Ministry of Energy and Mines
BC Geological Survey

Assessment Report
Title Page and Summary

TYPE OF REPORT [type of survey(s)]: Geological Mapping, Geochemistry and Portable XRF **TOTAL COST:** $65,562.48 work

AUTHOR(S): L.Hollis, L.E.Loughrey, K.Medig, L.Stock, S.Beckman **SIGNATURE(S):** lara.loughrey@teck.com Digitally signed by lara.loughrey@teck.com DN: cn=lara.loughrey@teck.com Date: 2016.09.30 12:27:47 -07'00'

NOTICE OF WORK PERMIT NUMBER(S)/DATE(S): N/A **YEAR OF WORK:** 2016

STATEMENT OF WORK - CASH PAYMENTS EVENT NUMBER(S)/DATE(S): 5609514 (Mineral Claim 1039297 (Star West) was inadvertently added to the contiguous group listed on SOW-5609514. A separate event, was filed on this non-contiguous claim & two event n

PROPERTY NAME: McNeil Ridge and Panda

CLAIM NAME(S) (on which the work was done): Panda: 1037185, 1037186, 1037187, 1037188, 1037189, 1037190, 1037191, 1037193, 1037194, 1037195, 1037196, 1026199, 1030928, 1030929
McNeil: 1038929, 1038930, 1038931, 1038932, 1038936, 1038938

COMMODITIES SOUGHT: Zn - Pb

MINERAL INVENTORY MINFILE NUMBER(S), IF KNOWN: 082FSE109

MINING DIVISION: Nelson **NTS/BCGS:** 082F01

LATITUDE: 49 ° 16 ' 14 " **LONGITUDE:** 116 ° 6 ' 48 " **(at centre of work)**

OWNER(S):
1) Teck Resources Limited
2) PJX Resources and Doug Anderson

MAILING ADDRESS:
3300-550 Burrard St, Vancouver, Canada, V6C 0B3

OPERATOR(S) [who paid for the work]:
1) Teck Resources Limited
2)

MAILING ADDRESS:

PROPERTY GEOLOGY KEYWORDS (lithology, age, stratigraphy, structure, alteration, mineralization, size and attitude):
Purcell Supergroup, Aldridge Formation, Middle Proterozoic, Moyie Fault, Moyie sills, SEDEX, Spahalerite, Galena, Tourmalinit
McNeil Fault, LMC, Sullivan

REFERENCES TO PREVIOUS ASSESSMENT WORK AND ASSESSMENT REPORT NUMBERS: 27881, 21230, 27022, 23410, 27512, 39134

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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		1038931, 1038932	$23,363
Photo interpretation			
GEOPHYSICAL (line-kilometres)			
Ground			
Magnetic			
Electromagnetic			
Induced Polarization			
Radiometric			
Seismic			
Other			
Airborne			
GEOCHEMICAL (number of samples analysed for...)			
Soil			
Silt			
Rock	69 Rock samples	1038931, 1038932	$3854
Other	Portable XRF and Spectral Analyses	1038931, 1038932	$1,750
DRILLING (total metres; number of holes, size)			
Core	Re-Logging drill core (2ddh)		$7,800
Non-core			
RELATED TECHNICAL			
Sampling/assaying			
Petrographic			
Mineralographic			
Metallurgic			
PROSPECTING (scale, area)			
PREPARATORY / PHYSICAL			
Line/grid (kilometres)			
Topographic/Photogrammetric (scale, area)			
Legal surveys (scale, area)			
Road, local access (kilometres)/trail			
Trench (metres)			
Underground dev. (metres)			
Other	Reporting, Accommodation and Food, Travel, Sa	1038931, 1038932	$28,795.48
		TOTAL COST:	$65,562.48

Teck

Assessment Report on Geological and Geochemical (Portable XRF and Spectral) Work conducted in May and June 2016 at the

Panda and McNeil Mineral Tenure

Latitude / Longitude: Centered on 49° 16' 14" N, and longitude 116° 6' 48" W
UTM, NAD 83 Zone 11N (center): 564465mE, 5457937mN
Trim **082F08**

Fort Steele Mining District
British Columbia, Canada

Work Completed on Claims:

1038931, 1038932, 1038929

Work Applied to Claims:

1038931, 1038932, 1038936, 1026199, 1038929, 1038930, 1039293, 1037185, 1037190, 1037191, 1037196, 1030928, 1030929, 1037186, 1037187, 1037188, 1037189, 1037193, 1037194, 1037195

Operator: Teck Resources Limited
Suite 3300, 550 Burrard Street
Vancouver, British Columbia, V6C 0B3

Owners:
Teck Resources Ltd.
PJX Resources
Doug Anderson

With Contributions by:
Kirsti Medig, Liz Stock, Lara Loughrey, Lucy Hollis and Stephen Beckman

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SUMMARY

The Panda and McNeil mineral tenures are located in southeastern BC approximately 36 km southwest of Cranbrook and 14 km north of Yahk. Teck Resources Limited (Teck) staked the McNeil Ridge property (6 claims; 9125 Ha) in 2015 and own the property 100%. Teck entered into an Option agreement with the owners of the Panda mineral tenure in May 2016. The “Panda” claims include the 11 DD Ext claims (1961.35 Ha) owned by PJX Resources and 3 Panda and Canam claims (442.80 Ha) owned by D. Anderson. Teck will act as the project operator and Teck shall hold title to the Panda Property in trust for the parties.

The property is accessible by road; with the northern part of the properties accessible from Highway 3 via the Lumberton Forest Service Road (FSR) approximately 11 km south of Cranbrook. The central part of the property is accessible from the Monroe Lake/Lamb Creek FSR approximately 18 km south of Cranbrook. The southern portion of the claim block can be accessed from Highway 3 on the Kid Creek FSR, 80 km from Cranbrook and 20 km east from Creston.

