



BC Geological Survey Assessment Report 40165



Ministry of Energy, Mines & Petroleum Resources
Mining & Minerals Division
BC Geological Survey

Assessment Report
Title Page and Summary

TYPE OF REPORT [type of survey(s)]: 2021 GEOCHEMICAL & LIDAR SURVEY REPORT TOTAL COST: \$78,751.04

AUTHOR(S): Peter Baldazzi, B.Sc., GIT SIGNATURE(S): *Peter Baldazzi*

NOTICE OF WORK PERMIT NUMBER(S)/DATE(S): MX-8-238 YEAR OF WORK: 2021

STATEMENT OF WORK - CASH PAYMENTS EVENT NUMBER(S)/DATE(S): Event #5864813 / December 29, 2021

PROPERTY NAME: CATFACE

CLAIM NAME(S) (on which the work was done): 201363, 201392-402, 201416-458, 201466-485, 201489-490, 201598-600, 201603, 201605-619, 201622-654, 342307, 584343-345, 604683, 604686, 604688, 1073168 & Mining Lease 345339

Mineral claims: 3587.44 ha / 93.44% & Mining lease: 252.0 ha / 6.56%

COMMODITIES SOUGHT: Cu, Mo

MINERAL INVENTORY MINFILE NUMBER(S), IF KNOWN: 092F 120, 092F 231, 092F 251

MINING DIVISION: Alberni NTS/BCGS: 92E/1E, 8E; 92F/4W, 5W / 092F021

LATITUDE: 49 ° 15.5 ' " LONGITUDE: 125 ° 59.3 ' " (at centre of work)

OWNER(S):
1) Catface Copper Mines Limited 2)

MAILING ADDRESS:
200-580 Hornby Street
Vancouver, BC V6C 3B6

OPERATOR(S) [who paid for the work]:
1) Catface Copper Mines Limited 2)

MAILING ADDRESS:
200-580 Hornby Street
Vancouver, BC V6C 3B6

PROPERTY GEOLOGY KEYWORDS (lithology, age, stratigraphy, structure, alteration, mineralization, size and attitude):
Catface is a calc-alkalic Cu-Mo porphyry system genetically related to mid-Eocene porphyritic quartz diorite to granodiorite of the "Catface Intrusions". The Catface Intrusions cut older quartz monzonites and Triassic Karmutsen Group volcanics. Disseminated and fracture controlled chalcopryite, bornite and molybdenite are hosted by all of these lithologies.

REFERENCES TO PREVIOUS ASSESSMENT WORK AND ASSESSMENT REPORT NUMBERS: 00540, 00541, 00580, 27773, 28725, 31052, 31894, 35293, 36435, 38067

TYPE OF WORK IN THIS REPORT	EXTENT OF WORK (IN METRIC UNITS)	ON WHICH CLAIMS	PROJECT COSTS APPORTIONED (incl. support)
GEOLOGICAL (scale, area)			
Ground, mapping			
Photo interpretation			
GEOPHYSICAL (line-kilometres)			
Ground			
Magnetic			
Electromagnetic			
Induced Polarization			
Radiometric			
Seismic			
Other			
Airborne			
GEOCHEMICAL (number of samples analysed for...)			
Soil 271 samples / 36 element ICP-MS / AQ201		See tenure numbers on page 1	\$41,341.68
Silt			
Rock 8 samples / 36 element ICP-MS / AQ201		See tenure numbers on page 1	\$1,063.45
Other			
DRILLING (total metres; number of holes, size)			
Core			
Non-core			
RELATED TECHNICAL			
Sampling/assaying 279 / Bureau Veritas Commodities		See tenure numbers on page 1	\$6,453.71
Petrographic			
Mineralographic			
Metallurgic			
PROSPECTING (scale, area)			
PREPARATORY / PHYSICAL			
Line/grid (kilometres)			
Topographic/Photogrammetric (scale, area) LiDAR Survey / 3,839 ha		See tenure numbers on page 1	\$27,877.82
Legal surveys (scale, area)			
Road, local access (kilometres)/trail			
Trench (metres)			
Underground dev. (metres)			
Other Report preparation, program administration		See tenure numbers on page 1	\$2,014.38
TOTAL COST:			\$78,751.04



Print and Close

Cancel

Mineral Titles Online

Mineral Claim Exploration and Development Work/Expiry Date Change

Confirmation

Recorder: CATFACE COPPER MINES LIMITED (104480) **Submitter:** CATFACE COPPER MINES LIMITED (104480)
Recorded: 2021/DEC/29 **Effective:** 2021/DEC/29
D/E Date: 2021/DEC/29

Confirmation

If you have not yet submitted your report for this work program, your technical work report is due in 90 days. The Exploration and Development Work/Expiry Date Change event number is required with your report submission. **Please attach a copy of this confirmation page to your report.** Contact Mineral Titles Branch for more information.

Event Number: 5864813
Work Type: Technical Work
Technical Items: Geochemical, Geological, PAC Withdrawal (up to 30% of technical work required), Preparatory Surveys
Work Start Date: 2021/JUN/01
Work Stop Date: 2021/DEC/28
Total Value of Work: \$ 78500.00
Mine Permit No: MX-8-238

Summary of the work value:

Title Number	Claim Name	Issue Date	Good To Date	New Good To Date	# of Days Forward	Area in Ha	Applied Work Value	Sub-mission Fee
201363	CATFACE #8	1961/MAY/12	2020/JUL/15	2022/DEC/31	899	25.00	\$ 438.21	\$ 0.00
201392	CATFACE #36	1961/DEC/04	2020/JUL/15	2022/DEC/31	899	25.00	\$ 438.21	\$ 0.00
201393	CATFACE #38	1961/DEC/04	2020/JUL/15	2022/DEC/31	899	25.00	\$ 438.21	\$ 0.00
201394	CATFACE #40	1961/DEC/04	2020/JUL/15	2022/DEC/31	899	25.00	\$ 438.21	\$ 0.00
201395	CATFACE #41	1961/DEC/14	2020/JUL/15	2022/DEC/31	899	25.00	\$ 438.21	\$ 0.00
201396	CATFACE #42	1961/DEC/14	2020/JUL/15	2022/DEC/31	899	25.00	\$ 438.21	\$ 0.00
201397	CATFACE #43	1961/DEC/14	2020/JUL/15	2022/DEC/31	899	25.00	\$ 438.21	\$ 0.00
201398	CATFACE #44	1961/DEC/14	2020/JUL/15	2022/DEC/31	899	25.00	\$ 438.21	\$ 0.00
201399	CATFACE #45	1961/DEC/14	2020/JUL/15	2022/DEC/31	899	25.00	\$ 438.21	\$ 0.00
201400	CATFACE #46	1961/DEC/14	2020/JUL/15	2022/DEC/31	899	25.00	\$ 438.21	\$ 0.00
201401	CATFACE #47	1961/DEC/14	2020/JUL/15	2022/DEC/31	899	25.00	\$ 438.21	\$ 0.00
201402	CATFACE #48	1961/DEC/14	2020/JUL/15	2022/DEC/31	899	25.00	\$ 438.21	\$ 0.00
201416	CATFACE #50	1962/FEB/20	2020/JUL/15	2022/DEC/31	899	25.00	\$ 438.21	\$ 0.00
201417	CATFACE #52	1962/FEB/20	2020/JUL/15	2022/DEC/31	899	25.00	\$ 438.21	\$ 0.00
201418	CATFACE #53	1962/FEB/20	2020/JUL/15	2022/DEC/31	899	25.00	\$ 438.21	\$ 0.00
201419	CATFACE #54	1962/FEB/20	2020/JUL/15	2022/DEC/31	899	25.00	\$ 438.21	\$ 0.00
201420	CATFACE #56	1962/FEB/20	2020/JUL/15	2022/DEC/31	899	25.00	\$ 438.21	\$ 0.00
201421	CATFACE #58	1962/FEB/20	2020/JUL/15	2022/DEC/31	899	25.00	\$ 438.21	\$ 0.00
201422	CATFACE #59	1962/FEB/20	2020/JUL/15	2022/DEC/31	899	25.00	\$ 438.21	\$ 0.00
201423	CATFACE #60	1962/FEB/20	2020/JUL/15	2022/DEC/31	899	25.00	\$ 438.21	\$ 0.00
201424	CATFACE #61	1962/FEB/20	2020/JUL/15	2022/DEC/31	899	25.00	\$ 438.21	\$ 0.00
201425	CATFACE #62	1962/FEB/20	2020/JUL/15	2022/DEC/31	899	25.00	\$ 438.21	\$ 0.00
201426	CATFACE #63	1962/FEB/20	2020/JUL/15	2022/DEC/31	899	25.00	\$ 438.21	\$ 0.00
201427	CATFACE #64	1962/FEB/20	2020/JUL/15	2022/DEC/31	899	25.00	\$ 438.21	\$ 0.00
201428	CATFACE #65	1962/FEB/20	2020/JUL/15	2022/DEC/31	899	25.00	\$ 438.21	\$ 0.00
201429	CATFACE #66	1962/FEB/20	2020/JUL/15	2022/DEC/31	899	25.00	\$ 438.21	\$ 0.00
201430	CATFACE #67	1962/FEB/20	2020/JUL/15	2022/DEC/31	899	25.00	\$ 438.21	\$ 0.00
201431	CATFACE #68	1962/FEB/20	2020/JUL/15	2022/DEC/31	899	25.00	\$ 438.21	\$ 0.00
201432	CATFACE #69	1962/FEB/20	2020/JUL/15	2022/DEC/31	899	25.00	\$ 438.21	\$ 0.00
201433	CATFACE #70	1962/FEB/20	2020/JUL/15	2022/DEC/31	899	25.00	\$ 438.21	\$ 0.00
201434	CATFACE #71	1962/FEB/20	2020/JUL/15	2022/DEC/31	899	25.00	\$ 438.21	\$ 0.00
201435	CATFACE #72	1962/FEB/20	2020/JUL/15	2022/DEC/31	899	25.00	\$ 438.21	\$ 0.00
201436	CATFACE #73	1962/FEB/20	2020/JUL/15	2022/DEC/31	899	25.00	\$ 438.21	\$ 0.00
201437	CATFACE #74	1962/FEB/20	2020/JUL/15	2022/DEC/31	899	25.00	\$ 438.21	\$ 0.00
201438	CATFACE #75	1962/FEB/20	2020/JUL/15	2022/DEC/31	899	25.00	\$ 1178.68	\$ 0.00
201439	CATFACE #76	1962/FEB/20	2020/JUL/15	2022/DEC/31	899	25.00	\$ 1178.68	\$ 0.00
201440	CATFACE #77	1962/FEB/20	2020/JUL/15	2022/DEC/31	899	25.00	\$ 1178.68	\$ 0.00
201441	CATFACE #78	1962/FEB/20	2020/JUL/15	2022/DEC/31	899	25.00	\$ 1178.68	\$ 0.00
201442	CATFACE #79	1962/FEB/20	2020/JUL/15	2022/DEC/31	899	25.00	\$ 1178.68	\$ 0.00
201443	CATFACE #80	1962/FEB/20	2020/JUL/15	2022/DEC/31	899	25.00	\$ 1178.68	\$ 0.00
201444	CATFACE #81	1962/FEB/20	2020/JUL/15	2022/DEC/31	899	25.00	\$ 1178.68	\$ 0.00
201445	CATFACE #82	1962/FEB/20	2020/JUL/15	2022/DEC/31	899	25.00	\$ 1178.68	\$ 0.00
201446	CATFACE #83	1962/FEB/20	2020/JUL/15	2022/DEC/31	899	25.00	\$ 1178.68	\$ 0.00
201447	CATFACE #84	1962/FEB/20	2020/JUL/15	2022/DEC/31	899	25.00	\$ 1178.68	\$ 0.00
201448	CATFACE #85	1962/FEB/20	2020/JUL/15	2022/DEC/31	899	25.00	\$ 1178.68	\$ 0.00
201449	CATFACE #87	1962/FEB/20	2020/JUL/15	2022/DEC/31	899	25.00	\$ 1178.68	\$ 0.00
201450	CATFACE #89	1962/FEB/20	2020/JUL/15	2022/DEC/31	899	25.00	\$ 1178.68	\$ 0.00
201451	CATFACE #91	1962/FEB/20	2020/JUL/15	2022/DEC/31	899	25.00	\$ 1178.68	\$ 0.00
201452	CATFACE #92	1962/FEB/20	2020/JUL/15	2022/DEC/31	899	25.00	\$ 1178.68	\$ 0.00
201453	CATFACE #93	1962/FEB/20	2020/JUL/15	2022/DEC/31	899	25.00	\$ 1178.68	\$ 0.00
201454	CATFACE #95	1962/FEB/20	2020/JUL/15	2022/DEC/31	899	25.00	\$ 1178.68	\$ 0.00
201455	CATFACE #97	1962/FEB/20	2020/JUL/15	2022/DEC/31	899	25.00	\$ 1178.68	\$ 0.00
201456	CATFACE #99	1962/FEB/20	2020/JUL/15	2022/DEC/31	899	25.00	\$ 1178.68	\$ 0.00
201457	CATFACE #100	1962/FEB/20	2020/JUL/15	2022/DEC/31	899	25.00	\$ 1178.68	\$ 0.00

604683	CCML05	2009/MAY/19	2020/JUL/15	2022/DEC/31	899	105.47	\$ 4972.61	\$ 0.00
604686	CCML06	2009/MAY/19	2020/JUL/15	2022/DEC/31	899	42.19	\$ 1988.97	\$ 0.00
604688	CCML07	2009/MAY/19	2020/JUL/15	2022/DEC/31	899	42.18	\$ 1988.73	\$ 0.00
1073168	EXCEPTIONALLY POOR MGT.	2019/DEC/07	2021/JUN/07	2022/DEC/31	572	42.16	\$ 344.22	\$ 0.00

Financial Summary:**Total applied work value:** \$ 111705.59**PAC name:** Catface Copper Mines Limited**Debited PAC amount:** \$ 33205.59**Credited PAC amount:** \$ 0**Total Submission Fees:** \$ 0.0**Total Paid:** \$ 0.0*Please print this page for your records.*

The event was successfully saved.

Click [here](#) to return to the Main Menu.

2021 GEOCHEMICAL and LIDAR with ORTHOGRAPHIC PHOTO REPORT

on the

CATFACE COPPER PROPERTY

**Tenure Nos. 201363, 201392-402, 201416-458, 201466-485, 201489, 201490, 201598-600,
201603, 201605-619, 201622-654, 342307, 584343-345, 604683, 604686, 604688, 1073168 &
Mining Lease 345339**

Alberni Mining Division

NTS: 92E/01E, 92E08E, 92F/04W, 92F/05W

BCGS Map Sheets: 092E030, 092F021

Latitude: 49° 15.5' N; Longitude 125° 59.3 W

UTM (NAD 83 – Zone 10): 5 460 390 N; 282 530 E

Owner / Operator:



an Imperial Metals company

Catface Copper Mines Limited
200-580 Hornby Street, Vancouver, BC V6C 3B6

Author: Peter Baldazzi, B.Sc.

March 27, 2022

Revised March 30, 2023

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Yukon

N.W.T.

British
Columbia

Alberta

**CATFACE
PROPERTY**

Vancouver

Victoria

Prince George

Williams Lake

Kamloops

Revelstoke

Edmonton

Calgary

Canada
U.S.A.



CATFACE PROPERTY
Alberni Mining Division
BC Location Map

Date: March 2022
Scale: As Shown

Drawn By: MD

Figure:
CF-21-1

0 125 250 500 Kilometres



140W

60N

120W

50N

120W

110W

Pacific
Ocean

SECTION A: REPORT

INTRODUCTION

The Catface Property is a large copper-molybdenum porphyry style deposit located on the west coast of Vancouver Island, in the Catface Range approximately 13 km north-northwest of Tofino, BC. The property is owned by Catface Copper Mines Limited (“CCML”), a company 100% owned by Selkirk Metals Corp., itself a wholly-owned subsidiary of Imperial Metals Corporation of Vancouver, BC.

This report summarizes a geochemical survey conducted by CCML from October 12-24, 2021 on the Catface Property as well as a LiDAR and Orthographic Photo survey conducted by Eagle Mapping Ltd. over the entire Catface Property on September 15, 2021. The specifications of the equipment employed, survey intervals used, and other details about the LiDAR and Orthographic Photo survey can be found in the report supplied by Eagle Mapping Ltd. that is appended in Section F.

It was the goal of the geochemical survey to collect soil geochemistry data east of the known Catface porphyry deposit, in an area with anomalous geophysical data and historically mapped intrusive contacts. The geochemical survey objective was to establish new surface targets of Cu and Mo porphyry mineralization.

The objective of the LiDAR and Orthographic Photo survey was to provide exploration assistance in planning future work with an updated digital elevation model and orthographic imagery as well as attempt to highlight major geologic structures, geologic contacts, and historic workings.

The soil geochemistry was successful in providing anomalous copper values throughout the area sampled and providing areas to focus new exploration. The LiDAR survey was successful in providing an updated digital elevation model and high-resolution orthographic imagery that will both assist with future exploration planning.

PROPERTY:

The Catface Copper Property is owned 100% by Catface Copper Mines Limited (“CCML”), a private company owned 100% by Selkirk Metals Corp., a wholly-owned subsidiary of Imperial Metals Corporation. CCML is the registered owner of the mineral tenures comprising the Catface Property. Glencore Canada Corporation (formerly Xstrata / Falconbridge Limited) holds a right to “back-in” to a 50.1% working interest in the Catface project at the time of a production decision by paying to CCML 150% of CCML’s aggregate expenditures on Catface, or alternatively, Glencore may revert to a 9% Net Proceeds of Production royalty.

The property is located 13 km north-northwest of Tofino, BC in the Catface Range of Vancouver Island (see Figures CF-21-2 and CF-21-3). It consists of 139 mineral tenures (1 mining lease of 15 units; 130 legacy claims / 130 units; 8 cell claims / 16 cells) totaling 161 units and covering a gross area of 3,839.44 ha. Mining Lease 345339 covers 252.0 ha in the core area of the property and was issued on September 25, 1996 for a 30-year term expiring on September 25, 2026. A rental of \$20.00/ha or \$5,040.00 is payable annually.

The details of the mineral tenures that comprise the Property are set out in Section B of this report. The “good to dates” are based on the Statement of Exploration and Development Work registered on Mineral Titles Online on December 29, 2021 as Event #5864813 and assume that the work contained in this report will be accepted for assessment purposes.

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290000

5470000

5460000

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VANCOUVER ISLAND

Flores Island

AHOUSAT

CATFACE PROPERTY

Vargas Island

Meares Island

TOFINO

PACIFIC OCEAN

Miller Channel

Herbert Inlet

Water Taxi Route

Bawden Bay

Cypress Bay

Bedwell Sound

Hecate Bay

Ritchie Bay

Calmus Passage






Maurus Channel

Water Taxi Route

Lemmens Inlet

4

0 1 2 4 Kilometres

-  Catface Claim Boundary
-  Catface Property Roads
-  Main Roads
-  Secondary Roads
-  Water Taxi Route



CATFACE PROPERTY
 Alberni Mining Division
General Location Map

Date: March 2022	Projection: UTM Zone 10, NAD83	Fig.
Drawn By: MD	BCGS: 92F.021, 92E.030	CF-21-2
Scale: 1:125,000	NTS: 092F04.05 & 092E08	

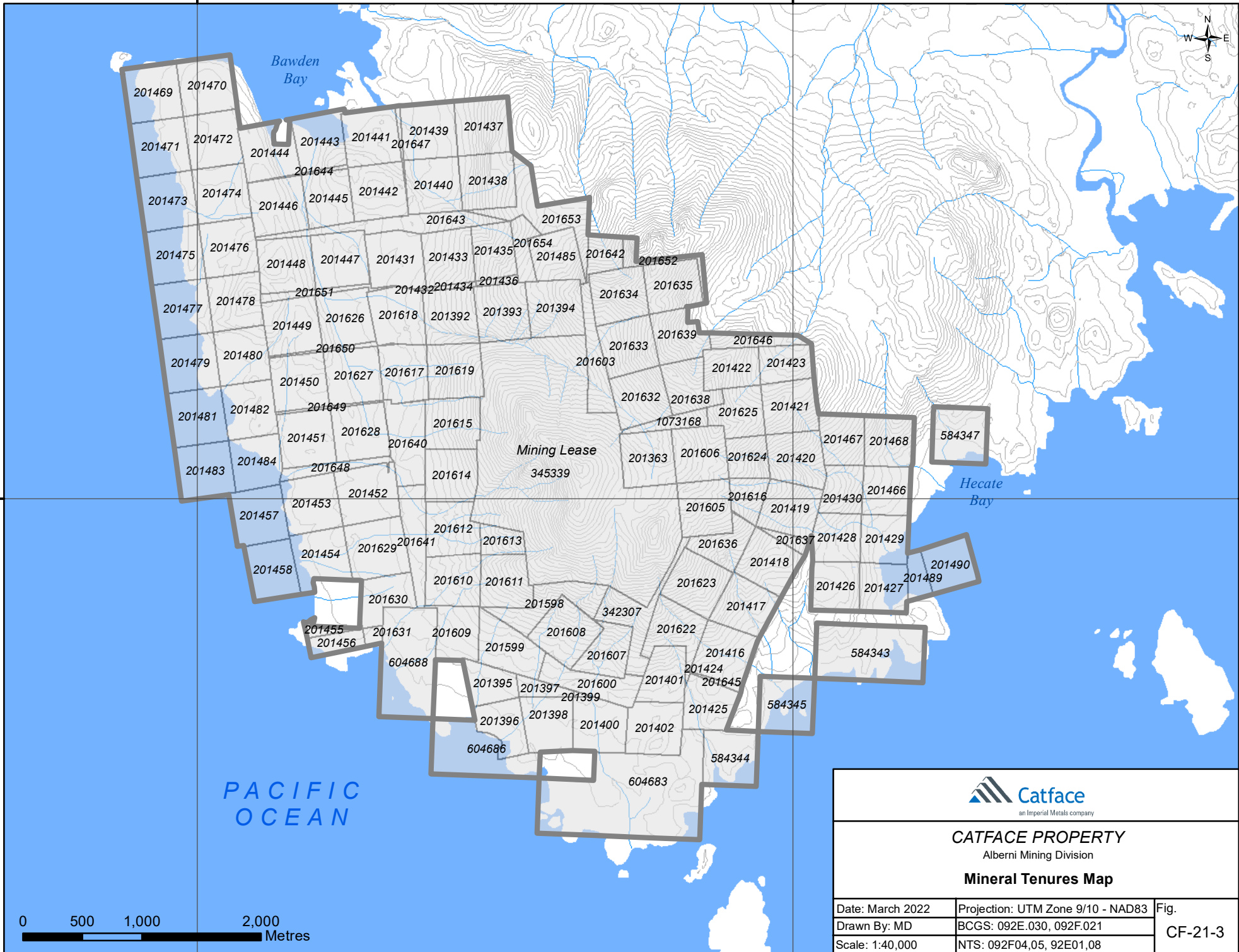
280000

285000



5460000

5460000



Bawden Bay

Hecate Bay

PACIFIC OCEAN

Mining Lease
345339



CATFACE PROPERTY
Alberni Mining Division
Mineral Tenures Map



Date: March 2022	Projection: UTM Zone 9/10 - NAD83	Fig. CF-21-3
Drawn By: MD	BCGS: 092E.030, 092F.021	
Scale: 1:40,000	NTS: 092F04,05, 92E01,08	

LOCATION AND ACCESS:

The Catface Copper property is centered on Catface Mountain, on the western edge of the Catface Peninsula, west coast of Vancouver Island, southwestern British Columbia. The town of Tofino is approximately 13 km south-southeast of the property. Access to the Catface Peninsula is possible by boat, fixed-wing aircraft or helicopter. A ferry or boat is required to move vehicles and equipment from Tofino across Bedwell Sound to the Catface Peninsula. Water taxis are also employed to move personnel on a daily basis from either Ahousaht or Tofino to either Whitepine Cove or Hecate Bay. They are then transported by vehicle to the jobsite on Catface Mountain. The barge facility at Hecate Bay on the east side of the property remains in good order, but the boat docking facilities have not been maintained since logging and shake/shingle activity ceased on the Catface Peninsula and in the Cypre River area. A short gravel airstrip near the Hecate Bay dock facilities could accommodate wheeled plane access with a limited amount of upgrading, while floatplanes can land in the relatively protected confines of Hecate Bay itself. A 10 km logging and mining access road extends from Hecate Bay into the central portion of the property.

The property is located at the corner of four NTS map sheets 92E/01, 92E/08, 92F/04 and 92F/05, and the BCGS map sheets are 092E030 and 092F021. The centre of the 2021 work area is 49° 15.5 North latitude and 125° 59.3' West longitude while the UTM coordinates are 282 530 E, 5 460 390 N (NAD 83, Zone 10).

CLIMATE, TOPOGRAPHY AND VEGETATION:

The climate of the region is classified as West Coast Marine, with mild but wet winter seasons and cool drier summers. Mean annual precipitation is 3,235 mm as rain, and 536 mm of snow. The annual temperature range varies from -15.0°C to 32.8°C, with a mean of 9.0°C (Knight Piésold, 2004). Temperatures are moderated by the proximity of the ocean so that prolonged periods of freezing weather are unusual.

The heavy rainfall that is common in this area can deliver large volumes of water over short periods of time, much of which is intercepted by the forest canopy. The remainder normally runs off rapidly through the soil. Hydrologic data has been collected for Bawden Creek (also referred to in earlier references as Irishman Creek), which runs through the centre of the property. This data indicates that the flow can be highly variable, with the mean annual high flows in December and low flows in July – August.

The Catface Property is located in the Clayoquot Sound region of western Vancouver Island. This area is dominated by the Estevan Coastal Plain, a gently undulating terrain that has been broken into numerous islands and peninsulas by inlets and channels. Steep, highly dissected rocky hills are formed by outliers of the Westcoast intrusive complex that form the Vancouver Island Mountains. The Catface Peninsula is a heavily treed peninsula 4 to 8 km wide. Recently significant areas of forest land have been harvested within the property boundaries and nearby areas. The Catface Range contains two subdued mountain tops, the South Peak with an elevation of 880 m and the North Peak with an elevation of 960 m. Property elevations range from sea level (0 m) to 960 m at the North Peak.

Catface Mountain is covered in a typical assemblage of west coast second growth vegetation consisting of thick stands of Western Hemlock, Red Cedar, Douglas Fir and White Pine. There is a thick undergrowth of Salal and Salmonberry throughout the area.

HISTORY:

The earliest mention of exploration work on the Catface Peninsula is from the 1898 Annual Report of the Minister of Mines of British Columbia which reported the collaring of a 6 m adit into a highly fractured and altered shear zone containing copper staining.

In 1960 Gerald Davis and two partners climbed to the base of a copper-stained cliff, visible from the sea, and sampled oxidized copper material from a fault zone. Sampling later that year located fresher material and recognized extensive copper and molybdenum mineralization, prompting Falconbridge to stake the first claims.

The claims were explored by Falconbridge between 1960 and 1969 through prospecting, mapping, geophysical surveys, soil and rock geochemistry and 11,777 m (38,628 ft) of surface diamond drilling. The success of this work led to the decision to collar an adit in 1970, which was ultimately driven 857 m (2,811 ft) into the Cliff Zone. Underground diamond drilling commenced in 1971 and totaled 7,212 m (23,655 ft).

Subsequent work programs included extensive metallurgical testing by Lakefield Research and also test work at the Tasu Mine facility operated by Falconbridge. An in-house resource estimate and pit design study was completed in 1972. This data was re-checked by Sumitomo in 1973 when they conducted additional bench tests on the ore.

In 1989 the project was reactivated due to more favorable metal prices and the advantageous location of the deposit. All the old data was re-evaluated to assess the likelihood of locating additional resources in the area. A limited drill program tested outlying IP anomalies peripheral to the Cliff Zone mineralization. At this time available core was re-assayed to determine the precious metal content of the ore. The adit was reopened and re-sampled at 10 ft intervals along the entire length.

Doublestar Resources Ltd. acquired the Catface Property and the shares of Catface Copper Mines Limited from Falconbridge in January 2000, but no substantive fieldwork was carried out by Doublestar other than some baseline environmental studies in 2004.

Selkirk Metals Corp. acquired its interest in CCML and the property in 2007 following its acquisition of Doublestar and the subsequent amalgamation of the two firms in 2009.

A diamond drilling program was conducted in 2008 that saw the completion of 2,383 m in eight holes, six in the Cliff Zone and two in the Hecate Bay Zone. The program served to confirm the historic grade data for the Cliff Zone deposit, provide fresh samples for metallurgical and environmental testing, further delineate the historically defined Cliff Zone mineralization and test the potential of the Hecate Bay Zone. Assay results from the program confirmed the historic copper grades and expanded the higher-grade bornite-bearing core of the Cliff Zone.

To reduce the need for constant helicopter support for exploration drilling activities on the Catface property, CCML sought and was granted approval to reactivate the access road located on the west side of Catface Mountain. Road reactivation began in October 2009 and was completed in March 2010. Upon completion of the road an enclosed core-processing shed was constructed on the spur road 500 m northwest of the Cliff Zone adit.

Selkirk Metals Corp., with its 100% stake in Catface Copper Mines Limited, became a wholly-owned subsidiary of Imperial Metals Corporation through a merger in November 2009.

Exploratory diamond drilling resumed from May through September 2010, with 3,548 m of drilling completed in 13 holes. Of the 13 diamond holes collared, 7 were terminated prior to reaching a satisfactory target depth due to adverse ground conditions. The drilling program confirmed historic copper grades along the length of the Cliff Zone with a hole sub-parallel to the adit (driven in 1970 by Falconbridge) and extended the known Cliff Zone mineralization to the southeast as well as confirming the presence of a high-grade breccia body within the Irishman Creek Zone.

During the period from June 2010 through February 2011 a property scale evaluation was completed to assess the remaining exploration potential of the Catface project. Geological reconnaissance mapping at 1:25,000 scale was carried out in conjunction with examination of diamond drill core, drilling maps and sections, and strip logs from the drilling conducted in 2010.

A short reconnaissance mapping and prospecting program was completed in November 2014 targeting the lower Irishman (Bawden) Creek area and the Hecate Bay Zone (HBZ). A narrow (~5 m) silicified porphyritic dacite dike containing low grade Cu mineralization and interpreted to belong to the Eocene Catface intrusions was observed 150 northwest of the Irishman Creek Zone. Low grade disseminated Cu mineralization within weakly silica-biotite altered tonalite was confirmed within the Hecate Bay Zone.

During the June of 2016, a three-day field program was completed in the HBZ. The field program was designed to extend historic Falconbridge soil surveys to the south. The field program was successful at delineating a 600 m wide area with anomalous copper geochemistry in addition to zoned copper and molybdenum anomalies. The surveyed area remained open down slope and to the northeast.

A second visit in November of 2016 was conducted to follow up the geochemical anomalies. Unfortunately prospecting within the creek drainages including the one where several poorly documented historic Falconbridge drill holes were located was impossible due to high stream flow. The majority of the rock samples taken were float samples of quartz-diorite/tonalite and Karmutsen volcanics. Sampling returned values up to 0.6% Cu within silica and biotite altered tonalite with disseminated and veined chalcopyrite.

In late November and early December 2018 soil geochemistry, prospecting and mapping was carried out to expand the survey coverage in the area of the Hecate Bay Zone.

REGIONAL GEOLOGY:

The West Coast of Vancouver Island is underlain by the Wrangellia Terrane, an exotic assemblage accreted to the North American Cordillera in the Mesozoic, and the West Coast Complex. The Paleozoic (Late Devonian) Sicker Group is the oldest member of the Wrangellia Terrane and underlies all other lithologies. The Sicker Group is defined by two main assemblages of marine arc deposition: The Nitinat and the McLaughlin Ridge Formations.

The Nitinat Formation is dominantly an andesite-basalt metavolcanic suite with associated volcanic breccias and agglomerates. The younger McLaughlin Ridge is characterized by volcanoclastic sandstones, pillow lavas, and felsic volcanics with minor debris flow indications (Brandon, M.T., 1985). Carboniferous

to Permian shallow marine deposited strata of bioclastic limestone, sandstone, and shale of the Buttle Lake Group conformably overlie the Sicker Group. The unconformable Middle Triassic Karmutsen Formation volcanics (basaltic pillow lavas, flows, and breccias) complete with a suite of hypabyssal sills and dykes, lie atop. A Late Triassic shallow marine sequence of Limestone (Quatsino Formation) overlies the Karmutsen and is in turn overlain by thinly banded units of calcareous metasediments and argillites of the Parson's Bay Formation (Gunning, 1932).

All these lithologies are unconformably overlain by the thick Bonanza Volcanic sequence. These rocks consist chiefly of variably colored (red, green, and maroon) welded to massive dacitic tuffs and pyroclastic andesites. The Bonanza units trend prevalently northwest and are in turn intruded by the Lower Jurassic Island Intrusions, the cause of associated regional and contact metamorphism.

The West Coast Complex lies on the extreme western margin of Vancouver Island. The Complex is composed of a chaotic assemblage of lithologies defined by melanges of Lower Cretaceous mudstones, sandstones, and cherts overlying an older Volcanic Arc Complex. The northwest striking West Coast Fault separates this Mesozoic complex from the aforementioned Paleozoic and associated rocks of the rest of the Wrangellia Terrane on Vancouver Island (Brandon, M.T., 1985).

PROPERTY GEOLOGY:

The Catface copper-molybdenum porphyry deposit is related to a suite of Eocene equigranular to porphyritic diorite to tonalite stocks and dykes. These intrusives, referred to as the Catface intrusions, occur within Paleozoic-Mesozoic(?) mafic intrusive basement, Triassic metavolcanic and sedimentary rocks, and Jurassic(?) monzogranite. Diorites and gabbros of the Westcoast Complex make up the mafic intrusive basement and are dominant throughout the western part of the property (Figure CF-16-5). These lie in fault contact with the Upper Permian Sicker or Vancouver Group (assigned to the Triassic Karmutsen Group) volcanic suite consisting of basalts, andesitic flows, tuff breccias and agglomeratic rocks that are locally weakly hornfelsed near the intrusive contacts. A large NNW-elongate stock of Jurassic(?) monzogranite intrudes these two units and is centered along the fault contact between them (McDougall, 1976; Muller, 1981; Nilsson, 2001 and Riedell, 2011).

Much of the following property scale description is summarized from the 2011 Catface geological mapping and drilling review completed by B. Riedell for CCML.

The Eocene Catface intrusions form a cupola of equigranular to porphyritic diorite, quartz diorite, dacite and tonalite stocks, dykes and hydrothermal breccias temporally bracketing the mineralizing episode. Within this cupola the tonalite porphyry phase, with its favourable porphyritic texture, disseminated sulphides, irregular A-style (early, high-temperature) quartz-sulphide veinlets and central location relative to the Cu-Mo ore zone, very likely represents the principle mineralizing intrusion.

A NNW-elongate zone of K-silicate (dominantly biotitic) alteration occurs at the centre of the exposed system and correlates well with the extent of >0.1% estimated Cu mineralization. This K-silicate alteration is visible within intrusive rocks as brown biotite replacement of mafic minerals with minor overprinted chlorite, and minor K-feldspar vein envelopes, while the intruded Karmutsen volcanics form dark grey hornfels with fine black to brownish-black biotite pervasively replacing the rock groundmass, as clots, and as envelopes along quartz veinlets. Quartz veining is relatively weak compared with other porphyry systems and is typically around 5 vol% up to a maximum of 15 vol%. Intrusive rocks outside the central K-silicate zone show weak to moderate chlorite-epidote alteration and weak hornfelsing of Karmutsen volcanics

extends ~2 km from the K-silicate zone before grading into regional “greenstone” (epidote-chlorite± zeolites) metamorphism. Sericitic alteration is poorly developed within the Catface porphyry system.

Within the western part of the 2.5 by 2 km biotite-dominated alteration and disseminated chalcopyrite system there is a more strongly mineralized core, referred to as the Cliff Zone, which carries the majority of the mineral resource. The Cliff Zone is 700 by 700 m in extent and comprised of chalcopyrite + pyrrhotite ± bornite ± molybdenite ± pyrite forming a compact shell-like body capping the tonalite porphyry intrusion and averages approximately 1.5 vol% total sulphides. Based on drilling on sections 2S and 6S, there is strong evidence that the tonalite stock plunges approximately 65 degrees to the east or northeast (Figure CF-16-4). This suggests that the core of the system has undergone post-mineral rotation 25 degrees to the west-southwest.

The highest Cu grades (0.5-1.5+ %) occur in monzogranite and especially Karmutsen volcanic wall rocks within 100 - 200 m of the tonalite contacts. Outside of this higher Cu grade core zone, a chalcopyrite+pyrite+pyrrhotite zone is present and the extent of visible chalcopyrite and estimated >0.1% Cu is 3.5 by 2.0 km. Pyrite gradually increases moving further outboard to form a weak pyrite halo of 1.5-3.0 vol% total sulphides, with the zone of >1.5% pyrite extending from 2 to 4+ km from the centre of the system (Figure CF-16-5).

Table 1. Rock Units of the Catface Project from Reidell (2011).

Unit	Description	Occurrence	Age relationships	Representative example ¹	Previous name (McDougall, 1976; Enns, 1989)
EOCENE – Catface intrusions (sequence poorly constrained)					
Porphyritic dacite (Tpd)	Light to medium grey, ~10% each hb and plag phenocrysts in an aplitic to fine-grained groundmass of plag, qz, kf, altered mafic minerals	Dykes trending NW to NE	Cuts Ttp (McDougall, 1976). Late-mineral age indicated by weaker alteration-mineralization than intruded rocks	282959E / 5460985N (just SE of adit portal)	Andesite porphyry
Hydrothermal breccia (Thbx)	Commonly elongate, rounded > subangular clasts of mixed Jmg and Trk in a matrix of rock flour, qz, chl, sc, bi and coarse blebs of cp and po; matrix-supported	N-elongate tabular body ~40 m thick in Irishman Creek zone	Intermineral; some early qz-sulph veinlets truncated by breccia matrix	Hole CF-10-58 / 157-207 m	Breccia
Tonalite porphyry (Ttp)	Medium grey, crowded porphyry with ~50% phenocrysts of plag > bi, hb, qz in a fine-grained qz-plag=KF groundmass	Small stock and dykes centrally located in Cliff zone; small bodies (NNE dykes?) in Irishman Creek zone	Synmineral; cuts Jmg and Trk	Hole CF-10-56 / 488-634 m	Porphyritic quartz diorite
Fine-grained quartz diorite porphyry (Tfqdp)	Light grey; ~40% phenocrysts of plag > hb, bi, rare qz in an aplitic qz-plag groundmass. More distinctly porphyritic texture than Ttp	Dykes cutting Trk and Jmg within and especially NE of the Cliff zone	Cuts Jmg and Trk; not observed to cut Ttp	283480E / 5463217N; hole CF-10-66 / 470.9-480.2 m	Not recognized
Hecate Bay tonalite (Thbt, Thbtbx)	Medium grey, medium-grained equigranular; plag > qz, hb, bi. <i>Thbtbx</i> , intrusive breccia with up to 50% fragments of Karmutsen volcanic rocks or Westcoast Complex in a quartz diorite to tonalite matrix	Stock ~1.5 km across SE of Cliff zone. <i>Thbtbx</i> forms two small masses WNW and NW of Cliff zone	48 Ma (K-Ar, biotite; McDougall, 1976). Cuts Trk; <i>Thbtbx</i> cuts Trk and PzMzwc	285050E / 5458833N (Thbt); 281750E / 5463140N (Thbtbx)	Hecate Bay quartz diorite
Medium-grained diorite (Tmd)	Medium to dark grey, medium-grained equigranular; 55% hb, 45% plag	NW-trending dykes scattered N and NE of the Cliff zone	Cuts Trk. No clear age relations with other intrusive phases	283866E / 5464165N	Not recognized
JURASSIC(?)					
Monzogranite (Jmg)	White to cream-white, medium- to coarse-grained equigranular; plag > kf, qz > hb, bi.	NNW-elongate stock underlying much of the western part of the Cliff zone and vicinity	Cuts Trk and PzMzwc; cut by Tpd, Ttp and Tfqdp. McDougall (1976) inferred a Jurassic age based on similarity to intrusions of the Island plutonic suite	282295E / 5461016N	Quartz monzonite; logged as “granodiorite” in 2010 drilling

TRIASSIC					
Karmutsen Group (Trk, Trkl)	Basalt to andesite lavas, pyroclastic and epiclastic rocks; minor interbedded metasilstone and argillite. Volcanic rocks display low-grade regional "greenstone" metamorphism in fringes of the system, and form dark grey biotitic hornfels near the Catface intrusions. <i>Trkl</i> , interbedded lenses of light grey, thin- to medium-bedded marble	Dominant wall rocks throughout the northeastern part of Catface peninsula	Cut by all intrusive rock units. Assigned to Triassic Karmutsen Group by Muller and Carson (1969)	286864E / 5461867N ("greenstones"); 283539E / 5460472N (hornfelsed volcanics); 286582E / 5463114N (Trkl)	Karmutsen volcanics
PALEOZOIC-MESOZOIC(?)					
Westcoast Complex (PzMzwc)	Medium to dark grey, fine- to coarse-grained diorite and gabbro, commonly foliated and banded; also migmatitic rocks with dikes of leuco-tonalite. Contains 1-2% mt, making it the only magnetic rock on the property	Dominant wall rocks throughout the western part of the property	In fault contact with Trk, so no contact relations evident. Older age for PzMzwc suggested by foliated textures. McDougall (1976) cited a 263 Ma (Permian) zircon age elsewhere in the Alberni map area	284208E / 5458578N	Westcoast diorite

Abbreviations: bi, biotite; cp, chalcopyrite; hb, hornblende; kf, K-feldspar; mt, magnetite; plag, plagioclase; po, pyrrhotite; qz, quartz; sc, sericite; sulph, sulphide
Notes: (1) Coordinates of surface outcrops in UTM zone 10, NAD 1983. Drill hole locations in the format HoleID / Depth in m.

