93	199.0	<0.02	10	30	0.29	0.02	5.93	0.26	6.02	33.7	71	15.30
B0051102		5.70	0.21	4.05	30.2	<0.02	<10	10	0.21	0.01	5.94	0.14	7.59	38.9	218	2.96
B0051103		<0.02	0.19	4.04	28.9	<0.02	<10	10	0.21	0.01	6.00	0.14	7.37	37.9	218	2.90
B0051104		7.81	0.04	3.30	2.9	<0.02	<10	20	0.21	0.01	5.69	0.15	7.29	37.2	212	4.82
B0051105		8.29	0.02	2.62	1.8	<0.02	<10	10	0.14	0.01	4.52	0.11	6.65	30.7	169	2.79
B0051106		8.57	0.02	3.14	1.6	<0.02	<10	10	0.15	0.01	2.14	0.09	4.73	27.9	152	1.44
B0051107		8.02	0.02	2.56	2.8	<0.02	<10	10	0.14	0.01	2.49	0.09	4.72	27.8	148	1.37
B0051108		8.22	0.03	3.52	5.0	<0.02	<10	30	0.20	0.01	4.57	0.09	5.36	34.8	216	4.55
B0051109		8.22	0.24	3.94	55.8	<0.02	<10	10	0.20	0.06	6.54	0.13	6.58	38.0	219	2.66
B0051110		0.26	31.2	4.50	147.5	0.79	<10	50	0.27	9.95	4.50	35.0	12.75	91.2	54	1.01
B0051111		3.61	0.28	3.71	66.8	<0.02	<10	10	0.23	0.02	6.46	0.13	6.32	38.9	214	1.81
B0051113		5.31	0.01	0.03	0.8	<0.02	<10	10	<0.05	0.02	>25.0	0.01	0.89	1.3	1	<0.05
B0051114		5.58	0.44	3.72	86.6	<0.02	<10	20	0.27	0.01	7.08	0.15	6.54	39.0	202	6.19
B0051115		8.40	0.29	4.15	127.5	0.03	<10	20	0.28	0.01	6.39	0.11	5.50	34.0	188	2.00
B0051116		7.83	0.16	4.41	38.8	<0.02	<10	<10	0.32	0.01	6.42	0.13	5.67	38.9	229	1.12
B0051117		8.50	0.07	3.00	14.0	<0.02	<10	10	0.21	0.01	6.61	0.13	4.71	35.2	185	2.61
B0051118		7.78	0.06	2.71	6.1	<0.02	<10	<10	0.14	0.01	4.43	0.11	4.02	29.7	150	0.68
B0051119		4.08	0.02	2.38	2.0	<0.02	<10	<10	0.08	0.01	4.54	0.08	4.40	28.2	109	0.63
B0051120		8.25	0.03	2.38	2.1	<0.02	<10	<10	0.10	0.01	3.77	0.11	3.96	28.2	125	0.64

***** See Appendix Page for comments regarding this certificate *****

ALS Canada Ltd.
2103 Dollarton Hwy
North Vancouver BC V7H 0A7
Phone: +1 604 984 0221 Fax: +1 604 984 0218
www.alsglobal.com/geochemistry

To: ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED
1016-510 W HASTINGS ST
VANCOUVER BC V6B 1L8

Page: 2 - B
Total # Pages: 2 (A - D)
Plus Appendix Pages
Finalized Date: 8-SEP-2020
Account: F

Project: Hartless Joe

CERTIFICATE OF ANALYSIS WH20167387

Sample Description	Method	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41
	Analyte	Cu	Fe	Ga	Ce	Hf	Hg	In	K	La	Li	Mg	Mn	Mo	Na	Nb
	Units	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	ppm
	LOD	0.2	0.01	0.05	0.05	0.02	0.01	0.005	0.01	0.2	0.1	0.01	5	0.05	0.01	0.05
B0051081		49.6	5.51	9.08	0.12	0.63	<0.01	0.012	0.01	1.2	21.7	2.85	740	1.12	0.06	0.13
B0051082		52.9	4.48	7.57	0.12	0.65	<0.01	0.011	0.01	1.3	18.7	2.10	689	0.50	0.07	0.16
B0051083		62.3	5.11	8.01	0.11	0.69	<0.01	0.006	0.01	1.2	20.1	2.30	874	0.86	0.06	0.16
B0051084		57.1	4.99	8.08	0.12	0.75	<0.01	0.015	0.02	1.6	21.9	2.45	862	0.44	0.07	0.14
B0051085		54.3	5.37	8.72	0.12	0.54	<0.01	0.034	0.07	2.2	20.4	2.65	887	0.17	0.05	0.05
B0051086		50.7	4.64	8.01	0.19	0.67	<0.01	0.013	0.02	1.2	21.6	2.43	755	0.16	0.06	0.15
B0051087		53.6	4.61	7.70	0.17	0.58	0.01	0.013	0.03	1.3	20.1	2.31	716	0.16	0.07	0.16
B0051088		158.5	3.65	5.59	0.08	0.37	0.06	0.025	0.26	8.1	21.4	0.94	794	24.9	0.06	0.06
B0051089		59.8	6.42	10.65	0.21	0.58	<0.01	0.013	0.03	1.3	22.2	3.42	883	0.21	0.05	0.15
B0051090		53.3	6.48	10.30	0.20	0.55	<0.01	0.024	0.03	1.6	19.5	3.56	808	0.15	0.05	0.13
B0051091		56.3	4.15	7.37	0.19	0.67	<0.01	0.017	0.03	1.4	12.8	1.97	669	0.17	0.08	0.17
B0051092		68.1	6.00	9.81	0.16	0.44	<0.01	0.020	0.02	1.8	20.5	2.81	914	0.21	0.05	0.15
B0051093		65.8	6.36	7.63	0.07	0.13	<0.01	0.048	0.17	2.6	20.5	2.93	918	7.71	0.03	0.05
B0051094		50.7	7.48	12.35	0.15	0.07	<0.01	0.062	0.05	2.5	29.5	3.78	1020	0.30	0.05	<0.05
B0051095		86.4	8.16	15.10	0.23	0.11	<0.01	0.081	0.14	2.7	29.8	4.11	1020	0.23	0.06	<0.05
B0051096		57.7	8.15	13.80	0.24	0.31	<0.01	0.075	0.43	3.2	24.2	3.82	907	0.23	0.07	0.06
B0051097		61.6	8.95	14.25	0.23	0.33	<0.01	0.070	0.24	2.9	24.7	4.03	999	0.18	0.07	0.07
B0051098		57.0	8.07	13.65	0.15	0.10	<0.01	0.071	0.16	2.9	27.4	3.76	999	0.23	0.07	<0.05
B0051099		55.1	7.57	13.30	0.23	0.08	<0.01	0.065	0.17	2.7	28.0	3.54	978	0.52	0.07	0.06
B0051100		64.3	7.67	13.00	0.16	0.07	<0.01	0.064	0.07	2.0	28.7	3.58	932	0.91	0.03	<0.05
B0051101		34.5	5.42	2.95	0.06	<0.02	0.01	0.049	0.22	2.1	12.3	2.37	841	0.35	0.02	<0.05
B0051102		55.8	7.78	13.05	0.20	0.05	<0.01	0.061	0.06	2.7	29.8	3.81	1020	0.42	0.04	<0.05
B0051103		55.0	7.73	13.15	0.23	0.16	0.01	0.064	0.05	2.6	29.6	3.79	1020	0.42	0.03	0.12
B0051104		57.9	6.18	12.10	0.23	0.38	<0.01	0.051	0.19	2.5	21.7	3.00	1070	0.25	0.08	0.09
B0051105		53.1	5.05	10.55	0.26	0.63	<0.01	0.031	0.07	2.2	20.9	2.22	802	0.22	0.09	0.13
B0051106		56.9	6.00	12.30	0.28	0.57	0.01	0.021	0.04	1.5	26.1	2.63	708	0.25	0.08	0.15
B0051107		64.8	4.94	10.25	0.27	0.60	<0.01	0.018	0.06	1.5	19.9	2.04	598	0.19	0.08	0.16
B0051108		51.1	6.64	13.15	0.30	0.55	<0.01	0.041	0.27	1.7	20.3	3.13	932	0.19	0.06	0.14
B0051109		52.3	6.68	13.75	0.31	0.26	<0.01	0.063	0.14	2.2	27.5	3.64	1070	0.44	0.03	0.06
B0051110		6960	8.44	6.81	0.14	0.11	0.44	2.55	0.22	6.3	6.1	1.09	596	54.0	0.31	0.15
B0051111		50.1	6.45	13.95	0.22	0.07	<0.01	0.061	0.09	2.2	30.3	3.53	1040	0.30	0.05	0.05
B0051113		2.1	0.09	0.10	<0.05	<0.02	<0.01	<0.005	<0.01	1.1	0.7	0.54	89	<0.05	0.01	<0.05
B0051114		55.1	6.75	12.95	0.17	0.04	<0.01	0.063	0.36	2.4	32.1	3.69	981	0.43	0.03	<0.05
B0051115		44.5	6.99	12.85	0.12	0.07	<0.01	0.052	0.18	1.9	35.0	3.59	936	0.19	0.03	0.05
B0051116		51.0	7.47	15.45	0.26	0.46	<0.01	0.066	0.02	1.7	34.6	3.90	968	0.26	0.04	0.11
B0051117		54.5	5.35	12.40	0.19	0.58	<0.01	0.037	0.12	1.5	23.7	2.67	921	0.34	0.06	0.14
B0051118		58.1	4.80	9.41	0.15	0.73	<0.01	0.017	0.02	1.3	20.9	2.30	871	0.28	0.07	0.15
B0051119		53.1	4.09	8.05	0.15	0.64	<0.01	0.011	0.03	1.5	18.3	1.91	795	0.32	0.08	0.13
B0051120		69.7	4.14	7.40	0.19	0.74	<0.01	0.013	0.02	1.3	17.8	1.97	778	0.30	0.07	0.18

***** See Appendix Page for comments regarding this certificate *****

ALS Canada Ltd.
2103 Dollarton Hwy
North Vancouver BC V7H 0A7
Phone: +1 604 984 0221 Fax: +1 604 984 0218
www.alsglobal.com/geochemistry

To: ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED
1016-510 W HASTINGS ST
VANCOUVER BC V6B 1L8

Page: 2 - C
Total # Pages: 2 (A - D)
Plus Appendix Pages
Finalized Date: 8-SEP-2020
Account: F

Project: Hartless Joe

CERTIFICATE OF ANALYSIS WH20167387

Sample Description	Method	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41
	Analyte	Ni	P	Pb	Rb	Re	S	Sb	Sc	Se	Sn	Sr	Ta	Te	Th	Ti
	Units	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
	LOD	0.2	10	0.2	0.1	0.001	0.01	0.05	0.1	0.2	0.2	0.2	0.01	0.01	0.2	0.005
B0051081		91.1	520	<0.2	0.3	<0.001	0.09	0.06	6.9	<0.2	0.4	25.5	0.01	<0.01	<0.2	0.426
B0051082		83.0	480	0.2	0.3	0.002	0.26	0.07	6.3	<0.2	0.4	36.6	0.01	0.01	<0.2	0.387
B0051083		81.8	450	<0.2	0.4	0.001	0.23	0.07	5.9	<0.2	0.4	34.5	0.01	0.01	<0.2	0.431
B0051084		83.1	560	0.2	0.6	<0.001	0.13	0.10	6.8	<0.2	0.5	33.5	0.01	0.01	<0.2	0.468
B0051085		88.7	500	<0.2	2.8	<0.001	0.08	0.15	13.9	<0.2	0.7	70.2	<0.01	<0.01	<0.2	0.371
B0051086		79.1	460	<0.2	0.6	<0.001	0.04	0.14	6.6	<0.2	0.5	33.1	0.01	0.01	<0.2	0.595
B0051087		81.8	480	<0.2	0.9	<0.001	0.06	0.12	6.4	<0.2	0.5	32.0	0.01	0.01	<0.2	0.577
B0051088		16.2	640	34.4	11.2	0.002	1.11	0.39	7.5	1.3	0.8	59.7	<0.01	10.30	0.9	0.081
B0051089		94.7	430	<0.2	0.8	<0.001	0.06	0.12	8.1	0.4	0.5	29.5	0.01	0.03	<0.2	0.584
B0051090		87.8	420	0.2	1.1	<0.001	0.04	0.18	12.5	<0.2	0.5	42.5	<0.01	0.01	<0.2	0.499
B0051091		77.5	490	0.2	0.9	<0.001	0.08	0.17	6.6	0.2	0.5	33.1	<0.01	0.02	<0.2	0.553
B0051092		66.3	370	<0.2	0.6	0.002	0.35	0.13	9.1	1.5	0.4	42.6	<0.01	0.01	<0.2	0.346
B0051093		75.8	510	1.9	4.9	<0.001	0.56	1.23	18.9	0.3	0.2	186.0	<0.01	0.02	0.3	0.098
B0051094		102.5	560	0.6	1.7	0.002	0.12	0.61	32.4	<0.2	<0.2	151.5	<0.01	<0.01	<0.2	0.037
B0051095		110.5	540	0.3	4.5	0.001	0.15	0.37	33.0	0.6	0.3	128.0	<0.01	0.01	<0.2	0.086
B0051096		103.0	580	0.2	13.0	<0.001	0.11	0.41	34.9	0.2	0.6	87.8	0.01	<0.01	<0.2	0.255
B0051097		112.0	580	0.2	7.8	0.001	0.16	0.61	28.7	0.4	0.5	109.5	<0.01	0.01	<0.2	0.248
B0051098		108.5	520	0.2	5.3	0.002	0.10	0.35	30.2	0.2	0.2	109.5	<0.01	<0.01	<0.2	0.052
B0051099		109.5	570	2.1	5.6	0.001	0.13	0.55	30.2	0.4	0.2	109.0	<0.01	0.01	<0.2	0.049
B0051100		100.5	510	0.9	2.4	0.001	0.15	0.56	26.2	0.8	<0.2	118.0	<0.01	0.01	<0.2	0.015
B0051101		84.7	570	1.6	7.5	0.001	0.27	1.90	22.4	0.9	0.2	213	<0.01	0.01	<0.2	<0.005
B0051102		113.5	570	0.4	2.0	0.001	0.04	0.25	27.0	0.3	0.2	119.5	<0.01	0.01	<0.2	0.020
B0051103		112.5	570	0.4	2.6	0.001	0.04	0.31	29.4	0.3	0.2	118.5	0.01	0.01	<0.2	0.020
B0051104		109.5	570	0.4	5.6	0.001	0.08	0.20	21.8	0.3	0.4	78.4	0.01	<0.01	<0.2	0.265
B0051105		92.0	600	0.3	2.1	0.001	0.07	0.21	12.4	0.6	0.5	44.1	0.01	0.01	<0.2	0.427
B0051106		83.8	490	0.2	1.2	<0.001	0.07	0.15	8.9	0.3	0.5	23.3	0.01	0.01	<0.2	0.446
B0051107		81.2	580	0.4	1.7	0.002	0.11	0.18	7.4	0.5	0.6	23.8	0.01	0.01	<0.2	0.410
B0051108		96.3	570	0.4	7.8	0.002	0.13	0.21	16.7	0.5	0.5	44.9	0.01	<0.01	<0.2	0.455
B0051109		109.0	550	1.0	4.3	0.002	0.08	0.53	30.6	0.4	0.4	98.5	<0.01	0.01	<0.2	0.282
B0051110		345	640	8780	14.9	0.017	6.66	24.9	5.1	13.3	5.9	69.0	<0.01	0.64	2.1	0.053
B0051111		111.0	550	4.5	3.1	0.002	0.40	0.29	31.0	0.4	0.2	132.0	<0.01	<0.01	<0.2	0.112
B0051113		<0.2	60	1.0	0.1	<0.001	0.01	0.06	0.3	0.6	<0.2	81.7	<0.01	0.01	<0.2	<0.005
B0051114		107.5	540	1.4	12.3	0.001	0.19	0.34	30.9	0.5	0.3	145.0	<0.01	0.01	<0.2	0.103
B0051115		94.9	570	1.1	5.1	0.001	0.18	0.27	23.4	0.4	0.2	109.5	<0.01	0.01	<0.2	0.109
B0051116		109.0	550	0.7	0.7	0.001	0.10	0.18	31.4	0.3	0.4	68.7	0.01	0.01	<0.2	0.360
B0051117		98.7	530	0.5	4.1	0.001	0.12	0.13	12.2	0.4	0.5	57.1	0.01	0.01	<0.2	0.410
B0051118		87.1	520	0.4	0.6	0.002	0.12	0.10	7.0	0.5	0.5	30.8	0.01	0.01	<0.2	0.457
B0051119		88.1	500	0.3	0.9	0.001	0.20	0.08	4.5	0.3	0.4	42.2	<0.01	<0.01	<0.2	0.392
B0051120		85.4	490	0.3	0.5	0.001	0.15	0.07	5.8	0.4	0.6	29.1	0.01	0.01	<0.2	0.467

***** See Appendix Page for comments regarding this certificate *****

ALS Canada Ltd.
2103 Dollarton Hwy
North Vancouver BC V7H 0A7
Phone: +1 604 984 0221 Fax: +1 604 984 0218
www.alsglobal.com/geochemistry

To: ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED
1016-510 W HASTINGS ST
VANCOUVER BC V6B 1L8

Project: Hartless Joe

CERTIFICATE OF ANALYSIS WH20167387

Sample Description	Method / Analyte / Units / LOD	ME-MS41 Tl ppm 0.02	ME-MS41 U ppm 0.05	ME-MS41 V ppm 1	ME-MS41 W ppm 0.05	ME-MS41 Y ppm 0.05	ME-MS41 Zn ppm 2	ME-MS41 Zr ppm 0.5	Au-ICP21 Au ppm 0.001
B0051081		<0.02	0.07	123	0.35	12.45	60	19.8	0.002
B0051082		<0.02	0.06	93	0.32	11.65	46	19.9	<0.001
B0051083		<0.02	0.08	89	0.10	12.25	53	22.1	<0.001
B0051084		0.02	0.07	102	0.15	13.70	52	24.0	<0.001
B0051085		<0.02	0.07	149	0.13	17.90	59	12.7	<0.001
B0051086		<0.02	0.06	123	0.13	14.70	52	16.6	<0.001
B0051087		<0.02	0.09	126	0.08	14.20	51	16.7	<0.001
B0051088		0.28	0.41	76	0.74	7.56	106	10.3	9.79
B0051089		<0.02	0.12	134	0.11	12.85	64	15.1	<0.001
B0051090		<0.02	0.09	137	0.12	13.65	59	13.9	<0.001
B0051091		<0.02	0.08	114	0.05	14.10	47	19.6	<0.001
B0051092		<0.02	0.07	117	<0.05	11.65	55	12.1	<0.001
B0051093		0.04	0.06	120	16.15	13.00	78	3.3	0.019
B0051094		0.02	<0.05	218	0.37	11.50	79	2.2	<0.001
B0051095		0.05	<0.05	239	<0.05	10.30	90	3.1	<0.001
B0051096		0.13	<0.05	259	<0.05	14.00	86	9.9	<0.001
B0051097		0.10	<0.05	242	<0.05	16.10	90	9.1	<0.001
B0051098		0.07	<0.05	214	<0.05	10.90	85	1.9	<0.001
B0051099		0.06	<0.05	216	<0.05	11.40	86	2.2	<0.001
B0051100		0.02	<0.05	196	0.10	9.28	78	0.8	0.007
B0051101		0.05	<0.05	93	0.20	11.10	71	<0.5	0.008
B0051102		<0.02	0.05	235	<0.05	8.39	83	1.7	<0.001
B0051103		0.02	0.06	235	0.09	8.63	83	6.8	0.001
B0051104		0.06	0.12	213	<0.05	16.20	75	10.6	<0.001
B0051105		0.03	0.10	153	<0.05	18.60	62	17.4	<0.001
B0051106		0.02	<0.05	112	<0.05	15.65	65	17.2	<0.001
B0051107		0.03	0.06	108	<0.05	15.30	56	17.8	<0.001
B0051108		0.09	0.08	204	0.07	17.20	74	16.1	<0.001
B0051109		0.05	0.08	247	0.08	15.00	77	9.1	<0.001
B0051110		1.74	5.55	309	2.87	7.31	8240	3.5	1.505
B0051111		0.03	<0.05	249	0.30	13.95	84	1.8	0.001
B0051113		<0.02	0.11	1	0.05	2.06	2	<0.5	<0.001
B0051114		0.11	0.05	232	0.24	13.35	80	1.8	0.001
B0051115		0.05	<0.05	194	1.44	12.25	76	1.4	0.032
B0051116		<0.02	0.05	243	0.95	16.90	81	12.2	0.001
B0051117		0.04	0.08	172	0.58	16.50	63	18.5	<0.001
B0051118		<0.02	0.07	120	0.38	14.45	54	21.8	<0.001
B0051119		<0.02	0.05	89	0.14	12.35	49	22.1	<0.001
B0051120		<0.02	0.06	92	0.08	13.40	47	23.7	<0.001

***** See Appendix Page for comments regarding this certificate *****

ALS Canada Ltd.
2103 Dollarton Hwy
North Vancouver BC V7H 0A7
Phone: +1 604 984 0221 Fax: +1 604 984 0218
www.alsglobal.com/geochemistry

To: ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED
1016-510 W HASTINGS ST
VANCOUVER BC V6B 1L8

Page: Appendix 1
Total # Appendix Pages: 1
Finalized Date: 8-SEP-2020
Account: F

Project: Hartless Joe

CERTIFICATE OF ANALYSIS WH20167387

CERTIFICATE COMMENTS

ANALYTICAL COMMENTS

Applies to Method: Gold determinations by this method are semi-quantitative due to the small sample weight used (0.5g).
ME-MS41

LABORATORY ADDRESSES

Applies to Method: Processed at ALS Whitehorse located at 78 Mt. Sima Rd, Whitehorse, YT, Canada.

CRU-31	CRU-QC	LOG-21	LOG-21d
LOG-23	PUL-31	PUL-31d	PUL-QC
SPL-21	SPL-21d	WEI-21	

Applies to Method: Processed at ALS Vancouver located at 2103 Dollarton Hwy, North Vancouver, BC, Canada.

Au-ICP21	ME-MS41

ALS Canada Ltd.
2103 Dollarton Hwy
North Vancouver BC V7H 0A7
Phone: +1 604 984 0221 Fax: +1 604 984 0218
www.alsglobal.com/geochemistry

To: ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED
1016-510 W HASTINGS ST
VANCOUVER BC V6B 1L8

CERTIFICATE WH20180707

Project: HARTLESS JOE
P.O. No.: BATCH 4
This report is for 1 Drill Core sample submitted to our lab in Whitehorse, YT, Canada on 7-AUG-2020.
The following have access to data associated with this certificate:

HEATHER BURRELL STEVE ISRAEL LIZ SMITH	MATT DUMALA JACK MORTON	CRAIG DUNN SCOTT NEWMAN

SAMPLE PREPARATION

ALS CODE	DESCRIPTION
WEI-21	Received Sample Weight
LOG-21	Sample logging - ClientBarCode
CRU-QC	Crushing QC Test
PUL-QC	Pulverizing QC Test
CRU-32	Fine Crushing 90% <2mm
SPL-21	Split sample - riffle splitter
PUL-32	Pulverize 1000g to 85% < 75 um
BAG-01	Bulk Master for Storage

ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	INSTRUMENT
Au-ICP21	Au 30g FA ICP-AES Finish	ICP-AES
ME-MS41	Ultra Trace Aqua Regia ICP-MS	

This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

***** See Appendix Page for comments regarding this certificate *****

Signature:
Saa Traxler, General Manager, North Vancouver

ALS Canada Ltd.
2103 Dollarton Hwy
North Vancouver BC V7H 0A7
Phone: +1 604 984 0221 Fax: +1 604 984 0218
www.alsglobal.com/geochemistry

To: ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED
1016-510 W HASTINGS ST
VANCOUVER BC V6B 1L8

Page: 2 - A
Total # Pages: 2 (A - D)
Plus Appendix Pages
Finalized Date: 10-SEP-2020
Account: F

Project: HARTLESS JOE

CERTIFICATE OF ANALYSIS WH20180707

Sample Description	Method Analyte Units LOD	WEI-21 Recvd Wt. kg 0.02	ME-MS41 Ag ppm 0.01	ME-MS41 Al % 0.01	ME-MS41 As ppm 0.1	ME-MS41 Au ppm 0.02	ME-MS41 B ppm 10	ME-MS41 Ba ppm 10	ME-MS41 Be ppm 0.05	ME-MS41 Bi ppm 0.01	ME-MS41 Ca % 0.01	ME-MS41 Cd ppm 0.01	ME-MS41 Ce ppm 0.02	ME-MS41 Co ppm 0.1	ME-MS41 Cr ppm 1	ME-MS41 Cs ppm 0.05
80051158		1.17	7.82	2.13	7410	9.22	<10	20	0.36	0.02	4.94	5.59	4.11	23.3	109	7.70

***** See Appendix Page for comments regarding this certificate *****

ALS Canada Ltd.
2103 Dollarton Hwy
North Vancouver BC V7H 0A7
Phone: +1 604 984 0221 Fax: +1 604 984 0218
www.alsglobal.com/geochemistry

To: ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED
1016-510 W HASTINGS ST
VANCOUVER BC V6B 1L8

Project: HARTLESS JOE

CERTIFICATE OF ANALYSIS WH20180707

Sample Description	Method Analyte Units LOD	ME-MS41 Cu ppm 0.2	ME-MS41 Fe % 0.01	ME-MS41 Ca ppm 0.05	ME-MS41 Ce ppm 0.05	ME-MS41 Hf ppm 0.02	ME-MS41 Hg ppm 0.01	ME-MS41 In ppm 0.005	ME-MS41 K % 0.01	ME-MS41 La ppm 0.2	ME-MS41 Li ppm 0.1	ME-MS41 Mg % 0.01	ME-MS41 Mn ppm 5	ME-MS41 Mo ppm 0.05	ME-MS41 Na % 0.01	ME-MS41 Nb ppm 0.05
B0051158		59.8	4.76	6.98	0.05	0.02	<0.01	0.068	0.76	1.5	19.8	1.97	769	2.43	0.01	<0.05

***** See Appendix Page for comments regarding this certificate *****

ALS Canada Ltd.
2103 Dollarton Hwy
North Vancouver BC V7H 0A7
Phone: +1 604 984 0221 Fax: +1 604 984 0218
www.alsglobal.com/geochemistry

To: ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED
1016-510 W HASTINGS ST
VANCOUVER BC V6B 1L8

Project: HARTLESS JOE

CERTIFICATE OF ANALYSIS WH20180707

Sample Description	Method	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41
	Analyte	Ni	P	Pb	Rb	Re	S	Sb	Sc	Se	Sn	Sr	Ta	Te	Th	Ti
	Units	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
	LOD	0.2	10	0.2	0.1	0.001	0.01	0.05	0.1	0.2	0.2	0.2	0.01	0.01	0.2	0.005
80051158		65.2	470	216	20.8	<0.001	1.37	6.67	14.1	1.0	0.2	124.5	<0.01	0.02	<0.2	0.079

***** See Appendix Page for comments regarding this certificate *****

ALS Canada Ltd.
2103 Dollarton Hwy
North Vancouver BC V7H 0A7
Phone: +1 604 984 0221 Fax: +1 604 984 0218
www.alsglobal.com/geochemistry

To: ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED
1016-510 W HASTINGS ST
VANCOUVER BC V6B 1L8

Page: 2 - D
Total # Pages: 2 (A - D)
Plus Appendix Pages
Finalized Date: 10-SEP-2020
Account: F

Project: HARTLESS JOE

CERTIFICATE OF ANALYSIS WH20180707

Sample Description	Method / Analyte / Units / LOD	ME-MS41 Tl ppm 0.02	ME-MS41 U ppm 0.05	ME-MS41 V ppm 1	ME-MS41 W ppm 0.05	ME-MS41 Y ppm 0.05	ME-MS41 Zn ppm 2	ME-MS41 Zr ppm 0.5	Au-ICP21 Au ppm 0.001
B0051158		0.24	<0.05	99	3.15	7.88	963	<0.5	9.74

***** See Appendix Page for comments regarding this certificate *****

ALS Canada Ltd.
2103 Dollarton Hwy
North Vancouver BC V7H 0A7
Phone: +1 604 984 0221 Fax: +1 604 984 0218
www.alsglobal.com/geochemistry

To: ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED
1016-510 W HASTINGS ST
VANCOUVER BC V6B 1L8

Page: Appendix 1
Total # Appendix Pages: 1
Finalized Date: 10-SEP-2020
Account: F

Project: HARTLESS JOE

CERTIFICATE OF ANALYSIS WH20180707

CERTIFICATE COMMENTS

ANALYTICAL COMMENTS

Applies to Method: Gold determinations by this method are semi-quantitative due to the small sample weight used (0.5g).
ME-MS41

LABORATORY ADDRESSES

Applies to Method: Processed at ALS Whitehorse located at 78 Mt. Sima Rd, Whitehorse, YT, Canada.