Previous exploration has been carried out on, and surrounding, the current mineral tenure by a number of operators. Historical mineral exploration was focused on the claim numbers 1038931 and 1038932, where a number of holes were drilled. A number of drillholes tested the prospective LMC boundary. Drillhole M-89-8 intersected sulphide mineralization below the LMC (sphalerite, pyrrhotite, and pyrite) and drillholes M-89-3 and M-89-7 intersected vein-hosted mineralization and bedded sulphides, respectively.

The property is underlain by the Lower, Middle, and Upper Aldridge Formation of the Belt-Purcell Supergroup. These rocks are characterized as impure quartzite, wacke, arenite, siltstone, and argillite. The Aldridge Formation is a sequence of marine turbidites with intercalated tholeiitic sills, known as the gabbroic Moyie sills. The formation is characterised by high sediment accumulation rates and magmatic activity along the axis of an intracratonic rift that formed the Mesoproterozoic Belt-Purcell basin. The rocks have been subsequently metamorphosed to middle greenschist facies.

The Belt-Purcell Supergroup hosts a variety of base metal mineral deposits and occurrences (Lydon, 2007). The world-class Sullivan Zn-Pb-Ag deposit located approximately 50 km north of the properties is an example of Sediment Hosted Massive Sulphide (SHMS) mineralization within the Belt-Purcell basin.

This assessment report provides details of the technical work program completed by Teck during May and June 2016. The field program consisted of mapping and rock sampling, re-logging of historic drill core (lithology, alteration, and mineralization), and selective re-analysis of historic core using Portable X-ray Fluorescence (pXRF) and spectral (ASD) analysis to verify previously reported assay grades and to assist with lithological discrimination.

1.0 INTRODUCTION

This report summarizes work conducted on the Panda and McNeil mineral tenures by Teck Resources Limited (Teck) from May 1 to June 30, 2016. Assessment work totalling $65,562.00 was applied to the contiguous mineral claims: 1026199, 1030928, 1030929, 1037185, 1037186, 1037187, 1037188, 1037189, 1037190, 1037191, 1037193, 1037194, 1037195, 1037196, 1038929, 1038930, 1038931, 1038932, 1038936, and 1039293' under Event Number 5609514.

The expenditures for this assessment work are detailed in a Statement of Expenditures provided in Appendix IX. The technical field program comprised mapping and rock sampling, re-logging of historic drill core (lithology, alteration, and mineralization), and selective re-analysis of historic core using Portable X-ray Fluorescence (pXRF) and spectral (ASD) analysis to verify previously reported assay grades and to assist with lithological discrimination.

2.0 PROPERTY LOCATION, DESCRIPTION, AND OWNERSHIP

2.1 Location

The Panda and McNeil mineral tenures are located in the Purcell range of the Columbia Mountains in the Fort Steele Mining Division of southeastern British Columbia (Figure 1). The mineral tenures are centred on latitude 49° 16' 14" N and longitude 116° 6' 48" W (UTM NAD83, Zone 11N, 564465mE, 5457937mN) on NTS mapsheet 082F08. The tenures are in the Ktunaxa First Nation traditional territory. The properties are accessible from Cranbrook (~36 km SW) and Creston (~20 km NE).