The higher-grade Irishman Creek Zone lies 500 m to the NNW of the Cliff Zone and consists of a 40 m wide multi-stage breccia body. Chalcopyrite – pyrrhotite mineralized hydrothermal breccia overprints an earlier intrusive breccia with abundant Karmutsen volcanic rock fragments along the eastern margin of the monzogranite stock. The hydrothermal breccia is matrix-supported and contains elongate clasts of monzogranite and volcanic rocks in a matrix of rock flour, quartz, chlorite, biotite, sericite, and discrete coarse blebs of chalcopyrite and pyrrhotite rimmed by coarse-grained biotite ± chlorite.

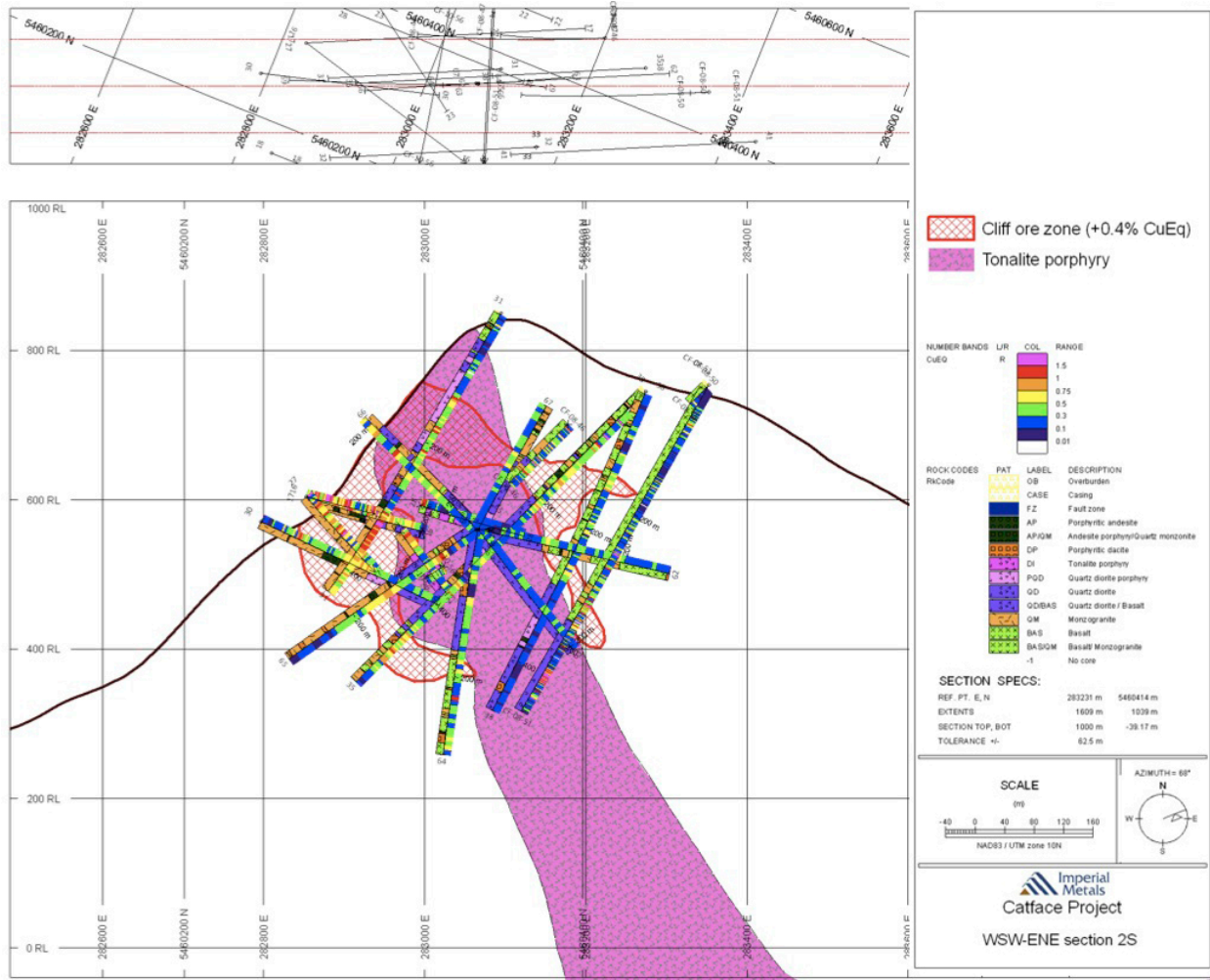


Figure CF-18-4: Detailed WSW-ENE cross-section 2S, showing inferred east-plunging configuration of tonalite porphyry and approximate extent of +0.4% Cu equivalent (Reidell, 2011).

HECATE BAY ZONE

The Hecate Bay Zone (HBZ) as defined by mineralized outcrop, soil geochemical anomalies and IP chargability responses is located 1 to 2 km southeast of the Cliff Zone resource and covers a northwest trending area approximately 900 x 750 m in extent. The area lies on the south-southeast facing slopes of the South Peak of Catface Mountain between 150 and 750 m elevation. Within the HBZ bedrock outcrop consists of mafic to intermediate flows, agglomerates and volcanics of the Triassic Karmutsen Formation, intruded by a large Tertiary Hecate Bay tonalite stock (1.5 x 1.5 km) extending to the southeast edge of the peninsula. Younger porphyritic dikes have been mapped in the area. The Hecate Bay tonalite has been dated at 48-Ma K-Ar (McDougal, 1976) and is considered part of the Eocene Catface intrusive suite.

Mineralization is widespread within the HBZ and consists of chalcopyrite, minor molybdenite, bornite, pyrite and pyrrhotite. Chalcopyrite and lesser molybdenite commonly occur on fractures, in quartz veinlets, or as chalcopyrite disseminations replacing mafic minerals within the tonalite. Bornite is rare. Chalcopyrite was observed as sparse disseminations in numerous late porphyry dikes. Karmutsen volcanics contain more

pyrrhotite, pyrite and associated chalcopyrite near contacts with intrusive rocks. Intrusive rocks are weakly altered and fresh in appearance. Mafic minerals have been altered to chlorite in a number of areas and localized black biotite alteration and silicification has been observed. Contacts between the Karmutsen volcanics and Hecate Bay tonalite show weak thermal alteration effects including hornfels, epidotization and rare skarn. Widespread, low grade Cu mineralization has been documented with grab samples from new showings identified during 1989 mapping assaying 0.35% and 0.29% Cu. Several older maps make note of vein hosted Cu mineralization associated with porphyritic tonalite as well as disseminated mineralization with visual estimates of 0.2 – 0.3% Cu (von Fersen, 2000).

Geochemical surveying in the HBZ began in 1964 when Falconbridge completed an extensive grid covering most of the area of interest. This work utilized Rubianic acid testing, a weak acid attack, that resulted in values representing only a fraction of the total Cu content and are useful only as a general guide. Additional grid soil sampling in 1990 over the northern 2/3rds of the HBZ indicated a northwest trending Cu anomaly greater than 200 ppm extending from the ridge near South Peak 850 m to the southeast, remaining open beyond the southern-most line. Within this area a core zone greater than 600 ppm Cu also trends northwest, ranges from 120 to 180 m wide and reaches maximum values of 2000 ppm Cu. Mo values are generally low (1-2 ppm), with spots highs to 24 ppm, but do not correlate well with Cu.

Falconbridge conducted Induced Polarization, Resistivity, VLF and Magnetic surveys on the same property wide grid in 1989. Two significant IP anomalies, C1 and C2, occur within the HBZ and are described by Falconbridge as follows:

Anomaly C1 is a large, strong anomaly over Karmutsen volcanics immediately east of the monzogranite contact. The strongest part of the anomaly displays a linear pattern nearest the contact. The maximum IP response is co-incident with the lowest resistivity response, and a Fraser filtered VLF anomaly, indicating more abundant sulphides. Adjacent high resistivities immediately to the west suggest silicification. The pattern of the IP anomaly indicates a broad zone of porphyry style sulphides, with local, structurally controlled zones of sulphides on the west side and the region between lines 46S and 30S is underlain by the strongest chargeability. Anomaly C2, located immediately east of C1, is a moderately broad chargeability high with internal, linear, high chargeability zones, indicating northeast structural control of sulphides. Most of the anomaly is underlain by Karmutsen volcanics with the Hecate Bay tonalite mapped in the southeast portion of the anomaly. Linear resistivity highs occur within the anomaly suggesting the presence of porphyry dikes or possibly silicification.

2021 LIDAR SURVEY PROGRAM:

Eagle Mapping Ltd. was contracted to carry out an airborne LiDAR survey and acquire high resolution orthographic imagery of the Catface property. The survey was flown September 15, 2021 with a Cessna 206 at 1450 Ft using the LiDAR unit Riegl LMS-Q1560 and camera iXM-RS150F. The LiDAR specifications and details can be found in the Eagle Mapping Report that is appended in Section F.

The objective of the survey was to collect LiDAR data that could be analyzed to determine major geologic structures, geologic contacts and historic workings as well as provide exploration assistance in planning future work with updated digital elevation models and orthographic imagery.

Since mineralization at Catface is associated with intrusive bodies one of the goals of the LiDAR survey was to highlight intrusive contacts at surface that could be used to assist exploration.

The LIDAR survey was effective at highlighting physical features and surface expressions throughout the property. Some surface depressions can be associated to small streams, known fault but no obvious intrusive contacts are observed in the LiDAR data. No obvious geologic contacts were highlighted from the LiDAR survey.

2021 GEOCHEMICAL SAMPLING PROGRAM:

Logistics

The 2021 Catface field program was completed in the fall, October 12 to October 24, 2021. During the work period the weather fluctuated daily between heavy rain with strong winds to cool with heavy fog making travel to and from the work area very difficult. Due to bad weather the field team was only able to travel to site on October 13, 14, 17, 18, 19, 22, and 23, and some of the workdays were called short due to incoming storms and fog. Daily the four-man field team mobilized out of Ucluelet, BC and drove to Atleo River Air Services hangar at the Tofino-Long Beach Airport where a helicopter (Bell 206) was contracted to fly drop-offs and pick-ups to the Catface property. The drop-off site used (283782E, 5460060N) was located at a swamp in the southwest quadrant of the soil geochemistry grid near the top of Catface. A secondary drop-off (283782E, 5460060N) was used for a lower elevation staging and access to prospect along the lower ring road. Due to the high elevation of the field area and the regions quick changes of weather the team remained ready for short notice helicopter pickups on all workdays.

Soil Sampling

Catface has an extensive work history that started with Cu mineralization at surface and was followed by many years of exploration that featured sampling, geophysics, mapping, drilling and underground work to define the deposit. Based on historic IP and later mapping it is believed that Cu-Mo mineralizing potential could be located to the east of the known Catface Copper deposit. It was the goal of the 2021 geochemical survey to collect soil geochemistry data east of the known Catface porphyry deposit, in an area with anomalous geophysical IP data and historically mapped intrusive contacts. The geochemical survey objective was to establish new surface targets of Cu and Mo porphyry mineralization.

Methods

A total of 311 soil samples were collected along 16 lines that are oriented at roughly 080° east northeast. Samples were collected every 50 m along the lines. Samples were submitted to Bureau Veritas Mineral Laboratories in Vancouver for trace element geochemical analysis. The analytical procedure utilized was AQ201, 36 multi-element assay by Aqua Regia digestion and ICP-MS analysis. The assay certificate and analytical procedure are appended in Section E.

Sample collectors made a deliberate effort to purge all sampling equipment of foreign contaminant prior to the collection of each sample. When a proper soil sample could not be obtained, a sample was not collected.

Data

Cu values within the grid range from 13.2 ppm to 6169.6 ppm with a mean copper value of 477.02 ppm. Within the grid 43 samples returned assays over 1000 ppm and 7 samples over 2000 ppm Cu. The highest

Cu sample (#147409) was taken at a road cut located approximately 300 m east and down slope of the known Catface deposit. Samples 147442, 147401, 50450 and 50449 represent 4 of the 7 samples above 2000 ppm Cu and are located clustered together approximately 200 m below a road cut and 450 m east and downslope of the known deposit. Sample 50518 (3159 ppm Cu) and 186621 (4319 ppm Cu) are 2 of the 7 samples that assayed over 2000 ppm and are located approximately 120 m east and up slope of the swamp/drop-off site and located west and north, and down slope of an old road cut on the eastern ridge with no known Cu mineralization. In general, the Cu values increase from east to west as well as an increase from north to south with a general anomaly in the southwest quadrant of the soil grid.

Mo values within the grid range from 0.3 ppm to 137.9 ppm with a mean Mo value of 10.36 ppm. Within the grid 12 samples contain assays over 50 ppm and 4 samples over 100 ppm Mo. The 4 samples over 100 ppm Mo (186534, 186594, 186562 and 147496) are located clustered together north and east of the swamp/drop-off site. In a general sense the Mo follows a similar trend as the Cu values with an increase from east to west as well as an increase from north to south but with a high concentration of anomalous values located along the creek that runs through the middle of the grid.

The sample locations and analytical results for Cu and Mo are shown on Figures CF-2021-6 to CF-2021-8 which are appended in Section G. A detailed listing of the sample locations and descriptions are tabulated in Section D.

Rock Sampling

Rock sampling was performed when samplers came across exposed bedrock while following the soil sample lines. Rock samples were also collected on a foggy day when access to higher elevation was blocked by fog. On this day samplers followed the old ring road out to the western side of Catface and prospected along the road and took notes on the road quality and road repairs that may be needed.

Method

A total of eight rock samples were collected with one taken on the soil geochemistry grid and seven along the ring road. Samples were submitted to Bureau Veritas Mineral Laboratories in Vancouver for trace element geochemical analysis. The analytical procedure utilized was AQ201, 36 multi-element assay by Aqua Regia digestion and ICP-MS analysis. The assay certificate and analytical procedure are appended in Section E.

A detailed listing of the sample locations and descriptions are tabulated in Section D.

Data

Rock sample #3814458 returned assays of 895 ppm Cu and was taken on the soil grid located approximately 40 meters east of a historically mapped tonalite porphyry. The sample was described as a dark grey and white, intensely silicified rock with disseminated pyrite (2%) and minor disseminated chalcopyrite (<1%). Rock sample # 3814464 returned assays of 451.9 ppm and was taken along the ring road in exposed outcrop. The rock was described as red weathered, grey fresh, equigranular granitic rock with small 3 cm qtz-py vein. The vein is very oxidized, and the sample take from the vein and surrounding rock. Local mm scale magnetite veins present. The rest of the rock samples did not return assays of significant values.

CONCLUSIONS

Trace element soil geochemistry was successful at identifying elevated values of Cu, and Mo in the area of the soil grid. The results also demonstrate an increase in Cu and Mo from east to west as well as an increase from north to south with a general anomaly in the southwest quadrant of the soil grid. Mo displayed stronger anomalous values lower in elevation closer to the creek while anomalous Cu values were concentrated slightly up slope. Cu and Mo values were inferred to share a positive correlation with one another but the data from assays suggest a low correlation values of 0.29.

Additionally, most of the western grid displayed strong anomalous values but it is inferred to be strongly influenced by being proximal and down slope from the main catface deposit. The anomalous high Cu values located east of the swamp/drop-off site are believed to be less influenced by the main Catface deposit based on topography which suggests a possible source towards the southeastern side of the grid.

Given the presence of coincident geophysical, mapped intrusives, geochemical anomalies and the single rock sample taken to the east containing low grade Cu, this area is still a high priority and requires future exploration.

RECOMMENDATIONS:

As a result of the anomalous high Cu and Mo assays from the 2021 field program east of the main Catface deposit, further work is justified for this brownfield target. Initial work should continue off the 2021 soil grid, and expand the grid to the south, east and north. Historic data for this area is lacking with much of the work at Catface remaining undocumented and within unreleased Falconbridge reports.

The best method at testing the continuation of elevated mineralization on all targets at the Catface property would be by analyzing whole-rock samples collected from drilling or trenching. Although these exploration methods are more expensive, they can provide quantitative results that will determine the extent of Cu and Mo occurrences and allow for a better overall understanding of the geology.

Given the favourable location of pre-existing access roads, and existing core shack and core cutting building it is possible to complete a short diamond drill program with a skid mounted drill rig. Prior to initiating this program, brushing work will have to be completed to clear the overgrown alders from the access road.

It is recommended to continue work at Catface by expanding soil sampling in the area of the 2021 field program and also carry out a drill program based on historic and new data to explore the brownfield targets at Catface.

Respectfully submitted,



Peter Baldazzi, B.Sc. G.I.T.

APPENDIX A: STATEMENT OF QUALIFICATIONS

STATEMENT OF QUALIFICATIONS for Peter Baldazzi, B.Sc., G.I.T., of 1730 Oughton Drive, Port Coquitlam, British Columbia

I am an Exploration Geologist with the Imperial Metals Corporation with 6 years of experience. Office at 580 Hornby Street, Suite 200 Vancouver, British Columbia V6C 3B6, Tel: 236-317-4952.

I graduated from Simon Fraser University, British Columbia, Canada, with a Bachelor of Science Degree in Earth Science in 2019.

I am a registered member in good standing as a Geoscientist in Training with Engineers and Geoscientists of British Columbia (Member ID # 218981)

The observations, conclusions and recommendations contained in this report are based on supervision of the described program, field examinations and the evaluation of results of the exploration program completed by the operator of the property.

Peter Baldazzi

Peter Baldazzi

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(May 26, 1969): Progress Report No. 5 - - An Investigation of The Recovery of Copper from Catface Mt. Project samples submitted by Falconbridge

(June 16, 1969): Progress Report No. 6 – Petrographic Examination of Diamond Drill Core Samples submitted by Falconbridge

(Sept. 11, 1969): Progress Report No. 7 - Microscopic Examination of Flotation Products submitted by Falconbridge

(1969): Progress Report No. 8 - An Investigation of The Recovery of Copper from ore samples submitted by Falconbridge

(Jan. 8, 1970): Progress Report No. 9 – An Investigation of The Recovery of Copper from ore samples submitted by Falconbridge

(Feb. 19, 1970): Progress Report No. 10 – Microscopic Examination of Diamond Drill Core Samples submitted by Falconbridge

(May 15, 1970): Progress Report No. 11 – An Investigation of The Recovery of Copper from ore samples submitted by Falconbridge; Microflotation on Drill Hole 24

(May 21, 1970): Progress Report No. 12 – An Investigation of the Recovery of Copper from ore samples submitted by Falconbridge

(June 19, 1970): Progress Report No. 13 – An Investigation of the Recovery of Copper from ore samples submitted by Falconbridge; Microfloatation on Drill holes 24, 26 & 40

(July 15, 1970): Progress Report No. 14 - Microscopic Examination of Diamond Drill Core Samples submitted by Falconbridge on drill holes 24 and 26

(July 15, 1970): Progress Report No. 15 – An Investigation of The Recovery of Copper from ore samples submitted by Falconbridge – Flotation Test with Pacific Ocean Water

Lakefield Research Ltd. (continued)

(July 16, 1970): Progress Report No. 16 – An Investigation of The Recovery of Copper from ore samples submitted by Falconbridge – Adit Samples 20860, 20902, 20905 and 20906

(July 16, 1970): Progress Report No. 17 – An Investigation of The Recovery of Copper from ore samples submitted by Falconbridge – Special Core Samples (Rock Types)

(July 30, 1970): Progress Report No. 18 – An Investigation of The Recovery of Copper from ore samples submitted by Falconbridge – Soluble Copper and Soluble Iron Analyses

(Sept. 28, 1970): Progress Report No. 19 – An Investigation of The Recovery of Copper and Molybdenum from ore samples submitted by Falconbridge

(Sept. 30, 1970): Progress Report No. 20 – An Investigation of Differential Copper-Molybdenum Flotation on bulk concentrate from ore submitted by Falconbridge

(Oct. 8, 1970): Progress Report No. 21 – An Investigation of The Recovery of Copper from ore samples submitted by Falconbridge – Evaluation of Adit Samples

(Dec. 1, 1970): Progress Report No. 22 – An Investigation of The Recovery of Copper from ore samples submitted by Falconbridge

(1970): Progress Report No. 23 – The analysis of Soluble Copper on samples submitted by Falconbridge

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Steffan Robertson and Kirsten Inc.:

(1990 a): Catface Project; prepared for Falconbridge Limited, dated April 30, 1990, 5 pages

(1990 b): Catface Project, In-situ Polygon Resource Estimation; prepared for Falconbridge Ltd., dated July 30, 1990, 4 pages

(1990 c): Catface Project, Open Pit Optimizations; prepared for Falconbridge Ltd., dated October 22, 1990, 8 pages

(1990 d): Catface Project, Open Pit Optimizations; prepared for Falconbridge Ltd. dated October 22, 1990, 2 pages.

(2003): Description of the Catface Property Vancouver Island, British Columbia. Doublestar Resources Ltd. Internal Document

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Von Fersen, N. (2000): Review and Evaluation of the Hecate Bay Zone - Catface Cu-Mo Property, Doublestar Resources Ltd internal report to A. Savage, 7 June 2000

Wade, E.J. (1971): Rhenium; Falconbridge Nickel Mines Limited, Memorandum, dated July 20, 1971, 2 pages. **(1972):** Catface Copper Mines Limited, Ore Reserve Calculations and Pit Design; internal report prepared for Falconbridge Limited, dated March, 1972

Walker, WBG., (Aug. 15, 1962): Catface Geology Report

SECTION B: PROPERTY

SCHEDULE OF MINERAL TENURES:

The “good to” dates shown are based on the Statement of Exploration and Development Work registered on Mineral Titles Online on December 29, 2021, as Event #5864813 and assume that the work contained in this report will be accepted for assessment purposes.

CATFACE PROPERTY - MINERAL TENURES										Date:	2022.03.27
OWNER: Catface Copper Mines Limited			100.0%	BC Client No.		104480	Tenures		139		
BACK-IN RIGHT: Glencore Canada Corporation			50.1%	Units/Cells		161					
or ROYALTY: Glencore Canada Corporation			9.0% Net Proceeds of Production			Area (ha)		3,839.44			
MINING DIVISION: Alberni			LAND DISTRICT: Clayoquot			LAND TITLE DISTRICT: Victoria					
LOCATION: in the Catface Range 13 km north-northwest of Tofino, BC											
MAP NO.		NTS: 92E/01E, 08E; 92F/04W, 05W		GEOGRAPHIC COORDINATES:			49° 15.6' N; 125° 59.3' W				
		BCGS: 92E030, 92F021		UTM COORDINATES (NAD 83, ZONE 10):			5 460 300 N 283 200 E				
Mining Lease:											
Tenure No.	Tenure Type	Plan No.	Map No.	Issue Date	Good To Date	Term Expiry	Units/Cells	Area (ha)	Rent Rate	Rent*	
345339	Lease - 30 yr.	DL 2145, Clayoquot District	092F021	1996-09-25	2022-09-25	2026-09-25	15	252.0	\$20.00	\$5,040.00	
Subtotal	1						15	252.0		\$5,040.00	
Mineral Claims:											
Tenure No.	Tenure Type	Claim Name	Map No.	Record Date	Good To Date	Work Year	Units/Cells	Area (ha)	Work Factor	Work**	
Legacy Claims:											
201363	Mineral	CATFACE #8	092F021	1961-05-12	2022-12-31	5	1	25.0	\$15.00	\$375.00	
201392	Mineral	CATFACE #36	092F021	1961-12-04	2022-12-31	5	1	25.0	\$15.00	\$375.00	
201393	Mineral	CATFACE #38	092F021	1961-12-04	2022-12-31	5	1	25.0	\$15.00	\$375.00	
201394	Mineral	CATFACE #40	092F021	1961-12-04	2022-12-31	5	1	25.0	\$15.00	\$375.00	
201395	Mineral	CATFACE #41	092F021	1961-12-14	2022-12-31	5	1	25.0	\$15.00	\$375.00	
201396	Mineral	CATFACE #42	092F021	1961-12-14	2022-12-31	5	1	25.0	\$15.00	\$375.00	
201397	Mineral	CATFACE #43	092F021	1961-12-14	2022-12-31	5	1	25.0	\$15.00	\$375.00	
201398	Mineral	CATFACE #44	092F021	1961-12-14	2022-12-31	5	1	25.0	\$15.00	\$375.00	
201399	Mineral	CATFACE #45	092F021	1961-12-14	2022-12-31	5	1	25.0	\$15.00	\$375.00	
201400	Mineral	CATFACE #46	092F021	1961-12-14	2022-12-31	5	1	25.0	\$15.00	\$375.00	
201401	Mineral	CATFACE #47	092F021	1961-12-14	2022-12-31	5	1	25.0	\$15.00	\$375.00	
201402	Mineral	CATFACE #48	092F021	1961-12-14	2022-12-31	5	1	25.0	\$15.00	\$375.00	
201416	Mineral	CATFACE #50	092F021	1962-02-20	2022-12-31	5	1	25.0	\$15.00	\$375.00	
201417	Mineral	CATFACE #52	092F021	1962-02-20	2022-12-31	5	1	25.0	\$15.00	\$375.00	
201418	Mineral	CATFACE #53	092F021	1962-02-20	2022-12-31	5	1	25.0	\$15.00	\$375.00	
201419	Mineral	CATFACE #54	092F021	1962-02-20	2022-12-31	5	1	25.0	\$15.00	\$375.00	
201420	Mineral	CATFACE #56	092F021	1962-02-20	2022-12-31	5	1	25.0	\$15.00	\$375.00	
201421	Mineral	CATFACE #58	092F021	1962-02-20	2022-12-31	5	1	25.0	\$15.00	\$375.00	
201422	Mineral	CATFACE #59	092F021	1962-02-20	2022-12-31	5	1	25.0	\$15.00	\$375.00	
201423	Mineral	CATFACE #60	092F021	1962-02-20	2022-12-31	5	1	25.0	\$15.00	\$375.00	
201424	Mineral	CATFACE #61	092F021	1962-02-20	2022-12-31	5	1	25.0	\$15.00	\$375.00	
201425	Mineral	CATFACE #62	092F021	1962-02-20	2022-12-31	5	1	25.0	\$15.00	\$375.00	

201474	Mineral	CATFACE #110	092E030	1962-04-05	2022-12-31	9	1	25.0	\$20.00	\$500.00
201475	Mineral	CATFACE #111	092E030	1962-04-05	2022-12-31	9	1	25.0	\$20.00	\$500.00
201476	Mineral	CATFACE #112	092E030	1962-04-05	2022-12-31	9	1	25.0	\$20.00	\$500.00
201477	Mineral	CATFACE #113	092E030	1962-04-05	2022-12-31	9	1	25.0	\$20.00	\$500.00
201478	Mineral	CATFACE #114	092E030	1962-04-05	2022-12-31	9	1	25.0	\$20.00	\$500.00
201479	Mineral	CATFACE #115	092E030	1962-05-10	2022-12-31	9	1	25.0	\$20.00	\$500.00
201480	Mineral	CATFACE #116	092E030	1962-05-10	2022-12-31	9	1	25.0	\$20.00	\$500.00
201481	Mineral	CATFACE #117	092E030	1962-05-10	2022-12-31	9	1	25.0	\$20.00	\$500.00
201482	Mineral	CATFACE #118	092E030	1962-05-10	2022-12-31	9	1	25.0	\$20.00	\$500.00
201483	Mineral	CATFACE #119	092E030	1962-05-10	2022-12-31	9	1	25.0	\$20.00	\$500.00
201484	Mineral	CATFACE #120	092E030	1962-05-10	2022-12-31	9	1	25.0	\$20.00	\$500.00
201485	Mineral	CATFACE #123	092F021	1962-05-10	2022-12-31	5	1	25.0	\$15.00	\$375.00
201489	Mineral	CATFACE #130	092F021	1962-07-10	2022-12-31	5	1	25.0	\$15.00	\$375.00
201490	Mineral	CATFACE #131	092F021	1962-07-10	2022-12-31	5	1	25.0	\$15.00	\$375.00
201598	Mineral	CATFACE #14 FR.	092F021	1970-03-31	2022-12-31	5	1	25.0	\$15.00	\$375.00
201599	Mineral	CATFACE #15 FR.	092F021	1970-03-31	2022-12-31	9	1	25.0	\$20.00	\$500.00
201600	Mineral	CATFACE #16 FR.	092F021	1970-03-31	2022-12-31	9	1	25.0	\$20.00	\$500.00
201603	Mineral	CATFACE #19 FR.	092F021	1970-03-31	2022-12-31	5	1	25.0	\$15.00	\$375.00
201605	Mineral	CATFACE #21	092F021	1970-03-31	2022-12-31	5	1	25.0	\$15.00	\$375.00
201606	Mineral	CATFACE #22	092F021	1970-03-31	2022-12-31	5	1	25.0	\$15.00	\$375.00
201607	Mineral	CATFACE #23	092F021	1970-03-31	2022-12-31	9	1	25.0	\$20.00	\$500.00
201608	Mineral	CATFACE #24	092F021	1970-03-31	2022-12-31	9	1	25.0	\$20.00	\$500.00
201609	Mineral	CATFACE #25	092F021	1970-03-31	2022-12-31	9	1	25.0	\$20.00	\$500.00
201610	Mineral	CATFACE #26	092F021	1970-03-31	2022-12-31	9	1	25.0	\$20.00	\$500.00
201611	Mineral	CATFACE #27	092F021	1970-03-31	2022-12-31	5	1	25.0	\$15.00	\$375.00
201612	Mineral	CATFACE #28	092F021	1970-03-31	2022-12-31	5	1	25.0	\$15.00	\$375.00
201613	Mineral	CATFACE #29	092F021	1970-03-31	2022-12-31	5	1	25.0	\$15.00	\$375.00
201614	Mineral	CATFACE #30	092F021	1970-03-31	2022-12-31	5	1	25.0	\$15.00	\$375.00
201615	Mineral	CATFACE #31	092F021	1970-03-31	2022-12-31	5	1	25.0	\$15.00	\$375.00
201616	Mineral	CATFACE #32 FR.	092F021	1970-03-31	2022-12-31	5	1	25.0	\$15.00	\$375.00
201617	Mineral	CATFACE #33	092F021	1970-03-31	2022-12-31	5	1	25.0	\$15.00	\$375.00
201618	Mineral	CATFACE #34	092F021	1970-03-31	2022-12-31	5	1	25.0	\$15.00	\$375.00
201619	Mineral	CATFACE #35	092F021	1970-03-31	2022-12-31	5	1	25.0	\$15.00	\$375.00
201622	Mineral	CATFACE #49	092F021	1970-03-31	2022-12-31	5	1	25.0	\$15.00	\$375.00
201623	Mineral	CATFACE #51	092F021	1970-03-31	2022-12-31	5	1	25.0	\$15.00	\$375.00
201624	Mineral	CATFACE #55 FR.	092F021	1970-03-31	2022-12-31	5	1	25.0	\$15.00	\$375.00
201625	Mineral	CATFACE #57	092F021	1970-03-31	2022-12-31	5	1	25.0	\$15.00	\$375.00
201626	Mineral	CATFACE #86	092E030	1970-03-31	2022-12-31	9	1	25.0	\$20.00	\$500.00
201627	Mineral	CATFACE #88	092E030	1970-03-31	2020-07-15, 2021-12-31	5	1	25.0	\$15.00	\$375.00
201628	Mineral	CATFACE #90	092E030	1970-03-31	2022-12-31	9	1	25.0	\$20.00	\$500.00

201629	Mineral	CATFACE #94	092E030	1970-03-31	2022-12-31	9	1	25.0	\$20.00	\$500.00
201630	Mineral	CATFACE #96	092F021	1970-03-31	2022-12-31	9	1	25.0	\$20.00	\$500.00
201631	Mineral	CATFACE #98	092F021	1970-03-31	2022-12-31	9	1	25.0	\$20.00	\$500.00
201632	Mineral	CATFACE #121	092F021	1970-03-31	2022-12-31	5	1	25.0	\$15.00	\$375.00
201633	Mineral	CATFACE #122	092F021	1970-03-31	2022-12-31	5	1	25.0	\$15.00	\$375.00
201634	Mineral	CATFACE #124	092F021	1970-03-31	2022-12-31	5	1	25.0	\$15.00	\$375.00
201635	Mineral	CATFACE #125	092F021	1970-03-31	2022-12-31	5	1	25.0	\$15.00	\$375.00
201636	Mineral	CATFACE #126	092F021	1970-03-31	2022-12-31	5	1	25.0	\$15.00	\$375.00
201637	Mineral	CATFACE #127 FR.	092F021	1970-03-31	2022-12-31	5	1	25.0	\$15.00	\$375.00
201638	Mineral	CATFACE #128	092F021	1970-03-31	2022-12-31	5	1	25.0	\$15.00	\$375.00
201639	Mineral	CATFACE #129	092F021	1970-03-31	2022-12-31	5	1	25.0	\$15.00	\$375.00
201640	Mineral	CATFACE #132 FR.	092F021	1970-03-31	2022-12-31	5	1	25.0	\$15.00	\$375.00
201641	Mineral	CATFACE #133 FR.	092F021	1970-03-31	2022-12-31	9	1	25.0	\$20.00	\$500.00
201642	Mineral	CATFACE #134	092F021	1970-03-31	2022-12-31	5	1	25.0	\$15.00	\$375.00
201643	Mineral	CATFACE #138 FR.	092F021	1970-05-07	2022-12-31	9	1	25.0	\$20.00	\$500.00
201644	Mineral	CATFACE #139 FR.	092E030	1970-05-07	2022-12-31	9	1	25.0	\$20.00	\$500.00
201645	Mineral	CATFACE #141 FR.	092F021	1970-05-15	2022-12-31	5	1	25.0	\$15.00	\$375.00
201646	Mineral	CATFACE #143 FR.	092F021	1970-05-19	2022-12-31	5	1	25.0	\$15.00	\$375.00
201647	Mineral	CATFACE #145 FR.	092E030	1970-05-19	2022-12-31	9	1	25.0	\$20.00	\$500.00
201648	Mineral	CATFACE #134 FR.	092E030	1970-05-08	2022-12-31	9	1	25.0	\$20.00	\$500.00
201649	Mineral	CATFACE #135 FR.	092E030	1970-05-08	2022-12-31	9	1	25.0	\$20.00	\$500.00
201650	Mineral	CATFACE #136 FR.	092E030	1970-05-08	2022-12-31	9	1	25.0	\$20.00	\$500.00
201651	Mineral	CATFACE #137 FR.	092E030	1970-05-08	2022-12-31	9	1	25.0	\$20.00	\$500.00
201652	Mineral	CATFACE #144 FR.	092F021	1970-06-01	2022-12-31	5	1	25.0	\$15.00	\$375.00
201653	Mineral	CATFACE #142 FR.	092F021	1970-06-01	2022-12-31	5	1	25.0	\$15.00	\$375.00
201654	Mineral	CATFACE #140 FR.	092F021	1970-06-01	2022-12-31	5	1	25.0	\$15.00	\$375.00
342307	Mineral	CATFACE #149 FR	092F021	1995-11-29	2022-12-31	5	1	25.0	\$15.00	\$375.00
Subtotal	130						130	3,250.00		\$55,750.00
Cell Claims:										
584343	Mineral	CCML01	092F021	2008-05-15	2022-12-31	9	2	42.18	\$20.00	\$843.60
584344	Mineral	CCML02	092F021	2008-05-15	2022-12-31	9	1	21.09	\$20.00	\$421.80
584345	Mineral	CCML03	092F021	2008-05-15	2022-12-31	9	1	21.09	\$20.00	\$421.80
584347	Mineral	CCML04	092F021	2008-05-15	2022-08-15	8	1	21.08	\$20.00	\$421.60
604683	Mineral	CCML05	092F021	2009-05-19	2022-12-31	9	5	105.47	\$20.00	\$2,109.40
604686	Mineral	CCML06	092F021	2009-05-19	2022-12-31	9	2	42.19	\$20.00	\$843.80
604688	Mineral	CCML07	092F021	2009-05-19	2022-12-31	9	2	42.18	\$20.00	\$843.60
1073168	Mineral	EPM	092F021	2019-12-07	2022-12-31	4	2	42.16	\$10.00	\$421.60
Subtotal	8						16	337.44		\$6,327.20
TOTAL	139						161	3,839.44		\$67,117.20

Note: Tenure 584347 is not contiguous

* Based on Mineral Tenure Act Regulation Amendments effective July 1, 2012: Mining lease annual rental / \$20.00/ha

** Based on Mineral Tenure Act Regulation Amendments effective July 1, 2012: Year 1 and 2 / \$5.00/ha; Year 3 and 4 / \$10.00/ha;
Year 5 and 6 / \$15.00/ha; Year 7 and beyond / \$20.00/ha

The "good to" dates shown are based on the Statement of Exploration and Development Work registered on Mineral Titles Online on December 29, 2021 as Event #5864813 and assume that the work contained in this report will be accepted for assessment purposes

SECTION C: EXPENDITURES (Revised 2023-03-30)

CATFACE 2021 GEOCHEMICAL SAMPLING & LIDAR SURVEY PROGRAM

CATFACE COPPER MINES LIMITED
CATFACE PROJECT

Statement of Expenditures: 2021 Geochemical Sampling & LiDAR Survey Program

Item / Contractor	Work	Period	Quantity	Unit	Rate	Rev.	2022.03.27	2023.03.30	Portion on
									Mineral Claims
									93.44%
Personnel:									
Jim Miller-Tait, P.Geol.	Exploration Manager, general supervision	Oct 11-25, 2021	2	days	\$550.00		\$1,100.00		
Peter Baldazzi	Geologist	Oct 11-25, 2021	15	days	\$350.00		\$5,250.00		
Derek Saxton	Geologist	Oct 11-25, 2021	15	days	\$350.00		\$5,250.00		
Toby Orrick	Geologist	Oct 11-25, 2021	15	days	\$350.00		\$5,250.00		
George Frank	Field assistant	Oct 11-25, 2021	15	days	\$300.00		\$4,500.00		
Subtotal							\$21,350.00		\$19,949.44
Accommodation & Meals:									
Food / Meals - Crew	4 personnel	Oct 11-25, 2021	46	man days			\$790.79		
Pacific Rim Motel, Ucluelet	4 personnel	Oct 11-25, 2021	46	man days	\$194.89		\$8,964.94		
Subtotal							\$9,755.73		\$9,115.75
Transportation (Air):									
Atleo River Air Services Ltd.	Bell 206 helicopter transport from Tofino Airport to Catface Property and back	Oct 13-23, 2021	8.9	hours	\$1,400.00		\$12,460.00		
Subtotal							\$12,460.00		\$11,642.62
Transportation (Ground/Water)									
P. Baldazzi - Pickup - Km	Vancouver-Nanaimo-Ucluelet and return plus daily transport	Oct 11-25, 2021	1218	km	\$0.45		\$548.10		
p. Baldazzi - Fuel			1218	km			\$191.84		
P. Baldazzi - BC Ferries	Horseshoe Bay - Nanaimo and return		2		\$91.95		\$183.90		
T. Orrick - Pickup	Nanaimo - Ucluelet and return plus daily transport	Oct 11-25, 2021	1064	km	\$0.45		\$478.80		
T. Orrick Pickup - Fuel			1064	km			\$167.58		
Tofino Water Taxi	Crew transport Tofino-Hecate Bay-Tofino		0	day	\$30.00		\$0.00		
Water Taxi Services	Crew transport Ahousaht-Hecate Bay-Ahousaht		0	day	\$300.00		\$0.00		
Subtotal							\$1,570.22		\$1,467.21
LiDAR Survey:									
Eagle Mapping Ltd.	Collection of LiDAR data and aerial photography of the Catface Property	September 15, 2021					\$29,835.00		
Subtotal							\$29,835.00		\$27,877.82
Assaying:									
Bureau Veritas Mineral Laboratories	B Soil Samples: AQ201 analytical code	271 samples on claims	311	samples	\$21.57		\$6,707.20		
Bureau Veritas Mineral Laboratories	Rock Samples: AQ201 analytical code	8 samples on claims	8	samples	\$24.95		\$199.60		
Subtotal		279 samples on claims	319				\$6,906.80		\$6,453.71