BAG-01	CRU-32	CRU-QC	LOG-21
PUL-32	PUL-QC	SPL-21	WEI-21

Applies to Method: Processed at ALS Vancouver located at 2103 Dollarton Hwy, North Vancouver, BC, Canada.

Au-ICP21	ME-MS41

ALS Canada Ltd.
2103 Dollarton Hwy
North Vancouver BC V7H 0A7
Phone: +1 604 984 0221 Fax: +1 604 984 0218
www.alsglobal.com/geochemistry

To: ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED
1016-510 W HASTINGS ST
VANCOUVER BC V6B 1L8

Page: 1
Total # Pages: 2 (A - D)
Plus Appendix Pages
Finalized Date: 10-SEP-2020
Account: F

CERTIFICATE WH20169431

Project: HARTLESS JOE
P.O. No.: BATCH 4
This report is for 39 Drill Core samples submitted to our lab in Whitehorse, YT, Canada on 7-AUG-2020.
The following have access to data associated with this certificate:

HEATHER BURRELL STEVE ISRAEL LIZ SMITH	MATT DUMALA JACK MORTON	CRAIG DUNN SCOTT NEWMAN

SAMPLE PREPARATION

ALS CODE	DESCRIPTION
WEI-21	Received Sample Weight
LOG-21	Sample logging - ClientBarCode
CRU-QC	Crushing QC Test
PUL-QC	Pulverizing QC Test
CRU-31	Fine crushing - 70% <2mm
SPL-21	Split sample - riffle splitter
PUL-31	Pulverize up to 250g 85% <75 um
LOG-23	Pulp Login - Rcvd with Barcode
LOG-21d	Sample logging - ClientBarCode Dup
SPL-21d	Split sample - duplicate
PUL-31d	Pulverize Split - duplicate

ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	INSTRUMENT
Au-ICP21	Au 30g FA ICP-AES Finish	ICP-AES
ME-MS41	Ultra Trace Aqua Regia ICP-MS	

This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.
***** See Appendix Page for comments regarding this certificate *****

Signature:
Saa Traxler, General Manager, North Vancouver

ALS Canada Ltd.
2103 Dollarton Hwy
North Vancouver BC V7H 0A7
Phone: +1 604 984 0221 Fax: +1 604 984 0218
www.alsglobal.com/geochemistry

To: ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED
1016-510 W HASTINGS ST
VANCOUVER BC V6B 1L8

Project: HARTLESS JOE

CERTIFICATE OF ANALYSIS WH20169431

Sample Description	Method	WEI-21	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41
	Analyte	Recvd Wt.	Ag	Al	As	Au	B	Ba	Be	Bi	Ca	Cd	Ce	Co	Cr	Cs
	Units	kg	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm
	LOD	0.02	0.01	0.01	0.1	0.02	10	10	0.05	0.01	0.01	0.01	0.02	0.1	1	0.05
B0051121		10.39	0.03	2.64	2.2	<0.02	<10	<10	0.11	0.01	2.78	0.10	3.57	26.0	128	0.53
B0051122		9.11	0.03	2.51	2.0	<0.02	<10	<10	0.11	0.02	2.87	0.07	3.04	25.9	121	0.55
B0051123		7.36	0.03	2.41	1.1	<0.02	<10	<10	0.15	0.01	3.19	0.11	3.13	26.5	114	0.55
B0051124		8.49	0.03	2.01	1.6	<0.02	<10	<10	0.13	0.01	2.79	0.07	3.32	25.0	131	0.53
B0051125		<0.02	0.04	2.04	2.0	<0.02	<10	<10	0.15	0.01	2.99	0.09	3.68	26.7	135	0.54
B0051126		7.86	0.05	2.45	2.0	<0.02	<10	<10	0.20	0.01	4.15	0.07	4.41	28.9	141	0.76
B0051127		8.90	0.05	2.18	1.6	<0.02	<10	<10	0.17	0.01	3.44	0.08	3.52	27.0	127	0.61
B0051128		4.38	0.05	2.92	2.7	<0.02	<10	10	0.28	0.01	4.42	0.10	5.33	35.9	168	2.05
B0051129		3.29	0.07	3.91	2.7	<0.02	<10	10	0.37	0.01	5.73	0.10	7.53	35.6	209	2.42
B0051130		7.82	0.10	2.51	3.3	<0.02	<10	<10	0.28	0.01	4.06	0.10	4.11	27.7	147	0.54
B0051131		0.26	32.6	4.40	144.5	1.58	<10	30	0.28	9.81	4.40	35.2	11.40	91.7	54	0.99
B0051132		8.62	0.13	2.38	1.7	<0.02	<10	<10	0.30	0.01	3.71	0.11	3.93	30.6	145	0.20
B0051133		9.17	0.09	2.67	3.1	<0.02	<10	10	0.30	0.01	3.44	0.11	3.62	29.0	149	0.35
B0051134		8.77	0.07	2.08	1.1	<0.02	<10	<10	0.22	<0.01	3.67	0.07	3.38	24.3	111	0.29
B0051135		9.26	0.03	2.05	1.1	<0.02	<10	<10	0.20	0.01	3.01	0.09	3.71	27.8	119	0.41
B0051136		8.69	0.02	2.07	0.6	<0.02	<10	<10	0.16	0.01	3.12	0.08	3.64	24.6	125	0.75
B0051137		8.69	0.03	2.37	1.4	<0.02	<10	<10	0.17	0.01	2.59	0.08	2.96	26.6	127	0.53
B0051138		8.12	0.03	2.12	2.2	<0.02	<10	<10	0.19	<0.01	2.28	0.07	3.15	27.4	121	0.50
B0051139		5.03	0.03	2.10	2.0	<0.02	<10	<10	0.20	<0.01	2.47	0.06	3.60	26.3	122	0.44
B0051140		8.79	0.04	1.98	2.2	<0.02	<10	<10	0.16	<0.01	2.64	0.10	3.37	27.6	117	0.47
B0051141		5.66	4.60	2.31	100.0	<0.02	<10	20	0.36	0.01	5.31	0.18	8.54	34.9	130	1.43
B0051142		10.96	0.65	3.69	49.2	<0.02	<10	<10	0.35	0.01	5.16	0.11	6.60	37.2	224	1.66
B0051143		12.34	0.13	4.40	5.8	<0.02	<10	20	0.44	0.01	4.93	0.11	7.12	40.5	251	5.26
B0051144		12.01	0.07	4.27	1.6	<0.02	<10	30	0.30	0.01	5.42	0.10	8.63	39.7	254	7.74
B0051145		10.67	0.54	3.86	8.1	<0.02	<10	20	0.32	0.01	5.03	0.09	7.94	37.7	229	5.84
B0051146		3.99	0.99	2.63	29.0	<0.02	<10	10	0.25	0.01	6.08	0.14	6.55	37.5	186	3.17
B0051147		8.92	0.60	4.47	19.8	<0.02	<10	10	0.27	0.01	5.98	0.11	6.98	38.3	224	2.77
B0051148		3.78	0.80	2.91	91.9	<0.02	<10	10	0.28	0.01	4.94	0.17	7.36	41.2	201	5.64
B0051149		8.81	0.17	3.89	20.6	<0.02	<10	10	0.24	0.01	7.77	0.14	7.94	39.4	220	4.35
B0051150		9.91	0.03	3.58	1.5	<0.02	<10	20	0.27	0.01	5.05	0.12	7.46	37.4	216	5.07
B0051151		0.06	20.9	1.83	17.7	9.86	<10	100	0.41	0.21	1.28	3.26	16.85	20.1	26	1.75
B0051152		8.76	0.04	2.41	2.6	<0.02	<10	10	0.14	0.01	3.24	0.09	5.36	27.7	152	1.96
B0051153		8.42	0.02	2.53	1.0	<0.02	<10	10	0.11	0.01	2.99	0.11	4.40	24.5	146	1.74
B0051154		8.44	0.02	2.99	1.6	<0.02	<10	10	0.18	0.01	2.50	0.10	4.69	28.2	176	2.15
B0051155		8.11	0.07	4.15	19.2	<0.02	<10	30	0.25	0.01	5.37	0.10	6.92	37.5	244	5.59
B0051156		8.07	0.53	3.98	179.0	0.02	<10	10	0.25	0.01	6.24	0.17	5.08	40.5	225	3.21
B0051157		2.68	2.04	3.82	1330	0.52	<10	30	0.29	0.01	9.41	0.19	4.55	36.5	159	10.25
B0051159		4.59	<0.01	0.04	1.3	<0.02	<10	10	<0.05	0.02	>25.0	0.02	1.12	0.9	1	<0.05
B0051160		1.83	1.89	3.61	90.8	0.94	<10	20	0.34	0.01	6.83	0.25	5.76	42.1	172	4.60

***** See Appendix Page for comments regarding this certificate *****

ALS Canada Ltd.
2103 Dollarton Hwy
North Vancouver BC V7H 0A7
Phone: +1 604 984 0221 Fax: +1 604 984 0218
www.alsglobal.com/geochemistry

To: ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED
1016-510 W HASTINGS ST
VANCOUVER BC V6B 1L8

Project: HARTLESS JOE

CERTIFICATE OF ANALYSIS WH20169431

Sample Description	Method	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41
	Analyte	Cu	Fe	Ca	Ce	Hf	Hg	In	K	La	Li	Mg	Mn	Mo	Na	Nb
	Units	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	ppm
	LOD	0.2	0.01	0.05	0.05	0.02	0.01	0.005	0.01	0.2	0.1	0.01	5	0.05	0.01	0.05
B0051121		53.0	4.42	6.63	0.13	0.70	<0.01	0.010	0.01	1.2	18.2	2.16	790	0.24	0.05	0.15
B0051122		49.0	4.31	6.82	0.12	0.63	<0.01	0.012	0.01	1.1	19.4	2.12	750	0.45	0.06	0.14
B0051123		64.3	4.10	6.19	0.13	0.69	<0.01	0.012	0.02	1.2	18.8	2.02	715	0.29	0.06	0.14
B0051124		57.3	3.55	6.26	0.12	0.66	0.01	0.014	0.01	1.2	14.4	1.68	590	0.26	0.05	0.10
B0051125		61.1	3.62	6.76	0.13	0.72	<0.01	0.014	0.01	1.3	14.9	1.69	606	0.30	0.06	0.12
B0051126		52.3	4.36	7.84	0.11	0.66	<0.01	0.022	0.02	1.7	19.7	2.17	746	0.42	0.04	0.07
B0051127		54.5	3.77	6.27	0.11	0.62	<0.01	0.014	0.01	1.4	16.0	1.85	659	0.26	0.05	0.09
B0051128		62.9	5.66	9.50	0.13	0.76	<0.01	0.031	0.01	2.1	28.6	2.65	894	0.30	0.04	0.07
B0051129		43.5	7.09	11.40	0.13	0.49	<0.01	0.043	0.02	2.8	33.4	3.59	1230	0.31	0.03	<0.05
B0051130		66.4	4.29	7.45	0.13	0.71	<0.01	0.021	0.01	1.6	18.2	2.04	790	0.34	0.05	0.09
B0051131		6730	8.23	6.51	0.11	0.10	0.43	2.61	0.21	6.7	6.5	1.07	583	49.5	0.30	0.12
B0051132		71.3	4.02	7.47	0.15	0.78	<0.01	0.016	0.01	1.6	17.3	1.88	740	0.33	0.05	0.13
B0051133		58.9	4.39	7.64	0.16	0.80	<0.01	0.016	0.01	1.3	18.8	2.13	778	0.39	0.05	0.14
B0051134		63.2	3.48	6.35	0.11	0.70	<0.01	0.016	0.01	1.3	14.4	1.63	631	0.29	0.06	0.12
B0051135		67.6	3.54	5.89	0.11	0.70	<0.01	0.014	0.01	1.4	14.0	1.57	616	0.39	0.06	0.16
B0051136		51.4	3.70	6.07	0.10	0.64	<0.01	0.015	0.02	1.4	14.8	1.75	616	0.54	0.06	0.11
B0051137		63.0	3.99	6.04	0.12	0.61	<0.01	0.013	0.01	1.1	14.8	1.86	683	0.33	0.06	0.13
B0051138		65.8	3.59	5.86	0.12	0.63	<0.01	0.011	0.01	1.2	13.7	1.65	584	0.34	0.06	0.13
B0051139		57.4	3.43	5.89	0.12	0.75	0.01	0.012	0.02	1.4	13.3	1.59	570	0.37	0.07	0.16
B0051140		73.7	3.37	5.90	0.11	0.64	<0.01	0.012	0.01	1.3	12.9	1.54	551	0.26	0.06	0.12
B0051141		47.4	5.91	8.03	0.06	0.07	<0.01	0.062	0.13	3.3	22.8	3.05	1060	0.47	0.03	<0.05
B0051142		48.4	7.01	12.90	0.23	0.03	<0.01	0.068	0.03	2.4	31.4	3.55	915	0.53	0.04	<0.05
B0051143		73.3	8.30	14.70	0.27	0.10	<0.01	0.083	0.21	2.8	33.2	4.16	1060	0.23	0.05	<0.05
B0051144		51.2	8.05	14.05	0.25	0.25	<0.01	0.072	0.44	3.3	26.4	3.91	1120	0.17	0.05	<0.05
B0051145		61.0	8.04	13.80	0.16	0.25	<0.01	0.071	0.28	3.1	24.7	3.63	973	0.19	0.09	<0.05
B0051146		61.0	6.53	9.23	0.09	0.02	<0.01	0.065	0.13	2.5	24.6	3.03	882	0.26	0.03	<0.05
B0051147		68.7	8.77	13.75	0.14	0.04	<0.01	0.076	0.07	2.8	35.3	4.20	928	0.25	0.03	<0.05
B0051148		49.0	6.60	9.66	0.07	<0.02	<0.01	0.069	0.12	2.7	27.5	3.22	787	0.32	0.03	<0.05
B0051149		50.5	7.30	12.70	0.16	0.05	<0.01	0.066	0.12	3.0	28.3	3.63	1170	0.82	0.03	<0.05
B0051150		50.3	6.85	12.10	0.21	0.37	<0.01	0.054	0.16	2.7	24.3	3.38	1070	0.28	0.06	<0.05
B0051151		158.0	3.64	5.77	0.07	0.30	0.08	0.027	0.25	8.6	21.7	0.95	811	26.3	0.06	0.05
B0051152		57.9	4.60	8.99	0.20	0.54	<0.01	0.027	0.06	2.0	15.4	1.94	594	0.22	0.09	0.09
B0051153		55.1	4.76	8.96	0.18	0.48	<0.01	0.019	0.08	1.6	18.6	2.06	650	0.29	0.07	0.09
B0051154		58.6	5.79	9.84	0.22	0.59	<0.01	0.025	0.09	1.7	20.3	2.34	611	0.24	0.10	0.09
B0051155		50.2	7.71	13.00	0.27	0.34	<0.01	0.067	0.28	2.5	24.2	3.66	980	0.19	0.04	<0.05
B0051156		58.3	6.94	12.90	0.19	0.09	<0.01	0.074	0.19	1.9	31.4	3.64	1070	0.40	0.03	<0.05
B0051157		55.2	7.28	9.76	0.07	0.06	<0.01	0.058	0.96	1.7	34.9	3.45	1150	0.54	0.01	<0.05
B0051159		2.3	0.10	0.13	<0.05	0.03	<0.01	<0.005	0.01	1.1	0.9	0.84	96	<0.05	0.01	0.13
B0051160		56.2	6.94	10.00	0.06	0.02	<0.01	0.047	0.46	2.1	34.0	3.51	916	0.47	0.02	<0.05

***** See Appendix Page for comments regarding this certificate *****

ALS Canada Ltd.
2103 Dollarton Hwy
North Vancouver BC V7H 0A7
Phone: +1 604 984 0221 Fax: +1 604 984 0218
www.alsglobal.com/geochemistry

To: ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED
1016-510 W HASTINGS ST
VANCOUVER BC V6B 1L8

Project: HARTLESS JOE

CERTIFICATE OF ANALYSIS WH20169431

Sample Description	Method	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41
	Analyte	Ni	P	Pb	Rb	Re	S	Sb	Sc	Se	Sn	Sr	Ta	Te	Th	Ti
	Units	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
	LOD	0.2	10	0.2	0.1	0.001	0.01	0.05	0.1	0.2	0.2	0.2	0.01	0.01	0.2	0.005
B0051121		82.6	510	<0.2	0.3	<0.001	0.10	0.07	4.5	<0.2	0.5	24.5	<0.01	<0.01	<0.2	0.541
B0051122		78.4	490	0.4	0.3	<0.001	0.08	0.13	4.8	0.4	0.5	26.6	<0.01	<0.01	<0.2	0.466
B0051123		82.7	510	<0.2	0.3	<0.001	0.14	0.08	4.7	0.3	0.6	25.9	<0.01	0.01	<0.2	0.489
B0051124		81.3	500	<0.2	0.2	<0.001	0.10	0.09	5.2	0.3	0.6	21.3	<0.01	0.01	<0.2	0.425
B0051125		86.3	520	<0.2	0.3	<0.001	0.10	0.10	6.0	<0.2	0.6	23.4	<0.01	0.01	<0.2	0.470
B0051126		91.8	550	<0.2	0.6	0.001	0.14	0.32	8.8	0.5	0.4	38.1	<0.01	0.02	<0.2	0.398
B0051127		86.1	530	<0.2	0.3	<0.001	0.18	0.12	5.3	0.3	0.7	29.9	0.01	0.01	<0.2	0.419
B0051128		104.0	540	<0.2	0.3	0.001	0.18	0.26	16.7	0.4	0.5	45.8	<0.01	0.01	<0.2	0.457
B0051129		103.5	530	<0.2	0.9	0.001	0.06	0.10	22.1	<0.2	0.6	71.5	<0.01	<0.01	<0.2	0.340
B0051130		84.4	520	<0.2	0.4	<0.001	0.13	0.10	8.2	0.5	0.6	41.4	<0.01	0.01	<0.2	0.485
B0051131		333	640	8560	14.1	0.016	6.45	23.2	4.6	13.5	5.7	69.8	<0.01	0.71	2.0	0.048
B0051132		90.2	540	3.8	0.2	0.001	0.10	0.10	6.2	0.3	0.6	35.8	<0.01	0.01	<0.2	0.546
B0051133		85.0	550	0.7	0.2	<0.001	0.03	0.12	6.5	<0.2	0.6	31.0	<0.01	0.01	<0.2	0.613
B0051134		73.2	500	0.3	0.2	0.002	0.09	0.06	4.6	0.2	0.5	29.4	<0.01	0.01	<0.2	0.489
B0051135		86.0	560	0.2	0.3	0.002	0.15	0.08	4.9	<0.2	0.4	25.3	<0.01	0.01	<0.2	0.492
B0051136		78.0	530	0.2	0.3	<0.001	0.10	0.08	5.5	0.3	0.4	25.7	<0.01	<0.01	<0.2	0.468
B0051137		80.8	550	<0.2	0.3	0.001	0.10	0.07	4.5	0.2	0.4	28.9	<0.01	0.01	<0.2	0.491
B0051138		83.8	540	<0.2	0.3	<0.001	0.15	0.06	4.4	0.3	0.5	21.7	<0.01	0.01	<0.2	0.446
B0051139		80.9	580	<0.2	0.3	0.001	0.11	0.06	4.9	0.3	0.7	23.1	<0.01	<0.01	<0.2	0.514
B0051140		80.5	560	<0.2	0.2	<0.001	0.15	0.06	4.4	0.4	0.7	22.6	<0.01	0.01	<0.2	0.423
B0051141		88.5	730	1.0	3.9	<0.001	0.20	0.99	22.3	0.2	0.2	172.5	<0.01	0.01	0.4	0.031
B0051142		100.5	570	0.8	1.1	<0.001	0.17	0.45	30.6	0.5	0.2	132.0	<0.01	0.01	<0.2	0.046
B0051143		102.5	510	0.2	6.3	0.001	0.10	0.38	33.0	<0.2	0.3	108.5	<0.01	0.01	<0.2	0.123
B0051144		112.0	630	<0.2	13.1	<0.001	0.08	0.27	32.1	0.3	0.5	89.6	<0.01	0.01	<0.2	0.230
B0051145		105.0	590	0.2	8.2	<0.001	0.19	0.47	28.3	0.5	0.3	97.6	<0.01	<0.01	<0.2	0.184
B0051146		103.0	520	<0.2	3.9	<0.001	0.11	0.53	23.5	0.5	0.2	111.0	<0.01	0.01	<0.2	0.018
B0051147		105.0	500	0.3	2.5	0.001	0.06	0.45	27.8	0.5	<0.2	122.5	<0.01	<0.01	<0.2	0.022
B0051148		108.5	730	0.7	3.6	<0.001	0.16	1.01	28.9	0.4	<0.2	137.5	<0.01	0.01	<0.2	0.006
B0051149		115.5	540	0.3	3.6	0.001	0.03	0.15	25.1	<0.2	0.2	130.0	<0.01	0.01	<0.2	0.035
B0051150		108.5	590	<0.2	4.7	0.002	0.09	0.20	17.9	0.3	0.4	62.0	<0.01	0.01	<0.2	0.301
B0051151		16.7	650	33.4	11.3	0.003	1.12	0.35	7.8	1.7	0.8	62.0	<0.01	10.95	0.9	0.075
B0051152		85.1	570	<0.2	1.6	<0.001	0.11	0.20	8.7	0.2	0.6	36.2	<0.01	0.02	<0.2	0.384
B0051153		77.5	510	<0.2	2.0	<0.001	0.10	0.13	6.1	0.2	0.7	37.1	<0.01	0.01	<0.2	0.397
B0051154		85.9	500	<0.2	2.5	<0.001	0.15	0.22	9.0	0.3	0.6	24.7	<0.01	<0.01	<0.2	0.430
B0051155		102.0	610	<0.2	8.1	0.001	0.07	0.41	25.3	<0.2	0.4	70.3	<0.01	0.01	<0.2	0.310
B0051156		115.0	570	0.7	5.8	<0.001	0.27	0.35	30.4	0.3	0.4	111.0	<0.01	0.01	<0.2	0.168
B0051157		103.5	550	2.9	27.8	0.001	1.02	1.07	19.8	0.3	0.3	203	<0.01	0.01	<0.2	0.141
B0051159		1.3	70	0.9	0.3	<0.001	0.02	<0.05	0.3	0.4	<0.2	80.2	<0.01	<0.01	0.3	<0.005
B0051160		114.5	700	5.5	13.3	0.002	1.22	0.60	20.8	0.5	0.3	171.5	<0.01	0.01	<0.2	0.053