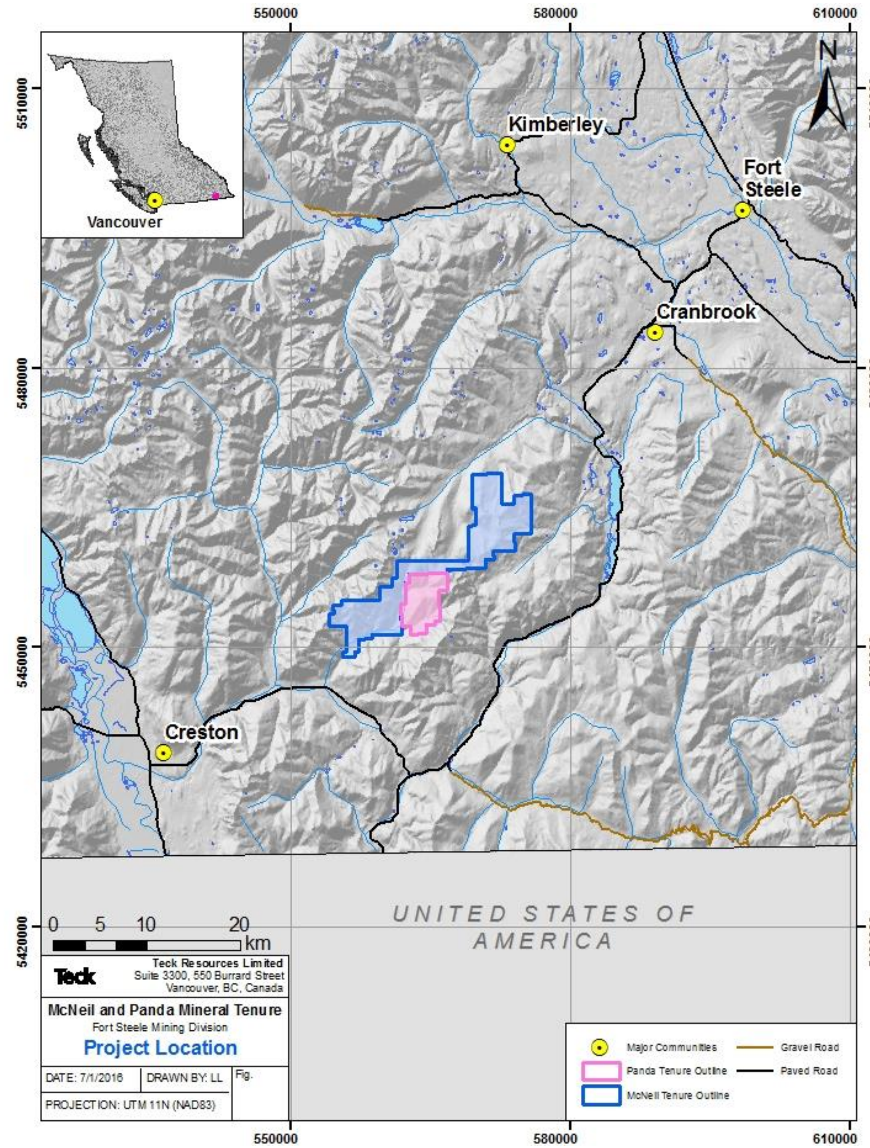


Figure 1: Location map for the Panda and McNeil properties; 1:50,000 scale

2.2 Description

The Panda and McNeil mineral tenures consist of twenty contiguous mineral claims covering an area of approximately 11,529 ha (Figure 2). Tenure numbers, expiry dates, and claim sizes are listed in **Error! Reference source not found.**. The listed tenure expiry dates are new "Good-To" dates, following application of assessment credit filed under Event Number 5609514. These dates are subject to government approval of this report.

Table 1: List of mineral claims for the Panda and McNeil mineral tenures.

Tenure	Claim Name	Owner	Good-To Date	Area (ha)
1026199	PANDA	ANDERSON, DOUGLAS	3/14/2018	295.20
1030928	PANDA	ANDERSON, DOUGLAS	3/14/2018	126.51
1030929	CANAM	ANDERSON, DOUGLAS	3/14/2018	21.08
1037185		PJX RESOURCES INC.	3/14/2018	168.65
1037186		PJX RESOURCES INC.	3/14/2018	189.72
1037187		PJX RESOURCES INC.	3/14/2018	252.97
1037188		PJX RESOURCES INC.	3/14/2018	105.43
1037189		PJX RESOURCES INC.	3/14/2018	337.47
1037190		PJX RESOURCES INC.	3/14/2018	253.10
1037191		PJX RESOURCES INC.	3/14/2018	126.56
1037193		PJX RESOURCES INC.	3/14/2018	189.87
1037194		PJX RESOURCES INC.	3/14/2018	168.81
1037195		PJX RESOURCES INC.	3/14/2018	84.39
1037196		PJX RESOURCES INC.	3/14/2018	84.39
1038929		TECK RESOURCES LIMITED	3/14/2018	2109.87
1038930		TECK RESOURCES LIMITED	3/14/2018	2108.00
1038931		TECK RESOURCES LIMITED	3/14/2018	2106.31
1038932		TECK RESOURCES LIMITED	3/14/2018	2104.96
1038936		TECK RESOURCES LIMITED	3/14/2018	126.24
1039293	McNeil Ridge 006	TECK RESOURCES LIMITED	3/14/2018	569.48
20 Mineral Claims				**11529.01**

2.2 Ownership

Teck staked the McNeil Ridge property (6 claims totalling 9125 Ha) in 2015. Teck entered into an Option Agreement with the owners of the Panda mineral tenure in May 2016, which includes 11 DD Ext claims (1961.35 Ha) owned by PJX Resources and 3 Panda and Canam claims (442.80 Ha) owned by D. Anderson. Teck will act as the project operator and Teck shall hold title to the Property in trust for the parties. The mineral tenure is shown in Figure 2 and Appendix I.