Field Supplies:							
Deakin Equipment Ltd., Local sources	Sampling & engineering supplies					\$246.25	
Subtotal						\$246.25	\$230.10
Drafting:							
Melissa Darney	GIS work: drafting of report maps		2	days	\$390.00	\$780.00	
Subtotal						\$780.00	\$728.83
Report Preparation:							
Peter Baldazzi, B.Sc., GIT	Data compilation, report preparation		3	days	\$350.00	\$1,050.00	
Erik Andersen	Data preparation, report editing		6	hours	\$54.30	\$325.80	
Subtotal						\$1,375.80	\$1,285.55
Total	Tenures: 201363, 201392-402, 201416-458, 201466-485, 201489-490, 201598-600, 201603, 201605-619, 201622-654, 342307, 584343-345, 604683, 604686, 604688, 1073168 & Mining Lease 345339					\$84,279.80	\$78,751.04
	Mineral claims: 3,587.44 ha	\$78,751.04	93.44%	Maximum PAC Factor		1.4285	1.4285
	Mining Lease 345339: 252.0 ha	\$5,528.75	6.56%	Maximum Assessment		\$120,393.69	\$112,495.86

SECTION D: SAMPLE LOCATIONS

(Coordinate locations recorded in UTM NAD83 Zone 10)

- **2021 Soil Sample Locations**
- **2021 Rock Sample Locations**

CATFACE COPPER MINES LIMITED

CATFACE COPPER PROPERTY

2021 GEOCHEMICAL SOIL SAMPLING

UTM Datum: NAD 83, Zone 10

Field Program: October 12-24, 2021

Sample ID	Easting	Northing	Elevation (masl)	Date Sampled	Sampler	Sample Type	Horizon	Depth (cm)	Color	Notes
50413	283,670.2	5,460,042.0	693.4	2021.10.18	TO/GF	Soil	b	20	black-brown	Fine with clay and sharp angular pebbly gravel, 10m below old road
50414	283,668.7	5,460,093.5	696.5	2021.10.18	TO/GF	Soil	b	5	brown	Fine with clay, round pebbles and sharp angular gravel, colluvium
50415	283,748.7	5,460,040.6	667.5	2021.10.18	TO/GF	Soil	b	35	dark-grey, black	Fine with clay and rare 1-3cm sharp angular gravel, B horizon with some organics, 3m above creek
50416	283,823.2	5,460,038.0	669.5	2021.10.18	TO/GF	Soil	b	10	grey-brown	Fine with silt and clay
50417	283,843.8	5,460,040.2	674.9	2021.10.18	TO/GF	Soil	b	15	grey-brown	Fine with silt and clay, and rare pebbles
50418	283,870.3	5,460,039.6	678.0	2021.10.18	TO/GF	Soil	b	35	yellow-brown	Fine with clay, round pebbles and sharp angular gravel, near bedrock, colluvium
50419	283,893.4	5,460,038.4	682.7	2021.10.18	TO/GF	Soil	b	5	light-brown	Fine with silt and clay, pebbles and 1-2cm angular gravel, sampled beneath root wad
50420	283,921.4	5,460,039.5	689.7	2021.10.18	TO/GF	Soil	b	5	brown	Fine with some clay and small round pebbles
50421	283,946.6	5,460,042.0	698.4	2021.10.18	TO/GF	Soil	b	20	brown	Fine with clay and 1-2cm angular to sub-round gravel
50422	284,322.0	5,460,439.3	776.3	2021.10.19	TO/GF	Soil	b	25	red-grey-brown	Medium, sandy, some pebbles and fractured rock near surface, colluvium
50423	284,297.4	5,460,438.1	783.6	2021.10.19	TO/GF	Soil	b	5	light-brown	Fine with silty-clay, round pebbles and sharp angular gravel, colluvium
50424	284,272.4	5,460,442.3	771.9	2021.10.19	TO/GF	Soil	b	30	red-brown	Medium-coarse with round pebbles
50425	284,247.1	5,460,441.8	757.4	2021.10.19	TO/GF	Soil	b	35	grey-brown	Fine with silty-clay and 1-3cm sharp angular gravel, 5m below road
50426	284,320.9	5,460,540.8	808.2	2021.10.13	TO/GF	Soil	b	30	brown	Coarse with sharp angular lithics
50427	284,295.5	5,460,538.3	798.2	2021.10.13	TO/GF	Soil	b	15	red-brown	Fine-medium with minor clay, talus slope
50428	284,270.2	5,460,543.3	777.0	2021.10.13	TO/GF	Soil	b	15	brown	Coarse with sharp angular gravel, talus slope
50429	284,246.9	5,460,541.6	767.9	2021.10.13	TO/GF	Soil	b	15	brown	Medium-coarse sandy, gravelly, talus slope
50430	284,223.8	5,460,540.5	748.5	2021.10.13	TO/GF	Soil	b	35	brown	B horizon, fine soil with organics
50431	284,194.9	5,460,536.0	735.8	2021.10.13	TO/GF	Soil	b	5	red-brown	Fine-medium with some sharp angular gravel, close to bedrock, talus boulders
50432	284,172.2	5,460,543.5	720.8	2021.10.13	TO/GF	Soil	b	15	yellow-brown	B horizon, fine-medium with minor organics, talus slope
50433	284,148.0	5,460,541.3	705.0	2021.10.13	TO/GF	Soil	b	5	brown	Medium grained with some minor sharp-round gravel
50434	284,121.4	5,460,541.4	692.6	2021.10.13	TO/GF	Soil	b	5	brown	Medium-coarse with some round pebbles
50435	284,097.8	5,460,543.0	681.8	2021.10.13	TO/GF	Soil	b	5	brown	Fine soil with clay, some angular gravel
50436	284,073.4	5,460,542.1	669.4	2021.10.13	TO/GF	Soil	b	20	brown	Medium with minor clay and some rounded pebbles
50437	284,047.4	5,460,540.3	661.1	2021.10.13	TO/GF	Soil	b	20	black-brown	Fine with clay, 0.5-1cm angular gravel
50438	284,023.2	5,460,540.2	646.4	2021.10.13	TO/GF	Soil	b	15	brown	Fine soil with some clay
50439	283,997.7	5,460,541.6	630.2	2021.10.13	TO/GF	Soil	b	15	brown	Fine soil with some clay
50440	283,973.9	5,460,543.1	618.0	2021.10.13	TO/GF	Soil	b	35	brown	Medium-coarse, some clay and minor sharp, angular gravel, 4m from creek

50441	283,947.0	5,460,540.6	609.4	2021.10.13	TO/GF	Soil	b	25	brown	Fine grained soil with some clay, sampled 2m from small creek
50442	283,921.8	5,460,542.1	601.7	2021.10.13	TO/GF	Soil	b	5	yellow-brown	Fine with clay and silt, minor fine round less than pea sized gravel, 3m from creek
50443	283,900.1	5,460,538.1	593.0	2021.10.13	TO/GF	Soil	b	15	brown	Fine, silty soil with some clay and minor gravel, taken off line on the top side bank above a creek
50444	283,874.4	5,460,541.5	579.8	2021.10.13	TO/GF	Soil	b	5	brown	Fine soil with some clay and minor angular gravel
50445	283,847.7	5,460,542.4	573.0	2021.10.13	TO/GF	Soil	b	10	brown	Fine soil with clay
50446	283,818.7	5,460,539.3	570.9	2021.10.13	TO/GF	Soil	b	5	brown	Fine soil, some clay and silt, taken 3m from creek
50447	283,794.4	5,460,536.5	570.7	2021.10.13	TO/GF	Soil	b	15	brown	Fine soil, some clay, sampled in the center of a flat drainage with peripheral creeks
50448	283,771.2	5,460,536.6	569.0	2021.10.13	TO/GF	Soil	b	15	dark brown	coarse soil, some sand and pebbles, taken 8m off line above a creek
50449	283,743.3	5,460,540.7	571.9	2021.10.13	TO/GF	Soil	b	20	grey-brown	Fine-medium soil with some clay and minor round pebbles
50450	283,722.7	5,460,539.8	575.1	2021.10.13	TO/GF	Soil	b	15	light-dark brown	Fine soil with some clay and silt
147151	283,948.2	5,460,691.9	646.5	2021.10.18	TO/GF	Soil	b	20	grey-brown	Fine with some clay, pebbles (some are white), old slide area
147152	283,924.7	5,460,688.3	629.1	2021.10.18	TO/GF	Soil	b	10	light-brown	Fine with silt-clay and small pebbles, near bedrock
147153	283,898.3	5,460,690.3	622.3	2021.10.18	TO/GF	Soil	b	5	brown	Fine with clay and some round pebbles, rock slide displays angular boulders
147154	283,871.8	5,460,692.9	610.2	2021.10.18	TO/GF	Soil	b	5	brown	Fine with some clay and minor sand, 1-3cm angular gravel, colluvium
147155	283,846.6	5,460,688.5	601.7	2021.10.18	TO/GF	Soil	b	10	yellow, light-brown	Fine with minor clay and some round pebbles, colluvium
147156	283,819.9	5,460,690.6	590.5	2021.10.18	TO/GF	Soil	b	15	brown	Fine-medium with some clay and angular gravel, colluvium
147157	283,798.1	5,460,689.7	585.1	2021.10.18	TO/GF	Soil	b	5	brown	Fine with clay and 1-2cm angular gravel, sampled from the back of a root wad.
147158	283,773.7	5,460,689.8	581.4	2021.10.18	TO/GF	Soil	b	20	dark brown	Fine with clay and 1-2cm angular gravel
147159	283,747.5	5,460,692.1	583.0	2021.10.18	TO/GF	Soil	b	5	red-brown	Medium, some sand, pebbles and angular gravel, sampled 3m above a non-classified drainage
147160	283,721.4	5,460,691.4	575.5	2021.10.18	TO/GF	Soil	b	5	brown	Fine, with silt-clay, some pebbles and angular gravel, colluvium
147161	283,696.7	5,460,689.5	576.2	2021.10.18	TO/GF	Soil	b	5	brown	Fine with silt-clay and small pebbles, colluvium
147162	283,670.5	5,460,689.2	566.9	2021.10.18	TO/GF	Soil	b	5	yellow-brown	Fine with clay and minor sand, sampled from a root wad, till
147163	283,649.2	5,460,689.6	562.1	2021.10.18	TO/GF	Soil	b	5	yellow-brown	Fine with silty-clay and small pebbles, till, sampled 10m above the Irishman creek.
147164	283,696.9	5,460,489.4	596.1	2021.10.18	TO/GF	Soil	b	20	grey-brown	Fine with some clay, pebbles and angular gravel
147165	283,697.0	5,460,441.5	612.1	2021.10.18	TO/GF	Soil	b	5	red-brown	Fine with silty-clay and sharp angular gravel, angular boulders at surface, old slide
147166	283,693.8	5,460,393.2	633.5	2021.10.18	TO/GF	Soil	b	5	brown	Fine with clay, some pebbles and angular gravel, near bedrock, colluvium

147167	283,695.9	5,460,338.9	667.1	2021.10.18	TO/GF	Soil	b	5	brown	Fine to medium with some clay, pebbles and angular gravel, colluvium
147168	283,696.3	5,460,290.0	675.1	2021.10.18	TO/GF	Soil	b	25	black-brown	Fine-medium with some clay and fine sand with pebbles, B horizon with some organics
147169	283,696.3	5,460,242.1	687.2	2021.10.18	TO/GF	Soil	b	35	black-brown	Fine with some clay, below old root wad
147170	283,695.8	5,460,188.3	693.2	2021.10.18	TO/GF	Soil	b	10	grey-brown	Fine with some sand and angular gravel, colluvium
147171	283,696.4	5,460,136.9	687.5	2021.10.18	TO/GF	Soil	b	5	brown	Fine, sandy, gritty soil with some clay, 15m below old road
147172	283,698.2	5,460,089.0	681.1	2021.10.18	TO/GF	Soil	b	15	red	Fine with some clay, rare <1cm sharp angular lithics
147173	283,696.2	5,460,041.5	678.6	2021.10.18	TO/GF	Soil	b	5	yellow-brown	Fine with some clay and 1-2cm sharp angular gravel, colluvium
147174	283,696.9	5,459,989.5	679.9	2021.10.18	TO/GF	Soil	b	25	yellow-brown	Fine with some clay and rare sub-round to round pebbles, colluvium
147175	283,671.4	5,459,989.5	688.3	2021.10.18	TO/GF	Soil	b	25	light-dark brown	Fine with some clay
147351	283,699.2	5,460,542.2	580.9	2021.10.13	TO/GF	Soil	b	20	brown	Fine, clay, silt with some less than pea sized pebbles
147352	283,673.2	5,460,540.5	588.5	2021.10.13	TO/GF	Soil	b	5	grey-brown	Medium-coarse, gravelly, old slide
147353	283,671.9	5,460,491.8	611.0	2021.10.13	TO/GF	Soil	b	5	brown	Medium with some minor clay
147354	283,670.4	5,460,443.6	640.9	2021.10.13	TO/GF	Soil	b	5	grey	Sandy, gravelly soil, colluvium
147355	283,672.2	5,460,388.1	668.7	2021.10.13	TO/GF	Soil	b	15	red-brown	Fine soil with some clay and minor pebbles, old slide area
147356	283,671.4	5,460,335.6	686.0	2021.10.13	TO/GF	Soil	b	15	brown	Fine soil, minor angular gravel, colluvium
147357	283,670.6	5,460,287.8	699.8	2021.10.13	TO/GF	Soil	b	5	grey-brown	B horizon with some organics, soil is fine with some clay
147358	283,671.0	5,460,240.4	710.3	2021.10.13	TO/GF	Soil	b	5	grey-brown	Sandy-gravelly soil with minor clay, taken from cut bank, top of road side
147359	283,671.4	5,460,192.6	713.1	2021.10.13	TO/GF	Soil	b	15	black-brown	B horizon with some organics, soil is fine with some clay
147360	283,669.3	5,460,141.5	712.4	2021.10.13	TO/GF	Soil	b	25	yellow-brown	Fine soil, some clay
147361	284,322.3	5,460,693.3	857.0	2021.10.18	TO/GF	Soil	b	5	light brown	Fine-medium, tiny round 2-3mm pebbles
147362	284,296.7	5,460,690.6	838.6	2021.10.18	TO/GF	Soil	b	10	red-brown	Fine with some clay and fractured gravel, colluvium, site of an old slide
147363	284,271.1	5,460,691.1	824.0	2021.10.18	TO/GF	Soil	b	15	red-brown	Fine with some clay and fractured gravel, colluvium, site of an old slide
147364	284,247.9	5,460,688.0	806.0	2021.10.18	TO/GF	Soil	b	5	brown	Fine with some clay and round 2-3mm pebbles and angular gravel
147365	284,224.7	5,460,687.0	792.5	2021.10.18	TO/GF	Soil	b	5	light-dark brown	Fine with some clay
147366	284,196.4	5,460,689.0	775.6	2021.10.18	TO/GF	Soil	b	15	dark brown	Medium grained soils wit some organics, talus slope, sharp angular boulders
147367	284,172.9	5,460,689.8	766.8	2021.10.18	TO/GF	Soil	b	10	brown	Fine with some clay and angular gravels, colluvium
147368	284,147.2	5,460,689.7	756.1	2021.10.18	TO/GF	Soil	b	25	red-brown	Fine with some clay and angular gravels, colluvium
147369	284,125.3	5,460,690.2	742.2	2021.10.18	TO/GF	Soil	b	15	yellow-light brown	Fine with silt-clay and 1-2cm sharp, angular gravel
147370	284,097.2	5,460,692.6	728.4	2021.10.18	TO/GF	Soil	b	20	red-brown	Fine with some clay and sharp angular gravel, near bed rock, colluvium
147371	284,069.9	5,460,689.9	716.4	2021.10.18	TO/GF	Soil	b	25	yellow, light-brown	Fine wit silty-clay and sharp angular gravel, colluvium, sampled 2m from non-classified drainage

147372	284,047.7	5,460,692.1	708.0	2021.10.18	TO/GF	Soil	b	25	brown	Fine with silty-clay and some round pebbles, sampled 2m from non-classified-drainage
147373	284,016.9	5,460,689.4	688.7	2021.10.18	TO/GF	Soil	b	15	dark brown-black	Fine, some clay, 10m from non-classified-drainage
147374	283,998.1	5,460,690.9	678.6	2021.10.18	TO/GF	Soil	b	15	grey-brown	Medium-coarse, sandy with <1cm round pebbles, sampled 1m from non-classified drainage
147375	283,971.4	5,460,690.4	664.1	2021.10.18	TO/GF	Soil	b	20	grey-brown	Coarse, angular gravel, near bedrock
147376	284,320.8	5,460,587.2	821.7	2021.10.13	DS/PB	Soil	b	25	dark brown	taken on talus slope. Soil was sandy with minor pebbles
147377	284,297.7	5,460,589.7	808.7	2021.10.13	DS/PB	Soil	b	15	brown	taken on talus slope. Soil was sandy with minor pebbles
147378	284,272.8	5,460,589.9	794.2	2021.10.13	DS/PB	Soil	b	15	brown	silts and sands in soil
147379	284,247.7	5,460,590.1	775.8	2021.10.13	DS/PB	Soil	b	15	brown	silts and clays with minor pebble
147380	284,222.7	5,460,590.6	759.1	2021.10.13	DS/PB	Soil	b	15	brown	silts and clays with minor pebble
147381	284,196.9	5,460,587.5	743.4	2021.10.13	DS/PB	Soil	b	20	dark brown	silty with pebbles
147382	284,171.3	5,460,586.9	733.2	2021.10.13	DS/PB	Soil	b	10	brown	lots of pebbles
147383	284,147.6	5,460,589.1	721.8	2021.10.13	DS/PB	Soil	b	15	brown	lots of roots and pebbles
147384	284,123.1	5,460,590.9	713.6	2021.10.13	DS/PB	Soil	b	15	brown	lots of roots, near bedrock
147385	284,097.7	5,460,589.5	704.7	2021.10.13	DS/PB	Soil	b	15	brown	organics and few pebbles
147386	284,072.4	5,460,588.1	689.0	2021.10.13	DS/PB	Soil	b	5	brown	silts and sands and lots of intrusive pebbles
147387	284,048.0	5,460,589.5	674.1	2021.10.13	DS/PB	Soil	b	15	brown	lots of angular intrusive pebbles
147388	284,022.8	5,460,593.5	663.5	2021.10.13	DS/PB	Soil	b	10	brown	lots of intrusive talus
147389	283,994.5	5,460,591.1	647.3	2021.10.13	DS/PB	Soil	b	5	brown	lots of tree roots, talus and pebbles
147390	283,971.4	5,460,591.6	626.0	2021.10.13	DS/PB	Soil	b	20	brown	lots of organics, silts and clays
147391	283,947.4	5,460,591.5	618.6	2021.10.13	DS/PB	Soil	b	15	brown	lots of intrusive pebbles
147392	283,921.1	5,460,588.8	606.4	2021.10.13	DS/PB	Soil	b	20	brown	lots of intrusive pebbles
147393	283,896.1	5,460,587.7	590.7	2021.10.13	DS/PB	Soil	b	20	light brown	lots of pebbles
147394	283,865.7	5,460,589.9	577.8	2021.10.13	DS/PB	Soil	b	20	light brown	lots of pebbles
147395	283,849.3	5,460,587.5	581.2	2021.10.13	DS/PB	Soil	b	20	reddish brown	minor pebbles
147396	283,824.8	5,460,591.8	578.5	2021.10.13	DS/PB	Soil	b	20	brown	silty with pebbles
147397	283,795.7	5,460,585.4	576.4	2021.10.13	DS/PB	Soil	b	20	dark brown	near small stream
147398	283,774.8	5,460,589.1	570.4	2021.10.13	DS/PB	Soil	b	25	brown	lots of organics near stream
147399	283,746.7	5,460,583.7	573.0	2021.10.13	DS/PB	Soil	b	0	brown	sands and silts - Disturbed creek material (or debris flow)
147400	283,722.7	5,460,590.8	570.3	2021.10.13	DS/PB	Soil	b	10	brown	very silty
147401	283,697.1	5,460,590.3	575.4	2021.10.13	DS/PB	Soil	b	20	brown	very silty
147402	283,671.7	5,460,589.2	580.3	2021.10.13	DS/PB	Soil	b	5	brown	silty with pebbles
147403	283,646.7	5,460,590.8	585.4	2021.10.13	DS/PB	Soil	b	5	brown	river pebbles
147404	283,648.2	5,460,541.3	600.1	2021.10.13	DS/PB	Soil	b	15	brown	silty pebbles
147405	283,648.6	5,460,491.3	623.2	2021.10.13	DS/PB	Soil	b	10	brown	silty with pebbles
147406	283,648.1	5,460,438.8	652.8	2021.10.13	DS/PB	Soil	b	10	brown	silty
147407	283,648.1	5,460,393.2	671.2	2021.10.13	DS/PB	Soil	b	10	brown	pebbles
147408	283,644.7	5,460,341.7	693.0	2021.10.13	DS/PB	Soil	b	15	brown	pebbles
147409	283,644.9	5,460,288.2	704.9	2021.10.13	DS/PB	Soil	b	30	brown	over consolidated diamict -?likely till?
147410	283,646.0	5,460,240.0	718.7	2021.10.13	DS/PB	Soil	b	25	brown	silty
147411	283,646.0	5,460,188.4	717.1	2021.10.13	DS/PB	Soil	b	30	brown	silt and pebbles

147412	283,646.6	5,460,140.3	714.4	2021.10.13	DS/PB	Soil	b	25	brown	silt and pebbles
147413	283,644.4	5,460,090.2	713.9	2021.10.13	DS/PB	Soil	b	25	brown	silt and pebbles
147414	283,649.2	5,460,039.3	704.9	2021.10.13	DS/PB	Soil	b	25	brown	silt
147415	284,322.0	5,460,644.3	849.2	2021.10.18	DS/PB	Soil	b	10	red/brown	sample taken on organic covered talus, some pebbles
147416	284,301.2	5,460,642.7	830.3	2021.10.18	DS/PB	Soil	b	10	brown	sample taken on organic covered talus, some pebbles
147417	284,275.2	5,460,639.8	813.3	2021.10.18	DS/PB	Soil	b	10	brown	sample taken on organic covered talus, some pebbles
147418	284,248.5	5,460,637.0	792.6	2021.10.18	DS/PB	Soil	b	10	brown	sample taken on organic covered talus from under tree root, some pebbles
147419	284,222.3	5,460,638.4	776.2	2021.10.18	DS/PB	Soil	b	10	brown	sample taken on organic covered talus, some pebbles
147420	284,199.6	5,460,637.4	766.5	2021.10.18	DS/PB	Soil	b	20	brown	sample taken on organic covered talus, some pebbles
147421	284,165.2	5,460,637.8	752.4	2021.10.18	DS/PB	Soil	b	5	brown	Sample taken near old disturbed road, some pebbles
147422	284,148.2	5,460,638.2	745.1	2021.10.18	DS/PB	Soil	b	20	brown	clayey silt
147423	284,120.1	5,460,638.3	732.9	2021.10.18	DS/PB	Soil	b	25	brown	clayey silt
147424	284,098.0	5,460,639.3	722.5	2021.10.18	DS/PB	Soil	b	5	light brown	sandy silt with minor clay
147425	284,072.6	5,460,641.1	704.9	2021.10.18	DS/PB	Soil	b	5	brown	sandy silt with minor clay, near intrusive rock
147426	284,046.1	5,460,639.0	688.7	2021.10.18	DS/PB	Soil	b	5	light brown	sandy
147427	284,024.7	5,460,639.5	677.0	2021.10.18	DS/PB	Soil	b	10	brown	sandy silt
147428	284,000.7	5,460,640.7	664.8	2021.10.18	DS/PB	Soil	b	5	brown	
147429	283,975.9	5,460,638.9	647.7	2021.10.18	DS/PB	Soil	b	25	brown	
147430	283,948.3	5,460,638.0	628.0	2021.10.18	DS/PB	Soil	b	20	brown	sandy silt
147431	283,928.3	5,460,640.1	614.7	2021.10.18	DS/PB	Soil	b	20	brown	sandy
147432	283,896.7	5,460,636.4	597.7	2021.10.18	DS/PB	Soil	b	10	light brown	sandy silt with minor clay, minor pebbles
147433	283,876.6	5,460,639.7	589.4	2021.10.18	DS/PB	Soil	b	20	brown	many pebbles and roots
147434	283,849.1	5,460,641.9	585.7	2021.10.18	DS/PB	Soil	b	15	brown	many pebbles and roots
147435	283,821.2	5,460,639.5	583.6	2021.10.18	DS/PB	Soil	b	10	brown	sandy and many pebbles
147436	283,796.3	5,460,639.5	576.3	2021.10.18	DS/PB	Soil	b	20	brown	Very pebbly, likely disturbed, ? Debris flow?
147437	283,771.7	5,460,638.2	570.5	2021.10.18	DS/PB	Soil	b	10	grey	clayey silt; disturbed?
147438	283,749.5	5,460,641.0	570.0	2021.10.18	DS/PB	Soil	b	5	brown	sandy silt with pebbles
147439	283,718.1	5,460,640.3	569.1	2021.10.18	DS/PB	Soil	b	5	brown	many pebbles
147440	283,697.2	5,460,635.8	567.7	2021.10.18	DS/PB	Soil	b	0	brown	sample taken from roots near river, sandy silt
147441	283,673.9	5,460,639.2	571.1	2021.10.18	DS/PB	Soil	b	20	brown	a lot of pebbles, near creek, likely disturbed.
147442	283,647.6	5,460,636.0	572.4	2021.10.18	DS/PB	Soil	b	10	grey	a lot of pebbles, debris flow?
147443	283,721.8	5,460,491.1	584.7	2021.10.18	DS/PB	Soil	b	10	grey/brown	a lot of pebbles, debris flow?
147444	283,723.9	5,460,442.1	606.1	2021.10.18	DS/PB	Soil	b	0	brown	many pebbles
147445	283,723.1	5,460,393.1	620.0	2021.10.18	DS/PB	Soil	b	10	brown	
147446	283,724.9	5,460,336.6	652.6	2021.10.18	DS/PB	Soil	b	10	grey/brown	clayey silt, sample near a float sample with minor Cpy mineralization
147447	283,724.2	5,460,290.1	666.8	2021.10.18	DS/PB	Soil	b	20	brown	clayey silt with pebbles
147448	283,723.0	5,460,239.4	671.3	2021.10.18	DS/PB	Soil	b	10	brown	clayey silt with pebbles
147449	283,723.0	5,460,196.5	683.1	2021.10.18	DS/PB	Soil	b	10	brown	clayey silt
147450	283,718.6	5,460,138.6	677.9	2021.10.18	DS/PB	Soil	b	15	brown	clayey silt
147451	283,723.2	5,460,086.3	672.0	2021.10.18	DS/PB	Soil	b	20	brown	sandy and many pebbles, wet, flat lying area
147452	283,719.6	5,460,041.6	673.5	2021.10.18	DS/PB	Soil	b	20	brown	Wet, near creek
147453	283,750.0	5,459,993.3	675.2	2021.10.18	DS/PB	Soil	b	5	brown	taken from roots
147454	283,772.0	5,459,989.0	676.4	2021.10.18	DS/PB	Soil	b	10	dark brown	a lot of organic material

147455	283,798.5	5,459,990.0	670.9	2021.10.18	DS/PB	Soil	b	0	brown	taken from roots
147456	283,821.8	5,459,989.1	674.4	2021.10.18	DS/PB	Soil	b	15	brown	sandy silt
147457	283,843.2	5,459,989.2	684.5	2021.10.18	DS/PB	Soil	b	0	brown	taken from roots
147458	283,872.7	5,459,993.4	685.4	2021.10.18	DS/PB	Soil	b	10	brown	clayey silt
147459	283,895.6	5,459,988.8	690.6	2021.10.18	DS/PB	Soil	b	15	red/brown	a lot of organic material, some clay
147460	283,921.3	5,459,984.8	701.6	2021.10.18	DS/PB	Soil	b	10	brown	a lot of organic material, some clay
147461	283,948.7	5,459,988.2	712.9	2021.10.18	DS/PB	Soil	b	15	brown	clayey silt
147462	283,970.7	5,459,986.5	722.7	2021.10.18	DS/PB	Soil	b	10	brown	many angular pebbles
147463	284,001.3	5,459,996.7	734.5	2021.10.18	DS/PB	Soil	b	10	brown	many angular pebbles
147464	284,025.5	5,459,993.6	741.6	2021.10.18	DS/PB	Soil	b	5	red/brown	many angular pebbles
147465	284,048.3	5,459,986.6	740.2	2021.10.18	DS/PB	Soil	b	5	red/brown	many angular pebbles
147466	284,323.4	5,460,489.0	797.9	2021.10.19	DS/PB	Soil	b	5	red/brown	silt clay and pebbles
147467	284,296.0	5,460,490.3	788.2	2021.10.19	DS/PB	Soil	b	5	red/brown	silt clay and pebbles in talus
147468	284,275.1	5,460,489.1	778.0	2021.10.19	DS/PB	Soil	b	5	red/brown	silt, clay and pebbles
147469	284,246.4	5,460,490.6	756.2	2021.10.19	DS/PB	Soil	b	5	brown	below old road, lots of angular pebbles/rocks
147470	284,222.3	5,460,488.7	737.1	2021.10.19	DS/PB	Soil	b	5	brown	below old road, lots of angular pebbles/rocks
147471	284,198.1	5,460,485.6	714.8	2021.10.19	DS/PB	Soil	b	10	brown	mostly silt with minor pebbles
147472	284,170.1	5,460,488.7	703.8	2021.10.19	DS/PB	Soil	b	25	brown	lots of organics and pebbles
147473	284,150.0	5,460,490.2	690.4	2021.10.19	DS/PB	Soil	b	20	brown minor red	lots of angular pebbles/rocks
147474	284,122.5	5,460,490.1	682.3	2021.10.19	DS/PB	Soil	b	15	light brown	very silty
147475	284,096.0	5,460,488.0	668.1	2021.10.19	DS/PB	Soil	b	20	brown	very silty
147476	284,067.1	5,460,493.3	661.1	2021.10.19	DS/PB	Soil	b	10	brown	organics and few pebbles
147477	284,048.9	5,460,491.1	650.9	2021.10.19	DS/PB	Soil	b	15	red brown	silty
147478	284,021.6	5,460,487.1	638.5	2021.10.19	DS/PB	Soil	b	5	light brown	silty and minor pebbles
147479	283,998.4	5,460,493.0	627.3	2021.10.19	DS/PB	Soil	b	0	light brown	silty - material taken from under tree
147480	283,971.7	5,460,490.4	611.1	2021.10.19	DS/PB	Soil	b	25	light brown	silty
147481	283,944.5	5,460,490.5	603.9	2021.10.19	DS/PB	Soil	b	25	light brown	minor pebbles
147482	283,921.1	5,460,486.5	592.4	2021.10.19	DS/PB	Soil	b	10	light brown	many pebbles
147483	283,897.6	5,460,495.8	586.7	2021.10.19	DS/PB	Soil	b	15	brown	many pebbles
147484	283,871.3	5,460,490.2	583.9	2021.10.19	DS/PB	Soil	b	15	brown	many pebbles
147485	283,847.2	5,460,490.9	580.4	2021.10.19	DS/PB	Soil	b	10	light brown	silty with minor pebbles
147486	283,811.4	5,460,486.5	582.7	2021.10.19	DS/PB	Soil	b	20	brown	lots of rocks and roots
147487	283,792.0	5,460,487.5	584.5	2021.10.19	DS/PB	Soil	b	15	dark brown	organics and silt
147488	283,772.7	5,460,491.9	583.7	2021.10.19	DS/PB	Soil	b	30	light brown	silty and roots with pebbles
147489	283,746.9	5,460,486.1	580.4	2021.10.19	DS/PB	Soil	b	5	brown	lots of pebbles
147490	283,769.0	5,460,390.2	603.6	2021.10.19	DS/PB	Soil	b	10	brown	silty
147491	283,774.2	5,460,337.2	632.1	2021.10.19	DS/PB	Soil	b	5	dark grey	close to bedrock
147492	283,774.2	5,460,291.4	646.2	2021.10.19	DS/PB	Soil	b	20	dark brown	many pebbles
147493	283,770.6	5,460,238.3	657.0	2021.10.19	DS/PB	Soil	b	30	grey	silt and clay
147494	283,772.5	5,460,189.9	664.0	2021.10.19	DS/PB	Soil	b	15	brown	lots of rocks and roots
147495	283,770.8	5,460,141.7	657.2	2021.10.19	DS/PB	Soil	b	25	grey-brown	lots or organics, close to swamp
147496	283,847.2	5,460,192.1	657.3	2021.10.19	DS/PB	Soil	b	10	brown	silty
147497	283,849.4	5,460,238.3	660.1	2021.10.19	DS/PB	Soil	b	5	grey	rocks and roots
147498	283,846.2	5,460,291.1	639.9	2021.10.19	DS/PB	Soil	b	15	brown	rocks and roots
147499	283,851.2	5,460,338.4	621.8	2021.10.19	DS/PB	Soil	b	15	brown	lots of organics

147500	283,848.4	5,460,389.5	599.3	2021.10.19	DS/PB	Soil	b	10	brown	rocky
186501	283,870.6	5,460,389.1	597.3	2021.10.19	DS/PB	Soil	b	20	brown	next to landslide
186502	283,873.4	5,460,339.1	623.2	2021.10.19	DS/PB	Soil	b	5	red brown	silt
186503	283,872.5	5,460,291.8	646.8	2021.10.19	DS/PB	Soil	b	15	dark brown	very rocky with organics
186504	283,871.2	5,460,239.8	665.0	2021.10.19	DS/PB	Soil	b	10	grey	very rocky with organics
186505	283,875.2	5,460,189.9	670.7	2021.10.19	DS/PB	Soil	b	20	grey brown	rocky with silt
186506	283,869.4	5,460,141.7	671.2	2021.10.19	DS/PB	Soil	b	10	brown	rocky with silt
186507	283,870.7	5,460,087.5	676.2	2021.10.19	DS/PB	Soil	b	15	brown grey	organic with silt and pebbles
186526	284,020.4	5,460,390.9	634.3	2021.10.23	DS/GF	Soil	b	15	brown	Silty with angular pebbles
186527	283,995.7	5,460,390.5	627.9	2021.10.23	DS/GF	Soil	b	5	brown	Silty with angular pebbles
186528	283,967.7	5,460,387.3	616.0	2021.10.23	DS/GF	Soil	b	20	brown	Wet, sandy with angular pebbles
186529	283,947.6	5,460,389.2	610.9	2021.10.23	DS/GF	Soil	b	5	brown	Taken from root, sandy silt with pebbles.
186530	283,919.2	5,460,384.6	600.9	2021.10.23	DS/GF	Soil	b	5	brown	sandy with pebbles, wet, taken near river.
186531	283,894.7	5,460,391.2	593.2	2021.10.23	DS/GF	Soil	b	5	brown	Old slide, disturbed
186532	283,898.2	5,460,341.0	612.6	2021.10.23	DS/GF	Soil	b	5	brown	sandy silt taken above head scarp that displayed till.
186533	283,896.5	5,460,290.3	634.0	2021.10.23	DS/GF	Soil	b	15	brown	silty, many angular pebbles
186534	283,899.8	5,460,238.8	651.3	2021.10.23	DS/GF	Soil	b	5	brown	sandy silt with angular pebbles
186535	283,896.8	5,460,187.8	665.2	2021.10.23	DS/GF	Soil	b	5	brown	taken from tree root, sandy with angular pebbles.
186536	283,896.9	5,460,139.8	674.8	2021.10.23	DS/GF	Soil	b	15	brown	silty and a lot of organic material
186537	283,896.4	5,460,090.6	679.9	2021.10.23	DS/GF	Soil	b	5	brown	silty with angular pebbles
186538	283,745.9	5,459,940.9	673.5	2021.10.23	DS/GF	Soil	b	35	brown	sandy silt
186539	283,724.2	5,459,932.9	674.0	2021.10.23	DS/GF	Soil	b	5	brown	taken from tree root, silty.
186540	283,698.0	5,459,943.7	678.4	2021.10.23	DS/GF	Soil	b	20	black/brown	silty and a lot of organic material
186541	283,673.9	5,459,941.0	687.5	2021.10.23	DS/GF	Soil	b	20	brown	silty with round pebbles
186542	283,649.8	5,459,939.7	697.8	2021.10.23	DS/GF	Soil	b	5	brown	silty with round pebbles
186551	283,745.3	5,460,140.6	668.5	2021.10.19	TO/GF	Soil	b	10	grey-brown	Fine with some clay, coarse sand and pebbles
186552	283,797.5	5,460,189.9	645.8	2021.10.19	TO/GF	Soil	b	5	brown	Fine-medium, some pebbles, angular gravel, sampled from the back of root
186553	283,799.5	5,460,240.7	649.3	2021.10.19	TO/GF	Soil	b	15	black-grey-dark brown	Fine with high clay, sampled 2m from a non-classified drainage
186554	283,797.3	5,460,288.7	645.5	2021.10.19	TO/GF	Soil	b	20	grey-brown	Fine with some clay, sharp-angular gravel,
186555	283,798.9	5,460,339.0	627.4	2021.10.19	TO/GF	Soil	b	25	brown	Fine-medium with some clay
186556	283,796.1	5,460,390.6	610.3	2021.10.19	TO/GF	Soil	b	20	grey	Fine with some silty-clay, pebbles, and sharp-angular gravel
186557	283,821.6	5,460,389.6	606.3	2021.10.19	TO/GF	Soil	b	15	light-dark brown	Fine with some clay, and sharp-angular pebbles
186558	283,822.5	5,460,337.2	625.9	2021.10.19	TO/GF	Soil	b	35	brown	Fine with high clay content
186559	283,822.3	5,460,289.9	652.6	2021.10.19	TO/GF	Soil	b	25	grey-brown	Fine with some clay and sharp-angular gravel
186560	283,822.7	5,460,237.1	660.8	2021.10.19	TO/GF	Soil	b	20	grey-brown	Fine with clay, angular boulders at surface
186561	283,826.5	5,460,194.6	662.0	2021.10.19	TO/GF	Soil	b	15	brown	Fine with some clay, sandy-pebbly, angular gravel, sampled close to loose rock
186562	283,847.5	5,460,140.7	658.7	2021.10.19	TO/GF	Soil	b	20	grey-dark brown	Fine with some silty-clay, sampled close to loose rock
186563	283,850.7	5,460,091.0	666.9	2021.10.19	TO/GF	Soil	b	15	grey-brown	Fine with some clay, pebbles and sharp angular gravel
186564	284,319.5	5,460,390.8	749.1	2021.10.19	DS/GF	Soil	b	5	brown	many angular pebbles, silt.
186565	284,295.3	5,460,390.6	755.1	2021.10.19	DS/GF	Soil	b	5	brown	many angular pebbles, silt, a lot of organic material.
186566	284,271.9	5,460,388.6	749.9	2021.10.19	DS/GF	Soil	b	10	light brown	Sub angular pebbles , silt, organic material.