***** See Appendix Page for comments regarding this certificate *****

ALS Canada Ltd.
2103 Dollarton Hwy
North Vancouver BC V7H 0A7
Phone: +1 604 984 0221 Fax: +1 604 984 0218
www.alsglobal.com/geochemistry

To: ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED
1016-510 W HASTINGS ST
VANCOUVER BC V6B 1L8

Project: HARTLESS JOE

CERTIFICATE OF ANALYSIS WH20169431

Sample Description	Method	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	Au-ICP21
	Analyte	Tl	U	V	W	Y	Zn	Zr	Au
	Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
	LOD	0.02	0.05	1	0.05	0.05	2	0.5	0.001
B0051121		<0.02	0.06	95	0.11	12.65	50	20.9	0.001
B0051122		<0.02	0.05	87	0.09	12.35	50	20.4	<0.001
B0051123		<0.02	0.06	84	0.05	12.25	45	22.1	0.001
B0051124		<0.02	0.05	95	0.14	13.05	40	21.3	<0.001
B0051125		<0.02	0.06	101	0.16	14.85	40	24.9	<0.001
B0051126		<0.02	0.05	119	0.20	14.70	49	21.8	<0.001
B0051127		<0.02	<0.05	99	0.17	12.65	43	20.2	<0.001
B0051128		0.02	0.06	163	0.21	17.35	60	24.6	<0.001
B0051129		<0.02	0.08	204	0.32	20.6	71	15.0	<0.001
B0051130		<0.02	0.09	130	0.33	14.20	50	22.9	<0.001
B0051131		1.67	4.76	297	2.49	7.75	7880	3.4	1.415
B0051132		<0.02	0.11	122	0.29	14.45	51	25.8	<0.001
B0051133		<0.02	0.14	121	0.37	14.70	51	25.7	<0.001
B0051134		<0.02	0.09	98	0.23	13.10	42	22.9	<0.001
B0051135		<0.02	0.12	96	0.18	13.60	41	23.2	<0.001
B0051136		<0.02	0.07	96	0.12	12.45	43	18.7	<0.001
B0051137		<0.02	0.08	93	0.20	11.05	47	20.5	<0.001
B0051138		<0.02	0.11	91	0.24	11.95	41	20.3	0.003
B0051139		<0.02	0.13	97	0.25	13.70	40	24.6	0.001
B0051140		<0.02	0.10	89	0.18	12.45	42	20.3	<0.001
B0051141		0.04	0.08	137	0.28	14.60	76	1.9	0.010
B0051142		0.02	<0.05	232	<0.05	11.15	81	1.4	<0.001
B0051143		0.07	<0.05	246	<0.05	9.91	85	3.0	<0.001
B0051144		0.14	0.05	265	<0.05	14.50	87	7.1	<0.001
B0051145		0.09	<0.05	222	<0.05	15.40	86	7.3	0.001
B0051146		0.04	<0.05	169	<0.05	10.70	81	0.8	<0.001
B0051147		0.03	<0.05	202	<0.05	9.49	88	1.0	<0.001
B0051148		0.04	<0.05	208	0.18	10.85	84	0.5	0.002
B0051149		0.04	0.12	230	<0.05	11.45	75	1.4	<0.001
B0051150		0.07	0.14	205	<0.05	17.55	69	8.5	<0.001
B0051151		0.28	0.40	76	0.66	8.31	105	10.4	9.98
B0051152		0.03	0.05	124	<0.05	16.40	54	17.6	0.001
B0051153		0.03	<0.05	105	<0.05	14.75	53	15.1	<0.001
B0051154		0.04	<0.05	126	<0.05	15.70	62	17.9	<0.001
B0051155		0.09	<0.05	236	0.05	16.25	85	10.2	<0.001
B0051156		0.06	<0.05	245	0.31	14.55	76	2.7	0.033
B0051157		0.32	0.09	165	0.47	13.30	73	1.7	0.612
B0051159		<0.02	0.35	<1	<0.05	2.54	2	0.7	0.003
B0051160		0.16	<0.05	169	0.34	11.90	79	0.8	0.643

***** See Appendix Page for comments regarding this certificate *****

ALS Canada Ltd.
2103 Dollarton Hwy
North Vancouver BC V7H 0A7
Phone: +1 604 984 0221 Fax: +1 604 984 0218
www.alsglobal.com/geochemistry

To: ARCHER, CATHRO AND ASSOCIATES (1981) LIMITED
1016-510 W HASTINGS ST
VANCOUVER BC V6B 1L8

Page: Appendix 1
Total # Appendix Pages: 1
Finalized Date: 10-SEP-2020
Account: F

Project: HARTLESS JOE

CERTIFICATE OF ANALYSIS WH20169431

CERTIFICATE COMMENTS

ANALYTICAL COMMENTS

Applies to Method: Gold determinations by this method are semi-quantitative due to the small sample weight used (0.5g).
ME-MS41

LABORATORY ADDRESSES

Applies to Method: Processed at ALS Whitehorse located at 78 Mt. Sima Rd, Whitehorse, YT, Canada.

CRU-31	CRU-QC	LOG-21	LOG-21d
LOG-23	PUL-31	PUL-31d	PUL-QC
SPL-21	SPL-21d	WEI-21	

Applies to Method: Processed at ALS Vancouver located at 2103 Dollarton Hwy, North Vancouver, BC, Canada.

Au-ICP21	ME-MS41

Appendix III
Geological and Geotechnical Logs

Hole	Depth (From)	Depth (to)	Rock Type	Description	Alteration Type	Alteration Intensity
HJ-20-01A	0	8.84	OVB	Broken rubble and mud overburden; rubble comprising dark grey-green, fractured, calcareous basalt, cut by mm-scale qtz-carb veinlets and fractures filled w/ dark green chl.; gravel of pale green, plag+hbl porphyry andesite(?), with hbl altered to chlorite		
HJ-20-01A	8.84	9	MST	Medium grey, limey, pyritic, volcanic mudstone, with 1% v.f.g. pyrite disseminated throughout, cut by mm-scale calcite gashes and veinlets.		
HJ-20-01A	9	9.13	DYK	Pale grey, 'bleached', feldspar-porphyry andesite(?) dyke, w/ fuzzy grain boundaries and chl-after-hbl.	CHL	3I
HJ-20-01A	9.13	11	BAS	Dark green, calcareous, weakly magnetic, f.g. basalt w/ disseminated v.f.g. pyrrhotite throughout, cut by few mm-scale calcite veinlets.		
HJ-20-01A	11	11.1	DYK	Same as 9.00 - 9.13 m; most chl has been altered/weathered to orange oxide	CHL	3I
HJ-20-01A	11.1	14.36	BAS	Same as 9.13 - 11.00 m; hosting 1% ribbons and clots of v.f.g. pyrrhotite.		
HJ-20-01A	14.36	18.29	FLR	Pale green, chl + clay rich, variably calcareous, volcanic rubble and gouge.	CHL	4I
HJ-20-01A	18.29	21.55	BAS	Medium green, calcareous basalt, with f.g. masses of chl throughout, cut by numerous gashes of calcite, and w/ orange ox on fracture surfaces.	CLY	4I
HJ-20-01A	21.55	22.86	FLR	Chl + clay rich volcanic rubble and gouge, same as 14.36 - 18.29 m, w/ 10 cm wide section of maroon hem(?) weathering near the top of the interval.		
HJ-20-01A	22.86	34.32	BAS	Intensley fractured, pale green, calcareous, clast-supported, basalt breccia, with sub-rounded 'milled' volcanic clasts, trace dissemnated v.f.g. py, trace clots of pyrrhotite replacing chl, and a network of mm-scale fractures filled w/ f.g. chl; cut by m	CHL	4I

Hole	Depth (From)	Depth (to)	Rock Type	Description	Alteration Type	Alteration Intensity
HJ-20-01A	34.32	37.64	FLR	Chl + clay rich volcanic rubble and gouge; same as 14.36 - 18.29 m; section b/w 35.30 - 35.82 m is soft, pale grey and intensley clay altered.	CLY	4I
HJ-20-01A	37.64	42.67	BAS	Same as 18.29 - 21.55 m, w/ patchy, pale grey-green carb alteration; cut by numerous mm-scale, banded calcite veinlets, w/ maroon hematite on selvages and hairline fractures containing sericite; no visible sx. except for a 4 cm wide band of limey, pyritic	CAR	3I
HJ-20-02A	0	2.58	OVB	Rubbly overburden comprising olive-brn, volanic breccia with volcanic clasts suspended in a clay-rich mtx.	CHL	3I
HJ-20-02A	2.58	7.43	BAS	Predominantely medium green to medium brown (hem. altered?), moderately calcareous, f.g. pillow basalt, with several <20cm wide sections of inter-pillow or inter-flow, black, limey, chloritic volcanic mudst., hosting trace v.f.g. py as clots; cut by a few	CHL	4I
HJ-20-02A	7.43	7.65	MST	Black, limey, chloritic volcanic mudst., with trace disseminated v.f.g. py.	CLY	5I
HJ-20-02A	7.65	7.85	BAS	Medium brown (hem. altered?) pillow basalt as described in 2.58 - 7.43m.		
HJ-20-02A	7.85	8.15	MST	Black, limey, chloritic volcanic mudstone as described in 7.43 - 7.65 m.		
HJ-20-02A	8.15	8.56	BAS	Same lithology as 7.65 - 7.85 m.	HEM	2I
HJ-20-02A	8.56	8.91	MST	Same lithology as 7.85 - 8.15 m; bioturbated, w/ 1 mm dia. circular trace fossils.		
HJ-20-02A	8.91	16.92	BAS	Pillow basalts and minor mudst., with the same lithology as 2.58 - 7.43m; mudst. bioturbated w/ circular trace fossils and a moderate amount of mm-scale (up to 5mm wide) calcite gashes and veinlets at a variety of angles TCA; notable veins b/w 14.12 - 14.	HEM	2I

Hole	Depth (From)	Depth (to)	Rock Type	Description	Alteration Type	Alteration Intensity
HJ-20-02A	16.92	17.45	MST	Black volcanic mudstone w/ the same lithology as 7.85 - 8.15 m, w/ <1mm dia. circular trace fossils filled w/ yellow mx. as described above.		
HJ-20-02A	17.45	23.63	BAS	Olive, un-altered pillow basalt, with the same lithology as 2.58 - 7.43m; weakly fractured w/ mm-scale (up to 7mm wide) fractures filled with chlorite + calcite and wider, milky white, brecciated qtz-carb veins (both described in 2ndary structures log); o	HEM	2I
HJ-20-02A	23.63	24.04	MST	Black, chloritic, limey volcanic mudst. of the same type as 7.85 - 8.15 m; hosts a patchy zone (6 x 2 cm), of pink adularia(?) cut by 1-2 mm wide chl veinlets.		
HJ-20-02A	24.04	36	BAS	Olive, un-altered basalt and inter-flow/inter-pillow mudst. w/ the same lithology as 2.58 - 7.43m; weakly fx., w/ fx. filled w/ mm-scale calcite veinlets.		
HJ-20-02A	36	38.33	BAS	Medium brown/maroon, moderately carb + hem altered pillow basalt, of the same type as 2.58 - 7.43 m, hosting trace pyrrhotite (weakly magnetic), numerous hairline fractures filled w/ tan-beige sericite, and mm-scale ribbons of white qtz; 36.27 - 36.56m is		
HJ-20-02A	38.33	38.7	MST	Black, weakly calcareous, bioturbated volcanic mudstone of the same type as 7.85 - 8.15 m.		
HJ-20-02A	38.7	56.83	BAS	Medium to dark green, variably calcareous, un-altered pillow basalt, w/ the same lithology as 2.58 - 7.43 m; hosting a network of mm-scale, ribbon-like (up to 11 mm wide) fx. filled w/ chlorite + calcite; some ox. on fx. surfaces; 'bubble' texture along c		
HJ-20-02A	56.83	57.94	BAS	Broken, rubbly, calcareous section of moderately oxidized pillow basalt; likely related to a 21 degree TCA, fractured, qtz-carb vein described in 2ndary structures log.		

Hole	Depth (From)	Depth (to)	Rock Type	Description	Alteration Type	Alteration Intensity
HJ-20-02A	57.94	79.88	BAS	Medium to dark green, un-altered pillow basalt, w/ the same lithology as 2.58 - 7.43m; weakly fx, as a network of mm-scale gashes and fx filled w/ calcite; moderate ox. on fx. surfaces b/w 63.50 to 67.75m; some zones w/ higher fx. intensity to the point o	CAR	3I
HJ-20-02A	79.88	80.54	MST	Black, non-calcareous, chloritic, bioturbated volcanic mudstone of the same type as 7.85 - 8.15 m.	HEM	3I
HJ-20-02A	80.54	83.29	BAS	Medium to dark green, un-altered pillow basalt, with the same lithology as 2.58 - 7.43m; weakly fx., w/ chlorite + calcite in a network of hairline fx.		
HJ-20-02A	83.29	83.62	MST	Bedded, black volcanic mudstone w/ narrow (<= 1cm) beds of dark green, calcareous mud and black chloritic mud; soft sediment def'm features; slight ox. on fx. surfaces.		
HJ-20-02A	83.62	89.92	BAS	Medium green to dark black, weakly calcareous, un-altered pillow basalt w/ the same lithology as 2.58 - 7.43m; weakly fx., w/ chlorite + calcite in a network of mm-scale veinlets and gashes; inter-pillow, calcareous mud b/w 84.40 - 84.58m is dark maroon w	OXI	3I
HJ-20-01B	0	12.19	OVB	Mud, rubble and broken rock overburden; rubble comprising feldspar-porphyry andesite, dark green basalt and dark grey volcanic mudstone hosting numerous qtz-carb veinlets.		
HJ-20-01B	12.19	16	BAS	Moderately fractured, medium grey-green, fine grained basalt w/ masses of disseminated f.g. chl, orange oxide on fracture surfaces; cut by numerous, mm-scale gashes of qtz-carb, hosting trace clots of v.f.g. py, and by hairline fractures of ser-oxide.		

Hole	Depth (From)	Depth (to)	Rock Type	Description	Alteration Type	Alteration Intensity
HJ-20-01B	16	17.72	BAS	Light grey, moderately fractured, 'bleached' and strongly silica-altered basalt(?), with a mottled appearance where chl has been replaced w/ qtz, increasing orange oxide on fracture surfaces, harline fractures of ser-ox throughout, and rare, mm-scale zone		
HJ-20-01B	17.72	20.59	BAS	Intensely fractured, moderately oxidized, orange weathering version of the same lithology as 16.00 - 17.72 m, hosting a network of hairline fractures filled w/ qtz-ser-ox, v.f.g. oxide pits throughout, rare dendritic manganese on fracture surfaces and pat		
HJ-20-01B	20.59	22.46	BAS	Abrupt contact into same lithology as 17.72 - 20.59 m.		
HJ-20-01B	22.46	25.85	BAS	Same lithology as 17.72 - 20.59 m; trace v.f.g. py.		
HJ-20-01B	25.85	31.77	BAS	Same lithology as 16.00 - 17.72 m; moderately fractured, w/ qtz-carb in hairline fx, commonly 50 TCA.		
HJ-20-01B	31.77	33.77	BAS	Blocky, un-altered basalt, w/ same lithology as 12.19 - 16.00 m; weakly oxidized and only weakly fractured, w/ primary biotite throughout and hosting trace, patchy, v.f.g. silvery sx (aspy?); contacts are abrupt on either side.	SIL	4I
HJ-20-01B	33.77	41.15	BAS	Moderately fractured, lt. grey, strongly silica-altered basalt with the same lithology as 16.00 - 17.72 m; increasing fracture density and clay alteration down interval, with the rock becoming soft and white at the bottom of the hole; slight dark green (b	OXI	3I
HJ-20-01C	0	7.62	OVB	Rubble and mud overburden, with fragments of black, limey volcanic mudstone and dark green basalt w/ mm-scale fractures filled with calcite.	SIL	4I
HJ-20-01C	7.62	9.16	MST	Rubble comprising dark black, limey volcanic mudstone, hostsing rare mm-scale veinlets of calcite; no sulphides.	SIL	4I

Hole	Depth (From)	Depth (to)	Rock Type	Description	Alteration Type	Alteration Intensity
HJ-20-01C	9.16	9.32	DYK	16 cm wide, light green, feldspar-porphyry andesite(?) dyke, w/ patchy calcite on fracture surfaces.	OXI	3I
HJ-20-01C	9.32	11.32	MST	Black mudstone with the same lithology as 7.62 - 9.16 m.	SIL	4I
HJ-20-01C	11.32	11.49	DYK	Pale grey-green to buff-orange, 'bleached', andesite(?) dyke, cut by mm-scale quartz-carb veinlets that host trace m.g. euhedral py.	SIL	4I
HJ-20-01C	11.49	24.38	BAS	Rubble of medium green, variably calcareous and variably oxidized, f.g. basalt, becoming increasingly fractured, oxidized and silicified (bleached in appearance) down interval, w/ clay, carbonate and patches of chocolate brn. oxide on fracture surfaces; d		
HJ-20-01C	24.38	24.69	MST	Black mudstone with the same lithology as 7.62 - 9.16 m.	CLY	3I
HJ-20-01C	24.69	29.11	BAS	Intensely fractured, gougey, and in places, pervasively oxidized, strongly silicified, pale green f.g. basalt(?), w/ cream-coloured clay developed within a mesh of fractures; trace v.f.g. py throughout; 3 sections of light grey, clay gouge, between 26.24	SIL	4I
HJ-20-01C	29.11	30.19	BAS	Un-altered and un-fractured (blocky), dark grey-green, f.g. basalt, w/ rare hairline calcite veinlets, oxides on fracture surfaces and no sulphides.		
HJ-20-01C	30.19	32.41	BAS	Light grey-green, 'bleached' and silicified basalt of the same type as 24.69 - 29.11 m; some fractures filled with dark green chlorite near the bottom of the interval; trace clots of v.f.g. pyrite, where the patchy oxidation intensity is the strongest.		
HJ-20-01C	32.41	37.12	VOL	Medium grey, mixed volcaniclastic rock, comprising sections of f.g. volcanic mudstone and sections of mtx-supported conglomerate, with <= 1cm dia., sub-rounded and diffuse (sericitic) clast boundaries; both		

Hole	Depth (From)	Depth (to)	Rock Type	Description	Alteration Type	Alteration Intensity
				mtx and clasts cut by a moderate number of mm-sc		
HJ-20-01C	37.12	43.48	MST	Rubble of predominantely dark green, strongly chloritic, volcanic mudstone, with lesser sections of mtx-supported conglomerate as described in 32.41 - 37.12 m; moderate clay alteration, but no sulphides.		
HJ-20-01C	43.48	48.46	BAS	Intensely fractured, gougey/strongly clay altered, light green, silicified basalt(?), with rare masses of lt. green mg-rich chlorite(?) and trace rusty clots of v.f.g. py; terminates in a gougey breccia with 'milled', sub-rounded, silicified clasts suspen	OXI	2I
HJ-20-02C	0	1.52	OVB	Rubble and overburden with fragments <10 cm wide; fragmnts of fg, medium green-grey basalt; toward the end of the interval is two <5cm wide pieces of andesite porphyry w/ 5mm lath-like phenos of feldspar (plag?)	SIL	4I
HJ-20-02C	1.52	3.59	BAS	Rubble and fragments of buff to medium green, vfg pillow basalt, w/ gashes of calcite, chlorite and lesser quartz containing rare, v.f.g. disseminated aspy (?) .	OXI	3I
HJ-20-02C	3.59	7.1	BAS	Medium green to grey, vfg. pillow basalt, w/ disseminated coarse grained biotite, and rare sections of dark chloritic and limey, inter-pillow/inter-flow mudstone that are <20 cm in width; weakly fractured, w/ sub-mm scale calcite- and chl-filled fractures	SIL	3I
HJ-20-02C	7.1	7.47	MST	Dark grey to black, chloritic, volcanic mudstone, hosting abundant mm-scale ribbons of calcite and calcite + chl concentrated around the margins of basalt fragments; rare clots of pyrite and pyrrhotite w/in the mud.		

Hole	Depth (From)	Depth (to)	Rock Type	Description	Alteration Type	Alteration Intensity
HJ-20-02C	7.47	10.38	BAS	Pillow basalt w/ the same lithology as 3.59 - 7.10 m; weakly fractured, w/ fractures filled w/ calcite and/or chlorite; biotites are replaced as amygdules of white carbonate.	CLY	3I
HJ-20-02C	10.38	10.67	BAS	Buff to medium green, fg. basalt w/ the same lithology as 3.59 - 7.10 m; weakly fractured, w/ fractures filled w/ chlorite and calcite; <10 cm wide sections of inter-pillow/inter-flow, dark chloritic mudstone; maroon (hematite alt?) colour penetrates from	OXI	3I
HJ-20-02C	10.67	10.88	MST	Interval of volcanic mudst. as described in 7.10 - 7.47 m; possibly 'whisps' of sericite w/in the mud.	SIL	4I
HJ-20-02C	10.88	12.45	BAS	Pillow basalt w/ the same lithology as 3.59 - 7.10 m; patchy red-brown (hematite?) staining throughout; weakly fractured, w/ calcite and chlorite in fractures and as veins that are up to 4cm wide, w/ an orientation of 55 degrees TCA; rare, <1 cm dia clots		
HJ-20-02C	12.45	12.77	MST	Inter-pillow, chloritic, limey, dark green-black volcanic mudstone, which has possibly been silica-flooded as evidenced by a patchy silica; hosting mm-scale ribbons of sericite and elognated clots of sub-euhedral py., strongly associated with chlorite, th	OXI	3I
HJ-20-02C	12.77	15.24	BAS	Pillow basalt w/ the same lithology as 3.59 - 7.10 m; weakly fractured, w/ mm-scale gashes filled w/ chlorite and/or calcite, and repeating, mm-scale calcite veinlets, around 13.65 m, with an orientation of ~75 TCA; one ~10 cm wide sedction of mudstone w/	SIL	4I
HJ-20-02C	15.24	15.85	BAS	Buff to tan weathering, silica-altered pillow basalt and inter-pillow mudst. as described in 3.59 - 7.10 m; abundant qtz-carb veins and gashes between 15.34 - 15.47 m, occupying a section of strongly oxidized mudstone, and followed immediately with a narr		

Hole	Depth (From)	Depth (to)	Rock Type	Description	Alteration Type	Alteration Intensity
HJ-20-02C	15.85	22.41	BAS	Pillow basalt w/ the same lithology as 3.59 - 7.10 m, but weakly silica altered (can't scratch w/ knife); several < 20 cm sections of inter-pillow/inter-flow volcanic mudstone w/ no apparent sx minerals; 'bubbly' texture along margins of the basalt pillow	CLY	3I
HJ-20-02C	22.41	23.04	MST	Volcanic mudstone w/ the same lithology as 12.45 - 12.77 m; bioturbated, and hosting rounded 'clasts' of basalt, w/ no sx. minerals.	CLY	4I
HJ-20-02C	23.04	35.94	BAS	Un-altered pillow basalt, w/ the same lithology as 3.59 - 7.10 m; covers sevreal <15 cm wide sections of limey, chloritic, inter-pillow mudstone; basalt is weakly fx, w/ gashes and fractures filled with calcite + chlorite (mm-scale up to 2 cm wide); minor	SIL	3I
HJ-20-02C	35.94	36.55	BAS	Basalt, w/ the same lithology as 3.59 - 7.10 m, but w/ red-brown colour in the pillows; x-cut by several chl + calcite filled fx.; no sx minerals.		
HJ-20-02C	36.55	41	BAS	Un-altered pillow basalt, w/ the same lithology as 3.59 - 7.10 m; covers several <20 cm wide sections of limey, chloritic, inter-pillow mudstone; no sx. minerals; 'bubbly' texture on the margins of pillows.		
HJ-20-02C	41	42.07	BAS	Moderately hem-altered, red-brown pillow basalt, w/ the same general lithology as 3.59 - 7.10 m; strongly fractured, w/ lots of x-cutting chl. and cal. veinlets and fx; hosting milk-white calcite veinlets, 3-5 mm wide, at a variety of orientations.		
HJ-20-02C	42.07	42.4	QV	Banded qtz vein, w/ milky-white qtz bands and smokey grey qtz bands, seperated by dark, <5mm wide sulphide-sericite bands (apy, po and py); also observed are clots of sx that are elonged along a 65-70 degree TCA and typically 1-2 mm wide and up to 1 cm lo		

Hole	Depth (From)	Depth (to)	Rock Type	Description	Alteration Type	Alteration Intensity
HJ-20-02C	42.4	45.22	BAS	Moderately hem-altered, red-brown pillow basalt, w/ the same general lithology as 3.59 - 7.10 m; strongly fractured, w/ lots of x-cutting chl. and cal. veinlets and fx; hosting milk-white calcite veinlets, 3-5 mm wide, at a variety of orientations; harder		
HJ-20-02C	45.22	106.68	BAS	Pillow basalt w/ the same lithology as 3.59 - 7.10 m; covers several <20 cm wide sections of dark, chloritic, limey inter-pillow/inter-flow volcanic mudstone (same as described b/w 7.10 - 7.47 m); buff to tan colour along the margins of pillows, or in mor		
HJ-20-03A	0	7.94	OVB	Overburden, w/ rubble comprising drk gn., fractured basalt, w/ v.f.g. amygdules of carbonate and fx. filled w/ calcite as well as some mm-scale ribbon-like veinlets of calcite; oxide and chl. on every fx. surface, along with trace v.f.g. py.		
HJ-20-03A	7.94	16.26	BAS	Medium green, equigranular, calcareous basalt; variably fractured, w/ a strong network of mm-scale, calcite-filled fx. b/w 9.21 - 10.63 m, on either side of a 11 cm wide zone, (9.67 - 9.82 m), oriented 60 degrees TCA, comprising blk, intensely silicified	HEM	2I
HJ-20-03A	16.26	17.54	BAS	Rubble of basalt w/ the same lithology as 7.94 - 16.26m, w/ earthy choc. brn oxide on fx. surfaces.	SIL	1I
HJ-20-03A	17.54	21.44	BAS	Medium green, f.g., equigranular basalt w/ the same lithology as 7.94 - 16.26 m; strongly calcareous; sharp contact at the base of the interval w/ ~5 cm of lt green gouge.		
HJ-20-03A	21.44	25.47	VOL	Light gn, calcareous, volcanic mudstone and conglomerate, w/ mm-scale, sub-angular, medium gy. clasts, weakly aligned at 30 degrees TCA; bedding in tan clays b/w 23.24 - 23.56 m and fx. b/w 25.05 - 25.50 m are also aligned to 30-40 degrees TCA; 1/2 of the	OXI	3I