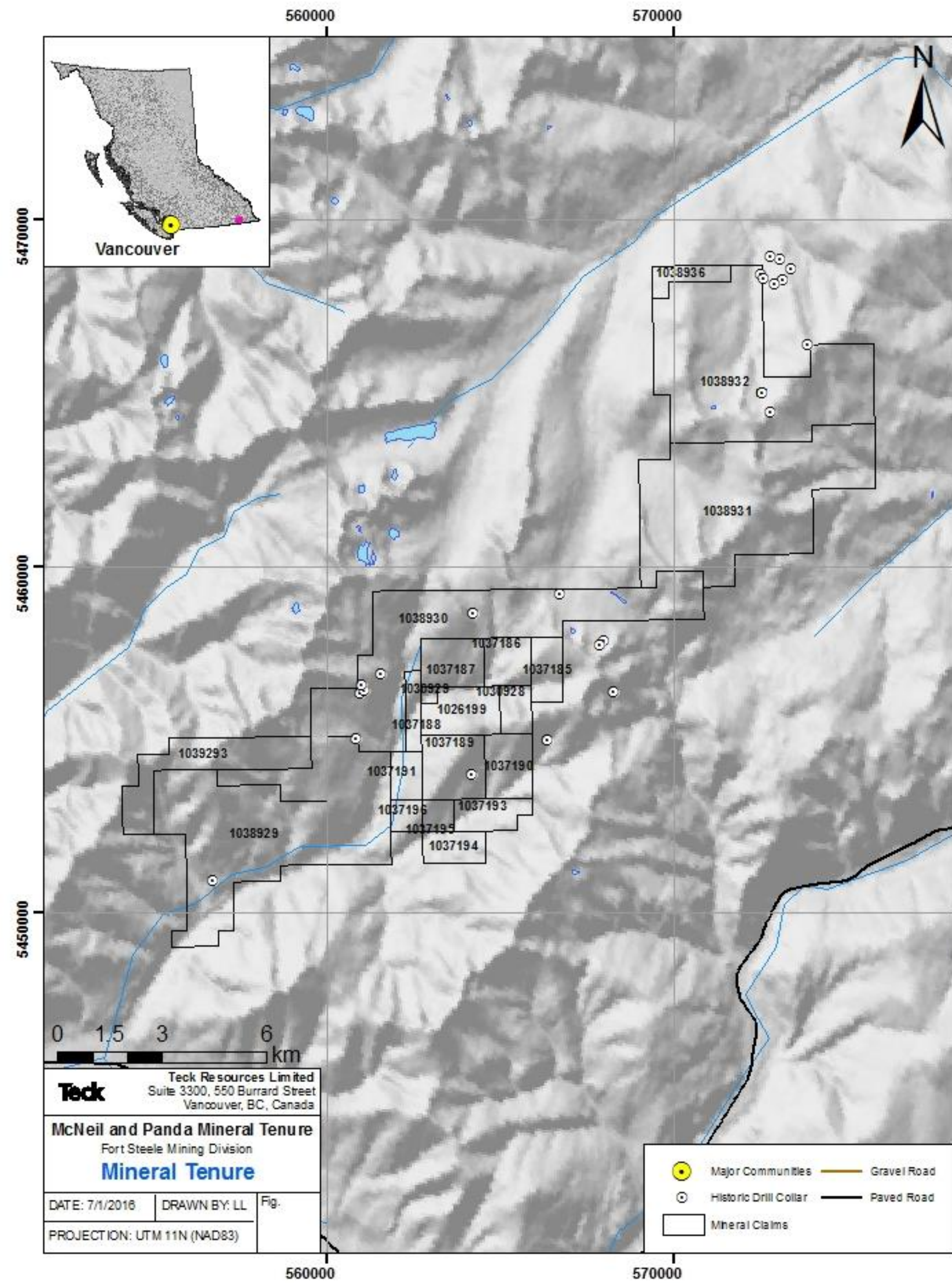


Figure 2: Panda and McNeil mineral tenures and drilling map at 1:50,000 scale

3.0 ACCESS, INFRASTRUCTURE, AND PHYSIOGRAPHY

3.1 Access

The Panda and McNeil mineral tenures are accessible by road. The northern part of both tenures can be reached from Highway 3 via the Lumberton Forest Service Road (FSR) approximately 11 km south of Cranbrook. The central part of the property is accessible from the Monroe Lake/Lamb Creek FSR approximately 18 km south of Cranbrook. The southern portion of the claim block can be accessed from Highway 3 on the Kid Creek FSR, 80 km from Cranbrook and 20 km from Creston.

3.2 Infrastructure

The nearest city is Cranbrook, BC, located on the west side of the Kootenay River. It is the largest urban centre in the region, known as the East Kootenay Regional District. The urban population is 19,319, with a census agglomeration population of 25,037. Cranbrook is located near the junction of Highways 3 and 93/95 and, because of its proximity to the Alberta and USA border, forms an important transportation hub. The Canadian Rockies International Airport is located 9 km north of Cranbrook. Creston is the second largest urban centre in the area with a population of 5,306 and is also located in the East Kootenay Regional District. It is a 1 hour drive southwest of Cranbrook. Creston's economy is largely resource-based-predominantly agriculture and forestry. Kokanee beer is brewed in Creston at the Columbia brewery, established in 1959.

3.3 Climate and Physiography

The Panda and McNeil mineral claims are located in the Purcell range of the Columbia Mountains on the west side of the Rocky Mountain Trench. The terrain is relatively rugged with variably steep to rolling terrain. Elevations range from 1370 to 2100 m. Quaternary sediments overlying bedrock are predominantly till and alluvium. A blanket of thin, discontinuous till up to 2 m thick covers most of the bedrock on the tenures (Fulton, 1984). Locally, a combination of alluvial fan, colluvial deposits, and fine overbank material fills the valley bottoms adjacent to the streams (Fulton, 1984). Bedrock is exposed in roadcuts, ridgelines, steep sidehills, and small outcrops in forested areas.

Several creeks flow through the tenures including Kid, Spider, and Found creeks, which flow into Kitchener Creek and subsequently into the Moyie River. Additionally, the Lewis and Ridgeway creeks flow directly into the Moyie River.

Douglas fir and larch grow at lower elevations in the area and balsam and alpine fir grow at higher elevations. The area is heavily forested with several large cutblocks and burned areas throughout. Areas that have been harvested or burned have been repopulated with immature lodgepole pine. Scrub brush, mainly a mix of dwarf huckleberry and kinnikinnick, covers the forest floor (Kennedy, 2012).

The Cranbrook area receives an annual average of 385 mm of precipitation and the average temperature varies from -6.1 °C in January to 18.7 °C in July.

4.0 HISTORY

4.1 McNeil Mineral Tenure Exploration History

For the past 35 years, exploration for SHMS-style mineralization has been conducted in the Moyie River area. Lead- (Pb) and zinc- (Zn) rich quartz veins were exposed during logging activity in the late 1970s and documented by prospector E. Frost in 1979 (Bapty et al., 1989). The same year, the St. Eugene Mining Co. (Falconbridge Ltd.) completed a geochemical survey on the property. In subsequent years, Frost trenched and sampled veins on the property. In 1986, the owners conducted line-cutting, geologic mapping, and a soil sampling program. In 1988, the property was optioned to South Kootenay Goldfields Inc. (Bapty et al., 1989). In 1988 and early 1989, line-cutting, geophysical surveying, geological mapping, trenching, grid soil and rock geochemistry, and diamond drilling were completed on the McNeil Creek property (Bapty et al., 1989).

Table 2: McNeil mineral tenure exploration history summary

Year	Company	Exploration Work
1979	St. Eugene Mining Co. (Falconbridge Ltd.)	Geochemical survey, trenching, vein sampling.
1986	St. Eugene Mining Co. (Falconbridge Ltd.)	Line-cutting, geological mapping, soil sampling.
1988, early 1989	South Kootenay Goldfields Inc.	Line-cutting (29.7 km), geophysical surveying (field ground magnetics, MAX-MIN EM, VLF-EM), geological mapping, trenching (29), grid soil and rock geochemistry, and diamond drilling (2677 m in 8 holes).
1989	South Kootenay Goldfields Inc.	Line-cutting (19.2 km), geophysical surveying (UTEM, magnetometer, HLEM, VLF-EM), soil geochemistry, and diamond drilling (5566 m in 20 holes).
1997	Frank O'Grady/Sedex Mining Corp.	Grid installation, geologic mapping, geochemical survey, and geophysical survey including VLF-EM and magnetometer survey.