186567	284,241.7	5,460,394.7	733.6	2021.10.19	DS/GF	Soil	b	15	brown	Sandy silt with a lot of angular pebbles. Sample taken from organic covered talus below a disturbed road.
186568	284,222.6	5,460,388.9	725.5	2021.10.19	DS/GF	Soil	b	25	brown	Sample taken from talus and is silt with angular pebbles.
186569	284,196.3	5,460,388.4	709.5	2021.10.19	DS/GF	Soil	b	5	brown	Sample taken from talus and is silt with angular pebbles.
186570	284,175.0	5,460,390.4	699.1	2021.10.19	DS/GF	Soil	b	5	brown	Sample taken from talus and is silt with angular pebbles.
186571	284,145.4	5,460,386.0	686.6	2021.10.19	DS/GF	Soil	b	30	brown	silty
186572	284,118.7	5,460,391.7	678.8	2021.10.19	DS/GF	Soil	b	5	brown	Sample taken from root is silty and has a lot of organic material.
186573	284,094.9	5,460,392.0	671.1	2021.10.19	DS/GF	Soil	b	0	brown	Silty
186574	284,075.9	5,460,389.5	663.2	2021.10.19	DS/GF	Soil	b	15	brown	silty with many angular pebbles.
186575	284,047.8	5,460,390.8	650.1	2021.10.19	DS/GF	Soil	b	25	brown	sample taken from old slide path; disturbed.
186576	284,223.9	5,460,442.5	743.4	2021.10.19	TO/GF	Soil	b	5	red-brown	Fine with some clay, round pebbles and sharp angular gravel, sampled below road, blast rock at surface
186577	284,198.3	5,460,441.7	725.4	2021.10.19	TO/GF	Soil	b	10	red-brown	Fine -medium, sandy with some clay, fractured angular gravel
186578	284,174.6	5,460,441.4	709.0	2021.10.19	TO/GF	Soil	b	10	brown	Fine with 1-2cm sharp angular gravel
186579	284,147.0	5,460,440.4	691.1	2021.10.19	TO/GF	Soil	b	5	red-brown	Fine with some clay, 1-2cm angular gravel, angular boulders at surface, colluvium
186580	284,121.5	5,460,442.1	680.4	2021.10.19	TO/GF	Soil	b	5	red-brown	Fine with some clay, 1-2cm angular gravel, colluvium
186581	284,096.8	5,460,442.9	674.6	2021.10.19	TO/GF	Soil	b	5	grey-light brown	Medium-coarse, some pebbles, B horizon with some organics
186582	284,069.7	5,460,441.2	666.0	2021.10.19	TO/GF	Soil	b	5	red-brown	Fine with some clay and sharp angular lithics
186583	284,048.0	5,460,442.6	655.3	2021.10.19	TO/GF	Soil	b	5	brown	Fine with silt-clay and 1-2cm angular gravel
186584	284,024.1	5,460,440.3	641.6	2021.10.19	TO/GF	Soil	b	5	brown	Fine clay and angular to sub-round pebbles
186585	283,997.5	5,460,442.8	632.1	2021.10.19	TO/GF	Soil	b	5	brown	Fine with clay and rare angular gravel
186586	283,971.9	5,460,440.7	616.0	2021.10.19	TO/GF	Soil	b	30	red-brown	Fine with some clay
186587	283,947.4	5,460,441.6	606.7	2021.10.19	TO/GF	Soil	b	25	red-light brown	Fine with silt-clay, 2m from non-classified drainage
186588	283,924.5	5,460,440.8	599.7	2021.10.19	TO/GF	Soil	b	5	brown	Fine-medium, gritty with some small pebbles and sharp angular gravel, colluvium, 7m from a drainage
186589	283,895.6	5,460,439.0	593.6	2021.10.19	TO/GF	Soil	b	15	grey-brown	Fine with silty-clay, near fractured bedrock on surface, old slide
186590	283,871.4	5,460,442.1	589.0	2021.10.19	TO/GF	Soil	b	10	brown	Fine with silty-clay, sandy-gravelly fractured 2-5mm sized lithics and pebbles, 8m from Irishman Creek
186591	283,846.3	5,460,441.3	592.2	2021.10.19	TO/GF	Soil	b	25	light-dark brown	Fine with silty-clay, 1-2cm angular gravel
186592	283,823.3	5,460,437.1	593.4	2021.10.19	TO/GF	Soil	b	15	yellow-brown	Fine-medium grained soil with some 1-2cm angular gravel, sampled 7m from a small tributary creek of the Irishman
186593	283,794.4	5,460,439.9	601.2	2021.10.19	TO/GF	Soil	b	25	black-brown	Fine with silty-clay, B horizon with mixed organics, 4m from a tributary creek to the Irishman
186594	283,772.6	5,460,442.8	605.2	2021.10.19	TO/GF	Soil	b	30	grey-brown	Fine with silty-clay
186595	283,748.2	5,460,437.8	611.8	2021.10.19	TO/GF	Soil	b	15	grey-brown	Coarse, sandy, gravelly with angular fractured gravel, colluvium

186596	283,748.4	5,460,392.7	619.9	2021.10.19	TO/GF	Soil	b	35	brown	Fine, B horizon with mixed organics, sampled 10m from a tributary creek of the Irishman Creek
186597	283,748.8	5,460,341.6	649.6	2021.10.19	TO/GF	Soil	b	30	brown	Fine with silty-clay and rare round pebbles
186598	283,746.2	5,460,290.4	664.8	2021.10.19	TO/GF	Soil	b	10	dark grey-brown	Fine with some clay, angular boulders present on surface, sampled 5m from a non-classified drainage
186599	283,747.4	5,460,240.2	670.0	2021.10.19	TO/GF	Soil	b	5	yellow-reddish brown	Fine with clay, coarse sand and angular lithics and subround pebbles
186600	283,745.1	5,460,190.9	675.7	2021.10.19	TO/GF	Soil	b	35	grey-dark brown	Fine with high clay content
186601	284,297.2	5,460,343.7	752.2	2021.10.23	TO/GF	Soil	b	15	brown	Fine with clay and sharp angular gravel
186602	284,271.6	5,460,340.2	749.3	2021.10.23	TO/GF	Soil	b	10	red-brown	Medium-coarse, some pebbles and sharp, angular gravel, colluvium, sampled 5m from road
186603	284,246.3	5,460,341.2	739.2	2021.10.23	TO/GF	Soil	b	10	red-light brown	Coarse, sandy-gravelly with round pebbles and gravel, sampled 15 below road
186604	284,224.0	5,460,339.5	725.2	2021.10.23	TO/GF	Soil	b	5	brown	Fine with some clay, sandy, round pebbles, and sharp-angular gravel, colluvium
186605	284,197.9	5,460,339.2	713.9	2021.10.23	TO/GF	Soil	b	5	brown	Fine-medium with some clay and sub-round pebbles, colluvium
186606	284,175.0	5,460,338.3	699.9	2021.10.23	TO/GF	Soil	b	10	red-brown	Fine with some clay, sandy, round pebbles, and sharp-angular gravel, colluvium
186607	284,149.3	5,460,337.1	691.9	2021.10.23	TO/GF	Soil	b	20	red	Fine with coarse sand, round pebbles, and sharp-angular gravel, colluvium
186608	284,126.3	5,460,339.9	684.6	2021.10.23	TO/GF	Soil	b	20	dark brown	Fine, B horizon with mixed organics
186609	284,098.2	5,460,339.5	673.2	2021.10.23	TO/GF	Soil	b	20	light-dark brown	Fine with clay, B horizon with mixed organics, sampled 7m above creek
186610	284,072.4	5,460,337.9	663.1	2021.10.23	TO/GF	Soil	b	25	red-dark brown	Fine with some clay, sampled 7m from the creek side
186611	284,048.3	5,460,339.6	653.0	2021.10.23	TO/GF	Soil	b	10	red-brown	Fine-medium, sandy, rare round pebbles, sampled 15m above creek
186612	284,021.1	5,460,340.0	641.1	2021.10.23	TO/GF	Soil	b	15	red-brown	Fine-medium with clay, round pebbles, and angular gravel, colluvium
186613	283,997.5	5,460,341.1	636.3	2021.10.23	TO/GF	Soil	b	20	light-dark brown	Fine with high silty-clay
186614	283,972.3	5,460,341.0	621.3	2021.10.23	TO/GF	Soil	b	15	light-dark brown	Fine with high silty-clay and 4-6cm sharp-angular gravel
186615	283,950.0	5,460,342.5	612.9	2021.10.23	TO/GF	Soil	b	10	red-light brown	Fine with some clay and round pebbles
186616	283,920.6	5,460,337.2	611.9	2021.10.23	TO/GF	Soil	b	5	grey	Coarse, sandy-gravelly with round pebbles and angular gravel, till, old slide
186617	283,922.3	5,460,285.3	631.2	2021.10.23	TO/GF	Soil	b	15	dark brown	Fine with high silty-clay
186618	283,921.4	5,460,242.3	652.9	2021.10.23	TO/GF	Soil	b	30	light-dark brown	Fine with sharp-angular gravel and some mixed organics
186619	283,920.2	5,460,189.3	666.2	2021.10.23	TO/GF	Soil	b	5	red-brown	Fine-medium with round pebbles and sharp-angular lithics and gravel, colluvium
186620	283,922.5	5,460,139.2	676.7	2021.10.23	TO/GF	Soil	b	10	brown	Fine with high silty-clay, wet soil, some sharp-angular gravel, colluvium
186621	283,920.8	5,460,094.4	688.6	2021.10.23	TO/GF	Soil	b	25	dark brown	Fine with high silty-clay, wet soil
186622	283,769.7	5,459,941.2	682.1	2021.10.23	TO/GF	Soil	b	20	grey-brown	Fine-medium with pebbles and sharp-angular gravel, colluvium

186623	283,799.4	5,459,935.2	695.3	2021.10.23	TO/GF	Soil	b	15	light-brown	Fine-medium with pebbles and sharp-angular gravel, colluvium
186624	283,817.4	5,459,940.1	700.8	2021.10.23	TO/GF	Soil	b	20	black-brown	Fine with sharp-angular gravel, wet soil, sampled 10 below old road, blast rock at surface

CATFACE COPPER MINES LIMITED

CATFACE COPPER PROPERTY

UTM Datum: NAD 83, Zone 10

Field Program: October 12-24, 2021

2021 GEOCHEMICAL ROCK SAMPLING

Sample ID	Easting	Northing	Elevation (masl)	Date Sampled	Sampler	Sample type	Notes
3814458	284,126.8	5,460,594.3	715.2	2021.10.19	PB	Outcrop	Small bluff outcrop covered in moss. Dark grey and white intensely silicified rock with disseminated pyrite (2%) and minor Disseminated chalcopyrite (<1%)
3814459	284,048.9	5,458,592.9	120.0	2021.10.22	DS/TO	Float	Sample taken in creek bed about 50 m N of station ROADBLK1. Rock: Red weathered, grey fresh, medium to coarse grained, highly oxidized, granitic rock with <1%, disseminated pyrite. Rock is moderately magnetic.
3814460	284,056.6	5,458,567.0	111.3	2021.10.22	DS/TO	Float	Sample taken in creek bed about 4 m N of station ROADBLK1. Rock: Dark red weathered, grey, aphanitic volcanic with 2 cm chl-ser vein with minor disseminated pyrite. Rock is strongly magnetic.
3814461	282,420.7	5,459,517.8	230.4	2021.10.22	DS/TO	Float	Sample taken along edge of creek bed, in former slide area ~40m above road, ROADBLK2, greenish-black, aphanitic, volcanic rock (basalt) with reddish-brown surface oxidation, displays minor fine disseminated silver pyrite with rare (1mm scale) brassy chalcopyrite flecks. Sample is moderately chloritized.
3814462	282,428.7	5,459,501.0	235.8	2021.10.22	DS/TO	Float	Sample taken in the center of creek bed in former slide ~50m above road, ROADBLK2, red weathered, white-grey fresh, medium-coarse grained, quartz-plagioclase, granodiorite/monzodiorite (vein material?) with fine disseminated silver pyrite, minor fine silver pyrite blebs proximal to chlorite, sample is non-magnetic.
3814463	282,379.6	5,459,312.2	210.4	2021.10.22	DS/TO	Outcrop	Sample taken from a (20x3)m outcrop along upper road side edge, red-weathered, white-black fresh, equigranular, medium grained, granodiorite/monzodiorite with rare fine disseminated pyrite and 2-3mm hornblend phenocrysts.
3814464	283,151.2	5,458,570.2	115.1	2021.10.22	DS/TO	Outcrop	Small outcrop on the northside of road. Rock: Red weathered, grey fresh, equigranular granitic rock with small 3 cm qtz-py vein. The vein is very oxidized. Sample take from the vein and surrounding rock. Local mm scale magnetite veins present.

3814465	283,547.6	5,458,555.9	117.3	2021.10.22	DS/TO	Outcrop	The outcrop is just north of the road. The outcrop is about 10 m long and 5 m high. Rock: Dark green, pervasively chloritized rock with cm scale qtz veins. Chloritized rock is 30 cm thick and is in contact with equigranular granitic rock on one side and a white felsic dyke on the other. Sample taken from chloritized rock.
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SECTION E: ANALYTICAL REPORTS

1. Analyses carried out by Bureau Veritas Commodities Canada Ltd. of Vancouver, B.C.

Certificate of Analysis No.	Date of Certificate	No. of Samples	Sample Type	Analytical Code
VAN21003941.1	March 9, 2022	213	Soil	AQ201
VAN21003942.1	March 9, 2022	98	Soil	AQ201
VAN21003943.1	March 9, 2022	8	Rock	AQ201
Total		319		

2. Statement of Analytical Procedures: 1 data sheet

- Bureau Veritas AQ300, AQ200; Multi-Element (36) Assay by ICP-ES/MS; Aqua Regia Digestion



BUREAU VERITAS MINERAL LABORATORIES
Canada

www.bvna.com/mining-laboratory-services

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

Client: **Catface Copper Mines Limited**
200 - 580 Hornby Street
Vancouver British Columbia V6C 3B6 Canada

Submitted By: Melissa Darney
Receiving Lab: Canada-Vancouver
Received: November 01, 2021
Analysis Start: December 15, 2021
Report Date: March 09, 2022
Page: 1 of 9

CERTIFICATE OF ANALYSIS

VAN21003941.1

CLIENT JOB INFORMATION

Project: CATFACE
Shipment ID: CCML2021-01
P.O. Number
Number of Samples: 213

SAMPLE PREPARATION AND ANALYTICAL PROCEDURES

Procedure Code	Number of Samples	Code Description	Test Wgt (g)	Report Status	Lab
SS80	213	Dry at 60C sieve 100g to -80 mesh			VAN
AQ201	212	1:1:1 Aqua Regia digestion ICP-MS analysis	15	Completed	VAN

SAMPLE DISPOSAL

DISP-PLP Dispose of Pulp After 90 days
DISP-RJT-SOIL Immediate Disposal of Soil Reject

ADDITIONAL COMMENTS

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

Invoice To: Catface Copper Mines Limited
200 - 580 Hornby Street
Vancouver British Columbia V6C 3B6
Canada

CC: Jim Miller-Tait
Erik Andersen
Peter Baldazzi
Derek Saxton


KERRY JAY
Geochem Project Specialist

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



Bureau Veritas Commodities Canada Ltd.

9050 Shaughnessy St Vancouver British Columbia V6P 6E5 Canada
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Project: CATFACE
Report Date: March 09, 2022

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CERTIFICATE OF ANALYSIS

VAN21003941.1

Method	Analyte	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	
		Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P
Unit		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	
MDL		0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.1	0.5	0.1	1	0.1	0.1	2	0.01	0.001	
50413	Soil	6.3	745.2	4.4	17	1.3	16.5	9.0	120	3.59	2.0	0.3	7.8	0.2	11	<0.1	0.2	1.2	108	0.19	0.079
50414	Soil	7.3	421.9	3.9	13	1.7	13.2	3.4	64	4.33	1.4	0.4	6.8	0.3	5	<0.1	0.2	1.0	127	0.13	0.051
50415	Soil	5.3	594.8	7.0	16	2.2	14.4	19.1	431	2.39	<0.5	0.4	6.6	<0.1	16	0.1	0.1	1.5	94	0.21	0.071
50416	Soil	15.0	781.8	5.0	19	0.6	19.4	5.9	98	5.51	10.3	0.3	8.1	0.4	7	<0.1	0.2	1.4	193	0.15	0.035
50417	Soil	14.9	504.0	6.7	18	1.0	14.8	4.0	107	4.52	16.1	0.3	10.7	0.3	7	<0.1	0.3	1.5	171	0.14	0.049
50418	Soil	21.7	3159.2	4.7	27	2.6	27.9	98.0	1699	4.84	2.7	0.4	6.5	0.5	19	0.3	0.2	0.8	136	0.27	0.081
50419	Soil	9.6	532.3	4.2	14	1.3	16.8	3.9	67	5.50	2.2	0.4	8.1	0.6	6	<0.1	0.2	0.8	183	0.11	0.034
50420	Soil	15.8	628.1	5.3	16	1.5	16.2	3.8	78	5.36	2.9	0.3	8.2	0.5	6	<0.1	0.3	0.8	172	0.12	0.059
50421	Soil	10.0	273.8	8.8	11	0.8	8.5	2.1	39	2.26	2.4	0.2	5.0	0.1	8	<0.1	0.2	0.5	127	0.13	0.056
50422	Soil	0.8	109.1	3.9	23	0.4	29.2	8.4	151	5.84	2.6	0.4	1.0	0.6	9	<0.1	0.4	0.4	200	0.21	0.072
50423	Soil	1.2	152.3	3.5	22	0.3	32.0	7.5	444	5.99	3.4	0.4	3.2	1.1	8	<0.1	0.4	3.5	152	0.15	0.075
50424	Soil	1.1	146.9	3.3	19	0.5	11.0	2.9	137	4.45	1.6	0.3	1.4	0.6	4	<0.1	0.3	2.4	90	0.05	0.068
50425	Soil	0.6	105.2	5.2	17	1.4	17.4	7.3	492	3.90	0.6	0.2	2.2	0.2	10	<0.1	0.3	0.4	176	0.21	0.057
50426	Soil	0.5	34.0	5.6	10	0.3	12.8	3.6	213	3.97	1.5	0.2	1.1	0.4	9	<0.1	0.5	0.5	203	0.22	0.050
50427	Soil	0.9	130.4	3.2	20	0.4	16.2	5.5	292	7.47	5.3	0.5	2.3	1.0	7	<0.1	0.4	0.4	137	0.16	0.096
50428	Soil	0.8	91.9	3.2	17	0.7	23.3	6.6	158	4.83	3.1	0.4	1.1	0.5	10	<0.1	0.6	1.1	198	0.23	0.053
50429	Soil	0.6	28.8	5.8	11	1.0	8.3	2.4	78	2.40	2.2	0.2	0.6	0.4	9	<0.1	0.6	0.4	128	0.16	0.038
50430	Soil	0.5	52.5	4.1	18	0.9	20.2	5.9	145	3.37	2.6	0.2	1.5	0.3	15	<0.1	0.5	0.6	138	0.29	0.051
50431	Soil	0.8	113.8	5.9	25	0.4	27.5	7.9	233	5.50	4.1	0.3	2.7	0.5	9	<0.1	0.5	1.0	198	0.28	0.076
50432	Soil	1.0	70.3	6.9	12	0.7	12.5	3.8	70	5.16	6.2	0.3	11.6	0.4	6	<0.1	0.6	1.0	212	0.14	0.063
50433	Soil	1.3	117.6	4.4	18	0.3	19.9	6.5	126	6.53	6.5	0.4	7.0	0.4	9	<0.1	0.4	1.5	192	0.20	0.070
50434	Soil	1.2	126.3	3.5	14	0.2	22.0	5.1	104	6.29	6.2	0.3	4.4	0.5	21	<0.1	0.6	0.9	215	0.21	0.057
50435	Soil	1.0	120.7	3.4	17	0.6	21.1	4.7	99	4.69	5.6	0.3	6.0	0.3	15	<0.1	0.6	0.6	161	0.23	0.047
50436	Soil	1.2	108.4	3.5	18	0.4	19.9	5.7	114	5.46	5.4	0.3	4.1	0.4	9	<0.1	0.4	0.5	168	0.24	0.042
50437	Soil	6.3	316.5	4.9	17	0.8	10.7	6.0	126	3.01	1.8	0.3	7.9	<0.1	58	0.1	0.3	0.5	70	0.16	0.101
50438	Soil	3.8	171.5	5.7	13	1.1	7.2	3.3	65	3.23	2.0	0.4	3.1	<0.1	10	0.2	0.3	0.3	56	0.11	0.073
50439	Soil	3.0	166.5	5.8	17	1.1	10.4	20.7	286	3.20	2.2	0.4	3.6	<0.1	12	0.4	0.2	0.3	54	0.14	0.091
50440	Soil	1.9	112.7	3.4	15	0.3	14.2	4.9	106	3.17	2.8	0.3	5.8	0.2	6	<0.1	0.2	0.4	94	0.24	0.035
50441	Soil	1.9	114.0	5.3	15	0.9	13.5	4.7	117	3.58	3.7	0.3	3.1	0.3	9	<0.1	0.3	0.4	100	0.23	0.042
50442	Soil	2.2	194.1	3.6	16	0.4	16.0	5.1	127	4.08	4.7	0.4	5.8	0.5	7	<0.1	0.3	0.6	125	0.22	0.039



Bureau Veritas Commodities Canada Ltd.

9050 Shaughnessy St Vancouver British Columbia V6P 6E5 Canada

PHONE (604) 253-3158

Project: CATFACE
Report Date: March 09, 2022

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VAN21003941.1

Method	Analyte	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
		La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Hg	Sc	TI	S	Ga	Se	Te
Unit		ppm	ppm	%	ppm	%	ppm	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm
MDL		1	1	0.01	1	0.001	1	0.01	0.001	0.01	0.01	0.01	0.01	0.05	1	0.5	0.2	0.2
50413	Soil	3	29	0.28	13	0.170	4	2.50	0.021	0.03	1.7	0.19	3.6	<0.1	0.09	11	2.2	0.3
50414	Soil	3	30	0.19	8	0.245	3	2.62	0.016	0.03	1.3	0.16	3.1	<0.1	0.06	15	1.7	<0.2
50415	Soil	3	29	0.27	16	0.144	3	2.82	0.021	0.03	1.0	0.30	2.9	<0.1	0.08	14	2.6	0.2
50416	Soil	3	42	0.43	13	0.320	3	3.07	0.019	0.03	4.2	0.09	4.4	<0.1	<0.05	18	1.8	0.4
50417	Soil	2	34	0.34	10	0.283	4	2.47	0.017	0.03	1.8	0.16	3.7	<0.1	0.06	17	2.0	0.4
50418	Soil	4	46	0.42	14	0.212	3	4.28	0.023	0.03	1.7	0.14	10.1	0.4	<0.05	13	1.3	0.3
50419	Soil	3	45	0.25	15	0.308	2	3.59	0.014	0.02	1.4	0.16	3.7	<0.1	<0.05	18	1.7	0.3
50420	Soil	2	35	0.25	7	0.294	3	3.39	0.014	0.03	1.0	0.16	3.4	<0.1	<0.05	16	1.7	0.2
50421	Soil	2	17	0.09	7	0.186	3	1.11	0.013	0.04	1.7	0.14	1.7	<0.1	0.06	8	0.9	<0.2
50422	Soil	3	82	0.73	15	0.312	3	4.85	0.019	0.04	<0.1	0.22	7.0	<0.1	0.07	14	2.4	<0.2
50423	Soil	3	54	0.53	36	0.250	3	6.49	0.015	0.03	<0.1	0.29	5.5	<0.1	0.05	17	2.8	0.4
50424	Soil	4	28	0.25	24	0.025	1	4.69	0.009	0.03	0.1	0.15	3.3	<0.1	<0.05	13	1.7	0.4
50425	Soil	2	35	0.30	14	0.185	3	2.35	0.017	0.02	<0.1	0.23	2.5	<0.1	<0.05	10	0.9	<0.2
50426	Soil	2	32	0.29	5	0.335	3	1.36	0.018	0.02	<0.1	0.14	3.0	<0.1	<0.05	17	0.7	<0.2
50427	Soil	3	82	0.36	9	0.200	4	6.46	0.015	0.02	<0.1	0.25	8.0	<0.1	0.08	14	3.9	<0.2
50428	Soil	3	57	0.53	15	0.333	3	3.50	0.020	0.03	<0.1	0.16	4.9	<0.1	<0.05	16	1.2	<0.2
50429	Soil	2	34	0.16	7	0.184	2	1.30	0.014	0.02	<0.1	0.13	2.2	<0.1	<0.05	8	0.5	<0.2
50430	Soil	3	46	0.45	14	0.317	3	1.61	0.021	0.04	<0.1	0.10	2.9	<0.1	<0.05	11	0.8	<0.2
50431	Soil	3	59	0.67	17	0.377	3	3.18	0.023	0.05	<0.1	0.14	4.3	<0.1	<0.05	17	1.0	<0.2
50432	Soil	2	33	0.22	11	0.399	3	2.00	0.015	0.04	0.3	0.16	2.9	<0.1	0.05	16	1.1	<0.2
50433	Soil	3	41	0.45	16	0.315	3	2.89	0.023	0.06	0.3	0.16	4.1	<0.1	0.05	21	1.8	<0.2
50434	Soil	2	37	0.33	14	0.481	3	3.27	0.023	0.03	0.3	0.17	4.4	<0.1	<0.05	23	2.3	<0.2
50435	Soil	2	35	0.34	17	0.289	3	2.81	0.026	0.04	0.3	0.16	3.9	<0.1	<0.05	17	1.7	<0.2
50436	Soil	2	38	0.47	14	0.321	3	2.79	0.027	0.04	0.4	0.14	4.4	<0.1	<0.05	18	1.9	<0.2
50437	Soil	3	20	0.23	20	0.089	6	2.20	0.023	0.05	10.9	0.26	2.2	<0.1	0.14	9	3.0	<0.2
50438	Soil	3	18	0.12	9	0.080	8	3.32	0.015	0.03	2.0	0.31	2.6	<0.1	0.11	8	4.9	<0.2
50439	Soil	3	23	0.19	12	0.072	6	3.41	0.016	0.04	1.7	0.29	2.6	<0.1	0.13	8	4.6	<0.2
50440	Soil	2	26	0.39	10	0.203	3	2.27	0.027	0.04	1.0	0.15	3.4	<0.1	0.06	11	2.1	<0.2
50441	Soil	3	25	0.36	12	0.227	4	2.31	0.025	0.04	1.0	0.21	3.2	<0.1	0.07	12	2.3	<0.2
50442	Soil	3	47	0.43	12	0.308	3	4.56	0.022	0.03	1.0	0.23	5.7	<0.1	0.05	13	3.2	<0.2

This report supersedes all previous preliminary and final reports with this file number dated prior to the date on this certificate. Signature indicates final approval; preliminary reports are unsigned and should be used for reference only.



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Method Analyte Unit MDL	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%	
	0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.1	0.5	0.1	1	0.1	0.1	0.1	2	0.01	0.001	
50443	Soil	3.5	128.4	4.3	14	0.7	14.4	4.2	93	3.48	3.1	0.3	4.0	0.2	6	<0.1	0.3	0.5	96	0.21	0.043
50444	Soil	1.4	88.1	5.3	15	0.8	15.7	5.6	119	2.82	2.6	0.2	2.8	0.2	11	<0.1	0.3	0.4	92	0.26	0.041
50445	Soil	5.4	138.6	6.4	18	0.9	16.9	4.9	90	4.42	3.9	0.4	3.1	0.3	9	0.2	0.3	0.7	123	0.18	0.055
50446	Soil	7.5	161.1	5.3	8	0.3	8.1	2.0	42	1.41	0.8	0.2	4.4	0.2	13	<0.1	0.2	0.6	127	0.18	0.028
50447	Soil	20.7	652.8	7.9	26	0.7	21.3	51.2	945	3.47	2.8	0.2	3.9	0.1	38	0.2	0.4	0.7	95	0.29	0.078
50448	Soil	29.9	1203.0	6.4	26	1.5	22.0	12.5	206	2.39	1.2	0.2	10.5	<0.1	36	0.1	0.2	1.4	70	0.46	0.058
50449	Soil	54.9	2050.1	3.4	28	0.9	28.6	10.9	172	3.68	2.3	0.3	16.9	0.2	26	<0.1	0.2	2.7	117	0.32	0.054
50450	Soil	16.4	2125.0	1.8	35	0.6	34.9	19.4	275	4.12	3.1	0.2	33.8	0.4	38	<0.1	0.2	2.7	129	0.32	0.044
147151	Soil	0.3	34.4	4.1	15	0.3	6.6	9.1	287	1.03	0.7	0.2	<0.5	<0.1	23	0.1	0.1	0.1	30	0.21	0.047
147152	Soil	0.9	147.6	5.0	27	0.3	32.8	10.5	197	4.53	2.5	0.4	3.0	0.8	46	<0.1	0.3	0.3	131	0.27	0.029
147153	Soil	0.9	229.8	3.7	25	0.4	22.0	8.3	144	4.53	2.6	0.4	3.2	0.8	19	<0.1	0.3	0.3	130	0.24	0.036
147154	Soil	0.8	272.4	3.9	28	0.3	23.5	8.7	164	4.45	3.7	0.4	4.0	1.0	15	<0.1	0.3	0.3	136	0.23	0.070
147155	Soil	0.7	133.5	4.0	16	0.7	12.2	4.9	104	3.32	1.9	0.3	7.4	0.5	11	<0.1	0.2	0.2	101	0.24	0.044
147156	Soil	0.4	45.3	4.1	17	0.6	14.5	6.0	144	3.46	1.2	0.1	2.3	0.2	10	<0.1	0.2	0.2	115	0.43	0.040
147157	Soil	0.8	164.4	2.6	15	0.4	10.0	4.4	183	4.00	0.6	0.3	3.1	0.2	10	<0.1	0.2	0.3	116	0.27	0.063
147158	Soil	1.0	245.2	4.7	15	0.6	11.1	4.3	88	1.74	1.2	0.1	<0.5	<0.1	9	0.1	0.2	0.4	50	0.18	0.074
147159	Soil	0.8	190.2	6.3	19	0.4	14.6	7.4	430	2.50	2.5	0.2	4.8	0.2	9	<0.1	0.2	0.3	71	0.25	0.065
147160	Soil	2.1	171.5	4.1	18	0.3	20.2	6.3	160	4.99	3.9	0.4	5.4	0.4	7	<0.1	0.3	0.8	152	0.22	0.047
147161	Soil	0.6	275.1	3.2	22	0.5	16.3	6.6	165	3.72	2.4	0.3	4.2	0.3	10	0.1	0.2	0.3	106	0.25	0.071
147162	Soil	1.8	341.2	2.8	28	0.2	33.9	9.9	190	5.29	5.0	0.3	11.6	0.5	9	<0.1	0.2	1.0	158	0.27	0.052
147163	Soil	2.1	320.7	3.3	24	0.5	30.8	9.8	254	4.59	3.3	0.2	4.3	0.4	9	0.1	0.2	0.7	138	0.25	0.055
147164	Soil	7.6	1265.0	2.3	25	0.8	24.1	11.8	201	2.78	2.1	0.2	18.7	0.1	24	<0.1	0.1	1.5	87	0.34	0.060
147165	Soil	7.0	984.2	3.1	15	2.3	15.1	5.7	148	4.30	1.2	0.4	11.2	0.4	9	<0.1	0.1	1.8	132	0.18	0.048
147166	Soil	5.1	539.9	2.9	14	1.4	13.4	4.4	85	3.07	1.2	0.4	6.0	0.3	6	0.1	0.1	1.3	95	0.18	0.055
147167	Soil	8.0	1186.2	2.8	12	1.7	11.8	3.5	78	3.65	1.0	0.4	5.9	0.4	5	<0.1	0.2	1.0	101	0.14	0.058
147168	Soil	3.2	722.8	4.8	18	1.3	17.7	5.4	83	3.18	1.7	0.3	6.4	0.2	6	<0.1	0.2	1.4	104	0.14	0.074
147169	Soil	4.4	332.8	6.5	15	1.2	12.5	4.1	74	4.72	1.2	0.4	8.5	0.2	7	<0.1	0.2	1.3	127	0.15	0.053
147170	Soil	5.4	281.0	5.8	12	1.2	10.8	3.0	47	4.67	1.4	0.4	10.5	0.5	6	<0.1	0.2	1.6	155	0.12	0.054
147171	Soil	6.5	879.4	5.4	22	1.2	23.7	12.4	162	4.16	2.3	0.3	14.9	0.3	11	<0.1	0.2	1.4	130	0.22	0.064
147172	Soil	10.9	540.2	3.9	13	0.7	16.8	4.2	53	6.56	2.6	0.4	6.4	0.7	6	<0.1	0.2	1.1	199	0.11	0.045



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Method	Analyte	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
		La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Hg	Sc	TI	S	Ga	Se	Te
Unit		ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm
MDL		1	1	0.01	1	0.001	1	0.01	0.001	0.01	0.01	0.1	0.01	0.05	1	0.5	0.2	
50443	Soil	3	31	0.35	10	0.239	4	2.38	0.021	0.03	0.7	0.20	3.6	<0.1	0.07	11	3.0	<0.2
50444	Soil	2	30	0.42	14	0.211	4	1.76	0.029	0.05	0.6	0.15	3.0	<0.1	0.06	9	1.5	<0.2
50445	Soil	3	31	0.36	15	0.301	3	2.73	0.020	0.04	0.7	0.21	3.2	<0.1	0.08	15	2.3	<0.2
50446	Soil	2	16	0.16	11	0.245	1	1.24	0.015	0.01	0.1	0.12	2.1	<0.1	<0.05	12	0.6	<0.2
50447	Soil	3	28	0.42	30	0.180	5	3.13	0.027	0.05	1.8	0.22	3.7	<0.1	0.08	9	3.7	<0.2
50448	Soil	2	28	0.55	40	0.145	4	2.46	0.030	0.08	2.4	0.18	3.0	<0.1	0.05	7	1.7	<0.2
50449	Soil	3	44	0.74	45	0.210	3	4.02	0.029	0.06	3.3	0.13	5.6	0.1	0.06	11	1.7	0.3
50450	Soil	3	53	0.98	78	0.276	2	4.49	0.029	0.07	3.4	0.09	7.4	0.1	<0.05	12	1.3	0.3
147151	Soil	3	9	0.22	13	0.058	7	1.76	0.021	0.03	0.1	0.12	1.4	<0.1	0.06	6	1.6	<0.2
147152	Soil	3	40	0.74	46	0.225	4	4.18	0.032	0.05	0.2	0.17	5.1	<0.1	<0.05	17	1.2	<0.2
147153	Soil	4	41	0.52	20	0.234	3	3.98	0.028	0.03	0.3	0.19	6.0	<0.1	<0.05	15	2.0	<0.2
147154	Soil	3	51	0.54	16	0.275	5	7.49	0.028	0.04	0.3	0.20	9.3	<0.1	0.11	15	2.2	<0.2
147155	Soil	3	29	0.34	11	0.185	4	3.77	0.027	0.03	0.2	0.27	5.0	<0.1	0.05	12	2.0	<0.2
147156	Soil	2	28	0.48	9	0.228	4	1.19	0.041	0.03	0.2	0.10	4.2	<0.1	<0.05	12	0.8	<0.2
147157	Soil	3	32	0.28	10	0.190	5	4.02	0.026	0.03	0.3	0.18	5.2	<0.1	0.07	15	2.9	<0.2
147158	Soil	2	18	0.29	13	0.071	7	2.29	0.022	0.04	0.9	0.20	1.9	<0.1	0.12	5	2.3	<0.2
147159	Soil	2	26	0.45	12	0.138	5	2.63	0.028	0.03	0.4	0.20	3.4	<0.1	0.08	8	1.6	<0.2
147160	Soil	3	40	0.42	14	0.344	4	3.50	0.024	0.03	0.6	0.19	4.7	<0.1	0.05	17	2.3	<0.2
147161	Soil	3	39	0.45	12	0.213	4	5.14	0.021	0.03	0.2	0.26	5.7	<0.1	0.07	11	2.9	<0.2
147162	Soil	3	51	0.70	31	0.335	3	5.14	0.028	0.05	0.5	0.16	7.7	<0.1	<0.05	15	1.8	<0.2
147163	Soil	3	40	0.60	32	0.264	4	3.78	0.027	0.04	0.6	0.19	5.2	<0.1	<0.05	13	1.9	<0.2
147164	Soil	2	36	0.68	33	0.179	4	3.20	0.034	0.06	2.6	0.11	4.4	0.1	0.06	8	1.1	<0.2
147165	Soil	3	41	0.35	15	0.227	4	4.22	0.021	0.02	1.2	0.22	5.2	<0.1	0.05	14	2.2	<0.2
147166	Soil	3	39	0.31	9	0.158	4	4.36	0.018	0.02	1.3	0.26	4.7	<0.1	0.06	11	3.4	<0.2
147167	Soil	4	39	0.23	7	0.174	5	5.44	0.016	0.02	1.1	0.22	6.5	<0.1	0.06	12	4.9	<0.2
147168	Soil	3	34	0.33	14	0.172	4	4.04	0.017	0.03	0.8	0.16	4.5	<0.1	0.07	11	1.9	<0.2
147169	Soil	3	30	0.20	9	0.226	4	2.83	0.016	0.03	0.8	0.22	3.2	<0.1	0.06	19	1.6	<0.2
147170	Soil	4	27	0.15	8	0.281	4	2.43	0.014	0.03	1.0	0.18	3.1	<0.1	<0.05	20	1.6	<0.2
147171	Soil	3	37	0.41	15	0.246	4	3.56	0.021	0.04	1.5	0.15	5.0	<0.1	0.05	15	1.8	0.3
147172	Soil	3	45	0.20	8	0.340	3	3.87	0.013	0.02	1.3	0.21	5.1	<0.1	<0.05	20	2.1	0.2



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	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%	
	0.1	0.1	0.1	1	0.1	0.1	0.1	0.1	1	0.01	0.5	0.1	0.5	0.1	ppm	ppm	ppm	ppm	2	0.01	0.001
147173	Soil	13.6	1080.5	3.4	29	0.8	31.2	9.8	148	5.16	4.0	0.3	12.0	0.6	8	<0.1	0.2	1.5	151	0.23	0.043
147174	Soil	10.0	463.0	3.8	13	1.0	16.6	4.3	72	4.55	1.9	0.4	12.2	0.4	8	<0.1	0.2	2.4	155	0.18	0.050
147175	Soil	6.1	427.3	4.1	14	0.6	16.5	4.4	82	4.07	1.8	0.4	12.1	0.3	8	<0.1	0.1	1.8	134	0.19	0.057
147351	Soil	14.1	1208.8	4.5	24	10.0	23.5	8.7	135	3.14	2.4	0.2	14.7	0.2	14	<0.1	0.2	3.4	104	0.21	0.052
147352	Soil	8.9	1649.8	2.5	25	1.3	25.8	9.6	192	3.91	1.9	0.3	29.1	0.3	13	<0.1	0.2	3.9	129	0.22	0.052
147353	Soil	6.5	1340.8	3.1	24	1.3	23.3	8.1	145	4.35	2.0	0.3	38.6	0.4	15	<0.1	0.2	3.9	143	0.21	0.054
147354	Soil	7.2	1454.2	2.6	23	0.9	24.0	10.1	178	3.78	1.8	0.4	16.5	0.6	12	<0.1	0.2	2.4	117	0.26	0.051
147355	Soil	2.9	1116.0	3.3	22	0.7	22.5	7.2	122	3.76	1.6	0.3	10.5	0.5	10	<0.1	0.2	2.5	123	0.16	0.050
147356	Soil	4.4	466.9	3.1	10	2.9	11.3	3.2	55	3.64	1.4	0.3	9.2	0.2	6	<0.1	0.2	1.5	144	0.14	0.049
147357	Soil	5.0	1132.8	7.8	25	0.9	24.3	13.8	272	3.69	2.5	0.3	7.3	0.3	8	<0.1	0.2	1.9	122	0.17	0.064
147358	Soil	3.3	770.0	3.2	19	0.6	21.9	8.4	131	3.78	1.9	0.4	6.2	0.5	8	<0.1	0.1	1.6	126	0.22	0.056
147359	Soil	7.4	207.9	5.0	10	1.0	8.2	2.4	51	2.94	1.1	0.3	8.1	0.2	5	<0.1	0.2	1.1	124	0.14	0.056
147360	Soil	3.3	1294.2	8.6	29	0.9	26.8	11.1	181	4.44	1.9	0.3	11.1	0.6	8	<0.1	0.3	2.7	146	0.16	0.061
147361	Soil	0.7	62.9	6.5	13	0.5	10.3	3.5	92	5.35	5.2	0.1	3.1	0.4	8	<0.1	1.0	0.3	310	0.24	0.045
147362	Soil	0.7	73.3	6.0	14	1.1	12.9	4.9	151	5.55	3.1	0.2	9.6	0.4	9	<0.1	0.8	0.4	249	0.21	0.045
147363	Soil	1.3	134.9	4.9	22	0.8	20.4	6.3	135	7.15	7.7	0.4	5.6	0.7	10	<0.1	0.9	0.5	231	0.18	0.068
147364	Soil	1.2	95.9	6.9	22	0.8	18.0	5.5	134	6.45	15.0	0.3	40.1	0.6	8	<0.1	0.9	1.0	245	0.20	0.064
147365	Soil	1.1	87.3	4.3	15	1.0	14.0	4.5	119	5.74	6.6	0.3	5.3	0.3	9	<0.1	0.9	0.8	226	0.15	0.076
147366	Soil	0.5	37.7	6.6	14	0.6	9.9	3.5	121	2.92	1.4	0.1	4.2	0.2	9	<0.1	0.5	0.5	169	0.29	0.055
147367	Soil	1.0	102.9	4.6	20	0.6	17.2	5.5	136	6.39	8.8	0.4	22.0	0.5	8	<0.1	0.7	0.4	199	0.21	0.067
147368	Soil	1.4	158.0	4.4	23	0.4	20.8	7.0	132	7.80	12.8	0.4	3.1	0.9	8	<0.1	0.7	0.6	219	0.17	0.062
147369	Soil	1.2	242.4	3.4	36	0.4	35.6	11.0	199	5.32	11.7	0.5	7.8	1.0	11	<0.1	0.6	0.6	157	0.24	0.049
147370	Soil	1.5	132.9	4.8	20	0.8	16.4	5.4	95	7.06	10.3	0.4	4.4	0.8	7	<0.1	0.6	0.5	217	0.13	0.062
147371	Soil	1.3	92.8	5.5	19	0.9	14.7	5.8	144	6.88	8.7	0.3	3.9	0.6	7	<0.1	0.6	0.5	267	0.16	0.057
147372	Soil	0.9	89.9	6.0	13	1.3	9.1	5.2	110	3.10	4.7	0.4	4.0	0.2	6	<0.1	0.4	0.4	103	0.11	0.076
147373	Soil	0.8	70.8	7.4	19	0.7	10.0	7.1	191	2.40	3.3	0.4	2.6	<0.1	11	0.1	0.3	0.3	56	0.09	0.116
147374	Soil	1.0	76.7	4.1	17	0.6	10.9	5.0	96	3.96	3.3	0.6	3.6	0.5	11	<0.1	0.3	0.4	97	0.13	0.055
147375	Soil	0.7	39.6	8.5	18	0.6	9.4	4.3	103	2.77	2.3	0.2	1.5	0.4	17	<0.1	0.3	0.3	95	0.16	0.046
147376	Soil	0.5	53.0	4.5	14	0.6	15.3	5.8	477	5.18	1.9	0.3	2.1	0.2	11	<0.1	0.4	0.3	167	0.27	0.077
147377	Soil	0.5	64.2	3.4	17	0.6	17.0	6.4	313	5.48	2.9	0.2	2.3	0.3	6	<0.1	0.5	0.3	209	0.33	0.056

This report supersedes all previous preliminary and final reports with this file number dated prior to the date on this certificate. Signature indicates final approval; preliminary reports are unsigned and should be used for reference only.