Hole	Depth (From)	Depth (to)	Rock Type	Description	Alteration Type	Alteration Intensity
HJ-20-03A	25.47	47.6	BAS	Medium green, equigranular, fine grained basalt w/ the same lithology as 7.94 - 16.26 m; variably calcareous - all slightly effervesces in HCl but a stronger reaction where f.g. amygdules of carbonate are present; weakly fractured, w/ fractures filled w/	SIL	2I
HJ-20-03A	47.6	48.26	BAS	Rubble w/ the same lithology as 16.26 - 17.54 m.	SIL	2I
HJ-20-03A	48.26	108.64	BAS	Medium to dark green, f.g., equigranular pillow basalt w/ the same lithology as 7.94 - 16.26 m, w/ rare sections of dark green-black, limey, chloritic, inter-pillow mudstone, hosting suspended basalt 'clasts'; basalt w/ amygdules of either white carbonate		
HJ-20-03A	108.64	111.49	DYK	Cream to tan, w/ patchy orange ox., slightly fx., weakly QSP-altered, qtz-eye rhyolite dyke, w/ fuzzy grain boundaries along mm-scale qtz-eye phenocrysts, fractures filled w/ off-white carbonate and drk grey-green chl(?), and disseminated f.g. py. through		
HJ-20-03A	111.49	115.82	BAS	Dark green to medium grey, equigranular, f.g. basalt; strongly fx. b/w 111.49 - 112.45 m, w/ <= 1 cm wide fx. filled w/ white, qtz-carvbonate, in a network of gashes and tensional veinlets; last 3 m comprises un-altered, weakly fx., un-oxidized, slightly		
HJ-20-03B	0	8.21	OVB	Rubble and overburden comprising moderately fractured, medium green-grey, f.g. basalt, w/ <1mm wide fx. filled w/ lt. green clay, orange-brn oxide, and white carbonate.		
HJ-20-03B	8.21	19.97	BAS	Medium to dark green, equigranular, f.g., weakly calcareous basalt; weakly fx. to 18.85 m, and moderately fx. from 18.85 - 19.97 m, w/ mm-scale fx. filled w/ white calcite, increasingly w/ ep. down interval, and w/ chocolate brn ox. on fx. surfaces.	HEM	2I

Hole	Depth (From)	Depth (to)	Rock Type	Description	Alteration Type	Alteration Intensity
HJ-20-03B	19.97	21.8	BAS	Rubble of intensely fx. basalt w/ the same lithology as 8.21 - 19.97 m, w/ abundant chocolate brn. ox. on fx. surfaces.		
HJ-20-03B	21.8	22.7	BAS	Dark green, equigranular, v.f.g., calcareous basalt, w/ earthy chocolate brn. ox. on fx. surfaces @ 22 m mark; sharp cntct. w/ chilled margin @ 60 degrees TCA w/ dyke below.	HEM	4I
HJ-20-03B	22.7	23.46	DYK	Lt. green, silicified, c.g., equigranular and weakly fx. andesite(?) dyke, w/ square grains of dark biotite(?) + interstitial feldspar w/ fuzzy grain boundaries; mm-scale fx. as calcite-filled gashes w/ an alignment of 45 degrees TCA, as well as a larger	SIL	3I
HJ-20-03B	23.46	27.96	BAS	Equigranular basalt w/ the same lithology as 21.80 - 22.70 m.		
HJ-20-03B	27.96	28.22	MST	18 cm of strongly ox. orange-brown, chloritic + calcareous, volcanic mudst.(?), followed by a 7 cm wide, banded qtz-ser-calcite vein, w/ 1% wispy dark bands of v.f.g. py. and aspy.(?), oriented at 48 degrees TCA.		
HJ-20-03B	28.22	28.52	BAS	Moderately fractured, grey-green, calcareous basalt, w/ the same lithology as 21.80 - 22.70 m, w mm-scale fx. filled w/ ser. + cal. and orange ox. on fx. surfaces.		
HJ-20-03B	28.52	29.91	VOL	Strongly ox., rubbly, banded and brecciated, chooritic and calcareous volcanic mudstone and conglomerate, w/ mm-scale, sub-angular clasts of basalt suspended in an oxidized mud; extremely soft/fissile.		
HJ-20-03B	29.91	37.88	BAS	Medium grey-green basalt w/ the same lithology as 8.21 - 19.97 m, becoming darker w/ increasing chl. content down interval; weakly fx., w/ mm-scale fx. and gashes @ the top of the interval filled w/ calcite, and @ the bottom of the interval, w/ chl. + cal		
HJ-20-	37.88	38.34	BAS	Moderately oxidized rubble of dark, chloritic, non-		

Hole	Depth (From)	Depth (to)	Rock Type	Description	Alteration Type	Alteration Intensity
03B				calcareous basalt.		
HJ-20-03B	38.34	74.57	BAS	Medium grey-green, f.g. basalt, w/ the same lithology as 8.21 - 19.97 m; weakly fractured w/ mm-scale fx. and gashes filled w/ calcite; small zones of high fracture intensity, up to jigsaw bxa, w/ angular clasts of basalt headled in a granular calcite+epi		
HJ-20-03B	74.57	79.25	BAS	Black, v.f.g. to aphanitic, weakly fx., strongly magnetic basalt(?) w/ v.f.g. po. disseminated throughout, and also in rare clots.; hairline, <1mm wide fractures filled w/ calcite and lesser epidote; brecciated at the top contact, while the bottom of the		
HJ-20-03B	79.25	94.57	BAS	Dark green to medium grey, non-calcareous basalt w/ the same lithology as 8.21 - 19.97 m; weakly fractured, w/ fx. filled w/ calcite, chlorite and minor epidote; increasingly drk. green, chloritic and limey inter-pillow volcanic mud in 'fx.' down interval		
HJ-20-03B	94.57	95.03	DYK	Light grey, very strongly silicified, strongly fractured, andesite(?) dyke, w/ texturally destroyed grain boundaries and <1mm hairline fx., filled w/ carbonate + sericite; trace v.f.g. py. disseminated throughout, rarely hosted as 'wires' within fx.; top		
HJ-20-03B	95.03	97.33	BAS	Light grey, mod. calcareous (carb-altered?), f.g. basalt(?) w/ c.g. amygdules of carbonate throughout, and ser. + carb. in a network of <=1mm hairline fx.; bottom contact increasingly fractured and oxidized, w/ wider gashes filled w/ milk-white calcite w/		
HJ-20-03B	97.33	98.22	VOL	Rubbly section of strongly oxidized, rubbly, calcareous volcanic conglomerate(?); strongly fractured, w/ fx. filled w/ orange-buff oxide and carbonate; top contact is unclear but associated w/ a discontinuous ribbon of calcite, w/ ox. along selvages, up t		

Hole	Depth (From)	Depth (to)	Rock Type	Description	Alteration Type	Alteration Intensity
HJ-20-03B	98.22	109.83	BAS	Medium grey-green, moderately fractured basalt w/ the same lithology as 8.21 - 19.97 m; hosting discontinuous gashes and fx. filled w/ carb. + ser.; top of interval is non-calcareous, but becoming increasingly more calcareous down-section; small section o		
HJ-20-03B	109.83	120.4	BAS	Gradational contact into dark green-black, very weakly fractured, un-altered, f.g. to aphanitic, calcareous, weakly magnetic basalt (similar in appearance to 74.57 - 79.25 m); hosting rare clots of v.f.g. po. and w/ trace, disseminated py. visible on fx.		
HJ-20-04A	0	2.27	MST	Rubble of dark black, weakly calcareous volcanic mudstone and conglomerate, hosting mud-supported, sub-angular, dark brown-green clasts, up to 2 cm in dia.		
HJ-20-04A	2.27	9.34	VOL	Medium brown-green, 'gritty', moderately calcareous volcanic sandstone, progressing from m.g. to c.g. to polymictic conglomerate down interval, w/ vry. weakly aligned clasts to an orientation of 45 degrees TCA, comprising mudstone, volcanics and limestone		
HJ-20-04A	9.34	10.2	MST	Rubble of dark black, calcareous, volcanic mudstone conglomerate, w/ olive-green volcanic clasts, up to 2.5 cm in dia., suspended in black (non-sooty) mud; no sx.; contact at the base of the interval is rubbly.		
HJ-20-04A	10.2	13.19	SST	Medium grey, gritty c.g. calcareous sandstone, w/ clast/grain size generaly 2 mm in dia., and well sorted; no sx. or ox.; un-fx., but breaks consistently at an orientation of 45 degrees TCA; cut by five 2mm wide calite veinlets w/ the same orientation; sh		
HJ-20-04A	13.19	25.81	VOL	Medium grey, strongly calcareous, polymictic conglomerate, w/ alternating sections comprising 1) a dark grey, muddy matrix where clasts are mud-supported, and 2) sections w/ a medium grey, coarser		

Hole	Depth (From)	Depth (to)	Rock Type	Description	Alteration Type	Alteration Intensity
				matrix, which in places is clast-supported; clasts most of		
HJ-20-04A	25.81	31.62	VOL	Medium brown-green, variably calcareous, 'gritty' sandstone w/ the same lithology as 2.27 - 9.34 m; bedding orientation is evident in darker grains w/ an attitude of 68 degrees TCA; some sections of orange ox. on fractures and pervasive b/w 28.80 - 29.03	OXI	4I
HJ-20-04A	31.62	60.35	MST	Strongly calcareous, black volcanic mudstone and mudstone conglomerate; large sections of v.f.g. mudstone hosting 3% disseminated f.g. euhedral py., which weathers to medium brown oxide; wavy bedding w/ measured attitudes of 44-62 degrees TCA is x-cut by		
HJ-20-04A	60.35	61.54	LST	Medium to coarse grained, light grey, bedded limestone, similar to 54.30 - 55.05 m, but strongly fx. w/ a network of <1mm hairline fx. of bright orange ox., and hosting several areas w/ c.g., rusty weathering, euhedral py.; moderately silicified and non-c	OXI	3I
HJ-20-04A	61.54	62.68	MST	Black mudstone w/ the same lithology as 31.62 - 60.35 m; bottom 7 cm is tan and hosts dendritic manganese, while the bottom contact is very sharp with an orientation of 70 degrees TCA.		
HJ-20-04A	62.68	74.25	DYK	Tan to buff-orange weathering, variably QSP-altered, weakly fractured qtz-eye rhyolite dyke, w/ 1% disseminated, f.g. to c.g. euhedral py., and a network of <1mm wide hairline fx., sometimes w/ bleached (albite-altered?) margins and filled w/ weakly to mo		
HJ-20-04A	74.25	74.43	SST	C.g., weakly calcareous, medium grey sandstone w/ an orange stained oxidation front from the contact w/ the overlying rhyolite.		

Hole	Depth (From)	Depth (to)	Rock Type	Description	Alteration Type	Alteration Intensity
HJ-20-04A	74.43	90.98	MST	Variably calcareous, black and dark grey mudstone w/ the same lithology as 31.62 - 60.35 m, w/ bedding apparent in several sections w/ measured attitudes of 59 to 62 degrees TCA; sharp contact w/ the underlying rhyolite w/ an orientation of 75 degrees TCA	SIL	4I
HJ-20-04A	90.98	97.45	DYK	Weakly to moderately fractured, tan to buff, moderately QSP-altered, qtz-eye rhyolite dyke w/ the same description as 62.68 - 74.25 m; mm-scale fx., filled w/ calcite and lesser orange ox., w/ dark grey ser. along selvages and growth of dendritic manganes	CAR	3I
HJ-20-04A	97.45	99.91	DYK	Moderately silicified, medium grey to light green-brown, m.g. andesite(?) dyke; bleached in appearance and texturally destroyed but w/ disseminated grains of m.g. biotite and feldspar throughout; weakly fx. w/ mm-scale fx. filled w/ dark brown ox. and les		
HJ-20-04A	99.91	101.09	DYK	Buff-orange, moderately oxidized and silicified rhyolite w/ the same lithology as 62.68 - 74.25 m; bright orange ox. on fx. surfaces; unclear, strongly oxidized contact w/ the underlying basalt.		
HJ-20-04A	101.09	103.63	BAS	Medium green, f.g., strongly calcareous, equigranular basalt as well as small pockets of dark green-black, inter-pillow/inter-flow chloritic, volcanic mudstone.		
HJ-20-02B	0	2.04	OVB	Overburden/rubble, with recovered pieces of core no greater than 7 cm in length; top half of the rubble comprising buff to tan coloured qtz-carbonate-chlorite-sericite vein, and bottom half comprising tannish to beige, silicified bxa hosting <1cm dia. sub		
HJ-20-02B	2.04	3.7	BAS	Predominantely buff to beige to green pillow basalt; cut by mm-scale veinlets, at a variety of orientations, of chlorite, sericite, and late-stage calcite (w/ an orientation of ~25-30 degrees TCA); maroon to brick		

Hole	Depth (From)	Depth (to)	Rock Type	Description	Alteration Type	Alteration Intensity
				red hematite altertion concentrated along		
HJ-20-02B	3.7	4.32	MST	Predominantely dark green to black, chloritic volcanic mudstone, along with rounded 'clasts' of pillow basalt, cut by randomly orientated calcareous veinlets throughout; @ 4m, mudst. hosts up to 4mm dia. blebs of py., elongated and strung together in a si		
HJ-20-02B	4.32	5.51	BAS	Predominantely dark greenish-grey, f.g. pillow basalt hosting <1mm black mx. grains disseminated throughout (oxide? bio?) and platey masses of sericite; some distinct ~<10 cm wide sections of of inter-pillow/inter-flow black, chl-dominant, calcareous mud;		
HJ-20-02B	5.51	6.55	MST	Predominantely dark green-black, chloritic, inter-pillow/inter-volcanic mudstone, speckled with a disseminated, v.f.g., soft, tan-yellow mineral, and containing calcareous blebs throughout; v.f.g. py. in mm-scale, semi-continous veinlets b/w 6.10 - 6.55,		
HJ-20-02B	6.55	10.31	BAS	Predominantely pillow basalt, w/ a brown to maroon (hematite?) hue, which contains sections <20 cm wide of chloritic volcanic mudstone; mudstone same as previous description but w/out pyrite and w/ abundant disseminated grains of soft yellow mx.; abundant		
HJ-20-02B	10.31	10.48	MST	Chloritic, volcanic mudstone, same as 5.10 - 6.10 m, but w/o py, and w/ sparse, patchy ribbons (>= 1 cm wide) of quartz.		
HJ-20-02B	10.48	13.72	BAS	Dark grey pillow basalt, w/ a green to brown hue, and <20 cm wide sections of dark green to black, inter-pillow/inter-flow volcanic mudstone, as described previously; 'bubbly' texture present along most pillow		

Hole	Depth (From)	Depth (to)	Rock Type	Description	Alteration Type	Alteration Intensity
				margins; hosts abundant veinlets/ribbons of c		
HJ-20-02B	13.72	14.12	MST	Dark, chloritic, volcanic mudstone with the same lithology as 5.10 - 6.10 m, w/ the same disseminated yellow-tan mineral, and hosting suspended ~1cm dia., sub-rounded 'clasts' of basalt; cut by abundant calcite veinlets, and sparse qtz-carb ribbons.		
HJ-20-02B	14.12	18.54	BAS	Vfg pillow basalt, w/ the same lithology as 6.55 - 10.53 m, w/ < 20 cm wide sections of dark inter-pillow/inter-flow mudstone, all cross-cut by veinlets of calcite and chlorite, as well as some coarser, up to ~2 cm wide veins of predominantely calcite, at	SER	2I
HJ-20-02B	18.54	19.15	BAS	Silicified pillow basalt w/ disseminated vfg py. throughout but most concentrated in ~2cm wide, smokey (aspy-bearing?) grey qtz veins; top of the interval contains a ~4 cm wide, white qtz vein, which is cross-cut by oxidized veinlets.	SIL	3I
HJ-20-02B	19.15	41.9	BAS	Pillow basalt and <20 cm wide sections of dark, calcareous and chloritic inter-pillow, volcanic mudstone, w/ the same lithology as 6.55 - 10.33 m; hosting disseminated, soft, yellow-tan mx. throughout, trace disseminated euhedral pyrite, 'bubbly' texture		
HJ-20-02B	41.9	42	BAS	Maroon-brown, moderately hematite-altered pillow basalt, hosting 1% disseminated pyrite, as wall rock to a 30 cm wide, mineralized, banded quartz vein, between 41.36 - 41.66 m.		

Hole	Depth (From)	Depth (to)	Rock Type	Description	Alteration Type	Alteration Intensity
HJ-20-02B	42	48.77	BAS	Pillow basalt w/ the same lithology as 6.55 - 10.33 m, including several <20 cm sections of inter-pillow, calcareous and chloritic, volcanic mudstone; weakly fx. in pillows, w/ mm-scale calcite filling fractures; 'bubbly' texture along margins of pillows	SER	2I
HJ-20-02B	48.77	49.02	MST	Predominantely dark, chloritic and calcareous, inter-pillow volcanic mudstone w/ the same lithology as 5.51 - 6.10 m, hosting mm-scale veinlets of platey sericite and trace vfg py.	SIL	3I
HJ-20-02B	49.02	50.15	BAS	Buff-grey pillow basalt w/ the same lithology as 6.55 - 10.33, w/ <10 cm wide sections of dark, chloritic and calcareous, inter-pillow volcanic mudstone, 'bubbly' texture along pillow margins, and chl + cal filled fractures.	SIL	3I
HJ-20-02B	50.15	50.58	BAS	Medium green to dark grey pillow basaly w/ the same lithology as 6.55 - 10.31 m; weakly fractured, w/ mm-scale fractures filled w/ calcite; rare clots (<1cm in dia.) of pyrrhotite, associated with calcite + chlorite in fracture fillings.	OXI	3I
HJ-20-02B	50.58	50.88	BAS	Maroon-brown (hematite altered?) pillow basalt; mm-scale fractures filled with calcite and chlorite; trace pyrrhotite as clots along chl/cal veinlets.	SIL	3I
HJ-20-02B	50.88	109.73	BAS	Medium green to grey, fg. pillow basalt w/ the same lithology as 6.55 - 10.31; contains several <20 cm wide sections of chloritic, limey, dark, inter-pillow or inter-flow volcanic mudstone; mudst. lithology is consistent w/ the description for 5.10 - 6.10		
HJ-20-03C	0	10.2	OVB	Overburden: dirt and rubble comprising medium to dark green, moderately fx., non-calcareous, f.g. basalt, w/ <1mm wide hairline fx. filled w/ calcite, dark brown ox. and pale white-green clay and ox. present on most		

Hole	Depth (From)	Depth (to)	Rock Type	Description	Alteration Type	Alteration Intensity
				wx. surfaces.		
HJ-20-03C	10.2	12.63	BAS	Medium green-grey rubble of moderately fx., non-calcareous basalt w/ the same lithology as 0.00-10.20 m, but w/ increasingly larger fragments of rock and less ox. on wx. surfaces.	HEM	2I
HJ-20-03C	12.63	20.07	BAS	Medium grey-green, variably fx. (from weak to mod.), f.g. equigranular basalt, becoming slightly calcareous toward the bottom of the interval w/ < 1mm wide hairline fx. as well as mm-scale, discontinous gashes of calcite + minor qtz.; notable veins/fx/vei	SER	3I
HJ-20-03C	20.07	22	BAS	Oxidized rubble of basalt w/ the same lithology as 12.63-20.07 m; larger pieces of rubble appear 'corroded' and vuggy.		
HJ-20-03C	22	22.56	BAS	Un-fx., slightly calcareous basalt w/ the same lithology as 20.07-22.00 m.		
HJ-20-03C	22.56	25.6	FLR	Fault; oxidized rubble of basalt w/ the same lithology as 20.07-22.00 m; one section 22.94 - 23.17 m of bright orange ox.; interval ends in fine ox. gravel and abrupt contact w/ dyke below.		
HJ-20-03C	25.6	26.75	DYK	Light grey-green, feld-ppy andesite(?) dyke, w/ some feld. phenos weakly altered to carbonate and sparse <=1mm hairline fx. filled w/ calcite.	HEM	2I
HJ-20-03C	26.75	57.17	BAS	Medium grey-green basalt w/ the same lithology as 12.63 - 20.07 m; variably calcareous, w/ some sections w/ carbonate as amygdules; some short sections of inter-pillow/inter-flow, black, chloritic, volcanic mudstone that is in some instances silicified an		

Hole	Depth (From)	Depth (to)	Rock Type	Description	Alteration Type	Alteration Intensity
HJ-20-03C	57.17	61.06	VOL	Medium grey, non-calcareous, mixed volcanic mud and conglomerate, w/ homogeneous, weakly fx. sections of f.g. - v.f.g. mudst., banded/bedded sections of ser + carb + disseminated f.g. py., such as 58.58 - 58.70 m, and conglomeratic sections w/ mm-scale, s		
HJ-20-03C	61.06	62.64	BAS	Medium grey-green, non-calcareous basalt w/ the same lithology as 12.63 - 20.07 m; weakly fx. w/ mm-scale fx. filled w/ calcite.		
HJ-20-03C	62.64	67.1	VOL	Mixed volcanic mud and conglomerate w/ the same lithology as 57.15 - 61.06 m; lt. grey/silicified section b/w 65.71 - 66.16 m, cut by numerous qtz-carb veins at a variety of orientations (described further in the 2ndary structures log); grains of chl. bei	OXI	2I
HJ-20-03C	67.1	68.5	VOL	Bright orange, soft rubble w/ the same lithology as 62.64 - 67.10 m, w/ relict trace fossil textures, and earthy oxide throughout.	OXI	3I
HJ-20-03C	68.5	76.44	LST	Mixed volcanic limestone, mudstone and conglomerate of the same type as 57.15 - 61.06 m; variably but weakly calcareous and weakly fx. w/ <1mm hairline fx. filled w/ calcite; sections of non-calcareous, light grey, circular trace fossils, up to 5mm in dia	SIL	4I
HJ-20-03C	76.44	79.25	BAS	Medium grey-green, moderately calcareous basalt w/ the same lithology as 12.63 - 20.07 m; diffuse but sharp contact at top of interval.		
HJ-20-034	0	8.84	OVB	Overburden, comprising medium green, oxidized, non-calcareous f.g. basalt, weakly to mod. fx., w/ <1mm wide hairline fx. filled w/ ox. + calcite.	HEM	3I
HJ-20-034	8.84	48.77	BAS	Medium grey-green, variably calcareous (but generally weakly calcareous), weakly to mod. fractured, equigranular f.g. basalt w/ mm-scale fx. and gashes typically filled w/ calcite and lesser chl., minor ep., w/		

Hole	Depth (From)	Depth (to)	Rock Type	Description	Alteration Type	Alteration Intensity
				exceptions and zones of interest described i		
HJ-20-04B	0	3.54	MST	Dark black, weakly calcareous, mudstone conglomerate, hosting mud-supported, sub-angular polymictic clasts of limestone, mudstone and basalt (olive green, tan to medium grey) that are unsorted and up to 2.5 cm in dia., but typically < 1cm dia.; sharp cont		
HJ-20-04B	3.54	16.5	CGL	Calcareous, medium grey, weakly sorted, clast-supported sandy conglomerate, w/ sub-angular to sub-rounded clasts of limestone, mudstone, sandstone and basalt, up to 1.5 cm in dia., but generally mm-scale and not aligned in any orientation; rubbly section		
HJ-20-04B	16.5	21.8	CGL	Gradational contact into a darker, very poorly sorted, variably clast- and mtx.-supported conglomerate, w/ a matrix of grey silt and black mud; variably calcareous where clasts are calcareous, but mud and silt matrix does not effervesce; clasts are up to		
HJ-20-04B	21.8	23.46	CGL	Clast-supported conglomerate of the same type as 3.54 - 16.50 m; bottom contact is a small section of oxidized rubble.		
HJ-20-04B	23.46	26.07	MST	Mudstone conglomerate w/ the same lithology as 0.00 - 3.54 m, but w/ larger clast size, up to 7cm+, w/ large clasts of olive-green amygdaloidal basalt, w/ amygdules filled w/ carbonate; sharp bottom contact w/ an orientation of 70 degrees TCA.		
HJ-20-04B	26.07	28.42	LST	F.g. to m.g., light to dark grey, bedded, un-fx. limestone; bedding w/ an orientation of ~55 degrees TCA; orange wx. on fx. surfaces and rare patches of orange ox. throughout.		