In 1988, South Kootenay Goldfields Inc. cut 29.7 km of line, including 3.0 km of baseline, to complete geophysical surveys including field ground magnetics, MAX-MIN EM, and VLF-EM (Visser, 1989). Geophysical surveys failed to detect the known mineralized quartz veins and shear zones. Work also included geological mapping, digging 29 trenches, and collecting grid soil and rock geochemistry (Bapty et al., 1989). Soil geochemistry successfully detected the presence of mineralized veins at surface and indicated possible mineralization north of the extent of the grid.

In 1988, 8 holes, totalling 2677 m, were drilled. Drillhole DDH M-88-7 intersected a 33 m-thick "Sullivan Horizon" at the Lower-Middle Aldridge contact (LMC) containing anomalous base metal mineralization and conglomerate, which was inferred to be similar to that on the fringes of the Sullivan orebody (Bapty et al, 1989). Drilling identified the McNeil Creek fault as a possible controlling structure on sulphide mineralization. In addition, 3 holes were drilled to test quartz veins containing up to 9% Pb and Zn and 1.7 oz/ton Ag. These veins are similar in age and orientation to the St. Eugene and Vine veins, 10 km east and 12 km northeast, respectively, of the McNeil property.

In 1989, an additional 19.2 km of line-cutting (including 1.7 km of base-line) was completed north of the 1988 grid. Geophysical surveys including UTEM, magnetometer, HLEM, and VLF-EM were conducted using the cut lines. Soil geochemistry was completed and 20 drillholes, totalling 5566 m, were drilled. The objective of the program was to test the Sullivan Horizon, as well as other stratabound base metal sulphides and mineralized quartz veins in the Aldridge Formation. Nine holes were drilled to intersect bedded sulphides. Drillhole M-89-8 intersected base metal sulphides immediately below LMC.

In 1996, a geologic mapping program was completed at 1:5000 scale over 30 hectares. A total of 115 soil samples and 4 rock samples were collected. Geophysical surveying (including VLF-EM and magnetometer) was conducted over 12 km of grid lines (O'Grady, 1997). Boulders with sulphides were mapped, however, snowfall precluded further prospecting. The combination of chlorite alteration, the McNeil Creek Fault, and geophysical anomalies led the workers to consider the area prospective.

4.2 Panda Mineral Tenure Exploration History

The Moyie River drainage system has long been explored for placer gold and SHMS Pb-Zn targets. The area was first staked by Cominco Limited in 1980, and they completed some of the first work on the Panda property including mapping, soil geochemistry surveys, drilling and large-scale ground geophysical surveys (Lajoie et al., 1980, Webber, 1980). The geophysical surveys included UTEM and deep-probing, time domain EM system completed on broad-spaced cut gridlines, with no highly conductive targets identified (Lajoie et al, 1980). In addition, one hole (L-80-1) was drilled to a depth of 684.4 m to test for Pb-Zn mineralization and to obtain information on stratigraphy. The hole intersected mixed lithologies interpreted to be middle Aldridge member and Moyie sill. Trace, but not significant, Pb, Zn mineralization was intersected in veinlets and fractures (Webber, 1980).

Table 3: Panda mineral tenure exploration history summary

Year	Company	Exploration Work
1980	Cominco Limited	Claims staked and one diamond drillhole (L-80-1) to 648.1 m.
1980	Cominco Limited	UTEM survey (78.7 km of line-cutting and 36.6 km of geophysics).
1981	Cominco Limited	Soil geochemical survey (839 soil samples).
1981	Cominco Limited	UTEM survey.
1983	Cominco Limited	UTEM survey.
1984	Cominco Limited	UTEM survey (9.8 km).
1985	Cominco Limited	1 Diamond drillhole (L-85-1) to 246 m.
1994	This Ol' Creek Mining Inc.	1 Diamond drillhole (93-1) to 274 m.
1996	Otis J. Exploration Corp.	Prospecting and geologic mapping.
1996	Sedex Mining Corp.	Airborne magnetic survey (1247 line-km)
1996	Sedex Mining Corp.	Mapping and drilling (5 holes totalling 1210.12 m).
1997	Kennecott Canada Exploration Inc.	Soil sampling, stream sediment sampling, geological mapping, gravity geophysical surveying, diamond drilling (3 holes for a total of 2438.4 m), borehole magnetic susceptibility, induction conductivity, and natural gamma geophysical logging, and UTEM geophysical survey.
2000	Sedex Mining Corp	Diamond drilling to extend 2 holes (additional 294.9 m)
2002	Sedex Mining Corp.	Diamond drilling to extend K97-2 (additional 784.1 m)
2003	Sedex Mining Corp.	Diamond drilling to extend L-80-1 (additional 216.8 m)
2005	Sedex Mining Corp. and Klondike Gold Corp.	Diamond drillhole Payday 04-1 to 1544.2 m.
2005	Sedex Mining Corp.	Diamond drillhole Panda 04-1 to 1193 m.

2006	Sedex Mining Corp. and Klondike Gold Corp.	Extended drillhole Payday 04-1 to 1702.9 m.
2006	Sedex Mining Corp.	Extended drillhole Panda 04-1 to 1333.8 m.
2006	Sedex Mining Corp.	Drilled one hole, Irish-05-1 to 1422.2 m.
2008	Sedex Mining Corp.	Drilled one hole, Irish-07-1 to 1218 m.
2009	Sedex Mining Corp.	Extended Irish-07-1 to 1520 m.
2012	Klondike Gold Corp.	Mapping, prospecting, sampling and analyses, and two small ground geophysical surveys.