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VAN21003941.1

Method Analyte Unit MDL	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	
	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Hg ppm	Sc ppm	TI ppm	S %	Ga ppm	Se ppm	Te ppm	
147173	Soil	3	47	0.58	18	0.308	2	3.96	0.023	0.03	2.2	0.17	5.5	<0.1	<0.05	16	2.3	0.4
147174	Soil	3	35	0.29	9	0.297	3	2.85	0.021	0.02	1.7	0.18	4.1	<0.1	<0.05	16	2.3	0.5
147175	Soil	3	34	0.28	10	0.253	3	3.21	0.021	0.02	1.4	0.18	4.3	<0.1	<0.05	16	2.5	0.5
147351	Soil	2	44	0.61	22	0.182	3	2.90	0.025	0.05	3.1	0.21	4.0	<0.1	0.06	10	1.4	0.6
147352	Soil	3	59	0.66	25	0.229	3	4.48	0.023	0.05	3.5	0.17	6.3	<0.1	<0.05	12	1.9	0.3
147353	Soil	2	50	0.58	23	0.258	3	4.16	0.023	0.03	2.9	0.15	5.6	<0.1	0.05	14	1.8	0.2
147354	Soil	3	45	0.59	26	0.249	2	4.68	0.025	0.03	1.9	0.12	6.3	<0.1	<0.05	12	2.3	0.2
147355	Soil	2	49	0.48	16	0.196	4	4.74	0.019	0.02	1.0	0.18	6.5	<0.1	0.05	11	2.3	<0.2
147356	Soil	2	29	0.16	9	0.219	3	2.76	0.015	0.02	0.7	0.15	3.4	<0.1	0.06	13	1.6	<0.2
147357	Soil	3	39	0.45	29	0.211	3	4.22	0.019	0.05	1.2	0.17	5.8	<0.1	<0.05	12	1.2	0.2
147358	Soil	3	41	0.45	15	0.218	3	4.25	0.021	0.04	0.7	0.13	5.5	<0.1	<0.05	14	1.6	<0.2
147359	Soil	3	23	0.15	5	0.225	3	1.66	0.015	0.03	0.8	0.13	2.4	<0.1	0.06	15	1.3	<0.2
147360	Soil	4	49	0.62	32	0.240	5	4.66	0.020	0.07	1.2	0.16	8.1	<0.1	<0.05	14	1.2	<0.2
147361	Soil	2	27	0.21	4	0.477	5	1.23	0.018	0.02	<0.1	0.09	3.1	<0.1	<0.05	18	<0.5	<0.2
147362	Soil	3	28	0.23	7	0.372	4	1.82	0.017	0.02	<0.1	0.16	3.2	<0.1	<0.05	18	0.6	<0.2
147363	Soil	3	41	0.40	13	0.350	5	3.46	0.015	0.03	<0.1	0.15	4.3	<0.1	<0.05	21	1.3	<0.2
147364	Soil	3	39	0.43	11	0.335	4	2.87	0.017	0.04	<0.1	0.15	3.9	<0.1	<0.05	20	1.0	<0.2
147365	Soil	3	30	0.25	11	0.244	5	2.71	0.013	0.03	<0.1	0.20	3.9	<0.1	0.06	17	1.4	<0.2
147366	Soil	2	27	0.43	17	0.256	5	1.02	0.025	0.05	0.1	0.13	3.0	<0.1	<0.05	9	0.5	<0.2
147367	Soil	3	44	0.42	12	0.346	5	2.85	0.017	0.03	<0.1	0.18	4.8	<0.1	<0.05	16	1.5	<0.2
147368	Soil	3	63	0.50	12	0.348	4	5.15	0.015	0.03	<0.1	0.14	6.7	<0.1	<0.05	19	2.1	<0.2
147369	Soil	3	63	0.88	22	0.316	5	5.17	0.020	0.04	0.1	0.14	7.0	<0.1	<0.05	14	2.1	<0.2
147370	Soil	3	49	0.31	13	0.289	4	4.82	0.014	0.03	<0.1	0.15	4.5	<0.1	0.06	21	1.8	<0.2
147371	Soil	3	38	0.27	12	0.354	5	2.98	0.016	0.03	<0.1	0.14	3.8	<0.1	<0.05	21	1.4	<0.2
147372	Soil	4	22	0.14	9	0.170	8	2.63	0.012	0.03	0.1	0.20	3.0	<0.1	0.08	9	2.7	<0.2
147373	Soil	3	17	0.20	13	0.062	8	2.42	0.014	0.05	0.1	0.32	1.9	<0.1	0.14	7	2.8	<0.2
147374	Soil	4	27	0.25	14	0.141	5	3.37	0.015	0.03	<0.1	0.24	4.5	<0.1	0.05	12	3.0	<0.2
147375	Soil	3	19	0.28	11	0.136	4	1.88	0.018	0.04	<0.1	0.20	2.4	<0.1	<0.05	11	1.3	<0.2
147376	Soil	2	51	0.32	7	0.350	3	1.67	0.020	0.02	<0.1	0.32	3.9	<0.1	0.07	12	2.0	<0.2
147377	Soil	2	43	0.49	7	0.500	3	1.96	0.026	0.02	<0.1	0.17	4.7	<0.1	<0.05	16	1.1	<0.2



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Method	Analyte	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
		Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P
		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%
		MDL	MDL	MDL	MDL	MDL	MDL	MDL	MDL	MDL	MDL	MDL	MDL	MDL	MDL	MDL	MDL	MDL	MDL	MDL	MDL
147378	Soil	0.7	104.2	2.3	21	0.4	17.7	5.7	167	7.16	3.7	0.3	4.0	0.4	6	<0.1	0.5	0.6	212	0.21	0.058
147379	Soil	0.6	31.8	3.9	13	0.4	11.3	3.4	122	5.41	4.7	0.2	2.3	0.4	7	<0.1	0.7	0.4	244	0.20	0.048
147380	Soil	0.8	87.9	5.0	15	1.2	14.0	4.7	135	6.21	6.4	0.2	3.9	0.4	10	<0.1	0.7	1.4	229	0.20	0.072
147381	Soil	0.7	84.5	4.5	20	1.0	19.6	7.1	133	3.54	3.9	0.3	9.2	0.1	12	<0.1	0.4	5.1	136	0.26	0.072
147382	Soil	0.8	74.0	4.9	16	2.1	12.0	4.4	115	4.26	3.9	0.4	6.1	0.3	9	<0.1	0.5	0.9	167	0.18	0.077
147383	Soil	1.0	69.9	4.4	13	0.4	14.1	5.4	91	5.99	12.0	0.2	4.0	0.3	6	<0.1	0.5	0.5	220	0.25	0.050
147384	Soil	0.9	58.5	10.1	10	0.6	9.0	3.2	66	1.90	4.2	0.3	7.8	0.3	15	<0.1	0.5	0.7	82	0.16	0.040
147385	Soil	1.4	83.4	4.7	13	1.8	11.0	3.2	58	4.11	4.7	0.3	9.0	0.4	6	<0.1	0.5	0.9	165	0.10	0.063
147386	Soil	0.5	17.0	7.4	24	0.4	5.4	3.3	193	3.13	4.5	0.2	3.2	0.7	3	<0.1	0.2	0.3	123	0.03	0.021
147387	Soil	0.7	44.8	5.1	25	0.3	9.5	4.8	196	5.08	4.6	0.3	2.3	0.6	13	<0.1	0.3	0.3	141	0.16	0.047
147388	Soil	0.6	20.5	4.8	18	0.3	6.6	4.1	151	2.86	2.3	0.2	3.4	0.3	14	<0.1	0.2	0.3	96	0.07	0.045
147389	Soil	0.8	43.1	4.4	10	0.2	4.4	2.0	40	2.66	1.7	0.2	3.9	0.4	13	<0.1	0.2	0.3	131	0.11	0.033
147390	Soil	0.8	54.5	3.0	22	0.2	9.1	8.2	217	3.21	2.5	0.6	3.2	0.4	19	<0.1	0.2	0.2	74	0.12	0.033
147391	Soil	0.7	59.4	6.7	30	0.5	9.6	30.5	836	2.64	1.6	0.5	3.1	0.4	23	0.2	0.2	0.2	59	0.23	0.061
147392	Soil	0.8	21.4	4.4	10	0.3	4.4	2.3	60	3.03	1.7	0.1	2.1	0.4	10	<0.1	0.2	0.3	105	0.09	0.017
147393	Soil	1.4	112.7	7.7	19	0.5	11.4	15.7	249	2.67	3.5	0.3	3.0	0.3	10	0.1	0.2	0.3	67	0.15	0.053
147394	Soil	1.0	60.2	4.6	22	0.6	10.7	12.6	238	2.42	2.7	0.3	2.1	0.3	24	0.1	0.2	0.2	58	0.18	0.049
147395	Soil	1.4	68.5	4.0	21	0.5	9.1	4.0	90	3.62	3.0	0.5	1.9	0.8	18	0.2	0.2	0.3	81	0.10	0.046
147396	Soil	1.2	95.9	4.0	18	0.9	10.9	4.4	91	2.89	2.2	0.4	2.5	0.4	23	0.1	0.2	0.3	83	0.15	0.058
147397	Soil	11.0	473.4	5.0	23	1.1	17.7	9.2	211	2.77	2.7	0.3	3.4	0.1	32	0.2	0.2	0.6	71	0.27	0.082
147398	Soil	13.9	659.8	7.2	35	0.6	26.9	17.9	226	3.45	3.2	0.2	14.5	0.3	53	0.2	0.2	0.9	94	0.32	0.063
147399	Soil	16.3	897.6	3.2	46	0.5	30.6	31.6	530	3.49	3.0	0.2	8.0	0.3	119	0.3	0.2	0.8	88	0.71	0.059
147400	Soil	21.4	686.5	4.8	35	0.5	30.8	22.3	383	4.31	4.4	0.2	17.9	0.3	73	0.2	0.3	1.1	122	0.52	0.058
147401	Soil	34.4	2872.4	3.0	45	1.8	44.8	36.4	587	4.31	2.1	0.2	12.8	0.4	46	0.1	0.2	2.9	140	0.42	0.052
147402	Soil	6.2	927.0	2.9	21	1.0	19.9	8.4	201	3.64	1.1	0.3	7.8	0.4	12	0.1	0.1	1.4	117	0.22	0.056
147403	Soil	3.7	879.5	3.2	21	1.4	20.0	6.9	161	4.35	1.1	0.3	10.1	0.5	12	0.1	0.2	2.1	145	0.22	0.051
147404	Soil	4.0	1367.9	3.0	30	0.8	29.7	12.4	185	3.82	1.2	0.3	17.9	0.4	13	<0.1	0.1	1.6	125	0.22	0.059
147405	Soil	4.2	748.0	2.9	15	1.0	15.2	5.3	110	3.82	1.5	0.3	17.4	0.4	9	<0.1	0.2	3.1	131	0.19	0.045
147406	Soil	3.5	852.2	3.5	14	1.4	12.7	4.4	95	4.03	1.1	0.5	12.0	0.5	9	<0.1	0.2	2.3	113	0.15	0.047
147407	Soil	10.1	1451.2	6.6	34	1.4	29.9	13.5	305	3.99	2.4	0.4	19.6	0.3	26	0.1	0.2	2.7	127	0.31	0.071



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Method	Analyte	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
		La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Hg	Sc	TI	S	Ga	Se	Te
Unit		ppm	ppm	%	ppm	%	ppm	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	
MDL		1	1	0.01	1	0.001	1	0.01	0.001	0.01	0.01	0.01	0.01	0.05	1	0.5	0.2	
147378	Soil	2	55	0.59	8	0.358	4	3.50	0.018	0.03	<0.1	0.20	4.5	<0.1	<0.05	17	1.9	<0.2
147379	Soil	2	58	0.24	7	0.346	3	1.78	0.016	0.02	<0.1	0.15	3.4	<0.1	<0.05	20	0.9	<0.2
147380	Soil	3	38	0.33	9	0.396	4	2.74	0.017	0.03	<0.1	0.22	3.8	<0.1	0.05	17	2.0	<0.2
147381	Soil	3	30	0.47	12	0.241	4	2.11	0.021	0.04	0.1	0.17	3.8	<0.1	0.07	12	1.3	1.2
147382	Soil	3	29	0.27	9	0.262	5	2.32	0.015	0.04	<0.1	0.22	3.6	<0.1	0.07	13	1.7	<0.2
147383	Soil	2	33	0.31	7	0.387	2	2.04	0.027	0.03	0.2	0.10	3.7	<0.1	<0.05	21	0.9	<0.2
147384	Soil	3	15	0.16	13	0.149	2	1.25	0.018	0.05	0.1	0.11	2.8	<0.1	<0.05	8	0.6	<0.2
147385	Soil	3	20	0.14	10	0.191	3	2.45	0.012	0.03	0.1	0.19	2.7	<0.1	<0.05	17	1.5	<0.2
147386	Soil	3	12	0.45	11	0.042	2	2.42	0.007	0.03	0.3	0.06	3.4	<0.1	<0.05	15	<0.5	<0.2
147387	Soil	2	23	0.46	10	0.152	3	3.16	0.012	0.02	0.4	0.10	3.4	<0.1	<0.05	18	1.0	<0.2
147388	Soil	3	11	0.33	9	0.135	3	1.51	0.010	0.04	0.1	0.08	2.2	<0.1	<0.05	15	0.8	<0.2
147389	Soil	2	19	0.10	6	0.164	3	1.11	0.011	0.03	0.3	0.09	1.3	<0.1	<0.05	15	<0.5	<0.2
147390	Soil	3	18	0.36	14	0.138	3	2.84	0.012	0.02	0.3	0.13	3.6	<0.1	<0.05	13	2.7	<0.2
147391	Soil	3	18	0.31	20	0.081	4	4.23	0.013	0.02	0.2	0.27	3.9	<0.1	0.07	9	3.3	<0.2
147392	Soil	2	11	0.16	7	0.185	2	0.94	0.009	0.01	0.3	0.06	1.6	<0.1	<0.05	15	0.5	<0.2
147393	Soil	3	20	0.32	13	0.128	3	2.86	0.018	0.04	1.3	0.32	3.2	<0.1	0.07	10	2.4	<0.2
147394	Soil	3	18	0.32	20	0.095	3	2.47	0.015	0.02	0.3	0.15	2.6	<0.1	0.06	9	1.7	<0.2
147395	Soil	3	25	0.27	25	0.133	2	3.01	0.014	0.02	0.3	0.21	3.8	<0.1	<0.05	12	2.0	<0.2
147396	Soil	4	22	0.28	15	0.131	4	2.54	0.017	0.03	0.2	0.20	3.1	<0.1	0.07	11	2.0	<0.2
147397	Soil	2	25	0.32	30	0.125	5	2.56	0.024	0.05	1.3	0.23	2.5	<0.1	0.10	8	2.1	<0.2
147398	Soil	2	29	0.54	43	0.170	2	3.08	0.035	0.10	1.1	0.15	4.3	<0.1	0.05	9	1.5	<0.2
147399	Soil	2	28	0.55	56	0.165	3	3.16	0.040	0.09	1.4	0.09	4.7	0.1	<0.05	8	1.7	<0.2
147400	Soil	2	34	0.64	43	0.222	3	3.49	0.034	0.09	1.0	0.13	4.9	0.1	<0.05	11	2.1	<0.2
147401	Soil	3	67	1.11	73	0.246	2	4.61	0.027	0.19	2.6	0.09	7.2	0.3	<0.05	12	1.1	0.2
147402	Soil	3	46	0.49	16	0.177	4	4.53	0.023	0.05	1.7	0.17	5.4	<0.1	<0.05	12	2.2	<0.2
147403	Soil	3	51	0.47	14	0.235	4	4.53	0.022	0.03	1.2	0.21	6.2	<0.1	<0.05	14	2.7	<0.2
147404	Soil	3	55	0.71	29	0.192	3	5.25	0.023	0.06	1.4	0.17	6.4	0.1	0.05	12	2.2	<0.2
147405	Soil	2	44	0.37	9	0.241	3	2.92	0.020	0.03	2.5	0.14	4.2	<0.1	<0.05	13	1.4	<0.2
147406	Soil	3	38	0.30	12	0.228	3	3.80	0.017	0.02	1.7	0.23	4.6	<0.1	<0.05	13	2.6	<0.2
147407	Soil	3	48	0.67	32	0.218	3	3.96	0.026	0.04	2.4	0.20	5.7	<0.1	<0.05	13	1.4	0.3



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Method Analyte Unit MDL	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppb	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	
	0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.1	0.5	0.1	1	0.1	0.1	2	0.01	0.001		
147408	Soil	3.5	1168.5	2.3	23	0.6	22.8	7.0	139	4.24	1.6	0.4	10.4	0.5	7	<0.1	0.2	2.7	134	0.14	0.054
147409	Soil	10.8	6169.6	1.7	66	0.2	71.2	37.9	677	6.07	4.1	0.3	16.7	0.8	14	<0.1	0.2	3.8	199	0.14	0.067
147410	Soil	3.5	744.4	4.2	19	0.7	20.5	8.4	152	4.38	1.5	0.3	6.7	0.5	5	<0.1	0.2	1.9	158	0.14	0.053
147411	Soil	6.0	336.9	4.6	12	1.1	12.0	2.7	55	5.08	1.5	0.4	14.4	0.6	5	<0.1	0.2	2.5	182	0.11	0.046
147412	Soil	5.7	320.7	4.2	9	1.1	9.1	2.2	43	4.50	1.3	0.3	7.8	0.5	5	<0.1	0.2	1.6	143	0.10	0.053
147413	Soil	6.6	325.1	4.6	10	0.9	10.6	2.6	48	3.32	1.4	0.4	7.9	0.4	4	<0.1	0.2	1.3	123	0.12	0.048
147414	Soil	8.4	666.3	3.4	16	0.7	18.6	5.1	84	5.55	2.4	0.5	11.9	1.1	7	<0.1	0.2	2.6	164	0.17	0.056
147415	Soil	0.9	72.6	5.1	17	0.5	14.9	4.7	162	9.35	3.5	0.3	1.9	0.5	17	<0.1	1.0	0.4	318	0.25	0.079
147416	Soil	0.7	75.0	4.7	13	1.9	10.4	3.0	77	4.49	3.2	0.3	6.7	0.2	10	<0.1	0.7	0.3	186	0.16	0.068
147417	Soil	0.9	104.8	4.0	16	1.2	15.1	5.1	141	5.51	43.8	0.4	16.3	0.4	29	<0.1	1.0	0.6	190	0.23	0.069
147418	Soil	0.8	80.1	6.9	16	0.9	11.7	4.1	209	6.72	23.5	0.3	7.1	0.5	9	<0.1	1.0	0.5	258	0.19	0.074
147419	Soil	0.8	76.7	4.8	12	1.1	9.8	3.3	78	5.11	11.0	0.4	5.5	0.6	7	<0.1	0.8	0.6	224	0.15	0.053
147420	Soil	1.0	96.3	4.7	16	1.0	13.6	4.7	101	4.52	6.7	0.3	6.5	0.4	12	<0.1	0.7	0.8	185	0.17	0.068
147421	Soil	0.6	277.1	3.3	40	0.5	39.2	22.5	349	4.38	8.4	0.3	8.1	0.6	24	<0.1	0.5	1.7	136	0.25	0.074
147422	Soil	1.2	71.5	4.1	13	0.9	12.4	3.5	58	5.52	6.0	0.3	2.3	0.6	7	<0.1	0.6	0.7	212	0.10	0.064
147423	Soil	1.5	101.4	4.1	18	0.6	17.5	4.8	91	5.91	4.9	0.4	4.6	0.7	7	<0.1	0.6	1.1	213	0.15	0.045
147424	Soil	1.4	61.6	8.3	14	1.0	11.4	3.3	70	3.84	3.0	0.4	3.2	0.6	7	<0.1	0.5	0.8	164	0.15	0.047
147425	Soil	0.8	26.1	8.4	11	0.8	4.9	1.9	66	2.94	1.8	0.4	1.7	0.3	19	<0.1	0.3	0.4	97	0.11	0.072
147426	Soil	0.8	26.4	5.5	12	0.9	5.6	2.3	74	2.89	1.5	0.3	2.5	0.4	10	<0.1	0.3	0.3	91	0.09	0.045
147427	Soil	0.9	53.5	9.2	15	1.8	9.8	3.8	75	3.35	3.7	0.3	2.3	0.3	11	<0.1	0.4	0.3	103	0.10	0.067
147428	Soil	0.7	31.7	6.0	13	0.3	5.8	2.6	110	3.18	2.8	0.2	1.8	0.5	10	<0.1	0.3	0.3	114	0.10	0.038
147429	Soil	0.7	13.2	3.3	8	0.1	3.6	1.3	42	3.17	1.6	0.2	3.3	0.6	8	<0.1	0.2	0.2	103	0.05	0.021
147430	Soil	0.7	14.5	5.7	12	0.3	4.5	2.0	61	1.93	0.8	0.4	1.3	0.3	17	<0.1	0.2	0.2	52	0.09	0.038
147431	Soil	2.3	95.4	4.8	40	1.8	7.3	91.7	1549	1.43	2.7	1.6	0.7	<0.1	26	1.8	0.2	0.2	41	0.32	0.147
147432	Soil	1.0	46.5	3.4	18	0.4	7.6	4.5	122	3.19	2.3	0.4	1.4	1.2	20	<0.1	0.2	0.2	87	0.14	0.028
147433	Soil	0.8	96.5	6.1	19	0.8	13.7	5.5	109	3.41	3.7	0.3	1.0	0.5	29	<0.1	0.4	0.3	100	0.18	0.051
147434	Soil	0.8	257.2	3.1	24	0.4	18.9	6.8	108	3.99	3.8	0.5	5.9	0.8	11	<0.1	0.3	0.3	135	0.20	0.072
147435	Soil	0.9	404.6	3.1	41	0.1	33.8	21.5	385	3.40	3.8	0.2	4.2	0.7	28	<0.1	0.3	0.4	100	0.34	0.068
147436	Soil	0.8	339.5	4.0	37	0.3	32.6	22.5	367	3.50	3.7	0.2	5.9	0.5	23	0.1	0.4	0.3	105	0.31	0.068
147437	Soil	0.7	388.0	2.9	48	0.3	36.9	26.8	482	3.98	4.7	0.3	7.1	0.9	31	0.1	0.4	0.4	117	0.34	0.066



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Method	Analyte	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
		La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Hg	Sc	TI	S	Ga	Se	Te
Unit		ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm
MDL		1	1	0.01	1	0.001	1	0.01	0.001	0.01	0.1	0.01	0.1	0.05	1	0.5	0.2	
147408	Soil	2	45	0.47	21	0.218	3	4.69	0.015	0.03	0.9	0.14	5.7	<0.1	<0.05	13	1.9	<0.2
147409	Soil	4	81	1.46	178	0.410	1	8.24	0.019	0.50	1.4	0.04	14.3	0.7	<0.05	19	0.6	0.5
147410	Soil	3	41	0.37	18	0.254	2	4.18	0.015	0.05	0.4	0.12	6.0	<0.1	<0.05	15	1.5	<0.2
147411	Soil	3	35	0.17	7	0.293	2	2.85	0.013	0.02	0.6	0.11	3.6	<0.1	<0.05	20	1.4	<0.2
147412	Soil	3	25	0.12	5	0.268	3	2.47	0.012	0.02	0.9	0.13	3.0	<0.1	0.05	17	1.8	<0.2
147413	Soil	3	26	0.15	5	0.241	2	2.58	0.014	0.02	1.0	0.16	3.1	<0.1	<0.05	18	2.0	<0.2
147414	Soil	3	50	0.31	8	0.342	3	4.45	0.019	0.02	1.3	0.17	6.6	<0.1	<0.05	18	2.7	0.6
147415	Soil	2	53	0.29	7	0.470	4	2.61	0.019	0.03	<0.1	0.19	5.0	<0.1	0.06	23	1.1	<0.2
147416	Soil	3	29	0.16	8	0.233	6	2.17	0.017	0.03	<0.1	0.22	3.1	<0.1	0.07	13	1.1	<0.2
147417	Soil	3	34	0.32	12	0.301	5	2.69	0.017	0.03	<0.1	0.22	4.6	<0.1	<0.05	15	1.8	<0.2
147418	Soil	3	39	0.24	7	0.374	4	2.40	0.014	0.03	<0.1	0.17	3.8	<0.1	<0.05	19	1.2	<0.2
147419	Soil	4	29	0.16	7	0.312	3	2.16	0.013	0.02	<0.1	0.15	3.8	<0.1	<0.05	15	0.7	<0.2
147420	Soil	4	27	0.25	9	0.293	5	2.60	0.015	0.03	<0.1	0.16	3.8	<0.1	0.06	13	1.6	<0.2
147421	Soil	4	47	0.98	90	0.220	3	5.27	0.027	0.19	<0.1	0.13	6.7	0.3	<0.05	13	1.0	<0.2
147422	Soil	4	30	0.20	12	0.303	4	2.81	0.013	0.04	<0.1	0.12	3.0	<0.1	<0.05	22	1.2	<0.2
147423	Soil	3	35	0.33	11	0.285	3	3.30	0.016	0.03	<0.1	0.15	4.0	<0.1	<0.05	22	1.6	<0.2
147424	Soil	4	24	0.21	12	0.237	3	2.30	0.016	0.04	<0.1	0.14	3.2	<0.1	<0.05	16	0.9	<0.2
147425	Soil	3	12	0.15	11	0.128	3	1.36	0.011	0.03	<0.1	0.22	2.0	<0.1	0.06	12	1.1	<0.2
147426	Soil	3	13	0.14	8	0.138	3	1.47	0.010	0.03	<0.1	0.15	1.7	<0.1	<0.05	13	1.0	<0.2
147427	Soil	4	18	0.20	15	0.149	3	2.16	0.012	0.04	<0.1	0.22	2.7	<0.1	0.06	11	1.3	<0.2
147428	Soil	2	15	0.19	7	0.137	3	1.66	0.008	0.02	<0.1	0.12	2.0	<0.1	<0.05	13	0.6	<0.2
147429	Soil	2	9	0.10	7	0.144	2	1.30	0.006	0.01	<0.1	0.06	1.2	<0.1	<0.05	17	0.5	<0.2
147430	Soil	3	7	0.15	13	0.075	2	1.39	0.009	0.03	<0.1	0.16	1.3	<0.1	<0.05	12	1.1	<0.2
147431	Soil	5	35	0.15	13	0.043	5	5.12	0.012	0.03	0.5	0.29	2.9	<0.1	0.08	6	5.7	<0.2
147432	Soil	3	19	0.27	14	0.138	3	2.88	0.015	0.02	0.1	0.15	3.7	<0.1	<0.05	13	1.6	<0.2
147433	Soil	2	24	0.39	20	0.174	3	2.19	0.023	0.04	0.3	0.17	3.2	<0.1	<0.05	12	1.1	<0.2
147434	Soil	4	47	0.35	15	0.245	3	6.04	0.023	0.03	0.2	0.21	9.3	<0.1	0.06	14	2.0	<0.2
147435	Soil	3	39	0.83	46	0.199	3	5.11	0.031	0.06	0.3	0.08	7.4	0.1	<0.05	10	1.0	<0.2
147436	Soil	4	41	0.75	35	0.193	4	4.87	0.032	0.07	0.2	0.15	6.8	0.1	<0.05	10	1.9	<0.2
147437	Soil	4	45	0.89	52	0.222	2	5.41	0.034	0.07	0.2	0.11	9.5	0.1	<0.05	12	1.2	<0.2



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	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppb	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	
	0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.1	0.5	0.1	1	0.1	0.1	2	0.01	0.001		
147438	Soil	1.2	377.1	4.4	28	0.2	23.1	13.7	461	2.66	4.3	0.2	5.9	0.3	18	<0.1	0.2	0.5	81	0.36	0.077
147439	Soil	15.4	367.9	3.8	23	0.3	16.6	5.6	103	3.18	2.9	0.3	7.5	0.2	25	<0.1	0.2	0.5	95	0.24	0.063
147440	Soil	35.8	1108.6	2.2	32	0.7	27.6	15.9	203	3.50	3.0	0.4	8.0	0.3	66	<0.1	0.2	1.1	98	0.32	0.068
147441	Soil	26.4	1406.7	2.4	25	1.7	24.1	8.6	123	3.50	1.2	0.3	10.7	0.2	16	<0.1	0.2	2.3	108	0.20	0.073
147442	Soil	10.4	4302.6	3.6	63	1.3	54.2	35.9	533	4.37	2.1	0.2	21.2	0.4	85	0.2	0.2	3.8	133	0.50	0.078
147443	Soil	48.3	1692.5	3.8	26	1.0	25.6	18.4	427	3.54	2.7	0.3	11.4	0.3	20	<0.1	0.2	2.3	117	0.25	0.067
147444	Soil	29.0	1160.1	2.5	23	1.2	22.6	7.9	126	3.97	2.0	0.4	11.0	0.5	10	<0.1	0.2	2.1	122	0.18	0.054
147445	Soil	66.8	654.9	3.7	9	1.7	6.1	2.1	54	2.27	1.0	0.3	7.5	<0.1	12	<0.1	0.1	1.8	74	0.25	0.044
147446	Soil	10.0	489.2	4.2	12	1.6	10.6	3.6	81	4.07	1.5	0.4	6.9	0.5	7	<0.1	0.2	1.0	131	0.15	0.044
147447	Soil	6.8	962.6	2.9	18	0.6	20.2	6.1	88	3.83	1.7	0.4	5.9	0.6	7	<0.1	0.2	1.4	125	0.16	0.051
147448	Soil	5.7	233.1	4.6	10	1.6	8.3	2.5	47	2.95	1.1	0.3	8.0	0.2	6	<0.1	0.1	0.9	97	0.13	0.051
147449	Soil	7.3	360.6	4.8	11	1.0	12.1	3.7	58	5.23	1.9	0.2	13.6	0.5	6	<0.1	0.2	1.1	163	0.15	0.040
147450	Soil	5.9	308.6	4.6	12	1.7	12.6	4.0	72	3.99	1.5	0.3	10.2	0.4	6	<0.1	0.2	1.1	131	0.14	0.047
147451	Soil	9.6	985.9	3.4	21	1.8	21.3	5.9	93	4.38	2.9	0.5	9.2	0.8	7	<0.1	0.2	0.8	126	0.16	0.059
147452	Soil	6.1	504.1	5.0	15	0.9	14.5	4.7	76	2.96	1.8	0.4	12.8	0.3	9	<0.1	0.1	1.2	96	0.18	0.054
147453	Soil	4.1	489.3	6.2	15	0.4	21.5	4.5	76	3.70	1.4	0.4	11.1	0.6	7	<0.1	0.2	3.8	184	0.18	0.036
147454	Soil	I.S.	I.S.	I.S.	I.S.	I.S.	I.S.	I.S.	I.S.	I.S.	I.S.	I.S.	I.S.	I.S.	I.S.	I.S.	I.S.	I.S.	I.S.	I.S.	I.S.
147455	Soil	5.5	531.0	3.9	17	0.9	20.2	4.9	95	5.36	2.0	0.4	17.9	0.8	9	<0.1	0.2	1.2	161	0.18	0.048
147456	Soil	29.8	1101.7	4.3	18	1.1	16.9	4.8	79	5.54	2.1	0.6	18.7	0.7	9	<0.1	0.2	2.3	141	0.15	0.053
147457	Soil	13.7	793.9	4.3	21	0.9	20.6	6.0	96	4.38	2.3	0.4	11.7	0.5	11	<0.1	0.2	1.6	127	0.20	0.042
147458	Soil	8.0	737.8	3.7	20	1.1	18.9	5.4	89	5.91	3.4	0.4	5.1	0.5	7	<0.1	0.2	1.2	170	0.13	0.051
147459	Soil	14.9	1282.9	3.1	22	0.9	21.1	6.5	82	6.68	3.4	0.3	8.5	0.7	5	<0.1	0.2	0.8	177	0.10	0.054
147460	Soil	13.1	890.1	3.1	17	2.5	14.4	5.3	120	6.05	1.9	0.4	9.7	0.4	5	<0.1	0.1	0.7	161	0.13	0.071
147461	Soil	22.8	239.2	4.9	10	1.0	10.5	3.0	50	5.84	2.3	0.3	4.6	0.3	4	<0.1	0.2	0.6	181	0.11	0.059
147462	Soil	1.9	1242.1	3.8	33	0.5	40.8	35.0	702	6.75	3.3	0.2	6.3	0.4	22	<0.1	0.2	0.5	163	0.18	0.103
147463	Soil	1.2	1000.1	2.7	54	0.4	48.1	51.9	951	6.20	4.9	0.3	20.0	0.4	19	<0.1	0.3	0.7	142	0.12	0.099
147464	Soil	1.9	1077.5	3.5	22	0.4	35.6	29.9	650	8.12	5.3	0.3	7.3	0.4	14	<0.1	0.3	0.4	173	0.11	0.132
147465	Soil	1.0	574.1	2.8	21	0.6	29.7	17.2	682	5.70	1.3	0.2	3.1	0.2	19	<0.1	0.2	0.3	141	0.20	0.107
147466	Soil	1.0	107.2	6.1	15	0.9	16.3	6.0	159	7.95	4.3	0.4	2.5	0.6	6	<0.1	0.6	0.4	257	0.15	0.083
147467	Soil	1.1	166.0	6.1	19	0.3	20.5	7.2	242	8.08	3.5	0.4	6.0	0.5	7	<0.1	0.6	0.3	237	0.18	0.093



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Method Analyte	Unit	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
		La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Hg	Sc	TI	S	Ga	Se	Te
MDL	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm
	1	1	0.01	1	0.001	1	0.01	0.001	0.01	0.1	0.01	0.1	0.01	0.05	1	0.5	0.2	
147438	Soil	2	31	0.62	26	0.154	8	3.52	0.031	0.05	0.8	0.16	4.4	<0.1	0.08	8	1.4	<0.2
147439	Soil	3	34	0.40	32	0.187	3	3.51	0.024	0.03	1.1	0.21	4.4	<0.1	0.06	11	2.9	<0.2
147440	Soil	4	36	0.56	64	0.167	3	4.59	0.030	0.03	2.3	0.14	5.8	<0.1	<0.05	11	3.0	<0.2
147441	Soil	3	49	0.60	26	0.178	5	4.26	0.024	0.04	1.5	0.19	5.0	<0.1	0.08	11	2.0	<0.2
147442	Soil	3	74	1.20	78	0.230	2	5.05	0.030	0.27	2.5	0.08	8.7	0.4	<0.05	12	1.2	0.3
147443	Soil	3	41	0.56	32	0.192	4	4.36	0.023	0.06	2.0	0.14	5.9	0.1	<0.05	11	2.0	0.2
147444	Soil	3	40	0.52	23	0.238	3	4.34	0.019	0.04	2.5	0.18	5.7	<0.1	<0.05	13	2.5	0.2
147445	Soil	3	18	0.14	8	0.155	2	1.71	0.017	0.02	1.8	0.15	2.3	<0.1	<0.05	8	2.4	<0.2
147446	Soil	3	29	0.24	11	0.288	2	2.59	0.017	0.02	1.0	0.19	3.4	<0.1	<0.05	16	2.1	<0.2
147447	Soil	3	41	0.38	15	0.238	2	4.59	0.017	0.02	0.9	0.13	5.8	<0.1	<0.05	13	2.2	<0.2
147448	Soil	3	19	0.14	6	0.180	3	1.83	0.013	0.03	1.3	0.16	2.3	<0.1	0.06	13	2.0	<0.2
147449	Soil	3	34	0.21	8	0.333	2	2.14	0.015	0.02	1.6	0.15	3.5	<0.1	<0.05	19	1.3	<0.2
147450	Soil	3	25	0.16	6	0.272	2	2.25	0.014	0.02	1.0	0.15	2.9	<0.1	<0.05	16	1.6	<0.2
147451	Soil	4	46	0.33	8	0.276	3	5.70	0.016	0.02	1.9	0.24	6.7	<0.1	0.06	16	4.2	0.2
147452	Soil	3	29	0.27	8	0.202	2	2.76	0.019	0.03	1.5	0.17	3.4	<0.1	0.05	15	2.5	0.3
147453	Soil	3	39	0.39	20	0.399	1	3.20	0.020	0.03	0.3	0.14	6.8	<0.1	<0.05	21	0.8	1.1
147454	Soil	I.S.	I.S.	I.S.	I.S.	I.S.	I.S.	I.S.	I.S.	I.S.	I.S.	I.S.	I.S.	I.S.	I.S.	I.S.	I.S.	I.S.
147455	Soil	3	45	0.41	15	0.380	2	4.39	0.021	0.03	0.9	0.18	6.2	<0.1	<0.05	18	2.4	0.5
147456	Soil	4	34	0.30	15	0.278	2	4.06	0.017	0.03	1.8	0.17	5.1	<0.1	<0.05	18	3.6	0.6
147457	Soil	3	36	0.41	19	0.270	2	4.08	0.023	0.02	1.9	0.17	4.6	<0.1	<0.05	16	3.0	0.5
147458	Soil	2	40	0.37	12	0.268	2	4.42	0.016	0.02	2.4	0.15	5.2	<0.1	<0.05	17	2.9	0.4
147459	Soil	3	56	0.50	18	0.240	2	5.47	0.014	0.02	7.1	0.11	7.1	<0.1	0.05	17	2.9	0.4
147460	Soil	2	44	0.41	8	0.191	2	4.64	0.016	0.03	14.6	0.20	5.7	<0.1	0.06	16	4.1	0.3
147461	Soil	2	28	0.19	5	0.227	2	1.88	0.016	0.02	7.4	0.16	2.6	<0.1	<0.05	17	2.1	0.2
147462	Soil	4	49	0.63	39	0.169	2	5.05	0.018	0.10	1.8	0.16	10.3	0.2	<0.05	13	2.5	0.2
147463	Soil	4	44	0.46	71	0.200	1	6.91	0.021	0.02	0.5	0.20	12.0	0.1	<0.05	13	2.4	<0.2
147464	Soil	2	48	0.38	47	0.158	1	6.49	0.016	0.03	0.7	0.25	9.1	<0.1	0.07	16	4.0	0.2
147465	Soil	2	38	0.31	28	0.140	3	4.77	0.022	0.03	1.6	0.31	4.4	<0.1	0.06	15	3.8	<0.2
147466	Soil	3	47	0.32	8	0.252	3	3.47	0.015	0.03	<0.1	0.23	3.9	<0.1	0.07	20	3.1	<0.2
147467	Soil	3	56	0.45	10	0.208	4	5.20	0.018	0.03	<0.1	0.34	5.1	<0.1	0.08	22	3.2	<0.2