Hole	Depth (From)	Depth (to)	Rock Type	Description	Alteration Type	Alteration Intensity
HJ-20-04B	28.42	40.84	BAS	Medium green to grey, calcareous basalt; amygdaloidal, w/ amygdules filled w/ chl.;variably fx., w/ fx. intensity reaching a moderate grade and mm-scale fx. filled w/ calcite, minor qtz, and often weathering orange, in an orientation noted in 2ndary struc		
HJ-20-04B	40.84	41.2	MST	Weakly oxidized, black mudstone conglomerate w/ the same lithology as 0.00 - 3.54 m, cut by mm-scale calcite gashes that host clots of orange ox.		
HJ-20-04B	41.2	41.9	BAS	Basalt w/ the same lithology as 28.42 - 40.84 m; rubbly top contact but sharp bottom contact w/ an orientation of ~44 degrees TCA.		
HJ-20-04B	41.9	42.77	MST	Weakly oxidized black mudstone conglomerate w/ the same lithology as 40.84 - 41.20 m; rubbly bottom contact.		
HJ-20-04B	42.77	51.82	MST	Strongly calcareous, black volcanic mudstone and mudstone conglomerate; some sections hosting 3% disseminated c.g. euhedral py. that weathers to medium brown ox.; bedding attitude of 50 degrees TCA; clasts in conglomerate are generally sub-rounded and any	OXI	3I

Hole Name	Sample ID	From (m)	To (m)	Batch Name	QA/QC Type
HJ-20-01A	B0051009	0	0	H20-001	Standard; CDN-ME-16
HJ-20-01A	B0051001	8.84	11.28	H20-001	
HJ-20-01A	B0051002	11.28	12.8	H20-001	
HJ-20-01A	B0051003	12.8	15.24	H20-001	
HJ-20-01A	B0051004	15.24	18.29	H20-001	
HJ-20-01A	B0051005	18.29	20.42	H20-001	
HJ-20-01A	B0051006	20.42	22.86	H20-001	
HJ-20-01A	B0051007	22.86	25.91	H20-001	
HJ-20-01A	B0051008	25.91	27.43	H20-001	
HJ-20-01A	B0051010	27.43	30.48	H20-001	
HJ-20-01A	B0051011	30.48	33.53	H20-001	
HJ-20-01A	B0051012	33.53	36.58	H20-001	
HJ-20-01A	B0051013	36.58	38.1	H20-001	
HJ-20-01A	B0051014	38.1	39.62	H20-001	
HJ-20-01A	B0051015	39.62	42.67	H20-001	
HJ-20-02A	B0051059	0	0	H20-002	Standard; CDN-ME-16
HJ-20-02A	B0051068	0	0	H20-002	Standard; OREAS 62Pa
HJ-20-02A	B0051072	0	0	H20-002	Blank
HJ-20-02A	B0051088	0	0	h20-003	Standard; OREAS 62Pa
HJ-20-02A	B0051053	2.85	4.57	H20-002	
HJ-20-02A	B0051054	4.57	7.43	H20-002	
HJ-20-02A	B0051055	7.43	8.91	H20-002	
HJ-20-02A	B0051056	8.91	10.67	H20-002	
HJ-20-02A	B0051057	10.67	13.72	H20-002	
HJ-20-02A	B0051058	13.72	16.76	H20-002	
HJ-20-02A	B0051060	16.76	19	H20-002	
HJ-20-02A	B0051061	19	19.81	H20-002	
HJ-20-02A	B0051062	19.81	21.34	H20-002	
HJ-20-02A	B0051063	21.34	23.63	H20-002	
HJ-20-02A	B0051064	23.63	25.91	H20-002	

Hole Name	Sample ID	From (m)	To (m)	Batch Name	QA/QC Type
HJ-20-02A	B0051065	23.63	25.91	H20-002	Coarse Reject Duplicate
HJ-20-02A	B0051066	25.91	28.96	H20-002	
HJ-20-02A	B0051067	28.96	31.7	H20-002	
HJ-20-02A	B0051069	31.7	34.75	H20-002	
HJ-20-02A	B0051070	34.75	36	H20-002	
HJ-20-02A	B0051071	36	38.18	H20-002	
HJ-20-02A	B0051073	38.18	41.18	H20-002	
HJ-20-02A	B0051074	41.18	44.2	H20-002	
HJ-20-02A	B0051075	44.2	47.24	H20-002	
HJ-20-02A	B0051076	47.24	50.29	H20-002	
HJ-20-02A	B0051077	50.29	53.34	H20-002	
HJ-20-02A	B0051078	53.34	54.86	H20-002	
HJ-20-02A	B0051079	54.86	56.83	H20-002	
HJ-20-02A	B0051080	56.83	58	H20-002	
HJ-20-02A	B0051081	58	60.96	h20-003	
HJ-20-02A	B0051082	60.96	64.01	h20-003	
HJ-20-02A	B0051083	64.01	67.06	h20-003	
HJ-20-02A	B0051084	67.06	70.1	h20-003	
HJ-20-02A	B0051085	70.1	73.15	h20-003	
HJ-20-02A	B0051086	73.15	76.2	h20-003	
HJ-20-02A	B0051087	76.2	79.25	h20-003	
HJ-20-02A	B0051089	79.25	82.3	h20-003	
HJ-20-02A	B0051090	82.3	85.34	h20-003	
HJ-20-02A	B0051091	85.34	88.4	h20-003	
HJ-20-02A	B0051092	88.4	89.92	h20-003	
HJ-20-02C	B0051151	0	0	h20-004	Standard; OREAS 62Pa
HJ-20-02C	B0051159	0	0	h20-004	Blank
HJ-20-02C	B0051176	0	0	h20-005	Standard; OREAS 62Pa
HJ-20-02C	B0051141	0	3.05	h20-004	
HJ-20-02C	B0051142	3.05	6.1	h20-004	

Hole Name	Sample ID	From (m)	To (m)	Batch Name	QA/QC Type
HJ-20-02C	B0051143	6.1	9.14	h20-004	
HJ-20-02C	B0051144	9.14	12.19	h20-004	
HJ-20-02C	B0051145	12.19	15	h20-004	
HJ-20-02C	B0051146	15	16	h20-004	
HJ-20-02C	B0051147	16	19	h20-004	
HJ-20-02C	B0051148	19	20	h20-004	
HJ-20-02C	B0051149	20	22.86	h20-004	
HJ-20-02C	B0051150	22.86	25.91	h20-004	
HJ-20-02C	B0051152	25.91	28.96	h20-004	
HJ-20-02C	B0051153	28.96	32	h20-004	
HJ-20-02C	B0051154	32	35.05	h20-004	
HJ-20-02C	B0051155	35.05	38.1	h20-004	
HJ-20-02C	B0051156	38.1	41.15	h20-004	
HJ-20-02C	B0051157	41.15	42	h20-004	
HJ-20-02C	B0051158	42	42.4	h20-004	
HJ-20-02C	B0051160	42.4	43.07	h20-004	
HJ-20-02C	B0051161	43.07	45.08	h20-005	
HJ-20-02C	B0051162	45.08	47.24	h20-005	
HJ-20-02C	B0051163	47.24	50.29	h20-005	
HJ-20-02C	B0051164	50.29	53.34	h20-005	
HJ-20-02C	B0051165	53.34	56.39	h20-005	
HJ-20-02C	B0051166	56.39	59.44	h20-005	
HJ-20-02C	B0051167	59.44	62.48	h20-005	
HJ-20-02C	B0051168	62.48	65.53	h20-005	
HJ-20-02C	B0051169	65.53	68	h20-005	
HJ-20-02C	B0051170	68	70.1	h20-005	
HJ-20-02C	B0051171	70.1	73.15	h20-005	
HJ-20-02C	B0051172	73.15	76.2	h20-005	
HJ-20-02C	B0051173	73.15	76.2	h20-005	1/4 Duplicate
HJ-20-02C	B0051174	76.2	79.25	h20-005	

Hole Name	Sample ID	From (m)	To (m)	Batch Name	QA/QC Type
HJ-20-02C	B0051175	79.25	82.3	h20-005	
HJ-20-02C	B0051177	82.3	85.34	h20-005	
HJ-20-02C	B0051178	85.34	88.39	h20-005	
HJ-20-02C	B0051179	88.39	91.44	h20-005	
HJ-20-02C	B0051180	91.44	94.49	h20-005	
HJ-20-02C	B0051181	94.49	97.54	h20-005	
HJ-20-02C	B0051182	94.49	97.54	h20-005	Coarse Reject Duplicate
HJ-20-02C	B0051183	97.54	100.58	h20-005	
HJ-20-02C	B0051184	100.58	103.63	h20-005	
HJ-20-02C	B0051185	103.63	106.68	h20-005	
HJ-20-03A	B0051195	0	0	h20-005	Blank
HJ-20-03A	B0051198	0	0	h20-005	Standard; CDN-ME-16
HJ-20-03A	B0051210	0	0	h20-006	Standard; CDN-ME-16
HJ-20-03A	B0051232	0	0	h20-006	Blank
HJ-20-03A	B0051186	6.1	9.14	h20-005	
HJ-20-03A	B0051187	9.14	12.19	h20-005	
HJ-20-03A	B0051188	12.19	15.24	h20-005	
HJ-20-03A	B0051189	15.24	16.76	h20-005	
HJ-20-03A	B0051190	16.76	18	h20-005	
HJ-20-03A	B0051191	18	19.81	h20-005	
HJ-20-03A	B0051192	19.81	21.44	h20-005	
HJ-20-03A	B0051193	21.44	22.86	h20-005	
HJ-20-03A	B0051194	22.86	25.47	h20-005	
HJ-20-03A	B0051196	25.47	27.43	h20-005	
HJ-20-03A	B0051197	27.43	30.18	h20-005	
HJ-20-03A	B0051199	30.18	32.61	h20-005	
HJ-20-03A	B0051200	32.61	35.05	h20-005	
HJ-20-03A	B0051201	35.05	38.1	h20-006	
HJ-20-03A	B0051202	38.1	41.15	h20-006	
HJ-20-03A	B0051203	41.15	44.2	h20-006	

Hole Name	Sample ID	From (m)	To (m)	Batch Name	QA/QC Type
HJ-20-03A	B0051204	44.2	47.24	h20-006	
HJ-20-03A	B0051205	47.24	48.16	h20-006	
HJ-20-03A	B0051206	48.16	49.68	h20-006	
HJ-20-03A	B0051207	49.68	52.73	h20-006	
HJ-20-03A	B0051208	52.73	55.78	h20-006	
HJ-20-03A	B0051209	55.78	59.13	h20-006	
HJ-20-03A	B0051211	59.13	62.18	h20-006	
HJ-20-03A	B0051212	62.18	65.38	h20-006	
HJ-20-03A	B0051213	65.38	67.06	h20-006	
HJ-20-03A	B0051214	67.06	70.1	h20-006	
HJ-20-03A	B0051215	67.06	70.1	h20-006	Coarse Reject Duplicate
HJ-20-03A	B0051216	70.1	73.15	h20-006	
HJ-20-03A	B0051217	73.15	76.2	h20-006	
HJ-20-03A	B0051218	76.2	79.25	h20-006	
HJ-20-03A	B0051219	79.25	82.3	h20-006	
HJ-20-03A	B0051220	82.3	85.34	h20-006	
HJ-20-03A	B0051221	85.34	88.39	h20-006	
HJ-20-03A	B0051222	88.39	91.44	h20-006	
HJ-20-03A	B0051223	91.44	94.49	h20-006	
HJ-20-03A	B0051224	94.49	97.54	h20-006	
HJ-20-03A	B0051225	97.54	100.58	h20-006	
HJ-20-03A	B0051226	100.58	103.63	h20-006	
HJ-20-03A	B0051227	100.58	103.63	h20-006	1/4 Duplicate
HJ-20-03A	B0051228	103.63	106.68	h20-006	
HJ-20-03A	B0051229	106.68	108.64	h20-006	
HJ-20-03A	B0051230	108.64	110	h20-006	
HJ-20-03A	B0051231	110	111.49	h20-006	
HJ-20-03A	B0051233	111.49	112.78	h20-006	
HJ-20-03A	B0051234	112.78	115.82	h20-006	
HJ-20-03B	B0051236	0	0	h20-006	Standard; OREAS 62Pa

Hole Name	Sample ID	From (m)	To (m)	Batch Name	QA/QC Type
HJ-20-03B	B0051246	0	0	h20-007	Blank
HJ-20-03B	B0051255	0	0	h20-007	Standard; CDN-ME-16
HJ-20-03B	B0051273	0	0	h20-007	Standard; OREAS 62Pa
HJ-20-03B	B0051235	8.21	10.67	h20-006	
HJ-20-03B	B0051237	10.67	13.72	h20-006	
HJ-20-03B	B0051238	13.72	16.76	h20-006	
HJ-20-03B	B0051239	16.76	19.81	h20-006	
HJ-20-03B	B0051240	19.81	21.34	h20-006	
HJ-20-03B	B0051241	21.34	22.7	h20-007	
HJ-20-03B	B0051242	22.7	23.46	h20-007	
HJ-20-03B	B0051243	23.46	25.91	h20-007	
HJ-20-03B	B0051244	25.91	27.96	h20-007	
HJ-20-03B	B0051245	27.96	29.91	h20-007	
HJ-20-03B	B0051247	29.91	32	h20-007	
HJ-20-03B	B0051248	32	35.05	h20-007	
HJ-20-03B	B0051249	35.05	38.1	h20-007	
HJ-20-03B	B0051250	38.1	41.15	h20-007	
HJ-20-03B	B0051251	41.15	44.2	h20-007	
HJ-20-03B	B0051252	44.2	47.24	h20-007	
HJ-20-03B	B0051253	47.24	50.29	h20-007	
HJ-20-03B	B0051254	50.29	53.34	h20-007	
HJ-20-03B	B0051256	53.34	56.39	h20-007	
HJ-20-03B	B0051257	56.39	59.44	h20-007	
HJ-20-03B	B0051258	59.44	62.48	h20-007	
HJ-20-03B	B0051259	59.44	62.48	h20-007	1/4 Duplicate
HJ-20-03B	B0051260	62.48	65.53	h20-007	
HJ-20-03B	B0051261	65.53	68.58	h20-007	
HJ-20-03B	B0051262	68.58	71.02	h20-007	
HJ-20-03B	B0051263	71.02	73.15	h20-007	
HJ-20-03B	B0051264	73.15	74.57	h20-007	

Hole Name	Sample ID	From (m)	To (m)	Batch Name	QA/QC Type
HJ-20-03B	B0051265	74.57	76.2	h20-007	
HJ-20-03B	B0051266	76.2	79.25	h20-007	
HJ-20-03B	B0051267	79.25	81.99	h20-007	
HJ-20-03B	B0051268	81.99	83.82	h20-007	
HJ-20-03B	B0051269	81.99	83.82	h20-007	Coarse Reject Duplicate
HJ-20-03B	B0051270	83.82	86.87	h20-007	
HJ-20-03B	B0051271	86.87	89.92	h20-007	
HJ-20-03B	B0051272	89.92	92.96	h20-007	
HJ-20-03B	B0051274	92.96	94.57	h20-007	
HJ-20-03B	B0051275	94.57	96.01	h20-007	
HJ-20-03B	B0051276	96.01	98.22	h20-007	
HJ-20-03B	B0051277	98.22	101	h20-007	
HJ-20-03B	B0051278	101	103.63	h20-007	
HJ-20-03B	B0051279	103.63	106.68	h20-007	
HJ-20-03B	B0051280	106.68	109.12	h20-007	
HJ-20-03B	B0051281	109.12	112.17	h20-008	
HJ-20-03B	B0051282	112.17	114.3	h20-008	
HJ-20-03B	B0051283	114.3	117.35	h20-008	
HJ-20-03B	B0051284	117.35	120.4	h20-008	
HJ-20-04A	B0051347	0	0	h20-009	Blank
HJ-20-04A	B0051356	0	0	h20-009	Standard; OREAS 62Pa
HJ-20-04A	B0051376	0	0	h20-010	Standard; OREAS 62Pa
HJ-20-04A	B0051387	0	0	h20-010	Blank
HJ-20-04A	B0051340	0	2.27	h20-009	
HJ-20-04A	B0051341	2.27	4.57	h20-009	
HJ-20-04A	B0051342	4.57	7.62	h20-009	
HJ-20-04A	B0051343	7.62	9.34	h20-009	
HJ-20-04A	B0051344	9.34	10.2	h20-009	
HJ-20-04A	B0051345	10.2	13.19	h20-009	
HJ-20-04A	B0051346	13.19	15.24	h20-009	

Hole Name	Sample ID	From (m)	To (m)	Batch Name	QA/QC Type
HJ-20-04A	B0051348	15.24	18.29	h20-009	
HJ-20-04A	B0051349	18.29	21.34	h20-009	
HJ-20-04A	B0051350	18.29	21.34	h20-009	1/4 Duplicate
HJ-20-04A	B0051351	21.34	24.38	h20-009	
HJ-20-04A	B0051352	24.38	25.81	h20-009	
HJ-20-04A	B0051353	25.81	27.43	h20-009	
HJ-20-04A	B0051354	27.43	30.48	h20-009	
HJ-20-04A	B0051355	30.48	31.62	h20-009	
HJ-20-04A	B0051357	31.62	33.53	h20-009	
HJ-20-04A	B0051358	33.53	36.58	h20-009	
HJ-20-04A	B0051359	36.58	39.62	h20-009	
HJ-20-04A	B0051360	39.62	42.67	h20-009	
HJ-20-04A	B0051361	42.67	45.72	h20-010	
HJ-20-04A	B0051362	45.72	48.77	h20-010	
HJ-20-04A	B0051363	48.77	50.29	h20-010	
HJ-20-04A	B0051364	50.29	51.82	h20-010	
HJ-20-04A	B0051365	51.82	54.86	h20-010	
HJ-20-04A	B0051366	54.86	57.91	h20-010	
HJ-20-04A	B0051367	57.91	60.96	h20-010	
HJ-20-04A	B0051368	60.96	62.66	h20-010	
HJ-20-04A	B0051369	62.66	65.53	h20-010	
HJ-20-04A	B0051370	65.53	68.58	h20-010	
HJ-20-04A	B0051371	68.58	73.15	h20-010	
HJ-20-04A	B0051372	68.58	73.15	h20-010	1/4 Duplicate
HJ-20-04A	B0051373	73.15	74.25	h20-010	
HJ-20-04A	B0051374	74.25	76.2	h20-010	
HJ-20-04A	B0051375	76.2	79.25	h20-010	
HJ-20-04A	B0051377	79.25	82.3	h20-010	
HJ-20-04A	B0051378	82.3	85.34	h20-010	
HJ-20-04A	B0051379	85.34	88.39	h20-010	

Hole Name	Sample ID	From (m)	To (m)	Batch Name	QA/QC Type
HJ-20-04A	B0051380	88.39	90.98	h20-010	
HJ-20-04A	B0051381	88.39	90.98	h20-010	Coarse Reject Duplicate
HJ-20-04A	B0051382	90.98	92.96	h20-010	
HJ-20-04A	B0051383	92.96	94.49	h20-010	
HJ-20-04A	B0051384	94.49	97.45	h20-010	
HJ-20-04A	B0051385	97.45	99.91	h20-010	
HJ-20-04A	B0051386	99.91	101.09	h20-010	
HJ-20-04A	B0051388	101.09	103.63	h20-010	
HJ-20-01B	B0051027	0	0	H20-001	Standard; OREAS 62Pa
HJ-20-01B	B0051030	0	0	H20-001	Blank
HJ-20-01B	B0051016	10.67	13.72	H20-001	
HJ-20-01B	B0051017	13.72	15	H20-001	
HJ-20-01B	B0051018	15	16	H20-001	
HJ-20-01B	B0051019	16	17.72	H20-001	
HJ-20-01B	B0051020	17.72	20.59	H20-001	
HJ-20-01B	B0051021	20.59	22.46	H20-001	
HJ-20-01B	B0051022	20.59	22.46	H20-001	1/4 Duplicate
HJ-20-01B	B0051023	22.46	24.38	H20-001	
HJ-20-01B	B0051024	24.38	25.85	H20-001	
HJ-20-01B	B0051025	25.85	27.43	H20-001	
HJ-20-01B	B0051026	27.43	30.48	H20-001	
HJ-20-01B	B0051028	30.48	31.77	H20-001	
HJ-20-01B	B0051029	31.77	33.77	H20-001	
HJ-20-01B	B0051031	33.77	36.58	H20-001	
HJ-20-01B	B0051032	36.58	39.61	H20-001	
HJ-20-01B	B0051033	39.61	41.15	H20-001	
HJ-20-01C	B0051034	7.62	9.32	H20-001	
HJ-20-01C	B0051035	9.32	11.49	H20-001	
HJ-20-01C	B0051036	11.49	13.72	H20-001	
HJ-20-01C	B0051037	13.72	16.76	H20-001	

Hole Name	Sample ID	From (m)	To (m)	Batch Name	QA/QC Type
HJ-20-01C	B0051038	13.72	16.76	H20-001	Coarse Reject Duplicate
HJ-20-01C	B0051039	16.76	19.81	H20-001	
HJ-20-01C	B0051040	19.81	21.34	H20-001	
HJ-20-01C	B0051041	21.34	24.38	H20-002	
HJ-20-01C	B0051042	24.38	27.43	H20-002	
HJ-20-01C	B0051043	27.43	29.11	H20-002	
HJ-20-01C	B0051044	29.11	30.19	H20-002	
HJ-20-01C	B0051045	30.19	32.41	H20-002	
HJ-20-01C	B0051046	32.41	34.75	H20-002	
HJ-20-01C	B0051047	34.75	36.58	H20-002	
HJ-20-01C	B0051048	34.75	36.58	H20-002	1/4 Duplicate
HJ-20-01C	B0051049	36.58	39.62	H20-002	
HJ-20-01C	B0051050	39.62	42.67	H20-002	
HJ-20-01C	B0051051	42.67	45.72	H20-002	
HJ-20-01C	B0051052	45.72	48.46	H20-002	
HJ-20-02B	B0051110	0	0	h20-003	Standard; CDN-ME-16
HJ-20-02B	B0051113	0	0	h20-003	Blank
HJ-20-02B	B0051131	0	0	h20-004	Standard; CDN-ME-16
HJ-20-02B	B0051093	0	2.04	h20-003	
HJ-20-02B	B0051094	2.04	4.57	h20-003	
HJ-20-02B	B0051095	4.57	7.62	h20-003	
HJ-20-02B	B0051096	7.62	10.67	h20-003	
HJ-20-02B	B0051097	10.67	13.72	h20-003	
HJ-20-02B	B0051098	13.72	16.76	h20-003	
HJ-20-02B	B0051099	13.72	16.76	h20-003	1/4 Duplicate
HJ-20-02B	B0051100	16.76	18.54	h20-003	
HJ-20-02B	B0051101	18.54	19.15	h20-003	
HJ-20-02B	B0051102	19.15	21.34	h20-003	
HJ-20-02B	B0051103	19.15	21.34	h20-003	Coarse Reject Duplicate
HJ-20-02B	B0051104	21.34	24.39	h20-003	

Hole Name	Sample ID	From (m)	To (m)	Batch Name	QA/QC Type
HJ-20-02B	B0051105	24.39	27.43	h20-003	
HJ-20-02B	B0051106	27.43	30.48	h20-003	
HJ-20-02B	B0051107	30.48	33.53	h20-003	
HJ-20-02B	B0051108	33.53	36.58	h20-003	
HJ-20-02B	B0051109	36.58	39.62	h20-003	
HJ-20-02B	B0051111	39.62	40.9	h20-003	
HJ-20-02B	B0051112	40.9	42	h20-003	
HJ-20-02B	B0051114	42	44.2	h20-003	
HJ-20-02B	B0051115	44.2	47.24	h20-003	
HJ-20-02B	B0051116	47.24	50.29	h20-003	
HJ-20-02B	B0051117	50.29	53.34	h20-003	
HJ-20-02B	B0051118	53.34	56.39	h20-003	
HJ-20-02B	B0051119	56.39	57.91	h20-003	
HJ-20-02B	B0051120	57.91	60.96	h20-003	
HJ-20-02B	B0051121	60.96	64.01	h20-004	
HJ-20-02B	B0051122	64.01	67.06	h20-004	
HJ-20-02B	B0051123	67.06	69.8	h20-004	
HJ-20-02B	B0051124	69.8	72.85	h20-004	
HJ-20-02B	B0051125	69.8	72.85	h20-004	Coarse Reject Duplicate
HJ-20-02B	B0051126	72.85	76.2	h20-004	
HJ-20-02B	B0051127	76.2	79.25	h20-004	
HJ-20-02B	B0051128	79.25	80.77	h20-004	
HJ-20-02B	B0051129	80.77	82.3	h20-004	
HJ-20-02B	B0051130	82.3	85.34	h20-004	
HJ-20-02B	B0051132	85.34	88.4	h20-004	
HJ-20-02B	B0051133	88.4	91.44	h20-004	
HJ-20-02B	B0051134	91.44	94.5	h20-004	
HJ-20-02B	B0051135	94.5	97.54	h20-004	
HJ-20-02B	B0051136	97.54	100.58	h20-004	
HJ-20-02B	B0051137	100.58	103.63	h20-004	

Hole Name	Sample ID	From (m)	To (m)	Batch Name	QA/QC Type
HJ-20-02B	B0051138	103.63	106.68	h20-004	
HJ-20-02B	B0051139	103.63	106.68	h20-004	1/4 Duplicate
HJ-20-02B	B0051140	106.68	109.73	h20-004	
HJ-20-03C	B0051291	0	0	h20-008	Standard; CDN-ME-16
HJ-20-03C	B0051315	0	0	h20-008	Standard; OREAS 62Pa
HJ-20-03C	B0051317	0	0	h20-008	Blank
HJ-20-03C	B0051285	5.79	7.62	h20-008	
HJ-20-03C	B0051286	7.62	9.45	h20-008	
HJ-20-03C	B0051287	9.45	11.58	h20-008	
HJ-20-03C	B0051288	11.58	12.63	h20-008	
HJ-20-03C	B0051289	12.63	14.63	h20-008	
HJ-20-03C	B0051290	14.63	17.68	h20-008	
HJ-20-03C	B0051292	17.68	20.07	h20-008	
HJ-20-03C	B0051293	20.07	22.56	h20-008	
HJ-20-03C	B0051294	22.56	25.6	h20-008	
HJ-20-03C	B0051295	25.6	26.75	h20-008	
HJ-20-03C	B0051296	26.75	28.65	h20-008	
HJ-20-03C	B0051297	28.65	31.7	h20-008	
HJ-20-03C	B0051298	31.7	34.75	h20-008	
HJ-20-03C	B0051299	31.7	34.75	h20-008	1/4 Duplicate
HJ-20-03C	B0051300	34.75	36.58	h20-008	
HJ-20-03C	B0051301	36.58	38.1	h20-008	
HJ-20-03C	B0051302	38.1	41.15	h20-008	
HJ-20-03C	B0051303	41.15	42.67	h20-008	
HJ-20-03C	B0051304	42.67	45.72	h20-008	
HJ-20-03C	B0051305	45.72	48.77	h20-008	
HJ-20-03C	B0051306	45.72	48.77	h20-008	Coarse Reject Duplicate
HJ-20-03C	B0051307	48.77	51.82	h20-008	
HJ-20-03C	B0051308	51.82	54.86	h20-008	
HJ-20-03C	B0051309	54.86	57.15	h20-008	