In 1981, a geochemical survey on soil and UTEM survey was completed to explore for Pb/Zn deposits in the Aldridge formation (Lajoie et al., 1981; Waskett-Myers, 1981). No conductive targets were found from the geophysical survey (Lajoie et al., 1981).

A Cominco 1983 geophysical report summarises the results of approximately 60 km of UTEM survey (Visser et al., 1983). No strong sulphide responses were detected, but several weak responses, interpreted to be caused by faults, were detected (Visser et al., 1983). A few weak anomalies were observed in the 1984 UTEM survey, but no further work was warranted (Visser et al., 1984).

One diamond drillhole, L-85-1, was drilled in 1985 to test a fragmental zone within the Aldridge Formation (Anderson, 1985). The fragmental was successfully intersected with minor sericitic, quartz-chlorite, and tourmaline-rich alteration. Significant sulphides were not intersected.

In 1993, 274 m of diamond drilling was completed in one drillhole, 93-1, to follow-up on anomalously high mercury values identified during soil sampling (Rodgers, 1994). Sullivan style indicators were not identified in core.

Sedex Mining Corporation resumed drilling from 1994 to 1997 with a single drillhole, SMC 95-1, intersecting the LMC section and containing visible sphalerite (Woodfill, 1996).

Otis J. Exploration Corp completed prospecting and mapping in 1995 (Rodgers, 1996). Their efforts identified possible Sullivan-like targets in select areas and proposed drill targets for the subsequent year. Sedex Mining obtained ownership in 1996, and followed up with an airborne magnetic survey and drilling five holes, totalling 1210 m (Woodfill, 1996). None of the five holes drilled to the LMC or intersected significant base metal mineralization, as intended.

In 1997, Kennecott Canada Exploration Inc. optioned the claims and conducted an extensive exploration program (Coombes, 1997). Geologic mapping was completed at 1:10000 scale and 163 soil samples were collected. Three diamond drillholes were completed, totalling 2438.4 m. A total of 508 core samples were submitted for element ICP analysis (+gold) and whole rock analysis. In addition, borehole geophysical log was completed on K97-02 and K97-03. Drillhole K97-02 contained scattered sphalerite stringers and drillhole K97-03 returned 5.82% lead, 9.65% zinc, and 49.4 g/T silver in a 2.55 m intersection.

Soil sampling identified a few areas with Pb-Zn anomalies, with Pb values up to 1321 ppm with several over 300 ppm and Zn values up to 155 ppm. Stream sediment samples contained background to moderately elevated Pb-Zn values.

In 1999, Sedex Mining Corp. (owner) drilled a total of 294.9 m to extend two holes that were deemed prospective, but failed to reach the LMC (Rodgers, 2000). Drillhole K97-3 was extended to 1187.9m and crossed the LMC where minor zinc mineralization and tourmaline were noted. Drillhole L80-1 was extended from 648.5 to 857.3 metres, but failed to reach the LMC and was abandoned prematurely due to adverse winter conditions.

In 2002, Klondike Gold Corp. extended drill hole K97-2 from 762.2 to 1546.3 m to test for the Sullivan horizon (Pighin, 2002). It was stopped above the Sullivan horizon as it encountered a thick Middle Aldridge succession, structural repetition, and gabbroic sills.

In 2003, Klondike Gold Corp. extended drill hole L-80-1 from 857.3 to 1074.1 m and intersected the Sullivan horizon (Anderson, 2003).

In 2004, Klondike Gold Corp. drilled one hole to 1544.2 m (Payday 04-1) in the Middle Aldridge Formation to target the Sullivan Horizon, however, the target depth was not reached before the hole was stopped due to drill limitations (Anderson, 2005a). Drill hole Panda 04-1 was also drilled to assess the changing character of the Sullivan Horizon in the area. The drill hole was lost at 1193 m and did not reach the Sullivan Horizon.

In 2005, Klondike Gold Corp. extended drill hole Payday 04-1 to a depth of 1702.9 m and drilled through the LMC (Anderson, 2005b). The zone was defined by massive, brown wackes with subtle laminations, but differed from holes to the east and contained less sulphide with only minor pyrrhotite and trace sphalerite around 1626.8 m. Klondike Gold Corp. also extended drill hole Panda 04-1 in 2005 to a depth of 1333.8 m. The drill hole reached Sullivan Time and intersected pyrrhotite and minor sphalerite and galena. The extent of the Sullivan Horizon was ~85 m with the base at 1295 m. An additional hole, Irish-05-1 was drilled to 1422.2 m in the Middle Aldridge sediments and Moyie sills. Sullivan Time was reached at 1210 m and extended to 1342.4 m with mineralization characterized by disseminated, patchy, and fracture-filling galena and sphalerite with pyrrhotite.

In 2007, Klondike Gold Corp. drilled, Irish-07-1, to 1218 m. The Sullivan target horizon was not reached, but pyrrhotite, pyrite, galena, sphalerite, and lesser arsenopyrite mineralization was intersected (479 to 497 m) in patches, fractures, and disseminations in the quarzitic Middle Aldridge member (Anderson, 2008). The hole was extended in the fall of 2008 and the Sullivan Horizon was intersected. The Sullivan Horizon extended 155 m with zones of visible sulphide mineralization (pyrrhotite, sphalerite, and galena).

In 2012, work on the Brook and Kid-Star properties was completed by Klondike Gold Corp. (Anderson et al., 2012). Detailed mapping, sampling, and geophysical surveys were completed to constrain known gold mineralization in veins on both properties. Prospecting was also completed in the Lamb Creek area assessing mineralization associated with the LMC. Beds of sedimentary conglomerate were mapped and thought to be associated with basin instability and exhalative mineralization.