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CERTIFICATE OF ANALYSIS

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Method Analyte Unit MDL	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	
	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppb	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	
	0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.1	0.5	0.1	1	0.1	0.1	2	0.01	0.001		
147468	Soil	0.8	122.3	4.0	17	0.2	19.0	4.6	136	7.02	3.6	0.3	1.7	0.6	5	<0.1	0.6	0.6	251	0.16	0.071
147469	Soil	1.0	185.6	3.5	23	0.3	26.6	15.1	332	5.29	2.6	0.2	3.6	0.5	18	<0.1	0.5	0.8	158	0.24	0.068
147470	Soil	1.0	135.2	2.6	14	0.3	18.1	5.0	124	5.60	2.2	0.4	2.8	0.7	10	<0.1	0.4	0.5	174	0.21	0.066
147471	Soil	1.2	124.8	5.4	15	0.6	19.1	5.9	112	7.30	6.8	0.3	2.6	0.5	10	<0.1	0.6	1.4	214	0.15	0.078
147472	Soil	0.8	167.2	4.2	25	0.6	31.7	45.9	732	5.09	5.5	0.3	4.8	0.1	12	0.2	0.3	0.5	140	0.19	0.090
147473	Soil	1.1	202.5	3.7	21	0.4	25.4	8.1	121	4.06	6.2	0.4	4.2	0.4	15	<0.1	0.3	0.7	112	0.19	0.075
147474	Soil	1.4	70.9	7.5	12	1.3	11.0	3.1	74	3.77	3.7	0.3	5.7	0.4	8	<0.1	0.4	0.8	140	0.12	0.061
147475	Soil	1.2	125.4	4.8	17	1.0	17.0	5.5	110	4.41	3.7	0.4	4.4	0.2	8	<0.1	0.3	0.8	126	0.16	0.081
147476	Soil	1.6	219.5	7.8	15	0.6	11.7	6.5	216	4.11	4.4	0.3	8.5	0.3	17	0.1	0.8	0.9	160	0.26	0.065
147477	Soil	6.1	241.4	5.1	11	0.6	9.7	2.9	68	6.30	3.5	0.4	10.4	0.7	10	<0.1	0.6	1.7	252	0.16	0.039
147478	Soil	1.6	188.0	3.9	17	0.6	21.0	5.6	91	6.22	6.0	0.3	6.8	0.5	5	<0.1	0.4	1.0	206	0.17	0.047
147479	Soil	2.4	287.8	3.1	21	0.8	27.9	7.6	120	6.43	5.4	0.3	6.1	0.7	5	<0.1	0.4	1.0	198	0.20	0.047
147480	Soil	2.6	108.9	3.3	8	0.6	8.6	2.1	44	3.50	2.3	0.2	19.5	0.3	5	<0.1	0.2	0.7	127	0.12	0.037
147481	Soil	1.9	223.2	5.1	18	0.2	22.6	5.9	135	5.00	4.3	0.3	15.3	0.6	7	<0.1	0.4	1.0	176	0.21	0.037
147482	Soil	1.8	129.4	3.3	12	0.4	17.1	3.9	65	5.87	4.1	0.2	4.0	0.5	7	<0.1	0.4	0.8	214	0.17	0.035
147483	Soil	2.4	146.7	3.0	12	0.4	16.6	4.3	68	6.43	3.2	0.3	6.0	0.6	5	<0.1	0.4	0.8	254	0.15	0.034
147484	Soil	3.0	240.3	3.4	18	0.6	23.3	6.7	111	6.00	4.1	0.4	10.6	0.8	6	<0.1	0.4	0.9	209	0.19	0.035
147485	Soil	4.1	117.8	4.9	11	0.5	14.8	3.8	63	4.37	2.9	0.4	7.2	0.7	5	<0.1	0.4	1.0	206	0.13	0.029
147486	Soil	10.1	473.5	4.0	22	0.3	29.4	12.3	130	4.18	2.9	0.2	4.5	0.5	13	<0.1	0.3	0.5	130	0.21	0.042
147487	Soil	37.5	218.3	4.0	10	0.4	15.0	3.0	53	2.45	1.4	0.4	4.4	0.4	6	<0.1	0.2	0.6	129	0.15	0.034
147488	Soil	93.9	427.0	4.5	11	1.2	10.3	3.1	59	4.00	1.9	0.4	6.4	0.6	9	<0.1	0.2	0.7	115	0.14	0.025
147489	Soil	41.1	1527.9	3.9	17	1.2	17.8	18.5	388	2.66	1.6	0.3	6.9	0.2	14	0.1	0.2	1.6	87	0.19	0.059
147490	Soil	73.8	865.9	3.3	14	0.5	12.8	4.7	84	4.62	3.8	0.5	7.3	0.7	16	<0.1	0.2	0.9	118	0.19	0.032
147491	Soil	9.1	784.0	5.5	20	0.6	19.5	8.2	140	2.51	0.6	0.3	68.3	0.2	25	<0.1	0.1	0.7	111	0.35	0.036
147492	Soil	12.7	196.0	5.3	8	1.1	5.3	2.3	79	1.61	0.5	0.2	20.2	0.2	13	<0.1	0.1	2.5	83	0.20	0.036
147493	Soil	8.9	226.7	7.4	9	1.1	8.8	2.0	39	1.44	0.7	0.4	10.4	0.2	7	<0.1	0.1	1.7	134	0.11	0.025
147494	Soil	8.4	793.6	3.4	19	0.5	18.9	5.4	92	3.58	1.8	0.4	42.5	0.5	11	<0.1	0.1	1.3	108	0.19	0.044
147495	Soil	4.7	494.6	4.6	7	3.5	6.5	1.4	30	1.11	<0.5	0.5	4.3	<0.1	6	<0.1	<0.1	0.9	58	0.10	0.045
147496	Soil	111.5	1237.6	6.7	28	1.4	21.3	105.0	1682	3.86	0.8	0.4	9.4	0.2	24	0.2	0.2	1.4	137	0.30	0.040
147497	Soil	8.4	38.6	2.8	5	0.8	2.8	1.2	42	0.80	<0.5	<0.1	71.6	0.2	6	<0.1	0.1	1.8	71	0.13	0.020



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Project: CATFACE
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CERTIFICATE OF ANALYSIS

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Method	Analyte	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
		La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Hg	Sc	Tl	S	Ga	Se	Te
Unit		ppm	ppm	%	ppm	%	ppm	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm
MDL		1	1	0.01	1	0.001	1	0.01	0.001	0.01	0.01	0.01	0.01	0.05	1	0.5	0.2	0.2
147468	Soil	2	63	0.37	13	0.334	3	4.68	0.018	0.02	<0.1	0.11	5.4	<0.1	<0.05	17	1.5	<0.2
147469	Soil	3	46	0.68	36	0.310	4	3.93	0.029	0.06	0.1	0.14	5.2	<0.1	<0.05	15	1.2	<0.2
147470	Soil	3	53	0.47	10	0.447	3	4.66	0.024	0.03	0.3	0.21	5.5	<0.1	<0.05	17	3.3	<0.2
147471	Soil	2	36	0.24	11	0.501	3	3.01	0.014	0.03	0.2	0.21	3.4	<0.1	0.07	19	1.7	<0.2
147472	Soil	2	47	0.81	29	0.191	5	3.65	0.030	0.13	0.2	0.25	4.1	0.2	0.10	11	2.9	<0.2
147473	Soil	3	44	0.65	32	0.206	3	4.37	0.022	0.11	0.7	0.18	4.6	<0.1	0.07	13	2.5	<0.2
147474	Soil	3	24	0.17	10	0.282	3	1.92	0.012	0.04	0.2	0.24	2.4	<0.1	0.06	14	1.6	<0.2
147475	Soil	3	32	0.35	15	0.274	5	2.81	0.019	0.04	0.5	0.25	3.2	<0.1	0.09	13	3.1	<0.2
147476	Soil	2	24	0.21	19	0.280	2	2.34	0.031	0.04	0.3	0.25	3.3	<0.1	0.06	14	1.3	<0.2
147477	Soil	3	39	0.19	7	0.487	2	2.84	0.017	0.02	2.4	0.22	4.7	<0.1	<0.05	24	1.7	<0.2
147478	Soil	2	46	0.38	14	0.464	3	3.35	0.019	0.03	0.6	0.14	4.1	<0.1	<0.05	19	1.6	<0.2
147479	Soil	2	59	0.59	18	0.490	2	4.64	0.022	0.04	0.7	0.15	6.2	<0.1	0.09	19	2.2	<0.2
147480	Soil	2	19	0.13	6	0.289	2	1.90	0.015	0.03	1.0	0.17	2.8	<0.1	<0.05	11	2.1	<0.2
147481	Soil	2	45	0.42	20	0.405	3	3.68	0.022	0.03	0.5	0.15	5.4	<0.1	<0.05	15	2.0	<0.2
147482	Soil	2	38	0.23	9	0.371	2	2.91	0.017	0.02	0.2	0.12	3.4	<0.1	<0.05	16	1.3	<0.2
147483	Soil	2	43	0.27	7	0.391	2	3.29	0.017	0.02	0.2	0.14	4.3	<0.1	0.06	18	1.7	<0.2
147484	Soil	2	58	0.48	14	0.485	2	4.74	0.022	0.03	0.4	0.20	7.8	<0.1	0.07	19	2.4	<0.2
147485	Soil	3	34	0.24	8	0.418	1	2.54	0.016	0.03	0.3	0.20	3.9	<0.1	<0.05	19	1.3	<0.2
147486	Soil	3	36	0.52	37	0.270	2	3.83	0.024	0.04	0.4	0.13	5.8	<0.1	<0.05	12	1.1	<0.2
147487	Soil	3	33	0.22	13	0.243	2	2.91	0.014	0.02	1.1	0.14	4.2	<0.1	<0.05	15	1.4	<0.2
147488	Soil	3	24	0.22	18	0.290	2	2.38	0.016	0.03	1.0	0.15	3.5	<0.1	<0.05	15	1.5	<0.2
147489	Soil	2	32	0.40	26	0.139	3	3.60	0.018	0.04	2.1	0.15	4.1	<0.1	0.06	8	2.2	<0.2
147490	Soil	3	37	0.37	24	0.286	2	3.65	0.023	0.02	2.6	0.16	4.9	<0.1	0.05	14	2.8	<0.2
147491	Soil	2	37	0.74	31	0.259	2	1.75	0.033	0.15	0.3	0.11	4.0	0.1	<0.05	13	0.6	<0.2
147492	Soil	2	11	0.15	9	0.211	2	0.82	0.019	0.03	0.3	0.10	1.9	<0.1	<0.05	9	<0.5	0.3
147493	Soil	3	25	0.14	9	0.220	2	1.44	0.012	0.03	0.7	0.14	2.2	<0.1	<0.05	17	0.8	<0.2
147494	Soil	2	54	0.44	12	0.193	2	3.60	0.018	0.02	2.4	0.18	5.6	<0.1	0.05	13	2.2	<0.2
147495	Soil	3	26	0.09	6	0.121	2	2.57	0.009	0.01	0.6	0.33	2.3	<0.1	0.06	12	2.5	<0.2
147496	Soil	3	49	0.55	16	0.178	3	2.04	0.022	0.05	1.5	0.11	3.3	<0.1	<0.05	13	2.4	<0.2
147497	Soil	2	7	0.10	3	0.118	1	0.32	0.016	0.02	0.2	0.07	1.5	<0.1	<0.05	4	<0.5	<0.2



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Method	Analyte	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
		Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P
Unit		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%
MDL		0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.1	0.5	0.1	1	0.1	0.1	0.1	2	0.01	0.001
147498	Soil	29.0	152.9	8.0	8	2.2	5.1	1.9	43	3.62	2.5	0.3	8.4	0.4	7	<0.1	0.2	1.4	121	0.13	0.046
147499	Soil	42.2	320.3	6.0	10	0.7	8.7	2.3	52	3.64	1.8	0.4	3.9	0.3	6	<0.1	0.2	0.5	107	0.13	0.052
147500	Soil	3.1	74.3	4.8	6	0.4	5.5	1.7	30	2.66	1.2	0.1	3.8	0.3	4	<0.1	0.3	0.5	145	0.09	0.024



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CERTIFICATE OF ANALYSIS

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Method	Analyte	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
		La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Hg	Sc	Tl	S	Ga	Se	Te
Unit		ppm	ppm	%	ppm	%	ppm	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	
MDL		1	1	0.01	1	0.001	1	0.01	0.001	0.01	0.1	0.01	0.1	0.05	1	0.5	0.2	
147498	Soil	3	16	0.13	8	0.241	3	1.15	0.019	0.04	0.7	0.22	2.0	<0.1	0.05	13	1.5	<0.2
147499	Soil	3	23	0.19	8	0.196	3	2.65	0.014	0.02	1.4	0.25	2.8	<0.1	0.07	14	2.5	<0.2
147500	Soil	2	11	0.09	5	0.295	2	0.94	0.012	0.02	0.3	0.08	1.4	<0.1	<0.05	13	0.6	<0.2



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QUALITY CONTROL REPORT

VAN21003941.1

Method	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
Analyte	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	
Unit	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%	
MDL	0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.1	0.5	0.1	1	0.1	0.1	0.1	2	0.01	0.001	
Pulp Duplicates																					
50429	Soil	0.6	28.8	5.8	11	1.0	8.3	2.4	78	2.40	2.2	0.2	0.6	0.4	9	<0.1	0.6	0.4	128	0.16	0.038
REP 50429	QC	0.6	26.1	5.9	11	1.0	8.1	2.3	76	2.32	2.2	0.2	0.5	0.4	8	<0.1	0.6	0.4	126	0.15	0.037
147165	Soil	7.0	984.2	3.1	15	2.3	15.1	5.7	148	4.30	1.2	0.4	11.2	0.4	9	<0.1	0.1	1.8	132	0.18	0.048
REP 147165	QC	7.4	1015.7	3.2	16	2.4	15.6	5.9	154	4.56	1.4	0.4	13.1	0.5	9	<0.1	0.2	1.9	136	0.19	0.050
147376	Soil	0.5	53.0	4.5	14	0.6	15.3	5.8	477	5.18	1.9	0.3	2.1	0.2	11	<0.1	0.4	0.3	167	0.27	0.077
REP 147376	QC	0.5	53.3	4.7	14	0.6	15.5	5.8	487	5.36	1.8	0.3	2.7	0.3	11	<0.1	0.4	0.3	170	0.27	0.081
147412	Soil	5.7	320.7	4.2	9	1.1	9.1	2.2	43	4.50	1.3	0.3	7.8	0.5	5	<0.1	0.2	1.6	143	0.10	0.053
REP 147412	QC	5.9	322.9	4.4	9	1.1	9.1	2.2	43	4.45	1.2	0.3	11.8	0.5	5	<0.1	0.2	1.6	145	0.10	0.053
147447	Soil	6.8	962.6	2.9	18	0.6	20.2	6.1	88	3.83	1.7	0.4	5.9	0.6	7	<0.1	0.2	1.4	125	0.16	0.051
REP 147447	QC	6.7	959.4	3.0	18	0.7	20.0	5.9	86	3.75	1.8	0.4	6.6	0.6	7	<0.1	0.1	1.4	123	0.16	0.050
147483	Soil	2.4	146.7	3.0	12	0.4	16.6	4.3	68	6.43	3.2	0.3	6.0	0.6	5	<0.1	0.4	0.8	254	0.15	0.034
REP 147483	QC	1.6	144.0	3.0	12	0.4	17.0	4.5	72	6.54	3.6	0.3	10.5	0.6	5	<0.1	0.4	0.8	261	0.16	0.036
Reference Materials																					
STD DS11	Standard	14.0	144.3	129.4	332	1.7	79.2	14.0	1025	3.09	42.0	2.4	70.2	7.2	65	2.3	8.2	11.4	50	1.03	0.068
STD DS11	Standard	14.4	141.0	129.8	335	1.8	79.5	13.4	994	3.03	42.1	2.4	77.7	7.2	65	2.2	8.0	11.0	50	1.01	0.066
STD DS11	Standard	14.6	149.8	132.6	345	1.8	81.4	14.2	1038	3.23	43.8	2.5	74.6	7.4	67	2.3	8.8	11.2	51	1.05	0.072
STD DS11	Standard	13.7	147.8	123.7	317	1.6	77.0	12.9	984	3.02	39.5	2.3	74.1	7.1	62	2.2	8.5	10.3	49	0.99	0.064
STD DS11	Standard	14.0	145.6	127.8	323	1.7	76.5	13.7	993	3.05	39.9	2.3	60.6	7.1	66	2.2	8.1	10.5	50	1.02	0.066
STD DS11	Standard	14.3	144.4	127.0	338	1.7	78.9	13.9	1012	3.16	42.6	2.4	60.8	7.2	67	2.2	8.7	10.9	50	1.05	0.070
STD OREAS262	Standard	0.7	116.5	52.8	153	0.5	65.7	28.6	545	3.38	35.6	1.1	66.5	8.8	35	0.7	5.4	0.9	23	3.03	0.040
STD OREAS262	Standard	0.7	117.7	54.2	151	0.5	63.9	27.9	544	3.41	35.5	1.1	60.1	9.0	35	0.6	5.0	0.9	24	3.03	0.039
STD OREAS262	Standard	0.7	118.6	55.1	155	0.5	64.4	29.0	546	3.47	37.4	1.2	66.7	9.1	37	0.6	5.7	0.9	24	2.96	0.042
STD OREAS262	Standard	0.7	114.3	52.2	142	0.5	58.1	26.7	521	3.20	32.4	1.1	68.8	8.5	33	0.6	5.8	0.9	22	2.83	0.036
STD OREAS262	Standard	0.6	116.4	54.1	145	0.4	62.2	27.8	531	3.32	33.8	1.1	60.1	8.7	35	0.6	4.9	0.9	23	2.93	0.038
STD OREAS262	Standard	0.7	112.8	55.0	154	0.5	64.1	27.6	540	3.35	35.7	1.2	70.1	9.3	34	0.6	6.1	1.0	23	3.02	0.040
STD DS11 Expected		14.6	149	138	345	1.71	77.7	14.2	1055	3.1	42.8	2.59	79	7.65	67.3	2.37	8.74	12.2	50	1.063	0.0701
STD OREAS262 Expected		0.68	118	56	154	0.45	62	26.9	530	3.284	35.8	1.22	65	9.33	36	0.61	5.06	1.03	22.5	2.98	0.04
BLK	Blank	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<1	<0.01	<0.5	<0.1	<0.5	<0.1	<1	<0.1	<0.1	<0.1	<2	<0.01	<0.001



Bureau Veritas Commodities Canada Ltd.

9050 Shaughnessy St Vancouver British Columbia V6P 6E5 Canada

PHONE (604) 253-3158

Project: CATFACE
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QUALITY CONTROL REPORT

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Method	Analyte	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
		La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Hg	Sc	Tl	S	Ga	Se	Te
Unit		ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm
MDL		1	1	0.01	1	0.001	1	0.01	0.001	0.01	0.1	0.01	0.1	0.05	1	0.5	0.2	
Pulp Duplicates																		
50429	Soil	2	34	0.16	7	0.184	2	1.30	0.014	0.02	<0.1	0.13	2.2	<0.1	<0.05	8	0.5	<0.2
REP 50429	QC	2	33	0.16	7	0.188	2	1.26	0.014	0.02	<0.1	0.13	2.1	<0.1	<0.05	8	0.6	<0.2
147165	Soil	3	41	0.35	15	0.227	4	4.22	0.021	0.02	1.2	0.22	5.2	<0.1	0.05	14	2.2	<0.2
REP 147165	QC	3	44	0.36	15	0.241	4	4.33	0.021	0.02	1.3	0.21	5.3	<0.1	0.05	15	2.5	<0.2
147376	Soil	2	51	0.32	7	0.350	3	1.67	0.020	0.02	<0.1	0.32	3.9	<0.1	0.07	12	2.0	<0.2
REP 147376	QC	2	52	0.32	7	0.366	3	1.69	0.021	0.03	<0.1	0.33	3.9	<0.1	0.07	12	2.1	<0.2
147412	Soil	3	25	0.12	5	0.268	3	2.47	0.012	0.02	0.9	0.13	3.0	<0.1	0.05	17	1.8	<0.2
REP 147412	QC	3	26	0.12	5	0.277	3	2.49	0.012	0.02	1.1	0.16	3.0	<0.1	<0.05	18	1.9	0.2
147447	Soil	3	41	0.38	15	0.238	2	4.59	0.017	0.02	0.9	0.13	5.8	<0.1	<0.05	13	2.2	<0.2
REP 147447	QC	3	41	0.37	16	0.234	2	4.61	0.016	0.02	0.8	0.13	5.7	<0.1	<0.05	13	2.1	<0.2
147483	Soil	2	43	0.27	7	0.391	2	3.29	0.017	0.02	0.2	0.14	4.3	<0.1	0.06	18	1.7	<0.2
REP 147483	QC	2	45	0.27	7	0.423	2	3.39	0.018	0.02	0.2	0.16	4.5	<0.1	0.06	18	1.8	<0.2
Reference Materials																		
STD DS11	Standard	16	58	0.85	344	0.089	7	1.11	0.070	0.38	3.0	0.25	3.1	4.8	0.29	5	2.3	4.7
STD DS11	Standard	18	57	0.84	350	0.089	7	1.14	0.073	0.38	3.0	0.27	3.1	4.9	0.29	5	2.3	4.6
STD DS11	Standard	17	59	0.86	355	0.093	7	1.17	0.075	0.40	3.1	0.27	3.2	5.1	0.30	5	2.4	4.8
STD DS11	Standard	16	57	0.80	325	0.086	6	1.09	0.067	0.36	2.6	0.25	2.9	4.2	0.26	4	2.1	4.4
STD DS11	Standard	17	58	0.82	337	0.089	6	1.13	0.071	0.38	2.6	0.25	3.1	4.4	0.27	5	2.2	4.5
STD DS11	Standard	17	60	0.84	346	0.092	8	1.17	0.073	0.40	2.9	0.25	3.2	4.8	0.30	5	2.3	4.8
STD OREAS262	Standard	16	44	1.22	236	0.003	4	1.30	0.068	0.30	0.2	0.15	3.2	0.4	0.29	4	0.6	0.3
STD OREAS262	Standard	16	44	1.23	236	0.003	4	1.38	0.068	0.31	0.2	0.17	3.3	0.5	0.28	4	0.6	0.2
STD OREAS262	Standard	16	43	1.22	238	0.003	5	1.32	0.070	0.32	0.2	0.17	3.3	0.5	0.30	4	0.6	0.2
STD OREAS262	Standard	14	41	1.13	228	0.002	4	1.20	0.062	0.28	0.2	0.16	2.9	0.4	0.25	3	<0.5	0.2
STD OREAS262	Standard	15	44	1.16	232	0.002	4	1.32	0.066	0.30	0.2	0.14	3.1	0.4	0.26	4	<0.5	0.2
STD OREAS262	Standard	17	43	1.21	243	0.003	4	1.32	0.068	0.31	0.2	0.15	3.2	0.5	0.29	4	0.5	0.3
STD DS11 Expected		18.6	61.5	0.85	385	0.0976		1.1795	0.0762	0.4	2.9	0.26	3.4	4.9	0.2835	5.1	2.2	4.56
STD OREAS262 Expected		15.9	41.7	1.17	248	0.0027	4	1.3	0.071	0.312	0.2	0.17	3.24	0.47	0.253	4.1	0.4	0.23
BLK	Blank	<1	<1	<0.01	<1	<0.001	<1	<0.01	<0.001	<0.01	<0.1	<0.01	<0.1	<0.1	<0.05	<1	<0.5	<0.2



Bureau Veritas Commodities Canada Ltd.
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Client: Catface Copper Mines Limited
200 - 580 Hornby Street
Vancouver British Columbia V6C 3B6 Canada

Project: CATFACE
Report Date: March 09, 2022

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QUALITY CONTROL REPORT

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		AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
		Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P
		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%
		0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.1	0.5	0.1	1	0.1	0.1	0.1	2	0.01	0.001
BLK	Blank	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<1	<0.01	<0.5	<0.1	<0.5	<0.1	<1	<0.1	<0.1	<0.1	<2	<0.01	<0.001
BLK	Blank	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<1	<0.01	<0.5	<0.1	<0.5	<0.1	<1	<0.1	<0.1	<0.1	<2	<0.01	<0.001
BLK	Blank	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<1	<0.01	<0.5	<0.1	<0.5	<0.1	<1	<0.1	<0.1	<0.1	<2	<0.01	<0.001
BLK	Blank	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<1	<0.01	<0.5	<0.1	<0.5	<0.1	<1	<0.1	<0.1	<0.1	<2	<0.01	<0.001
BLK	Blank	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<1	<0.01	<0.5	<0.1	<0.5	<0.1	<1	<0.1	<0.1	<0.1	<2	<0.01	<0.001



Bureau Veritas Commodities Canada Ltd.

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Client: Catface Copper Mines Limited
200 - 580 Hornby Street
Vancouver British Columbia V6C 3B6 Canada

Project: CATFACE
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QUALITY CONTROL REPORT

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		AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
		La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Hg	Sc	Tl	S	Ga	Se	Te
		ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm
		1	1	0.01	1	0.001	1	0.01	0.001	0.01	0.1	0.01	0.1	0.1	0.05	1	0.5	0.2
BLK	Blank	<1	<1	<0.01	<1	<0.001	<1	<0.01	<0.001	<0.01	<0.1	<0.01	<0.1	<0.1	<0.05	<1	<0.5	<0.2
BLK	Blank	<1	<1	<0.01	<1	<0.001	<1	<0.01	<0.001	<0.01	<0.1	<0.01	<0.1	<0.1	<0.05	<1	<0.5	<0.2
BLK	Blank	<1	<1	<0.01	<1	<0.001	<1	<0.01	<0.001	<0.01	<0.1	<0.01	<0.1	<0.1	<0.05	<1	<0.5	<0.2
BLK	Blank	<1	<1	<0.01	<1	<0.001	<1	<0.01	<0.001	<0.01	<0.1	<0.01	<0.1	<0.1	<0.05	<1	<0.5	<0.2
BLK	Blank	<1	<1	<0.01	<1	<0.001	<1	<0.01	<0.001	<0.01	<0.1	<0.01	<0.1	<0.1	<0.05	<1	<0.5	<0.2



Bureau Veritas Commodities Canada Ltd.
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Client: **Catface Copper Mines Limited**
200 - 580 Hornby Street
Vancouver British Columbia V6C 3B6 Canada

Submitted By: Melissa Darney
Receiving Lab: Canada-Vancouver
Received: November 01, 2021
Analysis Start: December 09, 2021
Report Date: March 09, 2022
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CERTIFICATE OF ANALYSIS

VAN21003942.1

CLIENT JOB INFORMATION

Project: CATFACE
Shipment ID: CCML2021-01
P.O. Number
Number of Samples: 98

SAMPLE PREPARATION AND ANALYTICAL PROCEDURES

Procedure Code	Number of Samples	Code Description	Test Wgt (g)	Report Status	Lab
SS80	98	Dry at 60C sieve 100g to -80 mesh			VAN
AQ201	98	1:1:1 Aqua Regia digestion ICP-MS analysis	15	Completed	VAN

SAMPLE DISPOSAL

DISP-PLP Dispose of Pulp After 90 days
DISP-RJT-SOIL Immediate Disposal of Soil Reject

ADDITIONAL COMMENTS

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

Invoice To: Catface Copper Mines Limited
200 - 580 Hornby Street
Vancouver British Columbia V6C 3B6
Canada

CC: Jim Miller-Tait
Erik Andersen
Peter Baldazzi
Derek Saxton


KERRY JAY
Geochem Project Specialist

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



Bureau Veritas Commodities Canada Ltd.

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Project: CATFACE
Report Date: March 09, 2022

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CERTIFICATE OF ANALYSIS

VAN21003942.1

Method Analyte Unit MDL	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%
	0.1	0.1	0.1	1	0.1	0.1	0.1	0.1	1	0.01	0.5	0.1	0.5	0.1	1	0.1	0.1	2	0.01	0.001	
186501	Soil	13.4	217.4	4.7	10	0.4	10.9	2.2	46	2.48	0.9	0.4	5.3	0.3	6	<0.1	0.2	0.6	137	0.12	0.028
186502	Soil	23.3	502.6	2.7	15	0.6	15.5	3.8	65	3.37	2.0	0.3	5.9	0.6	7	<0.1	0.2	0.5	107	0.17	0.041
186503	Soil	40.3	133.8	6.4	11	0.5	6.1	2.6	94	1.45	0.5	0.3	9.4	0.1	10	<0.1	<0.1	1.1	78	0.20	0.042
186504	Soil	24.8	59.1	6.6	6	0.4	5.0	1.3	38	0.80	<0.5	0.2	23.4	0.1	9	<0.1	0.1	2.0	75	0.16	0.030
186505	Soil	81.8	857.7	5.4	16	0.8	11.2	5.7	111	2.30	0.6	0.4	9.9	0.3	13	<0.1	0.1	1.1	111	0.21	0.025
186506	Soil	19.2	1812.1	2.8	26	1.2	24.2	7.0	96	4.12	2.7	0.4	16.1	0.6	7	<0.1	0.1	1.0	127	0.15	0.033
186507	Soil	41.4	1275.3	5.7	38	1.5	26.5	12.3	234	3.44	1.6	0.5	10.0	0.3	25	0.3	0.1	0.7	106	0.21	0.055
186526	Soil	1.0	306.5	2.1	21	0.3	29.7	6.7	115	4.97	3.5	0.2	28.3	0.4	7	<0.1	0.3	0.5	163	0.19	0.035
186527	Soil	2.5	401.4	2.4	21	0.6	30.3	6.2	112	5.64	4.3	0.3	3.6	0.7	7	<0.1	0.3	0.6	177	0.19	0.043
186528	Soil	2.3	673.8	3.0	61	0.5	50.3	90.7	1269	3.77	3.7	0.2	5.6	0.3	284	0.1	0.2	0.4	94	0.29	0.071
186529	Soil	2.4	176.9	2.9	12	0.4	18.2	3.7	69	5.39	2.7	0.3	4.2	0.6	5	<0.1	0.3	0.6	209	0.15	0.033
186530	Soil	17.6	1295.5	5.5	40	0.6	33.4	17.9	221	3.74	3.0	0.2	8.7	0.4	37	0.1	0.3	0.9	98	0.34	0.064
186531	Soil	31.7	651.9	2.6	18	0.3	20.3	4.8	87	3.71	1.7	0.3	5.4	0.5	11	<0.1	0.2	0.6	111	0.22	0.028
186532	Soil	40.9	554.6	3.4	17	0.4	16.8	3.9	70	4.81	2.2	0.3	5.2	0.8	6	<0.1	0.2	0.6	141	0.17	0.028
186533	Soil	68.0	301.6	4.9	15	0.4	11.1	3.2	87	4.80	1.7	0.3	4.3	0.3	6	<0.1	0.2	0.5	173	0.16	0.044
186534	Soil	137.9	748.2	4.8	16	0.6	14.2	5.3	75	5.07	2.1	0.3	5.8	0.7	7	<0.1	0.2	0.6	151	0.16	0.035
186535	Soil	10.7	204.2	4.2	8	0.7	7.8	2.0	44	3.01	0.7	0.3	10.2	0.3	17	0.1	0.2	0.5	111	0.31	0.047
186536	Soil	30.6	1507.9	4.4	18	1.7	15.0	4.6	81	3.72	1.6	0.4	31.2	0.3	18	<0.1	0.2	0.9	125	0.20	0.045
186537	Soil	11.6	1035.7	4.1	19	2.9	16.2	3.8	78	4.84	1.5	0.5	17.2	0.7	6	<0.1	0.2	0.8	143	0.14	0.033
186538	Soil	2.1	629.0	4.6	18	1.0	13.9	36.9	595	2.61	0.8	0.2	4.5	<0.1	18	0.2	0.2	0.5	62	0.25	0.072
186539	Soil	3.7	1166.5	6.0	25	1.0	23.9	21.7	331	4.00	2.7	0.2	13.2	0.2	27	<0.1	0.2	1.8	104	0.38	0.067
186540	Soil	2.2	232.0	4.0	12	1.8	9.5	3.5	82	3.31	1.0	0.3	2.6	0.1	9	<0.1	0.2	0.6	104	0.18	0.071
186541	Soil	1.3	147.7	3.0	11	0.5	8.0	2.7	99	3.06	0.7	0.2	13.4	0.3	8	<0.1	0.1	0.3	92	0.22	0.055
186542	Soil	2.9	927.7	3.9	22	0.7	21.6	10.8	347	3.77	1.4	0.3	9.3	0.5	10	<0.1	0.2	1.7	123	0.28	0.057
186551	Soil	6.6	605.9	5.2	15	1.0	15.2	4.5	75	3.59	1.7	0.2	12.5	0.5	6	<0.1	0.2	1.0	135	0.16	0.039
186552	Soil	15.5	513.5	3.2	13	0.5	14.0	4.5	70	5.31	1.8	0.3	8.7	0.5	9	<0.1	0.2	0.7	178	0.22	0.032
186553	Soil	9.2	136.5	7.9	6	1.6	5.6	1.0	24	0.78	<0.5	0.4	12.1	0.1	7	<0.1	0.1	1.5	93	0.09	0.042
186554	Soil	10.1	260.1	4.5	23	0.6	19.9	13.6	373	2.34	0.6	0.2	8.1	0.2	39	0.1	<0.1	1.0	96	0.47	0.036
186555	Soil	15.4	548.3	5.2	13	1.7	10.7	6.9	163	1.63	<0.5	0.3	4.4	<0.1	15	<0.1	0.1	1.0	60	0.19	0.068
186556	Soil	42.3	217.0	4.6	12	0.4	7.7	4.1	117	2.57	<0.5	0.2	5.9	0.4	23	<0.1	0.1	0.6	104	0.29	0.022



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Method	Analyte	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
		La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Hg	Sc	TI	S	Ga	Se	Te
Unit		ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm
MDL		1	1	0.01	1	0.001	1	0.01	0.001	0.01	0.01	0.1	0.01	0.05	1	0.5	0.2	
186501	Soil	3	22	0.19	12	0.270	2	2.23	0.013	0.02	0.3	0.13	2.6	<0.1	<0.05	15	1.6	<0.2
186502	Soil	3	29	0.32	15	0.257	2	3.89	0.017	0.02	2.1	0.20	4.8	<0.1	0.05	13	2.0	<0.2
186503	Soil	2	18	0.25	8	0.169	2	1.07	0.018	0.03	0.7	0.14	2.5	<0.1	<0.05	12	0.7	<0.2
186504	Soil	2	18	0.12	6	0.192	2	0.69	0.014	0.02	0.2	0.10	2.1	<0.1	<0.05	12	<0.5	<0.2
186505	Soil	4	24	0.27	9	0.229	2	1.58	0.018	0.03	1.0	0.08	2.7	<0.1	<0.05	14	0.8	<0.2
186506	Soil	2	45	0.49	15	0.270	1	4.52	0.015	0.02	2.3	0.12	5.1	<0.1	<0.05	13	2.0	0.4
186507	Soil	3	52	0.50	20	0.171	2	3.78	0.018	0.04	1.3	0.16	4.0	<0.1	0.06	14	2.2	<0.2
186526	Soil	2	39	0.51	36	0.284	2	3.31	0.022	0.03	0.2	0.10	5.2	<0.1	<0.05	12	1.6	<0.2
186527	Soil	3	52	0.44	37	0.353	2	5.26	0.022	0.03	0.2	0.20	8.2	<0.1	0.06	15	2.5	<0.2
186528	Soil	2	42	0.55	164	0.155	2	5.66	0.029	0.08	0.4	0.14	5.6	0.2	<0.05	10	1.5	<0.2
186529	Soil	2	40	0.22	14	0.374	2	3.37	0.016	0.02	0.2	0.12	5.2	<0.1	<0.05	17	1.4	<0.2
186530	Soil	3	32	0.56	48	0.197	2	4.92	0.031	0.06	3.0	0.08	5.6	0.1	<0.05	10	1.9	0.4
186531	Soil	3	30	0.40	29	0.282	2	4.26	0.022	0.03	1.4	0.10	5.0	<0.1	<0.05	13	1.9	0.2
186532	Soil	3	34	0.33	15	0.346	2	4.01	0.018	0.02	1.3	0.09	4.4	<0.1	<0.05	17	2.0	0.2
186533	Soil	3	25	0.24	11	0.260	2	2.39	0.017	0.02	1.0	0.13	3.0	<0.1	<0.05	17	2.0	<0.2
186534	Soil	2	32	0.29	12	0.342	2	3.79	0.018	0.02	1.9	0.10	3.8	<0.1	<0.05	18	1.7	<0.2
186535	Soil	3	23	0.13	7	0.255	3	2.00	0.018	0.03	0.2	0.21	2.8	<0.1	0.06	14	1.2	<0.2
186536	Soil	3	31	0.34	15	0.219	3	2.65	0.018	0.03	1.6	0.13	3.4	<0.1	<0.05	14	1.9	0.3
186537	Soil	3	44	0.28	9	0.286	2	3.82	0.015	0.02	0.7	0.15	5.4	<0.1	<0.05	17	1.6	0.2
186538	Soil	3	22	0.32	15	0.090	4	2.96	0.022	0.03	1.3	0.22	2.8	0.1	0.08	7	3.1	<0.2
186539	Soil	2	35	0.60	29	0.150	3	3.45	0.028	0.05	1.2	0.20	5.7	<0.1	0.06	10	1.7	0.7
186540	Soil	3	23	0.21	9	0.136	4	2.05	0.021	0.03	0.9	0.24	2.5	<0.1	0.08	12	2.0	<0.2
186541	Soil	2	31	0.23	6	0.161	2	3.34	0.024	0.02	0.7	0.23	4.0	<0.1	0.06	11	2.2	<0.2
186542	Soil	3	38	0.51	21	0.226	2	3.37	0.027	0.07	1.2	0.12	6.0	<0.1	<0.05	12	1.4	0.2
186551	Soil	3	34	0.27	9	0.259	2	2.72	0.015	0.02	1.5	0.10	3.8	<0.1	<0.05	13	1.0	0.3
186552	Soil	2	51	0.35	10	0.326	2	2.57	0.018	0.02	1.3	0.15	3.9	<0.1	<0.05	19	1.6	0.2
186553	Soil	3	29	0.08	7	0.161	2	1.19	0.011	0.02	0.4	0.17	2.7	<0.1	<0.05	14	0.6	<0.2
186554	Soil	2	45	0.70	25	0.226	2	1.65	0.060	0.08	1.1	0.08	3.2	<0.1	<0.05	10	0.7	<0.2
186555	Soil	3	22	0.24	16	0.124	4	2.63	0.020	0.04	0.9	0.23	2.2	<0.1	0.09	9	2.8	<0.2
186556	Soil	3	19	0.31	22	0.319	1	1.42	0.034	0.03	0.3	0.07	3.1	<0.1	<0.05	15	0.6	<0.2