Hole Name	Sample ID	From (m)	To (m)	Batch Name	QA/QC Type
HJ-20-03C	B0051310	57.15	59.44	h20-008	
HJ-20-03C	B0051311	59.44	61.06	h20-008	
HJ-20-03C	B0051312	61.06	62.61	h20-008	
HJ-20-03C	B0051313	62.61	65.53	h20-008	
HJ-20-03C	B0051314	65.53	67.1	h20-008	
HJ-20-03C	B0051316	67.1	68.5	h20-008	
HJ-20-03C	B0051318	68.5	70.1	h20-008	
HJ-20-03C	B0051319	70.1	73.15	h20-008	
HJ-20-03C	B0051320	73.15	76.2	h20-008	
HJ-20-03C	B0051321	76.2	79.25	h20-009	
HJ-20-03D	B0051334	0	0	h20-009	Standard; CDN-ME-16
HJ-20-03D	B0051322	6.1	8.84	h20-009	
HJ-20-03D	B0051323	8.84	10.36	h20-009	
HJ-20-03D	B0051324	10.36	11.89	h20-009	
HJ-20-03D	B0051325	11.89	13.72	h20-009	
HJ-20-03D	B0051326	13.72	16.76	h20-009	
HJ-20-03D	B0051327	16.76	19.81	h20-009	
HJ-20-03D	B0051328	19.81	22.86	h20-009	
HJ-20-03D	B0051329	22.86	25.91	h20-009	
HJ-20-03D	B0051330	25.91	28.96	h20-009	
HJ-20-03D	B0051331	28.96	32	h20-009	
HJ-20-03D	B0051332	32	35.05	h20-009	
HJ-20-03D	B0051333	35.05	38.1	h20-009	
HJ-20-03D	B0051335	38.1	41.15	h20-009	
HJ-20-03D	B0051336	41.15	44.2	h20-009	
HJ-20-03D	B0051337	44.2	47.24	h20-009	
HJ-20-03D	B0051338	47.24	48.77	h20-009	
HJ-20-03D	B0051339	47.24	48.77	h20-009	Coarse Reject Duplicate
HJ-20-04B	B0051393	0	0	h20-010	Standard; CDN-ME-16
HJ-20-04B	B0051400	0	0	h20-011	Standard; CDN-ME-16

Hole Name	Sample ID	From (m)	To (m)	Batch Name	QA/QC Type
HJ-20-04B	B0051404	0	0	h20-011	Blank
HJ-20-04B	B0051408	0	0	h20-011	Standard; OREAS 62Pa
HJ-20-04B	B0051389	0	3.05	h20-010	
HJ-20-04B	B0051390	3.05	6.1	h20-010	
HJ-20-04B	B0051391	6.1	9.14	h20-010	
HJ-20-04B	B0051392	9.14	12.19	h20-010	
HJ-20-04B	B0051394	12.19	15.24	h20-010	
HJ-20-04B	B0051395	15.24	18.29	h20-010	
HJ-20-04B	B0051396	18.29	21.34	h20-011	
HJ-20-04B	B0051397	21.34	22.89	h20-011	
HJ-20-04B	B0051398	22.89	24.38	h20-011	
HJ-20-04B	B0051399	24.38	25.91	h20-011	
HJ-20-04B	B0051401	25.91	28.42	h20-011	
HJ-20-04B	B0051402	28.42	30.48	h20-011	
HJ-20-04B	B0051403	30.48	33.22	h20-011	
HJ-20-04B	B0051405	33.22	36.27	h20-011	
HJ-20-04B	B0051406	36.27	39.32	h20-011	
HJ-20-04B	B0051407	39.32	40.84	h20-011	
HJ-20-04B	B0051409	40.84	43.89	h20-011	
HJ-20-04B	B0051410	40.84	43.89	h20-011	Coarse Reject Duplicate
HJ-20-04B	B0051411	43.89	46.94	h20-011	
HJ-20-04B	B0051412	46.94	48.46	h20-011	
HJ-20-04B	B0051413	48.46	50.29	h20-011	
HJ-20-04B	B0051414	48.46	50.29	h20-011	1/4 Duplicate
HJ-20-04B	B0051415	50.29	51.82	h20-011	

Hole Name	From (m)	To (m)	Recovery (m)	Recovery (%)	RQD (m)	RQD (%)	Strength	Reactivity	Weathering	Hardness

Hole Name	From (m)	To (m)	Recovery (m)	Recovery (%)	RQD (m)	RQD (%)	Strength	Reactivity	Weathering	Hardness
HJ-20-01A	0	1.22	0.14	11.47540984	0	0	0S	3R	6W	1H
HJ-20-01A	1.22	1.83	0.09	14.75409836	0	0	0S	1R	6W	3H
HJ-20-01A	1.83	2.74	0.2	21.97802198	0	0	2S	3R	6W	2H
HJ-20-01A	2.74	4.27	0.33	21.56862745	0	0	2S	3R	6W	2H
HJ-20-01A	4.27	6.1	0.45	24.59016393	0	0	2S	3R	6W	2H
HJ-20-01A	6.1	7.62	0.21	13.81578947	0	0	4S	1R	6W	3H
HJ-20-01A	7.62	8.84	0.9	73.7704918	0	0	1S	3R	4W	3H
HJ-20-01A	8.84	10.06	0.48	39.3442623	0	0	4S	1R	3W	3H
HJ-20-01A	10.06	11.28	0.67	54.91803279	0	0	1S	3R	4W	2H
HJ-20-01A	11.28	11.89	0.5	81.96721311	0.31	50.81967213	3S	1R	2W	3H
HJ-20-01A	11.89	12.8	0.79	86.81318681	0.53	58.24175824	2S	2R	2W	2H
HJ-20-01A	12.8	13.72	0.76	82.60869565	0	0	2S	1R	5W	2H
HJ-20-01A	13.72	15.24	1.25	82.23684211	0.44	28.94736842	3S	2R	3W	3H
HJ-20-01A	15.24	15.85	0.5	81.96721311	0	0	0S	2R	5W	2H
HJ-20-01A	15.85	16.76	0.82	90.10989011	0	0	1S	1R	5W	2H
HJ-20-01A	16.76	18.29	1.05	68.62745098	0	0	0S	0R	4W	2H
HJ-20-01A	18.29	18.9	0.3	49.18032787	0	0	2S	2R	4W	2H
HJ-20-01A	18.9	19.65	0.5	66.66666667	0	0	2S	3R	3W	3H
HJ-20-01A	19.65	20.42	0.4	51.94805195	0	0	1S	1R	3W	2H
HJ-20-01A	20.42	21.34	0.22	23.91304348	0.11	11.95652174	2S	2R	2W	2H
HJ-20-01A	21.34	21.95	0.61	100	0	0	0S	2R	5W	2H
HJ-20-01A	21.95	22.86	0.82	90.10989011	0	0	0S	1R	5W	4H
HJ-20-01A	22.86	23.03	0.1	58.82352941	0	0	0S	2R	4W	3H
HJ-20-01A	23.03	24.38	1.25	92.59259259	0	0	2S	1R	3W	4H
HJ-20-01A	24.38	25.91	1.34	87.58169935	0.26	16.99346405	2S	2R	2W	4H
HJ-20-01A	25.91	26.86	0.9	94.73684211	0.1	10.52631579	2S	2R	2W	4H
HJ-20-01A	26.86	27.43	0.55	96.49122807	0.1	17.54385965	1S	0R	2W	3H
HJ-20-01A	27.43	28.96	1.5	98.03921569	0.1	6.535947712	2S	1R	2W	4H
HJ-20-01A	28.96	30.24	1.08	84.375	0.2	15.625	2S	1R	2W	3H

Hole Name	From (m)	To (m)	Recovery (m)	Recovery (%)	RQD (m)	RQD (%)	Strength	Reactivity	Weathering	Hardness
HJ-20-01A	30.24	30.48	0.21	87.5	0	0	2S	1R	2W	2H
HJ-20-01A	30.48	32	1.2	78.94736842	0	0	2S	1R	2W	4H
HJ-20-01A	32	33.53	1.5	98.03921569	0	0	2S	1R	2W	4H
HJ-20-01A	33.53	34.05	0.3	57.69230769	0	0	2S	1R	2W	2H
HJ-20-01A	34.05	35.05	0.9	90	0	0	2S	1R	3W	3H
HJ-20-01A	35.05	36.58	1.38	90.19607843	0	0	2S	1R	1W	3H
HJ-20-01A	36.58	37.11	0.4	75.47169811	0	0	2S	1R	2W	2H
HJ-20-01A	37.11	38.1	0.85	85.85858586	0	0	2S	1R	2W	2H
HJ-20-01A	38.1	39.62	1.45	95.39473684	0.45	29.60526316	3S	1R	1W	2H
HJ-20-01A	39.62	40.8	1.18	100	0.49	41.52542373	2S	1R	2W	4H
HJ-20-01A	40.8	41.15	0.35	100	0.1	28.57142857	2S	1R	3W	3H
HJ-20-01A	41.15	42.67	1.42	93.42105263	0.29	19.07894737	2S	1R	3W	3H
HJ -20-02A	0	1.52	0.67	44.07894737	0	0	3S	0R	5W	3H
HJ -20-02A	1.52	3.05	1.29	84.31372549	0.21	13.7254902	2S	2R	6W	2H
HJ -20-02A	3.05	4.57	1.52	100	1	65.78947368	4S	2R	2W	3H
HJ -20-02A	4.57	6.1	1.51	98.69281046	1.26	82.35294118	3S	1R	2W	2H
HJ -20-02A	6.1	7.62	1.52	100	1.52	100	2S	2R	1W	2H
HJ -20-02A	7.62	9.14	1.49	98.02631579	0.9	59.21052632	2S	1R	1W	3H
HJ -20-02A	9.14	10.67	1.52	99.34640523	1.02	66.66666667	3S	1R	2W	2H
HJ -20-02A	10.67	12.19	1.52	100	1.18	77.63157895	2S	0R	2W	3H
HJ -20-02A	12.19	13.72	1.32	86.2745098	1	65.35947712	2S	0R	1W	3H
HJ -20-02A	13.72	15.24	1.52	100	1.36	89.47368421	3S	0R	1W	2H
HJ -20-02A	15.24	16.76	1.4	92.10526316	1	65.78947368	2S	1R	1W	2H
HJ -20-02A	16.76	18.29	1.53	100	0.7	45.75163399	2S	2R	2W	2H
HJ -20-02A	18.29	19.81	1.52	100	0.77	50.65789474	2S	2R	2W	2H
HJ -20-02A	19.81	21.34	1.53	100	0.96	62.74509804	2S	1R	1W	2H
HJ -20-02A	21.34	22.86	1.52	100	1.42	93.42105263	2S	1R	1W	2H
HJ -20-02A	22.86	24.38	1.46	96.05263158	0.96	63.15789474	3S	0R	1W	3H
HJ -20-02A	24.38	25.91	1.5	98.03921569	1.24	81.04575163	3S	0R	1W	3H

Hole Name	From (m)	To (m)	Recovery (m)	Recovery (%)	RQD (m)	RQD (%)	Strength	Reactivity	Weathering	Hardness
HJ -20-02A	25.91	28.96	2.96	97.04918033	2.48	81.31147541	3S	0R	1W	4H
HJ -20-02A	28.96	30.48	1.52	100	1.08	71.05263158	3S	0R	1W	3H
HJ -20-02A	30.48	31.7	1.05	86.06557377	0.43	35.24590164	4S	0R	2W	4H
HJ -20-02A	31.7	33.22	1.52	100	0.95	62.5	4S	1R	1W	4H
HJ -20-02A	33.22	34.75	1.49	97.38562092	1.04	67.97385621	2S	1R	1W	3H
HJ -20-02A	34.75	36.27	1.52	100	1.17	76.97368421	2S	1R	1W	3H
HJ -20-02A	36.27	37.79	1.47	96.71052632	1.16	76.31578947	3S	1R	1W	3H
HJ -20-02A	37.79	39.01	1.16	95.08196721	0.84	68.85245902	3S	1R	1W	3H
HJ -20-02A	39.01	41.18	2.07	95.39170507	1.13	52.07373272	2S	1R	1W	3H
HJ -20-02A	41.18	42.67	1.47	98.65771812	1.23	82.55033557	4S	2R	1W	4H
HJ -20-02A	42.67	44.2	1.53	100	1.07	69.93464052	3S	2R	1W	3H
HJ -20-02A	44.2	45.72	1.48	97.36842105	1.41	92.76315789	4S	0R	1W	4H
HJ -20-02A	45.72	47.24	1.52	100	1.11	73.02631579	2S	0R	1W	4H
HJ -20-02A	47.24	48.77	1.44	94.11764706	1.21	79.08496732	3S	0R	1W	4H
HJ -20-02A	48.77	50.29	1.52	100	1.2	78.94736842	3S	0R	1W	4H
HJ -20-02A	50.29	51.82	1.53	100	1.36	88.88888889	3S	0R	1W	4H
HJ -20-02A	51.82	53.34	1.48	97.36842105	1.12	73.68421053	3S	0R	1W	3H
HJ -20-02A	53.34	54.86	1.52	100	1.26	82.89473684	3S	0R	1W	3H
HJ -20-02A	54.86	56.34	1.48	100	1.35	91.21621622	3S	0R	1W	4H
HJ -20-02A	56.34	59.44	2.85	91.93548387	1.31	42.25806452	3S	2R	2W	4H
HJ -20-02A	59.44	60.96	1.5	98.68421053	1.06	69.73684211	3S	2R	1W	3H
HJ -20-02A	60.96	62.48	1.34	88.15789474	0.55	36.18421053	3S	2R	2W	3H
HJ -20-02A	62.48	64.01	1.49	97.38562092	0.86	56.20915033	3S	2R	2W	3H
HJ -20-02A	64.01	65.53	1.42	93.42105263	0.83	54.60526316	3S	2R	1W	3H
HJ -20-02A	65.53	67.06	1.49	97.38562092	0.96	62.74509804	3S	2R	2W	3H
HJ -20-02A	67.06	68.58	1.52	100	1.04	68.42105263	3S	2R	2W	3H
HJ -20-02A	68.58	70.1	1.46	96.05263158	0.89	58.55263158	3S	2R	2W	3H
HJ -20-02A	70.1	71.63	1.46	95.4248366	0.44	28.75816993	3S	2R	2W	3H
HJ -20-02A	71.63	73.15	1.52	100	1.12	73.68421053	3S	2R	2W	3H

Hole Name	From (m)	To (m)	Recovery (m)	Recovery (%)	RQD (m)	RQD (%)	Strength	Reactivity	Weathering	Hardness
HJ -20-02A	73.15	74.68	1.53	100	0.67	43.79084967	3S	2R	2W	3H
HJ -20-02A	74.68	75.82	1.12	98.24561404	0.83	72.80701754	3S	0R	1W	3H
HJ -20-02A	75.82	76.2	0.35	92.10526316	0	0	3S	0R	2W	3H
HJ -20-02A	76.2	77.72	1.52	100	0.86	56.57894737	4S	0R	2W	3H
HJ -20-02A	77.72	79.25	1.45	94.77124183	0.74	48.36601307	3S	0R	2W	3H
HJ -20-02A	79.25	80.77	1.52	100	0.98	64.47368421	3S	0R	2W	3H
HJ -20-02A	80.77	82.3	1.53	100	1.38	90.19607843	3S	0R	2W	3H
HJ -20-02A	82.3	83.82	1.52	100	0.46	30.26315789	3S	0R	2W	3H
HJ -20-02A	83.82	85.34	1.52	100	0.92	60.52631579	3S	1R	2W	3H
HJ -20-02A	85.34	86.87	1.51	98.69281046	0.69	45.09803922	3S	0R	2W	3H
HJ -20-02A	86.87	88.4	1.51	98.69281046	0.93	60.78431373	3S	0R	2W	3H
HJ -20-02A	88.4	89.92	1.47	96.71052632	0.92	60.52631579	3S	0R	2W	3H
HJ-20-01B	0	1.52	0.06	3.947368421	0	0	3S	3R	6W	3H
HJ-20-01B	1.52	2.74	0.14	11.47540984	0	0	3S	3R	6W	3H
HJ-20-01B	2.74	4.27	0.11	7.189542484	0	0	3S	3R	6W	3H
HJ-20-01B	4.27	5.79	0.2	13.15789474	0	0	3S	3R	6W	3H
HJ-20-01B	5.79	6.71	0.21	22.82608696	0	0	3S	3R	4W	3H
HJ-20-01B	6.71	7.62	0.5	54.94505495	0	0	3S	3R	4W	3H
HJ-20-01B	7.62	9.14	0.64	42.10526316	0	0	3S	3R	4W	3H
HJ-20-01B	9.14	10.67	0.62	40.52287582	0	0	3S	3R	4W	3H
HJ-20-01B	10.67	12.19	1.14	75	0	0	3S	2R	4W	3H
HJ-20-01B	12.19	13.72	0.94	61.4379085	0	0	3S	2R	4W	3H
HJ-20-01B	13.72	15.24	1.42	93.42105263	0.18	11.84210526	3S	1R	3W	3H
HJ-20-01B	15.24	16.76	0.96	63.15789474	0	0	4S	0R	3W	4H
HJ-20-01B	16.76	18.29	1.52	99.34640523	0	0	4S	0R	3W	4H
HJ-20-01B	18.29	19.81	1.48	97.36842105	0	0	3S	0R	4W	4H
HJ-20-01B	19.81	21.34	1.51	98.69281046	0	0	3S	0R	3W	4H
HJ-20-01B	21.34	22.86	1.49	98.02631579	0	0	3S	0R	3W	4H
HJ-20-01B	22.86	24.38	1.33	87.5	0	0	4S	0R	4W	4H

Hole Name	From (m)	To (m)	Recovery (m)	Recovery (%)	RQD (m)	RQD (%)	Strength	Reactivity	Weathering	Hardness
HJ-20-01B	24.38	25.91	1.43	93.46405229	0	0	3S	1R	4W	3H
HJ-20-01B	25.91	27.43	1.5	98.68421053	0	0	3S	0R	2W	4H
HJ-20-01B	27.43	28.96	1.53	100	0	0	3S	0R	2W	4H
HJ-20-01B	28.96	30.48	1.41	92.76315789	0	0	4S	0R	2W	4H
HJ-20-01B	30.48	32	1.5	98.68421053	0	0	3S	0R	2W	4H
HJ-20-01B	32	33.53	1.53	100	0.17	11.11111111	3S	0R	3W	3H
HJ-20-01B	33.53	35.05	1.41	92.76315789	0	0	3S	0R	3W	4H
HJ-20-01B	35.05	36.58	1.51	98.69281046	0	0	2S	0R	3W	4H
HJ-20-01B	36.58	38.1	1.52	100	0	0	3S	0R	3W	4H
HJ-20-01B	38.1	39.61	1.3	86.09271523	0	0	3S	0R	3W	4H
HJ-20-01B	39.61	40.23	0.4	64.51612903	0	0	3S	0R	2W	4H
HJ-20-01B	40.23	41.15	0.71	77.17391304	0	0	3S	0R	1W	4H
HJ-20-01C	0	1.52	0.48	31.57894737	0	0	1S	2R	6W	2H
HJ-20-01C	1.52	3.05	0.5	32.67973856	0	0	3S	2R	6W	3H
HJ-20-01C	3.05	4.57	0.75	49.34210526	0	0	2S	3R	6W	3H
HJ-20-01C	4.57	5.89	0.73	55.3030303	0	0	2S	2R	6W	3H
HJ-20-01C	5.89	6.1	0.16	76.19047619	0	0	2S	2R	6W	3H
HJ-20-01C	6.1	7.62	0.97	63.81578947	0	0	3S	3R	5W	3H
HJ-20-01C	7.62	9.14	0.76	50	0	0	4S	2R	5W	4H
HJ-20-01C	9.14	9.52	0.33	86.84210526	0.11	28.94736842	3S	2R	3W	4H
HJ-20-01C	9.52	10.67	0.5	43.47826087	0	0	3S	2R	5W	3H
HJ-20-01C	10.67	10.97	0.13	43.33333333	0	0	4S	1R	3W	4H
HJ-20-01C	10.97	12.19	0.63	51.63934426	0	0	3S	2R	3W	4H
HJ-20-01C	12.19	13.79	1.33	83.125	0	0	3S	1R	2W	4H
HJ-20-01C	13.79	15.24	1.34	92.4137931	0	0	1S	3R	4W	3H
HJ-20-01C	15.24	16.76	0.96	63.15789474	0	0	2S	2R	4W	3H
HJ-20-01C	16.76	18.29	1.33	86.92810458	0	0	3S	0R	4W	2H
HJ-20-01C	18.29	19.81	1.4	92.10526316	0	0	3S	2R	4W	3H
HJ-20-01C	19.81	21.34	1.1	71.89542484	0	0	3S	1R	4W	3H

Hole Name	From (m)	To (m)	Recovery (m)	Recovery (%)	RQD (m)	RQD (%)	Strength	Reactivity	Weathering	Hardness
HJ-20-01C	21.34	22.86	1.03	67.76315789	0	0	2S	2R	5W	3H
HJ-20-01C	22.86	24.38	0.42	27.63157895	0	0	2S	1R	4W	3H
HJ-20-01C	24.38	25.91	1.1	71.89542484	0	0	1S	1R	2W	3H
HJ-20-01C	25.91	27.43	0.91	59.86842105	0	0	3S	0R	3W	4H
HJ-20-01C	27.43	28.35	0.86	93.47826087	0	0	2S	0R	3W	4H
HJ-20-01C	28.35	28.96	0.46	75.40983607	0	0	1S	0R	3W	3H
HJ-20-01C	28.96	30.48	1.09	71.71052632	0	0	3S	0R	2W	3H
HJ-20-01C	30.48	32	1.16	76.31578947	0	0	3S	0R	3W	4H
HJ-20-01C	32	33.22	1.05	86.06557377	0	0	3S	0R	2W	3H
HJ-20-01C	33.22	34.75	1.4	91.50326797	0.42	27.45098039	3S	0R	1W	3H
HJ-20-01C	34.75	35.05	0.25	83.33333333	0.11	36.66666667	3S	0R	1W	3H
HJ-20-01C	35.05	36.58	1.42	92.81045752	0	0	4S	0R	1W	3H
HJ-20-01C	36.58	38.1	1.1	72.36842105	0	0	2S	1R	1W	3H
HJ-20-01C	38.1	39.62	1.35	88.81578947	0	0	0S	1R	1W	2H
HJ-20-01C	39.62	41.15	1.04	67.97385621	0	0	3S	0R	1W	3H
HJ-20-01C	41.15	42.67	0.95	62.5	0	0	0S	0R	1W	2H
HJ-20-01C	42.67	44.2	0.59	38.5620915	0	0	0S	0R	1W	2H
HJ-20-01C	44.2	45.72	0.8	52.63157895	0	0	0S	0R	1W	2H
HJ-20-01C	45.72	47.24	0.84	55.26315789	0	0	0S	0R	1W	2H
HJ-20-01C	47.24	48.46	0.95	77.86885246	0	0	0S	0R	1W	2H
HJ -20-02C	0	1.52	0.3	19.73684211	0	0	--	0R	4W	3H
HJ -20-02C	1.52	3.05	1.2	78.43137255	0.44	28.75816993	4S	1R	3W	3H
HJ -20-02C	3.05	4.57	1.34	88.15789474	0.83	54.60526316	3S	2R	2W	3H
HJ -20-02C	4.57	6.1	1.42	92.81045752	0.82	53.59477124	3S	2R	2W	3H
HJ -20-02C	6.1	7.62	1.48	97.36842105	1.11	73.02631579	3S	2R	1W	3H
HJ -20-02C	7.62	9.14	1.44	94.73684211	1.05	69.07894737	3S	2R	2W	3H
HJ -20-02C	9.14	10.67	1.46	95.4248366	1.11	72.54901961	3S	2R	2W	3H
HJ -20-02C	10.67	12.19	1.52	100	1.37	90.13157895	3S	2R	2W	3H
HJ -20-02C	12.19	13.72	1.53	100	1.26	82.35294118	3S	2R	2W	3H