Table 4: McNeil and Panda properties historic drilling summary.

Year	Company	Number of Drillholes	Total Length (m)	Size
1980	Cominco Limited	1	684.4	HQ/NQ
1985	Cominco Limited	1	246	NQ
1988/89	South Kootenay Goldfields Inc.	8	2677	HQ/NQ
1989	South Kootenay Goldfields Inc.	20	5566	HQ
1994	This Ol' Creek Mining Inc.	1	274	NQ
1996	Sedex Mining Corp.	5	1210.12	NQ
1997	Kennecott Canada Exploration Inc.	3	2438.4	unknown
2000	Sedex Mining Corp.	2 (ext)	294.9	NQ
2002	Sedex Mining Corp.	1 (ext)	784.1	NQ
2003	Sedex Mining Corp.	1 (ext)	216.8	NQ
2005	Sedex Mining Corp.	1	1544.2	NQ
2005	Sedex Mining Corp.	1	1193	NQ
2006	Sedex Mining Corp.	1 (ext)	158.7	NQ
2006	Sedex Mining Corp.	1 (ext)	140.8	NQ
2006	Sedex Mining Corp.	1	1422.2	NQ
2008	Sedex Mining Corp.	1	1218	NQ
2009	Sedex Mining Corp.	1 (ext)	302	NQ
Total		**40**	**19686.22**	**-**

5.0 REGIONAL GEOLOGY

The Panda and McNeil properties are underlain by the Purcell Supergroup siliciclastic and carbonate metasedimentary rocks. The Belt-Purcell Supergroup is a Mesoproterozoic succession deposited in an intracratonic rift basin. The basin formed during the rifting of Australia from the western margin of Laurentia, marking the onset of breakup of supercontinent Columbia (Ross et al., 2003).

The Purcell Supergroup is exposed in the core of the Purcell anticlinorium (Figure 3), a regional arch-like structure formed by Jurassic-Paleocene thrusting and in structural panels of the Rocky Mountain fold and thrust belt (Lydon, 2000). The Purcell Supergroup trends northwest through the Purcell Mountains of southeastern BC and is characterised by a symmetrical, basal, 12 km-thick turbidite-sill complex referred to as the Aldridge Formation in Canada (hosting the Sullivan deposit), and the Prichard Formation in the U.S.A.

To the northwest, Neoproterozoic and Phanerozoic strata overlie the Purcell Supergroup rocks. The Aldridge Formation, in the Purcell Mountains, is divided into three informal, but widely used and accepted members: the Lower, Middle, and Upper Aldridge members (Höy et al., 2000). The Lower Aldridge member is at least 1500 m thick and is rhythmically bedded to laminated mudstone. The Aldridge Formation is metamorphosed to middle to upper greenschist facies (Höy et al., 2000). A large part of the Lower and Middle Aldridge sequence hosts numerous mafic intrusions, the Moyie sills, which range from gabbroic to dioritic. The Moyie sills partly intruded into wet, unconsolidated sediments (Höy et al., 2000). Syn-sedimentary intrusions support the view of a syn-rift model for the basal Purcell Supergroup, and is a potential driver of hydrothermal mineralization at the Sullivan deposit.

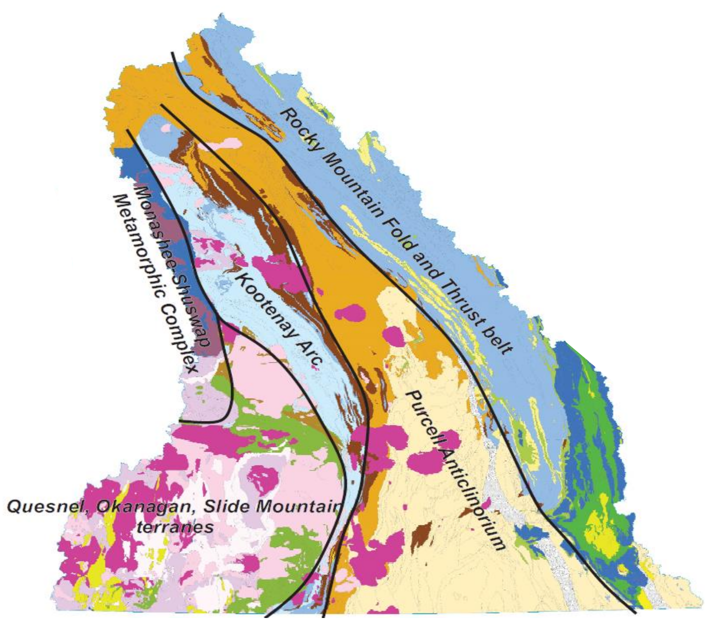


Figure 3: Tectono-stratigraphic regions of southeast British Columbia (Nelson et al., 2013).

The Belt-Purcell Supergroup comprises four main groups (listed in ascending order): 1) Prichard-Aldridge formations and equivalents (deep marine turbidites); 2) Ravalli Group/Creston Formation (fine siliciclastic rocks); 3) Middle Belt carbonate (Kitchener Formation and equivalents); and 4) Missoula Group and equivalents (fine siliciclastics).

Purcell Supergroup strata east of the Rocky Mountain Trench have been described extensively by Rice (1937), Leech (1960), Price (1962), McMechan (1979), and Höy (1979a).