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Method Analyte	Unit	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
		Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P
MDL		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%
		0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.1	0.5	0.1	1	0.1	0.1	2	0.01	0.001	
186557	Soil	10.3	370.7	3.7	9	0.9	7.1	2.3	56	2.98	0.7	0.2	6.1	0.2	9	<0.1	0.2	0.6	85	0.15	0.048
186558	Soil	24.9	281.8	3.6	9	1.2	6.9	2.5	65	4.59	0.7	0.3	6.9	0.3	11	<0.1	0.1	0.9	125	0.20	0.034
186559	Soil	35.4	158.4	2.8	11	0.3	7.3	3.4	96	2.63	0.8	0.2	12.8	0.2	8	<0.1	<0.1	0.9	93	0.24	0.027
186560	Soil	27.5	96.0	7.0	5	0.5	4.2	0.9	28	0.85	<0.5	0.2	34.2	0.1	11	<0.1	0.2	1.5	98	0.10	0.027
186561	Soil	17.5	107.2	11.1	12	0.4	5.2	1.6	45	1.38	0.9	0.1	3.9	0.1	21	0.1	0.2	0.3	103	0.35	0.038
186562	Soil	111.9	903.2	7.0	11	5.3	7.6	2.4	48	2.81	20.3	0.7	9.2	<0.1	16	0.2	0.1	0.7	117	0.15	0.064
186563	Soil	77.8	520.1	7.4	30	0.7	16.4	8.1	140	5.06	1.9	0.2	11.9	0.5	18	0.2	0.2	0.9	210	0.22	0.025
186564	Soil	0.9	143.3	4.9	20	0.3	23.8	5.4	209	5.71	3.0	0.4	3.5	0.7	7	<0.1	0.7	1.0	225	0.15	0.063
186565	Soil	0.8	249.6	4.4	31	0.3	41.3	12.9	395	5.89	4.3	0.4	3.7	0.8	6	<0.1	0.7	0.8	201	0.14	0.076
186566	Soil	1.4	194.9	2.4	26	0.2	29.4	28.3	665	6.08	3.8	0.3	2.4	0.5	9	<0.1	0.7	0.8	163	0.12	0.084
186567	Soil	0.8	123.3	2.9	14	0.5	22.0	5.4	141	5.64	1.9	0.2	2.5	0.2	8	<0.1	0.5	0.4	206	0.15	0.057
186568	Soil	1.0	105.4	3.8	17	0.6	24.5	5.5	256	6.11	2.4	0.2	2.5	0.2	12	<0.1	0.5	0.5	221	0.20	0.067
186569	Soil	0.9	241.0	2.2	28	0.2	34.0	7.4	182	6.74	2.0	0.3	3.0	0.5	7	<0.1	0.4	0.7	198	0.17	0.081
186570	Soil	1.0	197.1	3.7	24	0.5	26.9	5.9	119	8.04	1.9	0.3	2.2	0.6	5	<0.1	0.4	0.8	293	0.14	0.064
186571	Soil	1.2	145.8	3.5	16	1.2	22.4	4.5	68	6.07	1.4	0.3	1.8	0.3	7	<0.1	0.3	0.7	189	0.13	0.063
186572	Soil	1.4	239.0	3.2	18	0.9	29.1	6.1	76	6.03	1.5	0.4	3.9	0.3	7	<0.1	0.3	0.7	169	0.12	0.080
186573	Soil	0.8	400.4	2.2	71	0.1	55.5	15.2	183	6.94	1.9	0.3	1.9	0.5	10	<0.1	0.2	0.5	205	0.19	0.059
186574	Soil	0.8	198.1	2.7	25	0.2	35.2	8.7	106	6.94	1.6	0.2	0.7	0.5	6	<0.1	0.2	0.4	238	0.18	0.056
186575	Soil	1.1	287.4	2.1	26	0.4	31.9	8.0	100	5.18	2.7	0.2	4.9	0.5	10	<0.1	0.2	0.7	160	0.18	0.047
186576	Soil	0.7	120.1	2.6	18	0.4	24.7	3.9	113	6.38	2.1	0.2	2.0	0.5	7	<0.1	0.4	0.8	202	0.14	0.182
186577	Soil	0.8	137.5	2.7	17	0.5	24.3	6.0	114	7.33	2.8	0.3	1.5	0.4	6	<0.1	0.4	0.4	223	0.18	0.061
186578	Soil	1.9	219.8	3.2	19	0.4	28.1	5.2	81	7.33	3.2	0.3	3.0	0.5	11	<0.1	0.4	0.6	197	0.14	0.065
186579	Soil	2.4	160.8	3.1	11	0.4	16.5	4.1	78	8.31	3.0	0.3	3.0	0.5	6	<0.1	0.4	0.8	244	0.13	0.062
186580	Soil	1.4	159.1	3.3	18	0.2	28.6	6.0	116	6.74	7.2	0.3	4.6	0.5	7	<0.1	0.4	1.1	235	0.18	0.045
186581	Soil	0.8	32.7	5.5	10	0.4	9.3	2.8	106	3.34	3.7	0.2	3.6	0.2	6	<0.1	0.3	0.5	217	0.27	0.041
186582	Soil	1.5	268.4	3.6	20	0.3	24.9	6.3	106	6.16	5.0	0.3	5.5	0.5	11	<0.1	0.3	0.9	203	0.21	0.060
186583	Soil	1.9	205.0	3.4	13	0.5	15.8	3.5	62	6.34	4.4	0.3	5.8	0.4	6	<0.1	0.3	1.5	204	0.15	0.055
186584	Soil	3.8	398.1	3.0	19	0.7	22.0	5.2	87	6.44	3.8	0.4	7.7	0.7	6	<0.1	0.3	0.9	185	0.17	0.046
186585	Soil	1.6	178.9	3.2	15	0.5	21.9	5.0	86	5.90	2.3	0.3	2.9	0.5	6	<0.1	0.3	0.7	183	0.19	0.034
186586	Soil	2.8	206.3	4.7	15	0.4	21.4	5.0	75	6.90	2.7	0.4	3.7	0.6	6	<0.1	0.3	0.7	191	0.15	0.045



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Method	Analyte	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
		La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Hg	Sc	Tl	S	Ga	Se	Te
Unit		ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	%	ppm	ppm	ppm	
MDL		1	1	0.01	1	0.001	1	0.01	0.001	0.01	0.1	0.01	0.1	0.05	1	0.5	0.2	
186557	Soil	2	16	0.16	8	0.197	4	1.87	0.016	0.03	0.9	0.15	2.1	<0.1	0.07	10	2.0	<0.2
186558	Soil	2	20	0.23	8	0.248	3	1.83	0.023	0.03	0.6	0.14	2.6	<0.1	<0.05	14	1.9	<0.2
186559	Soil	2	14	0.36	8	0.196	3	1.50	0.028	0.03	0.5	0.09	2.7	<0.1	<0.05	13	1.1	<0.2
186560	Soil	3	24	0.08	6	0.205	2	0.81	0.012	0.02	0.4	0.11	2.0	<0.1	<0.05	12	<0.5	<0.2
186561	Soil	1	11	0.14	6	0.146	5	0.56	0.031	0.05	1.1	0.16	1.5	<0.1	0.06	7	0.7	<0.2
186562	Soil	4	29	0.14	10	0.094	3	2.37	0.015	0.04	2.4	0.28	2.9	<0.1	0.08	14	3.2	<0.2
186563	Soil	2	35	0.30	11	0.341	2	2.53	0.016	0.02	0.5	0.05	3.0	<0.1	<0.05	20	1.2	0.2
186564	Soil	3	62	0.46	12	0.331	3	4.08	0.016	0.03	<0.1	0.18	4.8	<0.1	0.06	16	1.5	0.2
186565	Soil	2	85	0.84	15	0.319	3	5.73	0.014	0.04	<0.1	0.21	6.2	<0.1	0.07	13	1.8	0.2
186566	Soil	3	46	0.76	55	0.197	3	6.25	0.015	0.04	<0.1	0.32	8.8	0.1	0.05	15	2.2	0.2
186567	Soil	1	39	0.35	14	0.202	3	2.72	0.017	0.03	<0.1	0.23	3.1	<0.1	<0.05	14	1.5	<0.2
186568	Soil	2	40	0.30	13	0.212	2	2.83	0.017	0.02	<0.1	0.19	3.1	<0.1	<0.05	15	1.5	<0.2
186569	Soil	2	59	0.62	20	0.254	2	6.05	0.019	0.03	0.1	0.19	7.1	<0.1	<0.05	16	2.6	<0.2
186570	Soil	2	60	0.45	14	0.295	2	5.00	0.016	0.02	<0.1	0.17	5.7	<0.1	<0.05	23	1.9	<0.2
186571	Soil	2	35	0.29	14	0.228	4	3.73	0.016	0.02	<0.1	0.19	3.6	<0.1	0.07	16	2.1	<0.2
186572	Soil	3	48	0.52	24	0.221	3	4.50	0.017	0.04	0.4	0.21	4.6	<0.1	0.07	16	2.9	<0.2
186573	Soil	2	82	1.35	47	0.216	2	7.00	0.024	0.04	0.4	0.12	7.9	0.1	<0.05	16	2.5	<0.2
186574	Soil	2	74	0.74	14	0.212	3	5.00	0.025	0.02	0.2	0.14	5.8	<0.1	0.05	17	1.9	<0.2
186575	Soil	2	57	0.61	17	0.259	2	5.12	0.022	0.03	0.4	0.17	6.4	<0.1	<0.05	13	2.1	<0.2
186576	Soil	2	53	0.32	15	0.286	2	4.14	0.014	0.02	<0.1	0.10	4.0	<0.1	<0.05	17	1.1	<0.2
186577	Soil	2	51	0.47	14	0.328	3	3.98	0.021	0.03	0.2	0.20	3.6	<0.1	<0.05	17	2.2	<0.2
186578	Soil	2	42	0.34	24	0.283	2	4.24	0.019	0.03	0.2	0.18	3.7	<0.1	<0.05	18	2.5	<0.2
186579	Soil	3	43	0.19	7	0.335	3	4.23	0.016	0.02	0.3	0.21	5.6	<0.1	0.06	22	2.9	<0.2
186580	Soil	2	43	0.46	22	0.383	2	3.92	0.021	0.03	0.1	0.09	4.8	<0.1	<0.05	22	1.7	<0.2
186581	Soil	2	25	0.26	6	0.236	3	1.04	0.032	0.03	0.2	0.13	3.4	<0.1	<0.05	15	0.7	<0.2
186582	Soil	3	53	0.51	16	0.294	3	4.44	0.026	0.03	0.8	0.19	6.4	<0.1	0.06	17	2.7	<0.2
186583	Soil	2	36	0.25	9	0.289	3	3.34	0.017	0.02	0.9	0.16	3.6	<0.1	<0.05	17	2.2	<0.2
186584	Soil	2	50	0.40	12	0.339	2	4.50	0.021	0.03	0.7	0.28	5.7	<0.1	0.06	17	2.8	<0.2
186585	Soil	2	40	0.43	13	0.292	2	2.94	0.022	0.02	0.3	0.16	4.2	<0.1	<0.05	14	2.2	<0.2
186586	Soil	2	44	0.35	13	0.298	3	3.82	0.017	0.02	0.3	0.24	4.8	<0.1	0.05	17	2.4	<0.2



Bureau Veritas Commodities Canada Ltd.

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Project: CATFACE
Report Date: March 09, 2022

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CERTIFICATE OF ANALYSIS

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Method Analyte Unit MDL	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%	
	0.1	0.1	0.1	1	0.1	0.1	0.1	0.1	1	0.01	0.5	0.1	0.5	0.1	ppm	1	0.1	0.1	2	0.01	0.001
186587	Soil	5.6	228.9	2.8	14	0.8	20.2	4.9	79	5.76	2.5	0.3	43.8	0.6	9	<0.1	0.3	0.7	191	0.17	0.036
186588	Soil	3.8	280.5	3.3	24	0.3	25.4	8.6	214	4.60	3.9	0.2	5.7	0.3	15	<0.1	0.3	0.9	135	0.28	0.048
186589	Soil	9.0	128.8	3.0	22	0.2	15.8	6.1	210	2.91	1.7	0.2	3.3	0.3	17	0.1	0.2	0.4	104	0.25	0.035
186590	Soil	10.6	257.4	2.3	21	0.2	24.8	6.4	112	4.62	3.9	0.3	4.2	0.4	16	<0.1	0.2	0.7	137	0.25	0.037
186591	Soil	8.4	355.0	2.6	14	0.2	18.7	4.2	71	3.45	3.2	0.3	3.7	0.5	8	<0.1	0.2	0.5	91	0.17	0.038
186592	Soil	9.0	399.2	3.5	18	0.3	21.7	4.6	80	4.10	3.1	0.2	3.7	0.5	12	<0.1	0.3	0.5	112	0.20	0.031
186593	Soil	47.0	395.0	3.5	12	0.9	9.2	3.3	72	2.47	2.7	0.3	3.3	0.1	16	<0.1	0.1	0.5	72	0.22	0.047
186594	Soil	134.3	809.4	3.1	14	0.6	12.6	10.2	305	2.63	1.2	0.3	3.5	0.2	13	<0.1	0.2	0.9	77	0.28	0.036
186595	Soil	87.0	1600.6	3.2	24	0.3	27.4	15.4	193	3.16	5.6	0.2	11.7	0.4	204	<0.1	0.2	1.0	95	0.51	0.053
186596	Soil	49.9	1180.0	3.8	17	0.9	11.3	19.3	761	1.32	2.6	0.3	2.2	<0.1	19	0.2	0.2	0.4	37	0.17	0.059
186597	Soil	14.8	788.0	4.1	13	1.8	10.1	10.8	196	2.59	0.6	0.2	3.1	0.1	12	0.2	0.2	0.4	69	0.20	0.060
186598	Soil	24.7	663.1	4.7	14	2.2	11.8	6.6	192	2.84	1.0	0.5	8.4	0.3	7	<0.1	0.2	1.2	108	0.14	0.050
186599	Soil	9.3	1105.9	3.4	22	0.3	21.4	6.7	143	4.32	2.5	0.4	14.0	0.9	7	<0.1	0.2	0.9	136	0.18	0.049
186600	Soil	6.4	460.9	4.4	12	1.1	11.9	3.2	65	3.54	1.2	0.5	8.2	0.3	6	<0.1	0.1	1.1	141	0.14	0.037
186601	Soil	0.6	141.3	5.6	28	0.2	25.4	6.8	180	5.67	3.2	0.4	3.1	0.6	6	<0.1	0.6	0.8	212	0.18	0.062
186602	Soil	1.1	198.7	3.1	26	<0.1	28.9	17.3	449	6.31	12.9	0.3	2.3	0.8	4	<0.1	0.4	0.9	185	0.08	0.083
186603	Soil	0.7	209.7	2.5	28	0.3	36.8	35.1	899	6.72	11.5	0.3	3.0	0.6	6	<0.1	0.3	0.7	216	0.09	0.088
186604	Soil	0.6	269.1	2.0	23	0.5	25.5	8.7	504	4.31	4.5	0.3	3.0	0.3	6	<0.1	0.2	0.5	125	0.16	0.061
186605	Soil	0.7	168.7	3.2	13	0.8	18.3	3.2	89	5.45	4.2	0.3	3.2	0.5	8	<0.1	0.4	0.5	182	0.14	0.056
186606	Soil	1.0	264.3	3.2	16	0.8	22.9	4.2	87	6.27	4.4	0.3	4.8	0.5	5	<0.1	0.4	0.6	195	0.11	0.063
186607	Soil	1.3	257.7	2.7	13	0.3	20.5	3.9	68	5.59	3.5	0.3	6.2	0.5	6	<0.1	0.3	0.6	168	0.11	0.041
186608	Soil	0.9	179.4	4.3	13	0.6	16.5	2.8	51	3.68	3.2	0.2	1.9	0.3	5	<0.1	0.3	0.4	127	0.12	0.054
186609	Soil	0.9	293.6	3.2	23	0.5	27.5	6.2	95	4.06	2.5	0.2	4.2	0.3	6	<0.1	0.2	0.4	133	0.17	0.044
186610	Soil	1.1	166.0	4.5	10	0.5	12.0	2.4	37	2.87	1.6	0.2	3.5	0.3	5	<0.1	0.3	0.6	85	0.10	0.037
186611	Soil	1.9	390.9	2.4	13	0.5	20.6	3.4	56	4.45	2.3	0.3	3.7	0.5	5	<0.1	0.2	0.3	129	0.14	0.049
186612	Soil	6.6	672.6	2.4	19	0.3	23.9	5.9	82	4.74	1.9	0.2	4.8	0.3	65	<0.1	0.2	0.4	106	0.21	0.044
186613	Soil	4.2	237.7	3.8	12	0.5	14.5	3.0	58	3.76	1.7	0.2	2.9	0.2	8	<0.1	0.2	0.5	128	0.17	0.039
186614	Soil	16.7	238.9	4.3	14	0.5	19.1	3.4	55	4.07	2.1	0.3	11.1	0.3	7	<0.1	0.2	0.6	137	0.15	0.035
186615	Soil	5.7	87.2	4.4	6	0.4	6.6	1.9	35	3.92	0.9	0.2	31.8	0.4	5	<0.1	0.3	0.5	203	0.11	0.026
186616	Soil	6.8	1024.6	1.6	29	0.6	33.7	17.1	221	3.97	2.5	0.2	6.5	0.4	32	<0.1	0.2	0.5	94	0.28	0.080

This report supersedes all previous preliminary and final reports with this file number dated prior to the date on this certificate. Signature indicates final approval; preliminary reports are unsigned and should be used for reference only.



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Project: CATFACE
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CERTIFICATE OF ANALYSIS

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Method	Analyte	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
		La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Hg	Sc	TI	S	Ga	Se	Te
Unit		ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm
MDL		1	1	0.01	1	0.001	1	0.01	0.001	0.01	0.01	0.01	0.01	0.05	1	0.5	0.2	
186587	Soil	3	45	0.36	13	0.335	2	3.76	0.019	0.02	0.4	0.15	5.2	<0.1	<0.05	17	2.5	<0.2
186588	Soil	2	37	0.64	25	0.281	3	2.97	0.029	0.10	0.6	0.15	4.4	0.1	<0.05	12	1.7	<0.2
186589	Soil	2	22	0.25	19	0.200	2	1.95	0.019	0.02	0.2	0.07	3.0	<0.1	<0.05	11	1.4	<0.2
186590	Soil	2	38	0.52	22	0.262	2	3.61	0.026	0.04	0.5	0.11	4.6	<0.1	<0.05	13	1.5	<0.2
186591	Soil	3	32	0.32	25	0.234	2	3.91	0.018	0.02	0.6	0.14	5.2	<0.1	<0.05	13	1.9	<0.2
186592	Soil	2	27	0.38	37	0.302	2	3.10	0.021	0.02	0.9	0.11	3.4	<0.1	<0.05	14	1.3	<0.2
186593	Soil	2	19	0.25	15	0.145	3	1.70	0.021	0.03	1.6	0.15	2.1	<0.1	0.06	8	1.8	<0.2
186594	Soil	3	19	0.24	14	0.209	2	2.21	0.018	0.02	1.4	0.10	2.6	<0.1	<0.05	11	2.6	<0.2
186595	Soil	2	26	0.50	295	0.179	1	4.07	0.045	0.07	3.2	0.07	3.8	0.1	<0.05	10	1.5	0.2
186596	Soil	2	15	0.17	21	0.064	3	2.27	0.015	0.02	2.4	0.17	1.4	<0.1	0.06	5	3.6	<0.2
186597	Soil	3	22	0.24	12	0.152	3	2.29	0.022	0.03	1.4	0.18	2.4	<0.1	0.06	9	2.8	<0.2
186598	Soil	3	31	0.24	11	0.184	3	3.10	0.016	0.03	1.2	0.20	3.0	<0.1	<0.05	15	2.6	<0.2
186599	Soil	3	56	0.49	12	0.286	3	5.58	0.018	0.03	3.3	0.19	7.8	<0.1	0.06	17	3.1	<0.2
186600	Soil	3	34	0.25	7	0.226	2	2.29	0.014	0.02	1.0	0.15	3.0	<0.1	<0.05	18	1.5	<0.2
186601	Soil	3	65	0.56	12	0.320	3	3.47	0.015	0.04	<0.1	0.19	5.0	<0.1	0.05	14	1.5	<0.2
186602	Soil	3	56	0.85	68	0.278	2	6.56	0.008	0.05	<0.1	0.09	9.1	0.1	<0.05	18	1.4	<0.2
186603	Soil	6	66	0.80	81	0.208	2	6.76	0.009	0.07	<0.1	0.15	18.1	0.2	<0.05	17	1.7	<0.2
186604	Soil	2	45	0.35	19	0.204	3	4.51	0.021	0.02	0.1	0.21	4.3	<0.1	<0.05	12	1.9	<0.2
186605	Soil	2	38	0.19	15	0.344	2	3.30	0.018	0.02	0.1	0.23	3.9	<0.1	<0.05	16	1.8	<0.2
186606	Soil	2	46	0.27	20	0.287	2	4.30	0.014	0.02	0.1	0.19	4.7	<0.1	0.05	16	2.1	<0.2
186607	Soil	2	36	0.24	19	0.309	2	3.61	0.014	0.02	0.1	0.12	4.2	<0.1	<0.05	17	1.5	<0.2
186608	Soil	2	25	0.16	14	0.239	3	2.76	0.013	0.02	0.3	0.17	3.2	<0.1	0.06	11	1.4	<0.2
186609	Soil	2	32	0.42	49	0.285	2	3.53	0.023	0.07	0.2	0.14	4.5	<0.1	<0.05	11	1.3	<0.2
186610	Soil	2	23	0.15	11	0.186	2	2.31	0.013	0.02	0.5	0.21	1.9	<0.1	<0.05	10	2.4	<0.2
186611	Soil	3	47	0.25	16	0.360	3	4.44	0.016	0.02	0.5	0.20	3.8	<0.1	0.06	12	2.5	<0.2
186612	Soil	2	34	0.52	62	0.224	2	4.04	0.022	0.03	0.8	0.14	4.0	<0.1	<0.05	12	2.2	<0.2
186613	Soil	2	22	0.22	14	0.268	3	2.23	0.018	0.02	0.4	0.12	2.6	<0.1	<0.05	13	2.1	<0.2
186614	Soil	2	25	0.23	17	0.304	2	2.69	0.016	0.03	0.4	0.13	2.9	<0.1	<0.05	15	2.1	<0.2
186615	Soil	2	18	0.11	6	0.375	2	1.12	0.013	0.02	0.2	0.08	2.0	<0.1	<0.05	18	0.6	<0.2
186616	Soil	3	33	0.58	61	0.213	1	5.84	0.028	0.08	2.6	0.06	6.3	0.1	<0.05	10	1.9	0.2



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Project: CATFACE
Report Date: March 09, 2022

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CERTIFICATE OF ANALYSIS

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	Method Analyte Unit MDL	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
		Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P
		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%
		0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.1	0.5	0.1	0.1	0.1	0.1	0.1	0.1	2	0.01
186617	Soil	7.0	120.4	6.0	9	0.9	7.2	2.1	42	2.67	1.2	0.2	3.4	0.2	6	<0.1	0.2	0.3	150	0.12	0.028
186618	Soil	1.5	173.0	5.5	14	0.7	9.7	2.4	47	1.54	1.4	<0.1	1.6	<0.1	15	<0.1	0.2	0.2	54	0.29	0.052
186619	Soil	20.6	336.9	5.1	14	1.0	15.1	3.2	59	2.04	0.6	0.3	17.1	0.3	13	<0.1	0.1	0.9	142	0.18	0.033
186620	Soil	31.6	1398.2	4.7	16	1.0	11.5	4.5	90	3.96	1.3	0.4	8.8	0.3	12	0.2	0.1	0.7	123	0.18	0.042
186621	Soil	17.0	4319.1	6.0	27	2.7	16.0	71.5	1149	4.04	1.4	0.4	4.6	0.2	27	0.5	0.2	0.7	123	0.26	0.067
186622	Soil	2.8	447.6	2.5	15	0.5	17.5	5.1	95	4.15	1.5	0.3	3.8	0.5	12	<0.1	0.2	0.7	151	0.23	0.043
186623	Soil	3.4	320.3	6.7	15	1.2	12.6	4.4	114	4.92	1.6	0.3	8.2	0.5	10	<0.1	0.2	0.8	155	0.20	0.058
186624	Soil	1.6	290.8	7.7	10	0.3	7.9	2.7	62	1.64	0.9	0.1	5.4	0.1	12	<0.1	0.2	1.2	92	0.25	0.042



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Project: CATFACE
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CERTIFICATE OF ANALYSIS

VAN21003942.1

Method	Analyte	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
		La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Hg	Sc	Tl	S	Ga	Se	Te
Unit		ppm	ppm	%	ppm	%	ppm	%	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm
MDL		1	1	0.01	1	0.001	1	0.01	0.001	0.01	0.1	0.01	0.1	0.05	1	0.5	0.2	
186617	Soil	2	14	0.12	7	0.252	3	0.98	0.015	0.02	0.6	0.13	1.8	<0.1	<0.05	11	1.2	<0.2
186618	Soil	1	14	0.14	9	0.104	4	1.09	0.019	0.05	1.8	0.22	1.6	<0.1	0.06	4	0.9	<0.2
186619	Soil	3	33	0.29	12	0.262	2	1.85	0.016	0.03	0.4	0.15	3.2	<0.1	<0.05	19	0.7	<0.2
186620	Soil	3	28	0.25	9	0.229	2	2.51	0.017	0.02	1.5	0.12	3.2	<0.1	<0.05	15	2.0	<0.2
186621	Soil	4	38	0.27	13	0.208	3	3.20	0.016	0.03	0.9	0.14	4.7	0.2	<0.05	13	2.1	<0.2
186622	Soil	2	44	0.36	13	0.303	2	3.87	0.028	0.02	1.1	0.12	5.1	<0.1	<0.05	13	2.1	0.3
186623	Soil	3	34	0.31	10	0.242	2	2.81	0.025	0.03	1.3	0.18	3.7	<0.1	<0.05	16	1.4	<0.2
186624	Soil	2	16	0.17	9	0.182	3	0.94	0.025	0.02	0.5	0.13	2.4	<0.1	<0.05	9	0.7	<0.2



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QUALITY CONTROL REPORT

VAN21003942.1

Method	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	
Analyte	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	
Unit	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm	%	%		
MDL	0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.1	0.5	0.1	1	0.1	0.1	0.1	2	0.01	0.001	
Pulp Duplicates																					
186503	Soil	40.3	133.8	6.4	11	0.5	6.1	2.6	94	1.45	0.5	0.3	9.4	0.1	10	<0.1	<0.1	1.1	78	0.20	0.042
REP 186503	QC	38.7	131.0	6.2	11	0.4	6.0	2.5	88	1.43	<0.5	0.3	7.8	0.1	10	<0.1	<0.1	1.1	76	0.20	0.040
186565	Soil	0.8	249.6	4.4	31	0.3	41.3	12.9	395	5.89	4.3	0.4	3.7	0.8	6	<0.1	0.7	0.8	201	0.14	0.076
REP 186565	QC	0.9	250.3	4.7	31	0.3	41.8	11.7	394	5.97	4.8	0.4	5.7	0.9	6	<0.1	0.7	0.9	204	0.14	0.077
186600	Soil	6.4	460.9	4.4	12	1.1	11.9	3.2	65	3.54	1.2	0.5	8.2	0.3	6	<0.1	0.1	1.1	141	0.14	0.037
REP 186600	QC	6.2	450.3	4.4	12	1.0	11.7	3.2	63	3.42	1.3	0.5	7.8	0.3	6	<0.1	0.1	1.1	136	0.14	0.036
Reference Materials																					
STD DS11	Standard	13.6	142.3	121.0	316	1.7	75.6	11.4	969	2.98	38.4	2.2	71.5	6.9	62	2.2	8.3	10.7	47	0.99	0.065
STD DS11	Standard	13.6	148.2	123.8	322	1.7	76.8	11.7	986	3.01	40.1	2.1	55.8	7.0	62	2.1	8.5	10.7	48	1.02	0.067
STD DS11	Standard	14.5	149.5	130.2	332	1.7	79.7	12.8	1021	3.17	40.7	2.3	81.7	7.6	68	2.2	8.4	11.2	51	1.04	0.069
STD OREAS262	Standard	0.7	120.7	53.8	143	0.4	60.0	27.3	526	3.25	33.2	1.1	69.4	8.7	34	0.6	5.9	0.9	23	2.92	0.038
STD OREAS262	Standard	0.7	114.5	50.8	143	0.5	58.8	26.9	520	3.22	33.3	1.0	64.8	8.2	34	0.6	5.8	0.8	22	2.87	0.038
STD OREAS262	Standard	0.7	118.7	54.4	143	0.5	63.1	28.3	539	3.37	34.0	1.1	59.4	8.9	35	0.6	5.1	0.9	23	2.95	0.040
STD DS11 Expected		14.6	149	138	345	1.71	77.7	14.2	1055	3.1	42.8	2.59	79	7.65	67.3	2.37	8.74	12.2	50	1.063	0.0701
STD OREAS262 Expected		0.68	118	56	154	0.45	62	26.9	530	3.284	35.8	1.22	65	9.33	36	0.61	5.06	1.03	22.5	2.98	0.04
BLK	Blank	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<1	<0.01	<0.5	<0.1	<0.5	<0.1	<1	<0.1	<0.1	<0.1	<2	<0.01	<0.001
BLK	Blank	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<1	<0.01	<0.5	<0.1	<0.5	<0.1	<1	<0.1	<0.1	<0.1	<2	<0.01	<0.001
BLK	Blank	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<1	<0.01	<0.5	<0.1	<0.5	<0.1	<1	<0.1	<0.1	<0.1	<2	<0.01	<0.001



Bureau Veritas Commodities Canada Ltd.
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Project: CATFACE
Report Date: March 09, 2022

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QUALITY CONTROL REPORT

VAN21003942.1

Method	Analyte	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
		La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Hg	Sc	Tl	S	Ga	Se	Te
Unit		ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm
MDL		1	1	0.01	1	0.001	1	0.01	0.001	0.01	0.1	0.01	0.1	0.05	1	0.5	0.2	
Pulp Duplicates																		
186503	Soil	2	18	0.25	8	0.169	2	1.07	0.018	0.03	0.7	0.14	2.5	<0.1	<0.05	12	0.7	<0.2
REP 186503	QC	2	17	0.24	8	0.157	2	1.04	0.017	0.03	0.6	0.14	2.5	<0.1	<0.05	12	0.7	<0.2
186565	Soil	2	85	0.84	15	0.319	3	5.73	0.014	0.04	<0.1	0.21	6.2	<0.1	0.07	13	1.8	0.2
REP 186565	QC	2	85	0.83	16	0.341	3	5.81	0.014	0.04	<0.1	0.24	6.3	0.1	0.06	13	2.0	0.2
186600	Soil	3	34	0.25	7	0.226	2	2.29	0.014	0.02	1.0	0.15	3.0	<0.1	<0.05	18	1.5	<0.2
REP 186600	QC	3	33	0.24	7	0.226	2	2.23	0.014	0.02	1.2	0.14	2.9	<0.1	<0.05	17	1.5	<0.2
Reference Materials																		
STD DS11	Standard	16	56	0.81	334	0.086	6	1.09	0.068	0.37	2.7	0.26	2.9	4.2	0.27	4	2.2	4.7
STD DS11	Standard	16	57	0.82	341	0.086	7	1.09	0.069	0.37	2.7	0.24	2.9	4.3	0.27	4	2.2	4.7
STD DS11	Standard	17	59	0.84	356	0.093	7	1.15	0.074	0.40	2.7	0.27	3.1	4.4	0.27	5	2.2	4.5
STD OREAS262	Standard	16	44	1.17	236	0.002	4	1.29	0.065	0.30	0.2	0.16	3.0	0.4	0.26	4	0.5	0.2
STD OREAS262	Standard	14	41	1.14	224	0.002	3	1.24	0.063	0.28	0.2	0.14	2.9	0.4	0.25	3	0.5	0.2
STD OREAS262	Standard	14	44	1.17	231	0.002	3	1.33	0.066	0.31	0.2	0.16	3.1	0.4	0.26	4	0.5	<0.2
STD DS11 Expected		18.6	61.5	0.85	385	0.0976		1.1795	0.0762	0.4	2.9	0.26	3.4	4.9	0.2835	5.1	2.2	4.56
STD OREAS262 Expected		15.9	41.7	1.17	248	0.0027	4	1.3	0.071	0.312	0.2	0.17	3.24	0.47	0.253	4.1	0.4	0.23
BLK	Blank	<1	<1	<0.01	<1	<0.001	<1	<0.01	<0.001	<0.01	<0.1	<0.01	<0.1	<0.1	<0.05	<1	<0.5	<0.2
BLK	Blank	<1	<1	<0.01	<1	<0.001	<1	<0.01	<0.001	<0.01	<0.1	<0.01	<0.1	<0.1	<0.05	<1	<0.5	<0.2
BLK	Blank	<1	<1	<0.01	<1	<0.001	<1	<0.01	<0.001	<0.01	<0.1	<0.01	<0.1	<0.1	<0.05	<1	<0.5	<0.2



BUREAU VERITAS MINERAL LABORATORIES
Canada

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

Client: **Catface Copper Mines Limited**
200 - 580 Hornby Street
Vancouver British Columbia V6C 3B6 Canada

Submitted By: Melissa Darney
Receiving Lab: Canada-Vancouver
Received: November 01, 2021
Analysis Start: January 06, 2022
Report Date: March 09, 2022
Page: 1 of 2

CERTIFICATE OF ANALYSIS

VAN21003943.1

CLIENT JOB INFORMATION

Project: CATFACE
Shipment ID: CCML2021-02
P.O. Number
Number of Samples: 8

SAMPLE PREPARATION AND ANALYTICAL PROCEDURES

Procedure Code	Number of Samples	Code Description	Test Wgt (g)	Report Status	Lab
PRP70-250	8	Crush, split and pulverize 250 g rock to 200 mesh			VAN
AQ201	8	1:1:1 Aqua Regia digestion ICP-MS analysis	15	Completed	VAN

SAMPLE DISPOSAL

DISP-PLP Dispose of Pulp After 90 days
DISP-RJT Dispose of Reject After 60 days

ADDITIONAL COMMENTS

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

Invoice To: Catface Copper Mines Limited
200 - 580 Hornby Street
Vancouver British Columbia V6C 3B6
Canada

CC: Jim Miller-Tait
Erik Andersen
Peter Baldazzi
Derek Saxton


JEFFREY CANNON
Geochemistry Department Supervisor

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



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Client: **Catface Copper Mines Limited**
200 - 580 Hornby Street
Vancouver British Columbia V6C 3B6 Canada

Project: CATFACE
Report Date: March 09, 2022

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CERTIFICATE OF ANALYSIS

VAN21003943.1

Method	WGHT	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
Analyte	Wgt	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	
Unit	kg	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	
MDL	0.01	0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.1	0.5	0.1	1	0.1	0.1	0.1	1	0.01	
3814458	Rock	1.26	0.7	895.2	2.0	36	0.8	28.9	24.3	175	2.72	2.6	<0.1	11.5	0.5	381	0.2	0.3	0.6	77	3.21
3814459	Rock	1.01	1.6	85.7	1.4	25	<0.1	7.6	28.0	278	4.70	2.6	0.2	2.5	0.7	83	<0.1	0.2	0.1	220	1.41
3814460	Rock	1.27	0.5	122.0	1.4	28	<0.1	10.4	21.5	312	3.80	4.7	0.2	1.8	0.4	369	<0.1	<0.1	0.1	152	3.10
3814461	Rock	0.76	0.5	122.0	0.2	34	<0.1	31.5	19.5	291	2.80	2.9	<0.1	<0.5	0.1	20	<0.1	<0.1	<0.1	82	1.31
3814462	Rock	1.15	7.0	172.0	3.5	17	0.3	7.2	11.9	209	4.59	6.1	0.6	<0.5	3.1	9	<0.1	1.0	1.1	6	0.17
3814463	Rock	1.07	0.4	3.5	1.1	10	<0.1	1.8	3.7	152	1.25	<0.5	0.7	<0.5	3.6	14	<0.1	<0.1	<0.1	16	0.39
3814464	Rock	0.99	0.9	451.9	1.4	22	0.7	53.6	245.2	248	6.72	14.7	0.3	6.1	0.9	83	<0.1	<0.1	1.0	190	1.31
3814465	Rock	0.68	0.5	47.6	2.3	23	<0.1	6.6	13.9	317	2.32	1.8	<0.1	1.5	0.2	98	<0.1	0.2	<0.1	86	1.97



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Client: Catface Copper Mines Limited

200 - 580 Hornby Street

Vancouver British Columbia V6C 3B6 Canada

Project: CATFACE

Report Date: March 09, 2022

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Part: 2 of 2

CERTIFICATE OF ANALYSIS

VAN21003943.1

Method	Analyte	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
		P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Hg	Sc	Tl	S	Ga	Se	Te
Unit		%	ppm	ppm	%	ppm	%	ppm	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	
MDL		0.001	1	1	0.01	1	0.001	1	0.01	0.001	0.01	0.1	0.01	0.1	0.05	1	0.5	0.2	
3814458	Rock	0.056	2	17	0.36	15	0.227	12	4.10	0.225	0.03	0.3	0.04	4.3	<0.1	1.00	18	1.7	<0.2
3814459	Rock	0.063	2	19	0.81	132	0.167	4	2.32	0.311	0.30	0.2	<0.01	6.2	0.1	0.40	6	0.5	<0.2
3814460	Rock	0.076	2	31	0.74	88	0.123	<1	4.35	0.270	0.27	0.3	<0.01	4.5	0.2	0.33	10	<0.5	<0.2
3814461	Rock	0.052	<1	34	1.20	9	0.244	3	2.02	0.216	0.02	<0.1	<0.01	5.6	<0.1	0.15	4	0.9	<0.2
3814462	Rock	0.019	3	2	0.31	88	0.059	2	1.33	0.007	0.13	0.2	0.04	1.7	<0.1	1.10	9	1.2	<0.2
3814463	Rock	0.039	6	3	0.39	37	0.084	3	0.75	0.060	0.08	0.2	0.01	1.5	<0.1	<0.05	3	<0.5	<0.2
3814464	Rock	0.055	2	15	0.69	29	0.156	1	2.13	0.162	0.09	0.2	0.01	6.6	<0.1	2.78	7	2.8	0.5
3814465	Rock	0.035	<1	7	0.71	60	0.134	2	2.47	0.289	0.24	0.2	<0.01	6.2	<0.1	0.10	5	<0.5	<0.2



QUALITY CONTROL REPORT

VAN21003943.1

Method	WGHT	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
Analyte	Wgt	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	
Unit	kg	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	
MDL	0.01	0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.1	0.5	0.1	1	0.1	0.1	0.1	1	0.01	
Pulp Duplicates																					
3814459	Rock	1.01	1.6	85.7	1.4	25	<0.1	7.6	28.0	278	4.70	2.6	0.2	2.5	0.7	83	<0.1	0.2	0.1	220	1.41
REP 3814459	QC		1.7	90.6	1.4	25	<0.1	7.6	28.9	278	4.73	2.7	0.2	1.4	0.7	81	<0.1	0.1	0.1	223	1.40
Reference Materials																					
STD BVGEO01	Standard		10.8	4447.3	195.8	1793	2.8	161.1	25.3	712	3.63	124.9	3.9	230.6	16.6	56	6.8	3.2	25.3	78	1.33
STD OREAS262	Standard		0.7	113.8	58.0	159	0.5	61.2	26.0	556	3.34	38.3	1.2	61.0	10.1	35	0.6	4.7	1.0	22	3.03
STD BVGEO01 Expected			11.2	4415	187	1741	2.53	163	25	733	3.7	121	3.77	219	14.4	55	6.5	3.39	25.6	73	1.3219
STD OREAS262 Expected			0.68	118	56	154	0.45	62	26.9	530	3.284	35.8	1.22	65	9.33	36	0.61	5.06	1.03	22.5	2.98
BLK	Blank		<0.1	0.2	<0.1	<1	<0.1	<0.1	<0.1	<1	<0.01	<0.5	<0.1	<0.5	<0.1	<1	<0.1	<0.1	<0.1	<1	<0.01
Prep Wash																					
ROCK-VAN	Prep Blank		0.6	18.2	0.8	31	<0.1	2.9	6.8	430	2.10	0.7	0.3	<0.5	2.1	36	<0.1	<0.1	<0.1	43	0.87



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QUALITY CONTROL REPORT

VAN21003943.1

Method	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201	AQ201
Analyte	P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Hg	Sc	Tl	S	Ga	Se	Te	
Unit	%	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	
MDL	0.001	1	1	0.01	1	0.001	1	0.01	0.001	0.01	0.1	0.01	0.1	0.1	0.05	1	0.5	0.2	
Pulp Duplicates																			
3814459	Rock	0.063	2	19	0.81	132	0.167	4	2.32	0.311	0.30	0.2	<0.01	6.2	0.1	0.40	6	0.5	<0.2
REP 3814459	QC	0.061	2	19	0.81	139	0.171	1	2.33	0.307	0.31	0.2	<0.01	5.8	0.1	0.40	6	<0.5	<0.2
Reference Materials																			
STD BVGEO01	Standard	0.072	26	183	1.31	290	0.247	3	2.32	0.190	0.86	5.2	0.10	6.2	0.6	0.67	7	5.3	0.9
STD OREAS262	Standard	0.037	15	42	1.15	248	0.003	3	1.21	0.071	0.30	0.2	0.15	3.4	0.5	0.26	4	<0.5	0.2
STD BVGEO01 Expected		0.0727	25.9	187	1.2963	260	0.233	3.8	2.347	0.1924	0.89	5.3	0.1	5.97	0.62	0.6655	7.37	4.84	1.02
STD OREAS262 Expected		0.04	15.9	41.7	1.17	248	0.0027	4	1.3	0.071	0.312	0.2	0.17	3.24	0.47	0.253	4.1	0.4	0.23
BLK	Blank	<0.001	<1	<1	<0.01	<1	<0.001	<1	<0.01	<0.001	<0.01	<0.1	<0.01	<0.1	<0.1	<0.05	<1	<0.5	<0.2
Prep Wash																			
ROCK-VAN	Prep Blank	0.040	5	5	0.64	54	0.093	<1	1.45	0.157	0.07	<0.1	<0.01	2.4	<0.1	<0.05	4	<0.5	<0.2



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MINERALS

► AQ300, AQ200

Package Description	Geochemical aqua regia digestion
Sample Digestion	HNO ₃ -HCl acid digestion
Instrumentation Method	ICP-ES (AQ300, AQ200), ICP-MS (AQ200)
Legacy Code	1D, 1DX
Applicability	Sediment, Soil, Non-mineralized Rock and Drill Core

► METHOD DESCRIPTION

Prepared sample is digested with a modified Aqua Regia solution of equal parts concentrated HCl, HNO₃ and DI H₂O for one hour in a heating block or hot water bath. Sample is made up to volume with dilute HCl. Sample splits of 0.5g are analyzed optional 15g or 30g digestion available for AQ200.