Hole Name	From (m)	To (m)	Recovery (m)	Recovery (%)	RQD (m)	RQD (%)	Strength	Reactivity	Weathering	Hardness
HJ -20-02C	13.72	15.24	1.46	96.05263158	1.04	68.42105263	3S	1R	2W	3H
HJ -20-02C	15.24	16.76	1.35	88.81578947	0.76	50	3S	1R	2W	3H
HJ -20-02C	16.76	18.3	1.53	99.35064935	1.24	80.51948052	3S	2R	2W	3H
HJ -20-02C	18.3	19.81	1.43	94.70198675	1.19	78.80794702	3S	0R	2W	4H
HJ -20-02C	19.81	21.34	1.51	98.69281046	1.4	91.50326797	3S	3R	2W	3H
HJ -20-02C	21.34	22.86	1.51	99.34210526	1.15	75.65789474	3S	3R	2W	3H
HJ -20-02C	22.86	24.38	1.38	90.78947368	0.62	40.78947368	3S	2R	2W	3H
HJ -20-02C	24.38	25.91	1.46	95.4248366	1.2	78.43137255	3S	2R	2W	3H
HJ -20-02C	25.91	27.43	1.47	96.71052632	1.17	76.97368421	3S	1R	2W	3H
HJ -20-02C	27.43	28.96	1.48	96.73202614	1.27	83.00653595	3S	1R	1W	3H
HJ -20-02C	28.96	30.48	1.47	96.71052632	1.25	82.23684211	3S	1R	1W	3H
HJ -20-02C	30.48	32	1.41	92.76315789	0.7	46.05263158	3S	0R	1W	4H
HJ -20-02C	32	33.53	1.47	96.07843137	1.2	78.43137255	3S	0R	1W	4H
HJ -20-02C	33.53	35.05	1.48	97.36842105	0.97	63.81578947	3S	0R	1W	4H
HJ -20-02C	35.05	36.58	1.51	98.69281046	1.43	93.46405229	3S	1R	2W	3H
HJ -20-02C	36.58	38.1	1.51	99.34210526	0.9	59.21052632	3S	2R	1W	3H
HJ -20-02C	38.1	39.62	1.49	98.02631579	1.09	71.71052632	3S	3R	1W	3H
HJ -20-02C	39.62	41.15	1.43	93.46405229	1.31	85.62091503	3S	3R	1W	3H
HJ -20-02C	41.15	42.67	1.52	100	1.5	98.68421053	3S	3R	2W	4H
HJ -20-02C	42.67	44.2	1.48	96.73202614	1.36	88.88888889	3S	3R	1W	4H
HJ -20-02C	44.2	45.72	1.5	98.68421053	1.37	90.13157895	3S	3R	2W	4H
HJ -20-02C	45.72	47.24	1.51	99.34210526	0.96	63.15789474	3S	3R	1W	4H
HJ -20-02C	47.24	51.82	1.47	32.09606987	1.16	25.32751092	3S	2R	1W	4H
HJ -20-02C	51.82	53.34	1.5	98.68421053	1.28	84.21052632	3S	2R	1W	4H
HJ -20-02C	53.34	54.86	1.49	98.02631579	1.27	83.55263158	3S	0R	1W	4H
HJ -20-02C	54.86	56.39	1.46	95.4248366	1.05	68.62745098	3S	0R	1W	3H
HJ -20-02C	56.39	57.91	1.41	92.76315789	1.16	76.31578947	3S	1R	1W	4H
HJ -20-02C	57.91	59.44	1.52	99.34640523	0.61	39.86928105	3S	1R	2W	3H
HJ -20-02C	59.44	60.96	1.5	98.68421053	1.21	79.60526316	3S	1R	2W	3H

Hole Name	From (m)	To (m)	Recovery (m)	Recovery (%)	RQD (m)	RQD (%)	Strength	Reactivity	Weathering	Hardness
HJ -20-02C	60.96	62.48	1.48	97.36842105	0.95	62.5	3S	1R	2W	3H
HJ -20-02C	62.48	64.01	1.51	98.69281046	1.18	77.12418301	3S	0R	2W	3H
HJ -20-02C	64.01	65.53	1.51	99.34210526	1.51	99.34210526	3S	0R	1W	3H
HJ -20-02C	65.53	67.06	1.48	96.73202614	0.92	60.13071895	3S	0R	2W	3H
HJ -20-02C	67.06	68.58	1.52	100	0.92	60.52631579	3S	1R	3W	3H
HJ -20-02C	68.58	70.1	1.35	88.81578947	0.8	52.63157895	3S	2R	4W	3H
HJ -20-02C	70.1	71.63	1.46	95.4248366	1.24	81.04575163	3S	1R	2W	3H
HJ -20-02C	71.63	73.15	1.44	94.73684211	0.89	58.55263158	3S	1R	2W	3H
HJ -20-02C	73.15	74.68	1.51	98.69281046	0.92	60.13071895	3S	0R	2W	3H
HJ -20-02C	74.68	76.2	1.46	96.05263158	1.17	76.97368421	3S	1R	2W	3H
HJ -20-02C	76.2	77.72	1.45	95.39473684	1.06	69.73684211	3S	1R	2W	3H
HJ -20-02C	77.72	79.25	1.46	95.4248366	1.25	81.69934641	3S	1R	2W	3H
HJ -20-02C	79.25	80.77	1.33	87.5	1.05	69.07894737	3S	1R	2W	3H
HJ -20-02C	80.77	82.3	1.52	99.34640523	1.36	88.88888889	3S	1R	2W	3H
HJ -20-02C	82.3	83.82	1.47	96.71052632	1.09	71.71052632	3S	1R	2W	3H
HJ -20-02C	83.82	86.87	1.14	37.37704918	0.32	10.49180328	3S	2R	3W	3H
HJ -20-02C	86.87	88.39	1.43	94.07894737	0.8	52.63157895	3S	1R	2W	3H
HJ -20-02C	88.39	89.92	1.33	86.92810458	1.06	69.28104575	3S	0R	2W	3H
HJ -20-02C	89.92	91.44	1.38	90.78947368	0.79	51.97368421	3S	0R	2W	3H
HJ -20-02C	91.44	92.96	1.25	82.23684211	0.38	25	3S	0R	2W	3H
HJ -20-02C	92.96	94.49	1.23	80.39215686	0.65	42.48366013	3S	0R	2W	3H
HJ -20-02C	94.49	96.01	1.45	95.39473684	0.86	56.57894737	3S	0R	2W	3H
HJ -20-02C	96.01	97.54	1.41	92.15686275	0.63	41.17647059	3S	0R	2W	3H
HJ -20-02C	97.54	99.06	1.22	80.26315789	0.21	13.81578947	3S	0R	2W	3H
HJ -20-02C	99.06	100.58	1.31	86.18421053	0.1	6.578947368	3S	1R	3W	3H
HJ -20-02C	100.58	102.12	1.42	92.20779221	0.7	45.45454545	3S	1R	3W	3H
HJ -20-02C	102.12	103.63	1.33	88.0794702	0.7	46.35761589	3S	0R	3W	3H
HJ -20-02C	103.63	105.16	1.43	93.46405229	0.47	30.71895425	3S	1R	2W	3H
HJ -20-02C	105.16	106.68	1.51	99.34210526	0.36	23.68421053	3S	1R	3W	3H

Hole Name	From (m)	To (m)	Recovery (m)	Recovery (%)	RQD (m)	RQD (%)	Strength	Reactivity	Weathering	Hardness
HJ -20-03A	0	1.52	0.25	16.44736842	0	0	2S	0R	5W	3H
HJ -20-03A	1.52	3.05	0.39	25.49019608	0	0	2S	0R	4W	3H
HJ -20-03A	3.05	3.96	0.51	56.04395604	0	0	2S	0R	4W	3H
HJ -20-03A	3.96	4.57	0.45	73.7704918	0	0	2S	0R	4W	3H
HJ -20-03A	4.57	6.1	0.75	49.01960784	0	0	3S	0R	4W	3H
HJ -20-03A	6.1	7.62	0.88	57.89473684	0	0	3S	0R	4W	3H
HJ -20-03A	7.62	9.14	1.01	66.44736842	0	0	3S	0R	3W	3H
HJ -20-03A	9.14	10.67	1.39	90.8496732	0	0	4S	0R	2W	3H
HJ -20-03A	10.67	12.19	1.26	82.89473684	0	0	3S	0R	2W	3H
HJ -20-03A	12.19	13.72	1.25	81.69934641	0	0	3S	0R	3W	4H
HJ -20-03A	13.72	15.24	1.32	86.84210526	0	0	3S	0R	2W	3H
HJ -20-03A	15.24	16.76	1.31	86.18421053	0	0	3S	0R	3W	3H
HJ -20-03A	16.76	18.29	1.1	71.89542484	0	0	2S	0R	3W	3H
HJ -20-03A	18.29	19.81	1.52	100	0	0	3S	2R	2W	3H
HJ -20-03A	19.81	21.39	1.52	96.20253165	0	0	3S	1R	2W	3H
HJ -20-03A	21.39	22.86	0.6	40.81632653	0	0	4S	0R	4W	3H
HJ -20-03A	22.86	24.38	1.2	78.94736842	0	0	4S	2R	4W	3H
HJ -20-03A	24.38	25.91	1.3	84.96732026	0	0	2S	2R	4W	3H
HJ -20-03A	25.91	27.43	1.5	98.68421053	0	0	3S	1R	2W	3H
HJ -20-03A	27.43	28.96	1.52	99.34640523	0	0	2S	1R	1W	3H
HJ -20-03A	28.96	30.18	1.06	86.8852459	0	0	2S	1R	1W	3H
HJ -20-03A	30.18	31.7	1.45	95.39473684	0	0	3S	1R	1W	3H
HJ -20-03A	31.7	32.61	0.89	97.8021978	0	0	3S	1R	1W	4H
HJ -20-03A	32.61	33.53	0.87	94.56521739	0	0	3S	2R	2W	3H
HJ -20-03A	33.53	35.05	1.35	88.81578947	0	0	3S	0R	2W	4H
HJ -20-03A	35.05	36.58	1.47	96.07843137	0	0	2S	0R	2W	4H
HJ -20-03A	36.58	38.1	1.46	96.05263158	0.69	45.39473684	3S	0R	2W	3H
HJ -20-03A	38.1	39.62	1.49	98.02631579	1.24	81.57894737	3S	0R	2W	4H
HJ -20-03A	39.62	41.14	1.42	93.42105263	0.66	43.42105263	4S	0R	2W	3H

Hole Name	From (m)	To (m)	Recovery (m)	Recovery (%)	RQD (m)	RQD (%)	Strength	Reactivity	Weathering	Hardness
HJ -20-03A	41.14	42.67	1.45	94.77124183	0.63	41.17647059	4S	1R	1W	3H
HJ -20-03A	42.67	44.2	1.43	93.46405229	0.9	58.82352941	3S	1R	2W	3H
HJ -20-03A	44.2	45.72	1.46	96.05263158	0.95	62.5	3S	0R	1W	4H
HJ -20-03A	45.72	47.24	1.37	90.13157895	0.59	38.81578947	4S	0R	2W	3H
HJ -20-03A	47.24	48.16	0.7	76.08695652	0	0	3S	0R	3W	3H
HJ -20-03A	48.16	49.68	1.11	73.02631579	0.4	26.31578947	4S	1R	3W	4H
HJ -20-03A	49.68	51.21	1.49	97.38562092	1.04	67.97385621	3S	0R	2W	3H
HJ -20-03A	51.21	52.73	1.5	98.68421053	1.09	71.71052632	3S	0R	2W	3H
HJ -20-03A	52.73	54.25	1.49	98.02631579	0.8	52.63157895	3S	0R	2W	4H
HJ -20-03A	54.25	55.78	1.51	98.69281046	0.72	47.05882353	3S	0R	2W	3H
HJ -20-03A	55.78	57.61	1.6	87.43169399	0.6	32.78688525	3S	0R	2W	3H
HJ -20-03A	57.61	59.13	1.44	94.73684211	0.73	48.02631579	4S	0R	2W	3H
HJ -20-03A	59.13	60.66	1.53	100	0.93	60.78431373	3S	0R	2W	3H
HJ -20-03A	60.66	62.18	1.52	100	1.05	69.07894737	3S	0R	2W	3H
HJ -20-03A	62.18	63.7	1.52	100	1.15	75.65789474	3S	0R	1W	3H
HJ -20-03A	63.7	65.38	1.63	97.02380952	0.89	52.97619048	3S	0R	1W	3H
HJ -20-03A	65.38	67.06	1.53	91.07142857	1.19	70.83333333	3S	0R	1W	3H
HJ -20-03A	67.06	68.58	1.51	99.34210526	0.97	63.81578947	3S	0R	1W	3H
HJ -20-03A	68.58	70.1	1.52	100	1.03	67.76315789	4S	0R	1W	3H
HJ -20-03A	70.1	71.63	1.5	98.03921569	0.42	27.45098039	4S	0R	1W	4H
HJ -20-03A	71.63	73.15	1.49	98.02631579	0.71	46.71052632	3S	0R	1W	4H
HJ -20-03A	73.15	74.68	1.48	96.73202614	1.07	69.93464052	3S	0R	1W	4H
HJ -20-03A	74.68	76.2	1.46	96.05263158	1.14	75	3S	0R	1W	3H
HJ -20-03A	76.2	77.72	1.5	98.68421053	0.79	51.97368421	3S	0R	1W	3H
HJ -20-03A	77.72	79.25	1.45	94.77124183	0.86	56.20915033	3S	0R	2W	3H
HJ -20-03A	79.25	80.77	1.51	99.34210526	0.63	41.44736842	3S	0R	1W	3H
HJ -20-03A	80.77	82.3	1.52	99.34640523	0.58	37.90849673	3S	0R	1W	3H
HJ -20-03A	82.3	83.82	1.52	100	1.1	72.36842105	4S	0R	1W	3H
HJ -20-03A	83.82	85.34	1.51	99.34210526	0.87	57.23684211	3S	0R	1W	3H

Hole Name	From (m)	To (m)	Recovery (m)	Recovery (%)	RQD (m)	RQD (%)	Strength	Reactivity	Weathering	Hardness
HJ -20-03A	85.34	86.87	1.5	98.03921569	0.96	62.74509804	3S	0R	1W	3H
HJ -20-03A	86.87	88.39	1.52	100	0.38	25	3S	0R	1W	3H
HJ -20-03A	88.39	89.92	1.49	97.38562092	0.44	28.75816993	4S	0R	1W	3H
HJ -20-03A	89.92	91.44	1.52	100	1.24	81.57894737	4S	0R	1W	3H
HJ -20-03A	91.44	92.96	1.52	100	1.04	68.42105263	3S	0R	1W	3H
HJ -20-03A	92.96	94.49	1.49	97.38562092	0.96	62.74509804	3S	0R	1W	3H
HJ -20-03A	94.49	96.01	1.51	99.34210526	0.54	35.52631579	3S	0R	1W	3H
HJ -20-03A	96.01	97.54	1.52	99.34640523	1	65.35947712	3S	0R	1W	3H
HJ -20-03A	97.54	99.06	1.49	98.02631579	0.29	19.07894737	3S	0R	1W	3H
HJ -20-03A	99.06	100.58	1.51	99.34210526	1.1	72.36842105	4S	0R	2W	3H
HJ -20-03A	100.58	102.11	1.45	94.77124183	0.31	20.26143791	3S	0R	2W	3H
HJ -20-03A	102.11	103.63	1.42	93.42105263	0.58	38.15789474	3S	0R	2W	3H
HJ -20-03A	103.63	105.16	1.49	97.38562092	0.54	35.29411765	3S	0R	2W	3H
HJ -20-03A	105.16	106.68	1.48	97.36842105	0.52	34.21052632	3S	0R	1W	3H
HJ -20-03A	106.68	108.2	1.48	97.36842105	1.03	67.76315789	3S	0R	2W	3H
HJ -20-03A	108.2	109.73	1.5	98.03921569	0.46	30.06535948	3S	0R	2W	3H
HJ -20-03A	109.73	111.25	1.52	100	0.93	61.18421053	4S	0R	2W	3H
HJ -20-03A	111.25	112.78	1.5	98.03921569	0.53	34.64052288	3S	2R	2W	3H
HJ -20-03A	112.78	114.3	1.52	100	1.2	78.94736842	3S	2R	1W	3H
HJ -20-03A	114.3	115.82	1.48	97.36842105	0.98	64.47368421	3S	2R	1W	3H
HJ -20-03B	0	3.06	0.25	8.169934641	0	0	--	0R	6W	1H
HJ -20-03B	3.06	4.57	0.5	33.11258278	0	0	--	0R	6W	1H
HJ -20-03B	4.57	6.1	1.5	98.03921569	0	0	3S	0R	4W	4H
HJ -20-03B	6.1	7.62	0.65	42.76315789	0	0	3S	0R	6W	1H
HJ -20-03B	7.62	9.14	1.52	100	0	0	3S	0R	6W	2H
HJ -20-03B	9.14	10.67	1.53	100	0.36	23.52941176	4S	1R	4W	3H
HJ -20-03B	10.67	13.72	3	98.36065574	1.02	33.44262295	3S	1R	4W	3H
HJ -20-03B	13.72	16.76	2.97	97.69736842	1.66	54.60526316	4S	1R	4W	3H
HJ -20-03B	16.76	19.81	2.86	93.7704918	1.18	38.68852459	4S	1R	4W	3H

Hole Name	From (m)	To (m)	Recovery (m)	Recovery (%)	RQD (m)	RQD (%)	Strength	Reactivity	Weathering	Hardness
HJ -20-03B	19.81	21.34	1.53	100	0.16	10.45751634	4S	2R	5W	3H
HJ -20-03B	21.34	22.86	1.52	100	0.5	32.89473684	3S	3R	4W	3H
HJ -20-03B	22.86	25.91	3.05	100	1.7	55.73770492	3S	3R	3W	3H
HJ -20-03B	25.91	28.96	3.05	100	1.39	45.57377049	3S	4R	4W	3H
HJ -20-03B	28.96	32	2.74	90.13157895	1.6	52.63157895	3S	4R	4W	3H
HJ -20-03B	32	35.05	3.05	100	1.35	44.26229508	3S	4R	3W	3H
HJ -20-03B	35.05	38.1	3.05	100	1.13	37.04918033	3S	4R	3W	3H
HJ -20-03B	38.1	41.15	3.05	100	1.62	53.1147541	3S	1R	2W	3H
HJ -20-03B	41.15	44.2	3.05	100	1.44	47.21311475	4S	2R	2W	3H
HJ -20-03B	44.2	47.24	3	98.68421053	2.39	78.61842105	4S	2R	2W	3H
HJ -20-03B	47.24	50.29	3.05	100	1.7	55.73770492	4S	3R	3W	3H
HJ -20-03B	50.29	53.34	3.05	100	1.89	61.96721311	3S	1R	2W	3H
HJ -20-03B	53.34	56.39	3.05	100	2.23	73.1147541	3S	1R	2W	3H
HJ -20-03B	56.39	59.44	3.05	100	1.55	50.81967213	3S	1R	2W	3H
HJ -20-03B	59.44	62.48	3.04	100	1.9	62.5	4S	1R	2W	3H
HJ -20-03B	62.48	65.53	3.05	100	2.15	70.49180328	3S	2R	2W	3H
HJ -20-03B	65.53	68.58	2.89	94.75409836	2.14	70.16393443	3S	2R	1W	3H
HJ -20-03B	68.58	71.02	2.24	91.80327869	1.53	62.70491803	4S	2R	2W	3H
HJ -20-03B	71.02	73.15	1.13	53.05164319	1	46.94835681	3S	1R	2W	3H
HJ -20-03B	73.15	76.2	3	98.36065574	2.11	69.18032787	3S	1R	2W	3H
HJ -20-03B	76.2	79.25	3	98.36065574	1.75	57.37704918	3S	1R	1W	3H
HJ -20-03B	79.25	81.99	1.75	63.86861314	0.85	31.02189781	3S	2R	1W	3H
HJ -20-03B	81.99	83.82	1.73	94.53551913	1.29	70.49180328	3S	1R	1W	3H
HJ -20-03B	83.82	86.87	3.05	100	1.52	49.83606557	3S	1R	3W	3H
HJ -20-03B	86.87	89.92	3	98.36065574	1.85	60.6557377	3S	1R	2W	3H
HJ -20-03B	89.92	92.96	3.04	100	1.75	57.56578947	3S	1R	2W	3H
HJ -20-03B	92.96	96.01	3.05	100	2.05	67.21311475	3S	1R	3W	3H
HJ -20-03B	96.01	98.76	2.46	89.45454545	1.35	49.09090909	3S	1R	4W	3H
HJ -20-03B	98.76	100.58	1.8	98.9010989	1.4	76.92307692	3S	1R	4W	3H

Hole Name	From (m)	To (m)	Recovery (m)	Recovery (%)	RQD (m)	RQD (%)	Strength	Reactivity	Weathering	Hardness
HJ -20-03B	100.58	103.63	3.05	100	2.43	79.67213115	3S	3R	2W	3H
HJ -20-03B	103.63	106.68	3.05	100	1.69	55.40983607	3S	3R	3W	3H
HJ -20-03B	106.68	109.12	2.4	98.36065574	1.56	63.93442623	3S	2R	2W	3H
HJ -20-03B	109.12	112.17	3.01	98.68852459	1.73	56.72131148	3S	2R	2W	3H
HJ -20-03B	112.17	114.3	2.13	100	1.79	84.03755869	3S	2R	1W	3H
HJ -20-03B	114.3	117.35	3.02	99.01639344	1.69	55.40983607	3S	2R	1W	3H
HJ -20-03B	117.35	120.4	3.05	100	1.27	41.63934426	3S	2R	1W	3H
HJ -20-04A	0	1.52	1.52	100	0	0	2S	1R	5W	3H
HJ -20-04A	1.52	2.44	0.89	96.73913043	0.12	13.04347826	2S	1R	4W	3H
HJ -20-04A	2.44	3.35	0.91	100	0.39	42.85714286	3S	2R	3W	3H
HJ -20-04A	3.35	4.57	1.07	87.70491803	0.26	21.31147541	4S	3R	3W	4H
HJ -20-04A	4.57	6.1	1.45	94.77124183	0.82	53.59477124	4S	3R	1W	3H
HJ -20-04A	6.1	7.62	1.47	96.71052632	0.54	35.52631579	3S	3R	1W	4H
HJ -20-04A	7.62	9.14	1.51	99.34210526	0.25	16.44736842	4S	4R	2W	3H
HJ -20-04A	9.14	10.67	1.5	98.03921569	0	0	3S	4R	4W	4H
HJ -20-04A	10.67	12.19	1.52	100	0.94	61.84210526	4S	1R	1W	3H
HJ -20-04A	12.19	13.72	1.46	95.4248366	0.97	63.39869281	3S	1R	1W	3H
HJ -20-04A	13.72	15.24	1.41	92.76315789	1.15	75.65789474	4S	2R	2W	3H
HJ -20-04A	15.24	16.76	1.5	98.68421053	0.98	64.47368421	4S	1R	1W	3H
HJ -20-04A	16.76	18.29	1.49	97.38562092	0.21	13.7254902	4S	1R	1W	3H
HJ -20-04A	18.29	19.81	1.5	98.68421053	0.92	60.52631579	4S	1R	2W	3H
HJ -20-04A	19.81	21.34	1.5	98.03921569	1.2	78.43137255	4S	1R	2W	3H
HJ -20-04A	21.34	22.86	1.36	89.47368421	0.97	63.81578947	3S	2R	2W	3H
HJ -20-04A	22.86	24.38	1.45	95.39473684	0.63	41.44736842	4S	1R	3W	3H
HJ -20-04A	24.38	25.91	1.5	98.03921569	0.75	49.01960784	3S	2R	3W	3H
HJ -20-04A	25.91	27.43	1.5	98.68421053	0.33	21.71052632	3S	2R	3W	3H
HJ -20-04A	27.43	28.96	1.5	98.03921569	1.01	66.0130719	4S	3R	3W	3H
HJ -20-04A	28.96	30.48	1.42	93.42105263	0.4	26.31578947	4S	1R	3W	4H
HJ -20-04A	30.48	32	1.52	100	0.75	49.34210526	4S	1R	2W	4H

Hole Name	From (m)	To (m)	Recovery (m)	Recovery (%)	RQD (m)	RQD (%)	Strength	Reactivity	Weathering	Hardness
HJ -20-04A	32	33.53	1.5	98.03921569	0	0	3S	2R	4W	4H
HJ -20-04A	33.53	35.05	1.5	98.68421053	0.25	16.44736842	3S	1R	5W	4H
HJ -20-04A	35.05	36.58	1.5	98.03921569	0.42	27.45098039	3S	3R	3W	4H
HJ -20-04A	36.58	38.1	1.52	100	0.25	16.44736842	3S	4R	2W	3H
HJ -20-04A	38.1	39.62	1.51	99.34210526	1.23	80.92105263	4S	2R	1W	4H
HJ -20-04A	39.62	41.15	1.4	91.50326797	0.62	40.52287582	3S	1R	2W	4H
HJ -20-04A	41.15	42.67	1.52	100	0.43	28.28947368	3S	1R	3W	3H
HJ -20-04A	42.67	44.2	1.5	98.03921569	1.17	76.47058824	3S	3R	1W	3H
HJ -20-04A	44.2	45.72	1.5	98.68421053	0.77	50.65789474	3S	3R	3W	3H
HJ -20-04A	45.72	47.24	1.5	98.68421053	1.25	82.23684211	3S	4R	1W	3H
HJ -20-04A	47.24	48.77	1.49	97.38562092	0.83	54.24836601	3S	3R	2W	4H
HJ -20-04A	48.77	50.29	1.5	98.68421053	1.08	71.05263158	4S	1R	1W	3H
HJ -20-04A	50.29	51.82	1.5	98.03921569	1.14	74.50980392	3S	2R	1W	4H
HJ -20-04A	51.82	53.34	1.51	99.34210526	1.3	85.52631579	3S	3R	1W	4H
HJ -20-04A	53.34	54.86	1.5	98.68421053	1.22	80.26315789	3S	3R	1W	4H
HJ -20-04A	54.86	56.39	1.45	94.77124183	0.72	47.05882353	3S	4R	1W	4H
HJ -20-04A	56.39	57.91	1.42	93.42105263	1	65.78947368	3S	3R	1W	4H
HJ -20-04A	57.91	59.44	1.49	97.38562092	1.18	77.12418301	3S	4R	1W	4H
HJ -20-04A	59.44	60.96	1.5	98.68421053	0.7	46.05263158	4S	1R	3W	3H
HJ -20-04A	60.96	62.48	1.5	98.68421053	0.58	38.15789474	3S	3R	4W	4H
HJ -20-04A	62.48	64.01	1.5	98.03921569	1.01	66.0130719	4S	1R	1W	4H
HJ -20-04A	64.01	65.53	1.5	98.68421053	1.28	84.21052632	4S	0R	1W	4H
HJ -20-04A	65.53	67.06	1.5	98.03921569	1.12	73.20261438	4S	0R	1W	4H
HJ -20-04A	67.06	68.58	1.5	98.68421053	0.98	64.47368421	4S	0R	1W	3H
HJ -20-04A	68.58	70.1	1.5	98.68421053	1.16	76.31578947	4S	0R	1W	4H
HJ -20-04A	70.1	71.63	1.5	98.03921569	1.19	77.77777778	3S	1R	1W	4H
HJ -20-04A	71.63	73.15	1.5	98.68421053	0.92	60.52631579	3S	0R	1W	4H
HJ -20-04A	73.15	74.68	1.5	98.03921569	0.63	41.17647059	3S	2R	1W	3H
HJ -20-04A	74.68	76.2	1.5	98.68421053	0.29	19.07894737	4S	2R	3W	3H