Limitations:

Au solubility can be limited by refractory and graphitic samples.

ELEMENT	AQ300 DETECTION	AQ200 DETECTION	UPPERLIMIT
Ag	0.3 ppm	0.1 ppm	100 ppm
Al*	0.01 %	0.01 %	10 %
As	2 ppm	0.5 ppm	10000 ppm
Au	-	0.5 ppb	100 ppm
B*^	20 ppm	20 ppm	2000 ppm
Ba*	1 ppm	1 ppm	10000 ppm
Bi	3 ppm	0.1 ppm	2000 ppm
Ca*	0.01 %	0.01 %	40 %
Cd	0.5 ppm	0.1 ppm	2000 ppm
Co	1 ppm	0.1 ppm	2000 ppm
Cr*	1 ppm	1 ppm	10000 ppm
Cu	1 ppm	0.1 ppm	10000 ppm
Fe*	0.01 %	0.01 %	40 %
Ga*	-	1 ppm	1000 ppm
Hg	1 ppm	0.01 ppm	50 ppm
K*	0.01 %	0.01 %	10 %
La*	1 ppm	1 ppm	10000 ppm
Mg*	0.01 %	0.01 %	30 %

ELEMENT	AQ300 DETECTION	AQ200 DETECTION	UPPERLIMIT
Mn*	2 ppm	1 ppm	10000 ppm
Mo	1 ppm	0.1 ppm	2000 ppm
Na*	0.01 %	0.001 %	5 %
Ni	1 ppm	0.1 ppm	10000 ppm
P*	0.001 %	0.001 %	5 %
Pb	3 ppm	0.1 ppm	10000 ppm
S	0.05 %	0.05 %	10 %
Sb	3 ppm	0.1 ppm	2000 ppm
Sc	-	0.1 ppm	100 ppm
Se	-	0.5 ppm	100 ppm
Sr*	1 ppm	1 ppm	10000 ppm
Te	-	0.2 ppm	1000 ppm
Th*	2 ppm	0.1 ppm	2000 ppm
Ti*	0.01 %	0.001 %	5 %
Tl	5 ppm	0.1 ppm	1000 ppm
U*+	8 ppm	0.1 ppm	2000 ppm
V*	1 ppm	2 ppm	10000 ppm
W*	2 ppm	0.1 ppm	100 ppm
Zn	1 ppm	1 ppm	10000 ppm

* Solubility of some elements will be limited by mineral species present. ^Detection limit = 1 ppm for 15g / 30g analysis. + Available upon request



SECTION F: LiDAR SURVEY REPORT

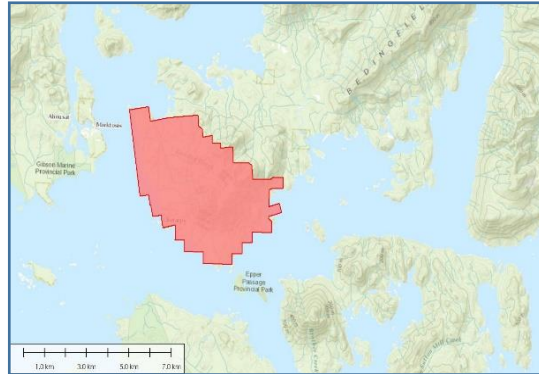
Report from Eagle Mapping Ltd.

EM #: 21-091

CATFACE PROPERTY

Client Name: Catface Copper Mines Ltd.

Client Address:
Suite 200 - Hornby Street
Vancouver, BC
V6C 3B6



Specifications:

LiDAR: 10 pulses/m²
Imagery: 20 cm

AOI: ~ 28 sq. km

MAP PROJECTION

Projection: UTM 10N
Horizontal Datum: NAD83(CSRS)
Vertical Datum: CGVD2013
Geoid: CGG2013
Units: meter
EPSG: 3157

PRODUCT DELIVERABLES

Product	Resolution/Type	Delivered As	File Format
Point Cloud	grd+unclass	prj files	LASv1.4 (.las)
DEM & DSM	0.50 m	prj file	ASCIIGrid (.asc)
BE Hillshade	0.50 m	prj file	GeoTIFF (.tif)
Contours	1.00 m	prj file	Shapefile (.shp)
Orthophoto	0.20 m	prj tiles	GeoTIFF (.tif)
Bnd & Tilelayout	1000 m		Shapefile (.shp)

ACQUISITION DETAILS

Flight Date(s): September 15, 2021
Aircraft: Cessna 206
Flight Altitude: 1450 m (AGL)
Flight Speed: 115 knots

Sensor Settings

LiDAR Unit:	Riegl LMS-Q1560	Camera Unit:	iXM-RS150F
Scan Rate:	800 kHz	Simultaneous:	yes
Field of View:	58°	Forward-lap	60%
Overlap:	55%	Side-lap	55%



TRAJECTORY PROCESSING

INS-GNSS:	Applanix POS AV610 (IMU 57)		
Processing Software:	POSPac MMS v 8.6		
Processing Mode:	Trimble RTX	Ref. Station:	None
(Combined) Results:	Satellites	PDOP	RMSE (m)
	Min: 7	Range: 1.1 - 6.5	X, Y: 0.014
	Max: 15	Mean: 1.5	Z: 0.024

WAVEFORM ANALYSIS

Extraction & Registration Software:	RiPROCESS v 1.8.8
Calibration Software:	BayesStripAlign v 2.20
Quality Control Software:	LASTools v 200304

	Avg. Pulse Density	Passing Cells
Results:	22 ppm	98%

Pulse Density verification is conducted using a 5m grid covering the entire project using last and only returns. Initial noise classes are excluded from the calculation as well as any acceptable data voids such as waterbodies. The quality routine identifies cells containing the required project pulse density and those which did not. A visual grid is output showing cells that pass as green and those that fail as red.

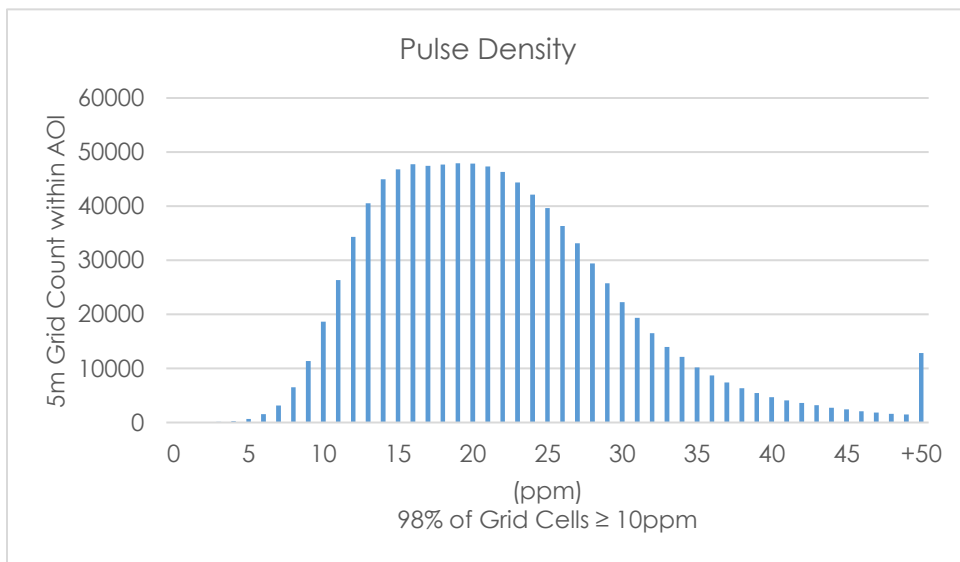
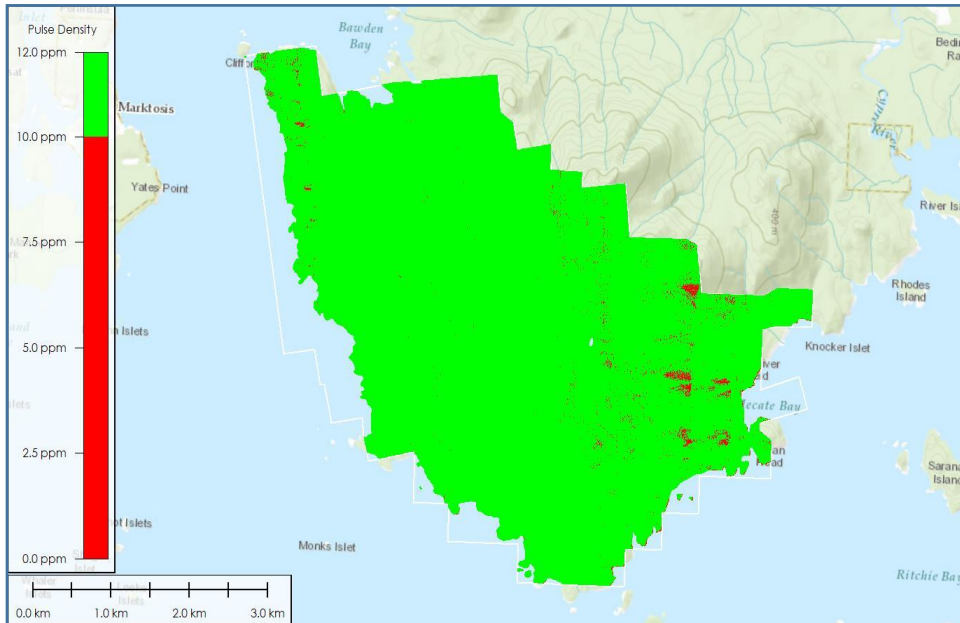
POSITIONAL ACCURACY

LiDAR			
Number of GCP:	N/A		
Average Dz:			
Minimum Dz:			
Maximum Dz:			
Avg. Magnitude:		RMS(95%)	N/A
Std. Deviation			
IMAGERY			
Number of GCP:	N/A		
Avg. Magnitude:			

No control was available to verify the absolute accuracy of the dataset. However, due to a robust trajectory solution and good calibration results, it is Eagle Mappings conclusion that the delivered dataset is positioned with a horizontal accuracy of $\pm 0.30\text{m}$ and vertical accuracy of $\pm 0.15\text{m}$. Visual inspection of the rectified imagery determined the orthophoto is accurate to within ± 2 pixels.

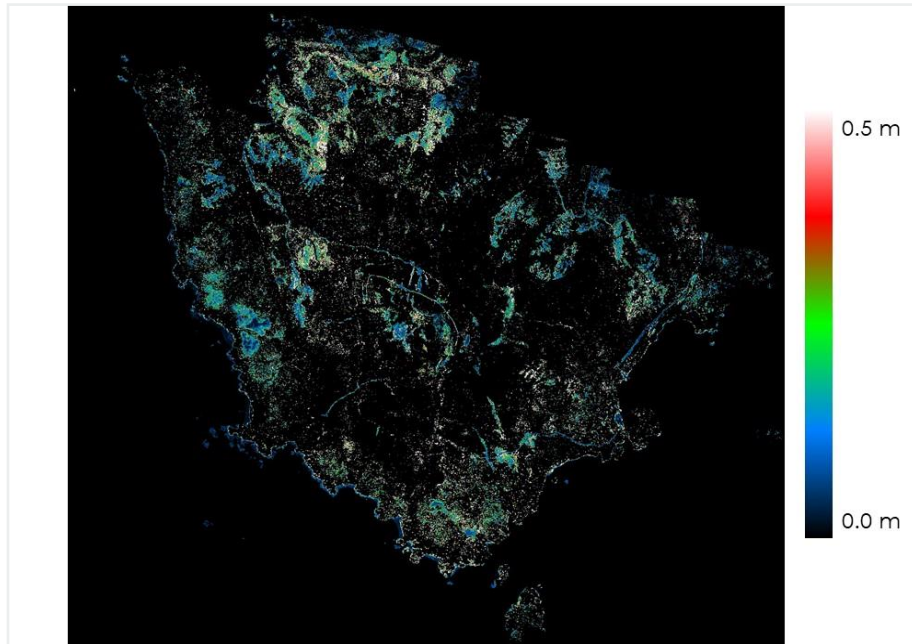


PULSE DENISTY - LAST & ONLY RETURNS



CALIBRATION RESULTS

ELEVATION DIFFERENCES AFTER CALIBRATION



CORRECTIONS APPLIED (m)

Mean (X, Y, Z)			StdDev (X, Y, Z)			RMS (X, Y, Z)		
+0.015	0.001	-0.007	0.027	0.045	0.039	0.138	0.195	0.048

ELEVATION DIFFERENCE (m)

Dataset	StdDev	RMS
Input	0.135	0.146
Registered	0.047	0.048



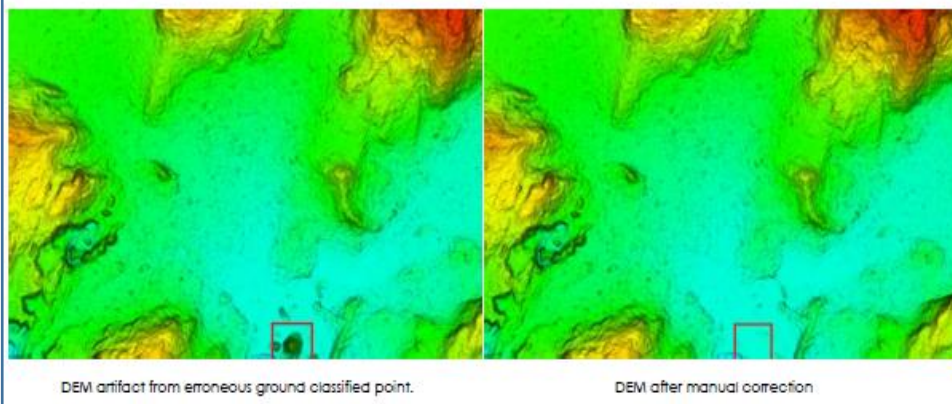
LiDAR EXTRACTION & CALIBRATION PROCEDURES

Process:	Trajectory Solution
Software:	Applanix POSPac MMS
Description:	
<p>GNSS post processing is performed using Applanix POSPac MMS software. Here the aircraft GNSS and IMU data is coupled together to provide adjusted positions for the aircraft in latitude, longitude, height, roll, pitch and yaw. The final trajectory is then smoothen and exported in .pos format for use in LiDAR processing. The resulting flight path is commonly referred to as a Smoothed Best Estimate of Trajectory (SBET).</p>	
Process:	Extract & Register LiDAR Point Cloud
Software:	Riegl RiPROCESS
Description:	
<p>Riegl RiPROCESS is used to extract and register point cloud data using calibrated scanner parameters calculated from a boresight mission. Full Waveform Analysis (FWA) is performed to digitize the echo signals and transform range and scan-angle data into the Scanner's Own Coordinate System (SOCS). The result is a point cloud dataset where each point contains descriptors such as timestamp and intensity values. The SBET is then applied to transform the point cloud data from the SOCS to a real world coordinate system. The LiDAR data is then exported in LAS format with the proper projection and geoid applied.</p>	
Process:	LiDAR Swath Calibration
Software:	BayesStripAlign
Description:	
<p>LiDAR data is calibrated using BayesStripAlign software. This software registers overlapping LiDAR swaths and corrects both relative and absolute geometric errors. It uses a rigorous time-dependent approach to reduce discrepancies between strips due to IMU attitude and positional errors. Once aligned, results are inspected and manual cross-section checks are performed to verify the automatic results. If control is present, elevation comparison reports are generated and data is visually examined to identify systematic positioning errors which could be compensated for with further calibration.</p>	



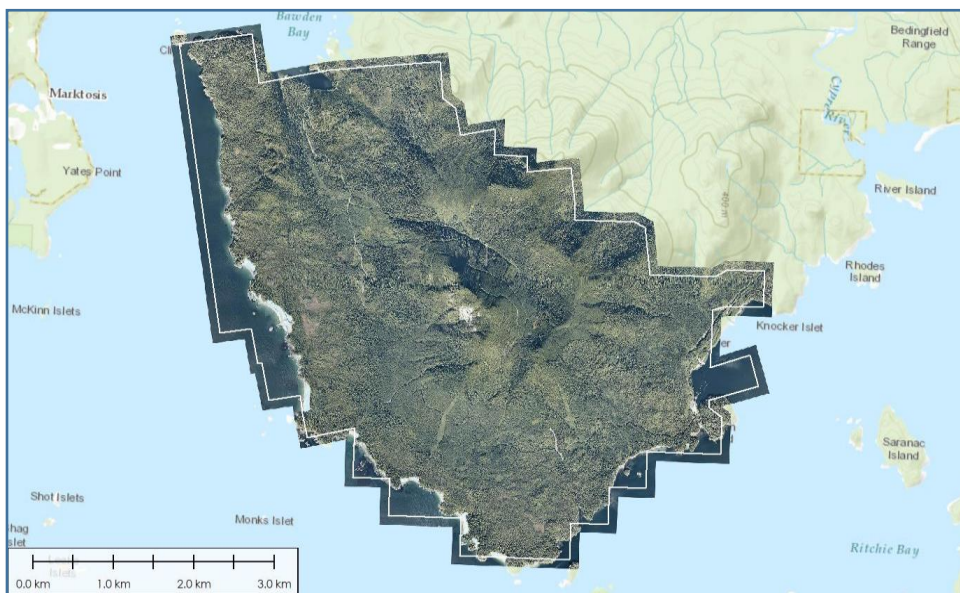
LiDAR CLASSIFICATION & DELIVERABLE PROCEDURES

Process:	LiDAR Classification
Software:	TerraScan
Description:	<p>TerraScan software is used for LiDAR classification. Calibrated swath data is imported into project tiles with the appropriate source ID values for swath identification. Point cloud data is then cleaned by classifying any low or high noise using an isolated point algorithm and via manual cross-section cleaning. Once cleaned, proprietary classification macros are run to generate Digital Elevation Models (DEMs). These models are then visually checked for inconsistencies in the ground surface and any outliers are flagged and then manually corrected in TerraScan. Then if available, the ground surface is compared against survey check-points to ensure positional accuracy. Once a final ground class has been identified, algorithms are then run to classify any additional project classifications such as vegetation, buildings or water features and automatic results are again visually inspected and manually corrected in TerraScan.</p>
Process:	Deliverables
Software:	TerraScan, LASTools & Global Mapper
Description:	<p>Once the point cloud has been classified and quality control checks have been satisfied, The LiDAR data is exported in LAS format. Project deliverables such as DEMs and DSMs are generated at the project required grid spacing and all outputs are examined by LiDAR technicians ensure each product is correctly clipped to the project boundary and in the correct format. Metadata for each deliverable type is viewed to confirm units, projection, min/max elevation ranges, and covered area. Lastly, a file count is performed to ensure consistency between final deliverable products. The data is then archived for shipping.</p>



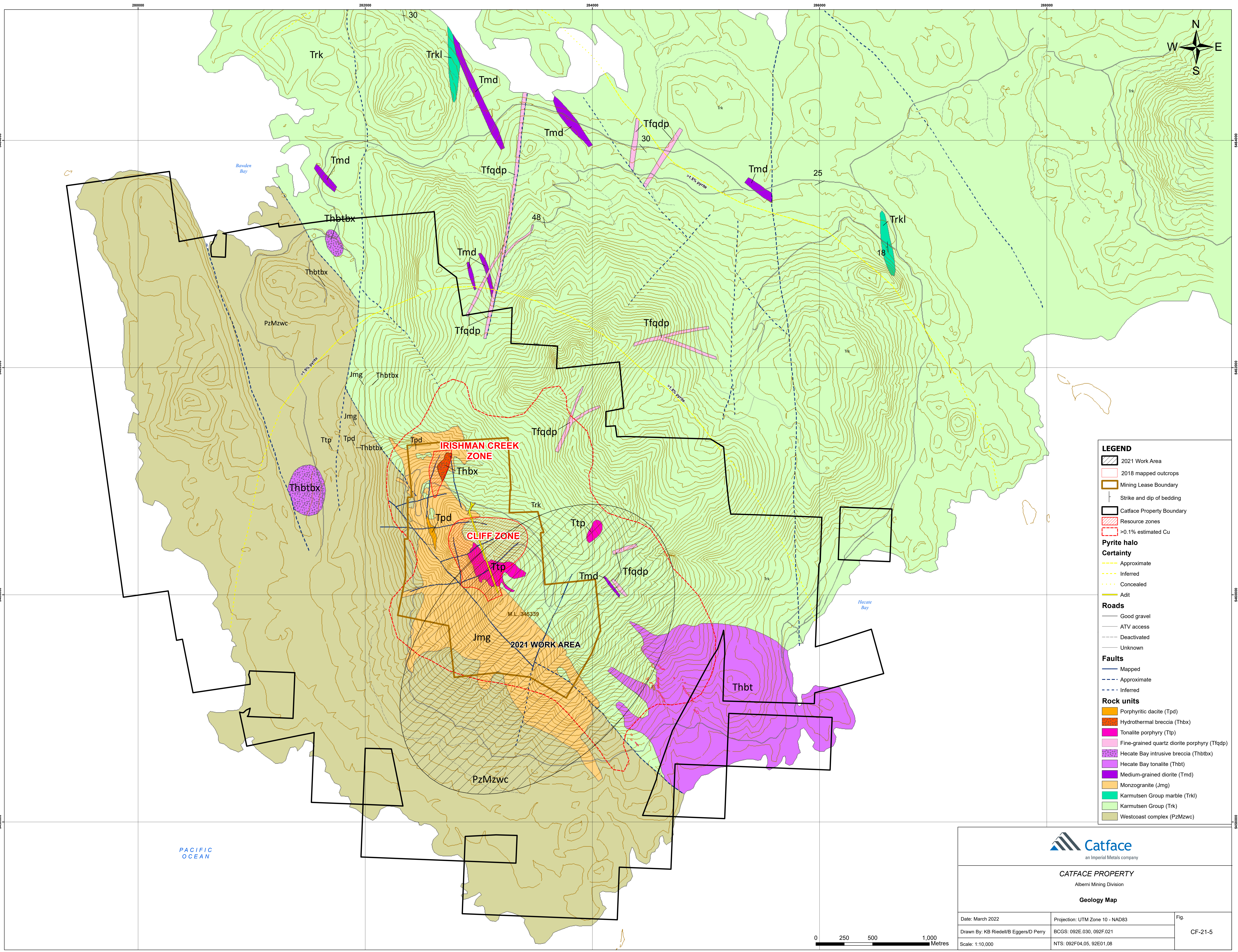
ORTHOPHOTO PROCEDURES

Process:	Photo Orientation & Aerial Triangulation
Software:	Leica Aerial Triangulation Mensuration & Match AT
Description:	<p>Imagery is first reviewed for any issues that may inhibit the accuracy or resolution, such as cloud cover. The Airborne GNSS/IMU data is then extracted to provide an initial photo orientation. The orientation data is then further refined by incorporating Aerial Triangulation (AT). This involves tying all photos to each adjacent frame photogrammetrically using tie-points, as well as surface model data, LiDAR intensity, calibrated camera parameters and control if available. AT tie-points as well as Airborne GNSS/IMU data is then run through a least-squares adjustment package to provide the best possible orientation solution.</p>
Process:	Orthorectification & Mosaicing
Software:	Inpho Ortho Processing & Global Mapper
Description:	<p>The Orientation data is then used in the orthophoto rectification process, along with the LiDAR DEM. First, Imagery is colour balanced to provide even tones with the best radiometry. Then each frame is rectified to eliminate distortions caused by undulations of the terrain utilizing the central portion of the image to lessen the radial distortion. The rectified frames are then mosaicked together using care in the placement of seamlines. Tiles are then extracted from the overall mosaic and visually inspected by a technician before being exported into the final delivery format.</p>



SECTION G: ILLUSTRATIONS

Figure Number	Title	Scale
CF-21-1 (p.2)	BC Location Map	1:8 000 000
CF-21-2 (p.4)	General Location Map	1:125 000
CF-21-3 (p.5)	Mineral Tenures Map	1:40 000
CF-21-4 (p.12)	WNW-ENE Cross Section 2S: Cliff Zone >0.4% Cu shell	As Shown
CF-21-5 (in pocket)	Geology Map	1:10 000
CF-21-6 (in pocket)	2021 Soil & Rock Sample Locations	1:3 000
CF-21-7 (in pocket)	2021 Soil & Rock Sampling: Cu (ppm)	1:3 000
CF-21-8 (in pocket)	2021 Soil & Rock Sampling: Mo (ppm)	1:3 000

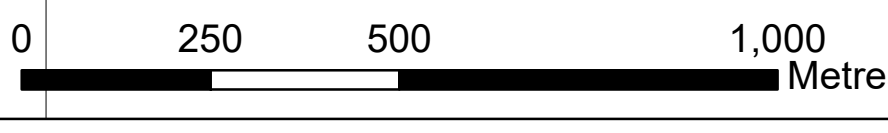


- LEGEND**
- 2021 Work Area
 - 2018 mapped outcrops
 - Mining Lease Boundary
 - Strike and dip of bedding
 - Catface Property Boundary
 - Resource zones
 - Pyrite halo
 - Certainty
 - Approximate
 - Inferred
 - Concealed
 - Adit
 - Roads
 - Good gravel
 - ATV access
 - Deactivated
 - Unknown
 - Faults
 - Mapped
 - Approximate
 - Inferred
 - Rock units
 - Porphyritic dacite (Tpd)
 - Hydrothermal breccia (Thbx)
 - Tonalite porphyry (Ttp)
 - Fine-grained quartz diorite porphyry (Tfqdp)
 - Hecate Bay intrusive breccia (Thbtbx)
 - Hecate Bay tonalite (Thbt)
 - Medium-grained diorite (Tmd)
 - Monzogranite (Jmg)
 - Karmutsen Group marble (Trkl)
 - Karmutsen Group (Trk)
 - Westcoast complex (PzMzwc)



CATFACE PROPERTY
 Alberni Mining Division
Geology Map

Date: March 2022	Projection: UTM Zone 10 - NAD83	Fig.
Drawn By: KB Riedel/B Eggers/D Perry	BCGS: 092E.030, 092F.021	CF-21-5
Scale: 1:10,000	NTS: 092F04.05, 92E01.08	



PACIFIC OCEAN

PzMzwc

2021 WORK AREA

CLIFF ZONE

IRISHMAN CREEK ZONE

Bowden Bay

Hecate Bay

Trk

Trkl

Tmd

Tmd

Tfqdp

Tmd

Trkl

Thbtbx

Thbtbx

PzMzwc

Tmd

Tfqdp

Tfqdp

Jmg

Thbtbx

Jmg

Ttp

Tpd

Thbtbx

Tpd

Thbx

Trk

Ttp

Tmd

Tfqdp

Jmg

Thbt

PzMzwc

30

48

30

25

18

M.L. 346339

280000 282000 284000 286000 288000

5460000

5460000

5460000

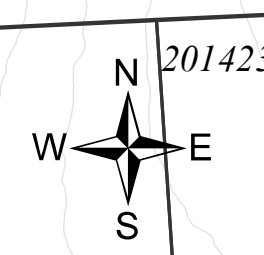
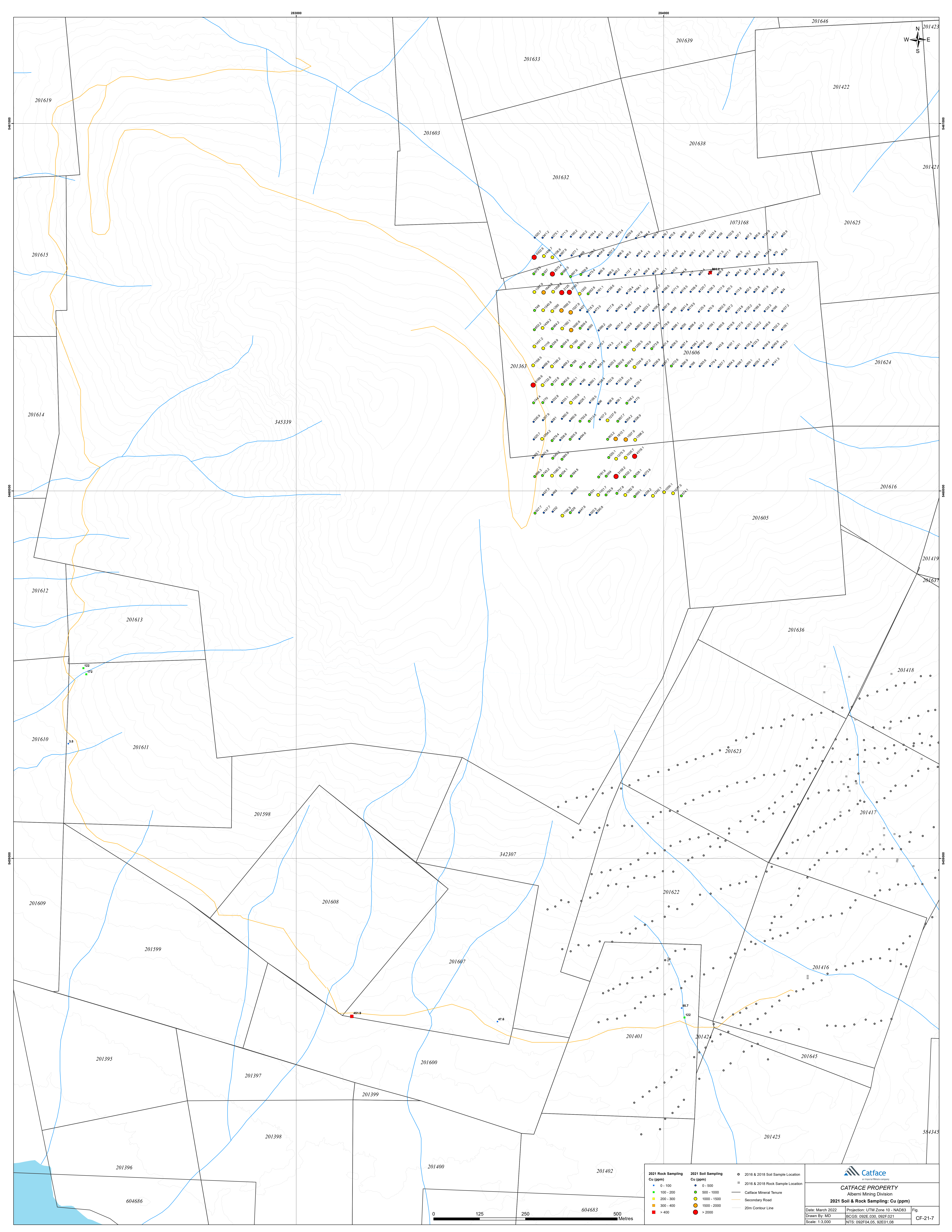
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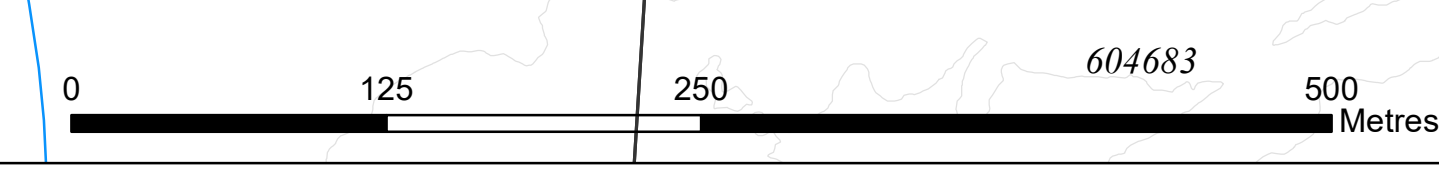
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2021 Rock Sampling Cu (ppm)		2021 Soil Sampling Cu (ppm)		2016 & 2018 Soil Sample Location	
●	0 - 100	●	0 - 500	○	2016 & 2018 Rock Sample Location
●	100 - 200	●	500 - 1000	□	Catface Mineral Tenure
●	200 - 300	●	1000 - 1500	—	Secondary Road
●	300 - 400	●	1500 - 2000	—	20m Contour Line
●	> 400	●	> 2000		

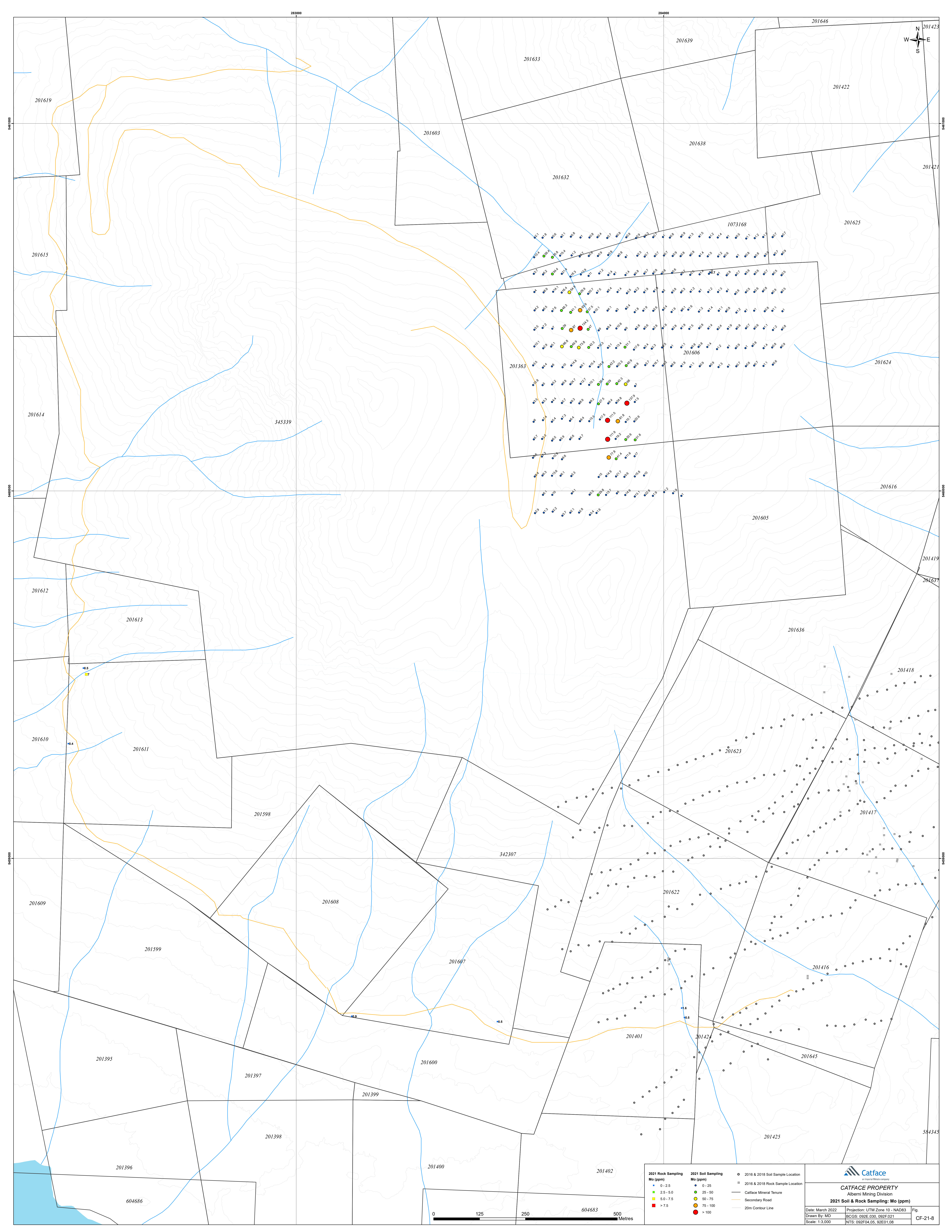


CATFACE PROPERTY

 Alberni Mining Division

2021 Soil & Rock Sampling: Cu (ppm)

Date: March 2022	Projection: UTM Zone 10 - NAD83	Fig.
Drawn By: MD	BCGS: 092E.030, 092F.021	CF-21-7
Scale: 1:3,000	NTS: 092F04.05, 92E01.08	



2021 Rock Sampling Mo (ppm)	2021 Soil Sampling Mo (ppm)	2016 & 2018 Soil Sample Location
0 - 2.5	0 - 25	2016 & 2018 Rock Sample Location
2.5 - 5.0	25 - 50	Catface Mineral Tenure
5.0 - 7.5	50 - 75	Secondary Road
7.5 - 100	75 - 100	20m Contour Line
> 100	> 100	

CATFACE PROPERTY

 Alberni Mining Division

2021 Soil & Rock Sampling: Mo (ppm)

Date: March 2022	Projection: UTM Zone 10 - NAD83	Fig.
Drawn By: MD	BCGS: 092E.030, 092F.021	CF-21-8
Scale: 1:3,000	NTS: 092F04.05, 092E01.08	