Hole Name	From (m)	To (m)	Recovery (m)	Recovery (%)	RQD (m)	RQD (%)	Strength	Reactivity	Weathering	Hardness
HJ -20-04A	76.2	77.72	1.5	98.68421053	1.01	66.44736842	3S	3R	2W	3H
HJ -20-04A	77.72	79.25	1.5	98.03921569	0.82	53.59477124	4S	1R	1W	3H
HJ -20-04A	79.25	80.77	1.51	99.34210526	0.9	59.21052632	4S	1R	1W	3H
HJ -20-04A	80.77	82.3	1.5	98.03921569	1.36	88.88888889	3S	3R	1W	4H
HJ -20-04A	82.3	83.82	1.51	99.34210526	0.87	57.23684211	4S	3R	1W	4H
HJ -20-04A	83.82	85.34	1.5	98.68421053	1.12	73.68421053	4S	2R	1W	4H
HJ -20-04A	85.34	86.87	1.51	98.69281046	0.95	62.09150327	3S	1R	2W	3H
HJ -20-04A	86.87	88.39	1.51	99.34210526	0.97	63.81578947	3S	2R	2W	3H
HJ -20-04A	88.39	89.92	1.5	98.03921569	1.29	84.31372549	3S	3R	1W	3H
HJ -20-04A	89.92	91.44	1.5	98.68421053	0.65	42.76315789	4S	2R	2W	4H
HJ -20-04A	91.44	92.96	1.5	98.68421053	1.2	78.94736842	3S	1R	1W	4H
HJ -20-04A	92.96	94.49	1.51	98.69281046	1.04	67.97385621	4S	1R	1W	4H
HJ -20-04A	94.49	96.01	1.46	96.05263158	0.94	61.84210526	4S	1R	1W	4H
HJ -20-04A	96.01	97.54	1.5	98.03921569	0.73	47.7124183	3S	0R	3W	4H
HJ -20-04A	97.54	99.06	1.5	98.68421053	0.96	63.15789474	4S	0R	1W	4H
HJ -20-04A	99.06	100.58	1.5	98.68421053	0.82	53.94736842	3S	0R	3W	4H
HJ -20-04A	100.58	102.11	1.5	98.03921569	0.9	58.82352941	3S	0R	3W	3H
HJ -20-04A	102.11	103.63	1.5	98.68421053	0.99	65.13157895	4S	1R	1W	3H
HJ-20-02B	0	1.52	0.34	22.36842105	0	0	4S	1R	4W	3H
HJ-20-02B	1.52	3.05	1.09	71.24183007	0.11	7.189542484	4S	0R	4W	3H
HJ-20-02B	3.05	4.57	1.41	92.76315789	0.66	43.42105263	3S	2R	2W	3H
HJ-20-02B	4.57	6.1	1.52	99.34640523	0.93	60.78431373	3S	3R	2W	3H
HJ-20-02B	6.1	7.62	1.52	100	1.05	69.07894737	3S	2R	2W	3H
HJ-20-02B	7.62	9.14	1.52	100	1.03	67.76315789	3S	2R	2W	3H
HJ-20-02B	9.14	10.67	1.53	100	1.08	70.58823529	3S	2R	2W	3H
HJ-20-02B	10.67	12.19	1.52	100	0.83	54.60526316	3S	0R	2W	3H
HJ-20-02B	12.19	13.72	1.53	100	0.96	62.74509804	4S	0R	2W	3H
HJ-20-02B	13.72	15.24	1.52	100	1	65.78947368	3S	1R	2W	3H
HJ-20-02B	15.24	16.76	1.5	98.68421053	0.7	46.05263158	3S	2R	2W	3H

Hole Name	From (m)	To (m)	Recovery (m)	Recovery (%)	RQD (m)	RQD (%)	Strength	Reactivity	Weathering	Hardness
HJ-20-02B	16.76	18.29	1.46	95.4248366	0.74	48.36601307	3S	1R	2W	3H
HJ-20-02B	18.29	19.81	1.52	100	0.81	53.28947368	3S	1R	3W	3H
HJ-20-02B	19.81	21.34	1.48	96.73202614	0.87	56.8627451	3S	2R	2W	3H
HJ-20-02B	21.34	22.86	1.52	100	1.06	69.73684211	3S	1R	2W	3H
HJ-20-02B	22.86	24.39	1.5	98.03921569	0.92	60.13071895	3S	1R	2W	3H
HJ-20-02B	24.39	25.91	1.46	96.05263158	0.74	48.68421053	3S	1R	2W	3H
HJ-20-02B	25.91	27.43	1.43	94.07894737	0.55	36.18421053	3S	1R	3W	3H
HJ-20-02B	27.43	28.96	1.48	96.73202614	0.63	41.17647059	3S	1R	3W	3H
HJ-20-02B	28.96	30.48	1.4	92.10526316	0.88	57.89473684	3S	1R	1W	3H
HJ-20-02B	30.48	32	1.44	94.73684211	0.5	32.89473684	3S	1R	1W	3H
HJ-20-02B	32	33.53	1.4	91.50326797	0.83	54.24836601	3S	1R	1W	3H
HJ-20-02B	33.53	35.05	1.52	100	0.91	59.86842105	3S	1R	1W	3H
HJ-20-02B	35.05	36.58	1.5	98.03921569	1.3	84.96732026	3S	2R	1W	3H
HJ-20-02B	36.58	38.1	1.5	98.68421053	1.13	74.34210526	3S	3R	1W	3H
HJ-20-02B	38.1	39.62	1.47	96.71052632	0.91	59.86842105	3S	3R	1W	3H
HJ-20-02B	39.62	41.15	1.52	99.34640523	1.17	76.47058824	3S	3R	1W	3H
HJ-20-02B	41.15	42.67	1.52	100	1.25	82.23684211	3S	2R	1W	3H
HJ-20-02B	42.67	44.2	1.48	96.73202614	1	65.35947712	4S	2R	1W	3H
HJ-20-02B	44.2	45.72	1.52	100	1.3	85.52631579	3S	1R	1W	3H
HJ-20-02B	45.72	47.24	1.47	96.71052632	0.97	63.81578947	4S	1R	1W	3H
HJ-20-02B	47.24	48.77	1.52	99.34640523	1.38	90.19607843	3S	2R	1W	3H
HJ-20-02B	48.77	50.29	1.44	94.73684211	0.56	36.84210526	3S	1R	2W	3H
HJ-20-02B	50.29	51.82	1.52	99.34640523	1.3	84.96732026	4S	2R	1W	3H
HJ-20-02B	51.82	53.34	1.46	96.05263158	1.09	71.71052632	3S	1R	1W	4H
HJ-20-02B	53.34	54.86	1.38	90.78947368	0.76	50	4S	1R	1W	4H
HJ-20-02B	54.86	56.39	1.46	95.4248366	0.89	58.16993464	3S	1R	1W	3H
HJ-20-02B	56.39	57.91	1.42	93.42105263	0.99	65.13157895	3S	0R	1W	4H
HJ-20-02B	57.91	60.96	2.65	86.8852459	1.18	38.68852459	3S	1R	1W	3H
HJ-20-02B	60.96	64.01	2.85	93.44262295	1.35	44.26229508	3S	1R	1W	3H

Hole Name	From (m)	To (m)	Recovery (m)	Recovery (%)	RQD (m)	RQD (%)	Strength	Reactivity	Weathering	Hardness
HJ-20-02B	64.01	65.53	1.22	80.26315789	1.12	73.68421053	3S	1R	1W	3H
HJ-20-02B	65.53	67.06	1.51	98.69281046	0.91	59.47712418	3S	1R	1W	3H
HJ-20-02B	67.06	68.58	1.3	85.52631579	0.57	37.5	3S	1R	1W	4H
HJ-20-02B	68.58	69.8	1.2	98.36065574	0.47	38.52459016	3S	0R	1W	3H
HJ-20-02B	69.8	71.32	1.45	95.39473684	1.12	73.68421053	3S	0R	1W	4H
HJ-20-02B	71.32	72.85	1.25	81.69934641	0.31	20.26143791	3S	1R	2W	3H
HJ-20-02B	72.85	73.76	0.64	70.32967033	0	0	4S	1R	2W	3H
HJ-20-02B	73.76	74.68	0.59	64.13043478	0.13	14.13043478	4S	2R	2W	3H
HJ-20-02B	74.68	76.2	1.38	90.78947368	1.03	67.76315789	3S	0R	1W	3H
HJ-20-02B	76.2	77.72	1.49	98.02631579	1.13	74.34210526	3S	1R	1W	3H
HJ-20-02B	77.72	79.25	1.45	94.77124183	0.95	62.09150327	3S	0R	1W	3H
HJ-20-02B	79.25	80.77	1.37	90.13157895	0.51	33.55263158	3S	2R	1W	3H
HJ-20-02B	80.77	82.3	1.1	71.89542484	0.34	22.22222222	4S	2R	2W	3H
HJ-20-02B	82.3	83.82	1.2	78.94736842	0.55	36.18421053	4S	1R	1W	3H
HJ-20-02B	83.82	85.34	1.35	88.81578947	0.84	55.26315789	3S	0R	1W	3H
HJ-20-02B	85.34	86.87	1.38	90.19607843	1	65.35947712	3S	1R	1W	4H
HJ-20-02B	86.87	88.4	1.28	83.66013072	0.72	47.05882353	3S	0R	1W	3H
HJ-20-02B	88.4	89.92	1.26	82.89473684	0.49	32.23684211	3S	0R	2W	4H
HJ-20-02B	89.92	91.44	1.41	92.76315789	0.66	43.42105263	3S	0R	1W	4H
HJ-20-02B	91.44	92.96	1.42	93.42105263	1.04	68.42105263	3S	1R	1W	3H
HJ-20-02B	92.96	94.5	1.51	98.05194805	1.02	66.23376623	3S	1R	1W	4H
HJ-20-02B	94.5	96.01	1.49	98.67549669	1.06	70.1986755	4S	0R	1W	3H
HJ-20-02B	96.01	97.54	1.46	95.4248366	1.16	75.81699346	3S	1R	1W	4H
HJ-20-02B	97.54	99.06	1.45	95.39473684	0.82	53.94736842	3S	1R	2W	3H
HJ-20-02B	99.06	100.58	1.5	98.68421053	0.86	56.57894737	3S	0R	2W	3H
HJ-20-02B	100.58	102.11	1.42	92.81045752	0.98	64.05228758	3S	0R	1W	3H
HJ-20-02B	102.11	103.63	1.52	100	0.54	35.52631579	4S	0R	2W	3H
HJ-20-02B	103.63	105.16	1.52	99.34640523	1.21	79.08496732	3S	0R	1W	3H
HJ-20-02B	105.16	106.68	1.46	96.05263158	1.1	72.36842105	4S	0R	1W	3H

Hole Name	From (m)	To (m)	Recovery (m)	Recovery (%)	RQD (m)	RQD (%)	Strength	Reactivity	Weathering	Hardness
HJ-20-02B	106.68	108.2	1.52	100	1.14	75	4S	1R	1W	3H
HJ-20-02B	108.2	109.73	1.53	100	0.94	61.4379085	4S	0R	1W	3H
HJ-20-03C	0	4.57	0.3	6.564551422	0	0	3S	0R	4W	3H
HJ-20-03C	4.57	5.79	0.12	9.836065574	0	0	2S	1R	4W	3H
HJ-20-03C	5.79	6.71	0.66	71.73913043	0	0	1S	0R	5W	2H
HJ-20-03C	6.71	7.62	0.54	59.34065934	0	0	2S	1R	5W	3H
HJ-20-03C	7.62	8.23	0.5	81.96721311	0	0	3S	1R	4W	3H
HJ-20-03C	8.23	9.45	0.98	80.32786885	0	0	3S	1R	3W	4H
HJ-20-03C	9.45	10.06	0.38	62.29508197	0	0	2S	1R	3W	3H
HJ-20-03C	10.06	11.58	1.25	82.23684211	0	0	3S	1R	3W	3H
HJ-20-03C	11.58	13.11	1.27	83.00653595	0	0	3S	1R	3W	3H
HJ-20-03C	13.11	14.63	1.52	100	0.34	22.36842105	3S	1R	3W	3H
HJ-20-03C	14.63	16.15	1.38	90.78947368	0.64	42.10526316	3S	1R	3W	3H
HJ-20-03C	16.15	17.68	1.44	94.11764706	0.26	16.99346405	4S	0R	2W	3H
HJ-20-03C	17.68	19.2	1.4	92.10526316	0.57	37.5	5S	0R	2W	3H
HJ-20-03C	19.2	19.81	0.32	52.45901639	0	0	5S	0R	2W	3H
HJ-20-03C	19.81	21.33	0.99	65.13157895	0	0	2S	0R	5W	3H
HJ-20-03C	21.33	22.86	1.3	84.96732026	0.31	20.26143791	3S	1R	4W	3H
HJ-20-03C	22.86	24.38	1.03	67.76315789	0	0	2S	0R	5W	2H
HJ-20-03C	24.38	25.6	0.91	74.59016393	0	0	2S	0R	5W	2H
HJ-20-03C	25.6	27.13	1.45	94.77124183	0.79	51.63398693	3S	1R	2W	3H
HJ-20-03C	27.13	28.65	1.47	96.71052632	0.59	38.81578947	3S	1R	2W	3H
HJ-20-03C	28.65	30.18	1.44	94.11764706	0.6	39.21568627	3S	1R	1W	4H
HJ-20-03C	30.18	31.7	1.51	99.34210526	0.87	57.23684211	3S	1R	1W	4H
HJ-20-03C	31.7	33.22	1.49	98.02631579	1.18	77.63157895	3S	2R	2W	3H
HJ-20-03C	33.22	34.75	1.52	99.34640523	0.59	38.5620915	3S	2R	1W	3H
HJ-20-03C	34.75	36.58	1.83	100	0.65	35.51912568	3S	2R	2W	3H
HJ-20-03C	36.58	38.1	1.31	86.18421053	0.38	25	3S	1R	2W	3H
HJ-20-03C	38.1	39.62	1.45	95.39473684	0.49	32.23684211	4S	1R	2W	3H

Hole Name	From (m)	To (m)	Recovery (m)	Recovery (%)	RQD (m)	RQD (%)	Strength	Reactivity	Weathering	Hardness
HJ-20-03C	39.62	41.15	1.31	85.62091503	0	0	4S	0R	3W	3H
HJ-20-03C	41.15	42.67	1.52	100	0.8	52.63157895	3S	1R	2W	3H
HJ-20-03C	42.67	44.2	1.52	99.34640523	0.87	56.8627451	3S	2R	1W	3H
HJ-20-03C	44.2	45.72	1.48	97.36842105	0.65	42.76315789	4S	1R	1W	3H
HJ-20-03C	45.72	47.24	1.49	98.02631579	0.31	20.39473684	3S	2R	2W	3H
HJ-20-03C	47.24	48.77	1.51	98.69281046	0.74	48.36601307	3S	1R	1W	3H
HJ-20-03C	48.77	50.29	1.38	90.78947368	0.44	28.94736842	3S	2R	1W	3H
HJ-20-03C	50.29	51.82	1.5	98.03921569	0.56	36.60130719	3S	2R	2W	3H
HJ-20-03C	51.82	53.34	1.52	100	0.34	22.36842105	4S	2R	2W	3H
HJ-20-03C	53.34	54.86	1.48	97.36842105	1.18	77.63157895	4S	3R	1W	3H
HJ-20-03C	54.86	56.39	1.53	100	0.86	56.20915033	3S	1R	1W	3H
HJ-20-03C	56.39	57.91	1.48	97.36842105	0.61	40.13157895	3S	1R	2W	3H
HJ-20-03C	57.91	59.44	1.5	98.03921569	0.9	58.82352941	3S	2R	2W	3H
HJ-20-03C	59.44	60.96	1.5	98.68421053	0.22	14.47368421	3S	1R	3W	3H
HJ-20-03C	60.96	62.48	1.51	99.34210526	0.53	34.86842105	3S	1R	2W	3H
HJ-20-03C	62.48	64.01	1.49	97.38562092	0.5	32.67973856	3S	0R	2W	3H
HJ-20-03C	64.01	65.53	1.45	95.39473684	0.5	32.89473684	2S	1R	4W	3H
HJ-20-03C	65.53	67.06	1.46	95.4248366	0.45	29.41176471	2S	0R	4W	3H
HJ-20-03C	67.06	68.58	1.36	89.47368421	0	0	0S	0R	5W	2H
HJ-20-03C	68.58	70.1	1.41	92.76315789	0	0	3S	0R	4W	3H
HJ-20-03C	70.1	71.63	1.53	100	0.74	48.36601307	3S	1R	2W	3H
HJ-20-03C	71.63	73.15	1.44	94.73684211	0.46	30.26315789	3S	0R	3W	3H
HJ-20-03C	73.15	74.68	1.48	96.73202614	0.52	33.9869281	3S	0R	2W	3H
HJ-20-03C	74.68	76.2	1.49	98.02631579	0.77	50.65789474	3S	1R	1W	4H
HJ-20-03C	76.2	77.72	1.49	98.02631579	0.43	28.28947368	3S	1R	1W	3H
HJ-20-03C	77.72	79.25	1.52	99.34640523	0.95	62.09150327	3S	0R	1W	3H
HJ-20-03D	0	4.57	0.48	10.50328228	0.11	2.407002188	3S	0R	5W	3H
HJ-20-03D	4.57	6.1	0.12	7.843137255	0	0	3S	0R	5W	3H
HJ-20-03D	6.1	7.32	0.58	47.54098361	0	0	2S	0R	5W	3H

Hole Name	From (m)	To (m)	Recovery (m)	Recovery (%)	RQD (m)	RQD (%)	Strength	Reactivity	Weathering	Hardness
HJ-20-03D	7.32	8.23	0.45	49.45054945	0	0	2S	0R	5W	3H
HJ-20-03D	8.23	8.84	0.3	49.18032787	0	0	2S	0R	6W	3H
HJ-20-03D	8.84	10.36	1.02	67.10526316	0	0	3S	0R	5W	3H
HJ-20-03D	10.36	11.89	1.4	91.50326797	0	0	3S	0R	4W	3H
HJ-20-03D	11.89	13.72	1.77	96.72131148	0	0	3S	1R	5W	3H
HJ-20-03D	13.72	15.24	1.45	95.39473684	0	0	3S	2R	3W	3H
HJ-20-03D	15.24	16.76	1.41	92.76315789	0.13	8.552631579	3S	2R	2W	3H
HJ-20-03D	16.76	18.29	1.52	99.34640523	0.54	35.29411765	3S	1R	2W	3H
HJ-20-03D	18.29	19.81	1.48	97.36842105	0.47	30.92105263	3S	0R	1W	3H
HJ-20-03D	19.81	21.34	1.28	83.66013072	0.42	27.45098039	3S	0R	1W	3H
HJ-20-03D	21.34	22.86	1.49	98.02631579	0.44	28.94736842	3S	0R	2W	3H
HJ-20-03D	22.86	24.38	1.46	96.05263158	0.75	49.34210526	3S	0R	2W	3H
HJ-20-03D	24.38	25.91	1.5	98.03921569	0.6	39.21568627	3S	1R	2W	3H
HJ-20-03D	25.91	27.43	1.52	100	0.68	44.73684211	3S	2R	3W	3H
HJ-20-03D	27.43	28.96	1.48	96.73202614	0.24	15.68627451	3S	3R	3W	3H
HJ-20-03D	28.96	30.48	1.47	96.71052632	0.15	9.868421053	3S	3R	1W	3H
HJ-20-03D	30.48	32	1.44	94.73684211	0.86	56.57894737	4S	3R	2W	3H
HJ-20-03D	32	35.05	2.75	90.16393443	0.52	17.04918033	3S	2R	3W	3H
HJ-20-03D	35.05	36.58	1.41	92.15686275	0.43	28.10457516	3S	1R	2W	3H
HJ-20-03D	36.58	38.1	1.5	98.68421053	0.54	35.52631579	3S	1R	2W	3H
HJ-20-03D	38.1	39.62	1.41	92.76315789	0.48	31.57894737	3S	0R	1W	3H
HJ-20-03D	39.62	41.15	1.48	96.73202614	0.88	57.51633987	3S	1R	2W	3H
HJ-20-03D	41.15	42.67	1.44	94.73684211	0.74	48.68421053	3S	1R	1W	3H
HJ-20-03D	42.67	44.2	1.51	98.69281046	0.65	42.48366013	4S	1R	2W	4H
HJ-20-03D	44.2	45.72	1.5	98.68421053	0.51	33.55263158	4S	1R	2W	4H
HJ-20-03D	45.72	47.24	1.5	98.68421053	0.64	42.10526316	3S	1R	1W	3H
HJ-20-03D	47.24	48.77	1.48	96.73202614	0.74	48.36601307	3S	0R	1W	4H
HJ-20-04B	0	1.57	0.67	42.67515924	0	0	3S	2R	3W	3H
HJ-20-04B	1.57	3.05	1.34	90.54054054	0	0	3S	3R	3W	2H

Hole Name	From (m)	To (m)	Recovery (m)	Recovery (%)	RQD (m)	RQD (%)	Strength	Reactivity	Weathering	Hardness
HJ-20-04B	3.05	4.57	1.52	100	0.81	53.28947368	3S	2R	2W	3H
HJ-20-04B	4.57	6.1	1.34	87.58169935	0	0	4S	1R	3W	3H
HJ-20-04B	6.1	7.62	1.5	98.68421053	0.23	15.13157895	4S	1R	1W	3H
HJ-20-04B	7.62	9.14	1.42	93.42105263	0.3	19.73684211	3S	3R	3W	3H
HJ-20-04B	9.14	10.67	1.5	98.03921569	0.36	23.52941176	3S	3R	2W	3H
HJ-20-04B	10.67	12.19	1.51	99.34210526	0.33	21.71052632	3S	3R	1W	3H
HJ-20-04B	12.19	13.72	1.48	96.73202614	0.25	16.33986928	3S	3R	1W	3H
HJ-20-04B	13.72	15.24	1.43	94.07894737	0.23	15.13157895	3S	2R	1W	3H
HJ-20-04B	15.24	16.76	1.52	100	0.37	24.34210526	3S	2R	1W	3H
HJ-20-04B	16.76	18.29	1.52	99.34640523	1.07	69.93464052	3S	3R	1W	3H
HJ-20-04B	18.29	19.81	1.49	98.02631579	0.3	19.73684211	3S	2R	1W	3H
HJ-20-04B	19.81	21.34	1.53	100	0.87	56.8627451	3S	3R	1W	3H
HJ-20-04B	21.34	22.89	1.47	94.83870968	1.06	68.38709677	3S	2R	2W	3H
HJ-20-04B	22.89	24.38	1.34	89.93288591	0.31	20.80536913	3S	2R	3W	3H
HJ-20-04B	24.38	25.91	1.31	85.62091503	0.38	24.83660131	3S	3R	3W	3H
HJ-20-04B	25.91	27.43	1.52	100	0.63	41.44736842	3S	3R	2W	3H
HJ-20-04B	27.43	28.96	1.43	93.46405229	0	0	3S	3R	3W	2H
HJ-20-04B	28.96	30.48	1.43	94.07894737	0.51	33.55263158	3S	2R	3W	4H
HJ-20-04B	30.48	31.7	0.51	41.80327869	0	0	3S	2R	2W	4H
HJ-20-04B	31.7	32.31	0.28	45.90163934	0	0	3S	3R	3W	3H
HJ-20-04B	32.31	33.22	0.11	12.08791209	0	0	3S	3R	2W	4H
HJ-20-04B	33.22	34.75	1.48	96.73202614	0.77	50.32679739	3S	3R	2W	3H
HJ-20-04B	34.75	36.27	1.28	84.21052632	0.34	22.36842105	3S	2R	2W	3H
HJ-20-04B	36.27	37.8	1.44	94.11764706	0.17	11.11111111	3S	2R	2W	3H
HJ-20-04B	37.8	39.32	1.49	98.02631579	0	0	3S	1R	2W	3H
HJ-20-04B	39.32	40.84	1.4	92.10526316	0.1	6.578947368	3S	2R	3W	3H
HJ-20-04B	40.84	42.38	1.2	77.92207792	0	0	3S	3R	2W	3H
HJ-20-04B	42.38	43.89	1.42	94.0397351	0.36	23.8410596	3S	3R	2W	4H
HJ-20-04B	43.89	45.42	1.4	91.50326797	0.39	25.49019608	3S	4R	1W	3H

Hole Name	From (m)	To (m)	Recovery (m)	Recovery (%)	RQD (m)	RQD (%)	Strength	Reactivity	Weathering	Hardness
HJ-20-04B	45.42	48.46	1.3	42.76315789	0.56	18.42105263	3S	4R	1W	4H
HJ-20-04B	48.46	50.29	1.65	90.16393443	0.7	38.25136612	3S	3R	2W	3H
HJ-20-04B	50.29	51.82	1.52	99.34640523	0.56	36.60130719	3S	3R	2W	3H