5.1 Mesoproterozoic

5.1.1 Lower Purcell Supergroup

The Aldridge Formation is part of the lower Purcell Supergroup (Figure 4) and is split into three members; the Lower, Middle, and Upper Aldridge members. The Aldridge Formation is an accumulation of ~10 km of turbidites intercalated with mafic sills. The Aldridge Formation was deposited during basinal extension resulting from rifting at ~1470 Ma (Price and Sears, 2000). The Lower Aldridge member comprises mainly thin- to medium-bedded distal argillaceous turbidites, and includes a prominent quartzitic turbidite sequence 100s of metres thick. The Middle Aldridge member is dominated by medium-bedded quartzitic turbidites with prominent intervals of laminated "marker" siltstones, and is up to 2.4 km thick (Höy et al., 2000).

The Sullivan Pb-Zn-Ag SEDEX deposit is located at the Lower-Middle Aldridge transition, commonly called the Sullivan horizon or LMC. This horizon is marked by abundant conformable and cross-cutting discordant fragmentals which are interpreted as mud volcanos and/or slump or scarp deposits related to movement along growth faults (Höy et al., 2004). The Upper Aldridge comprises 300 m of bedded to laminated argillite and siltstone which were deposited on a shallowing basin plain.

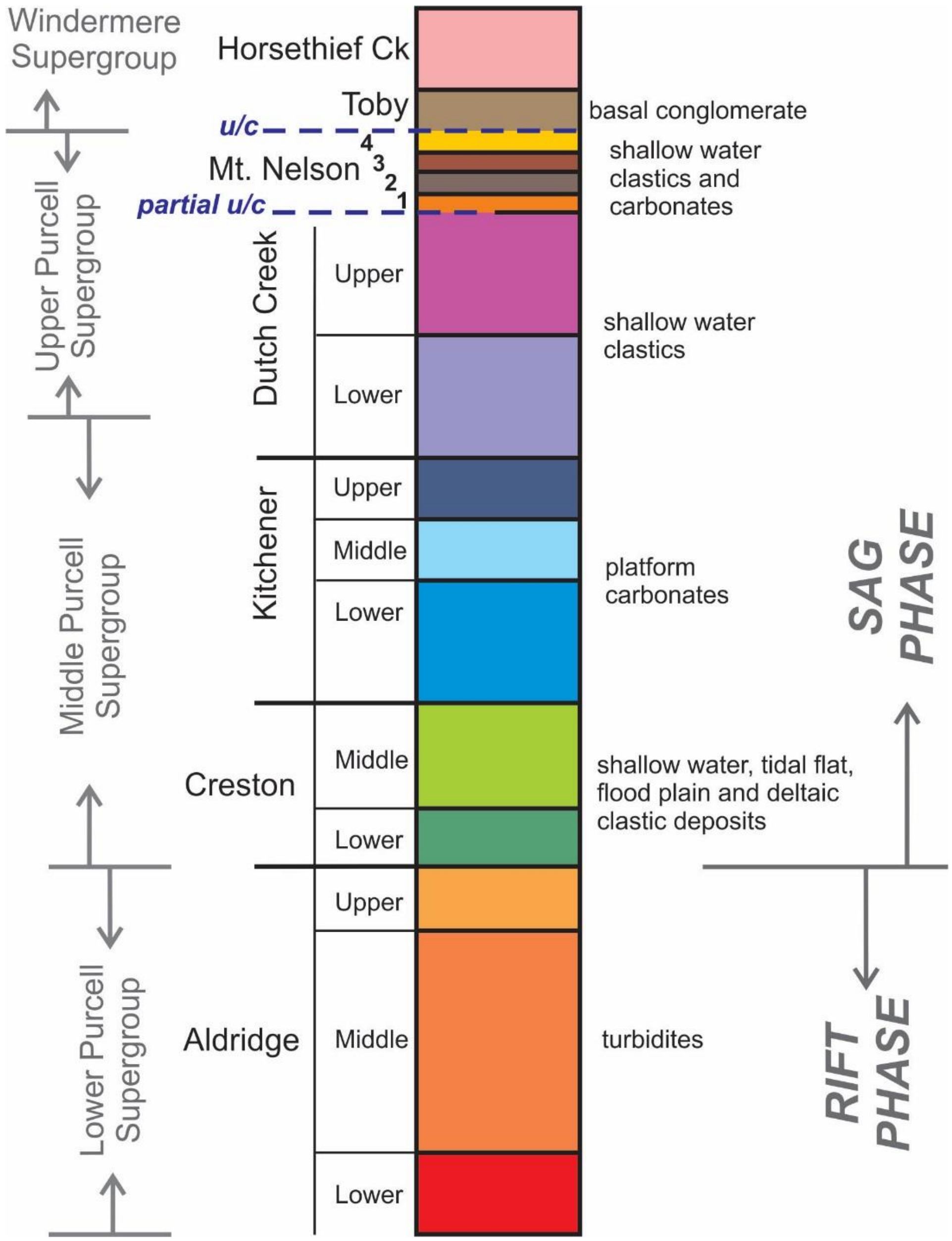


Figure 4: Schematic stratigraphic section of the Purcell Supergroup in the study area (on the western limb of the Purcell anticlinorium). Not to scale.

A number of lead-zinc deposits occur in the Purcell Supergroup (Figure 5). These include the stratabound/stratiform Sullivan Mine, Kootenay King, and North Star deposits and the transgressive (vein) Stemwinder and St. Eugene deposits in clastic rocks of the Aldridge Formation. Replacements deposits in younger Purcell platformal carbonates include the Mineral King and Paradise deposit 80 km north of the Sullivan Mine (Höy et al., 1981). Several other significant mining districts are hosted in the Mesoproterozoic Belt Supergroup (Figure 5). These include the Coeur D'Alene district in Northern Idaho, where Ag-rich base metal (galena, sphalerite and chalcopyrite) veins occur in the Aldridge Formation, the Butte district in Montana, which hosts the Bingham porphyry Cu-Mo system and the Spar Lake district in Montana, where strata-bound Cu-Ag deposits occur within the Creston Formation.

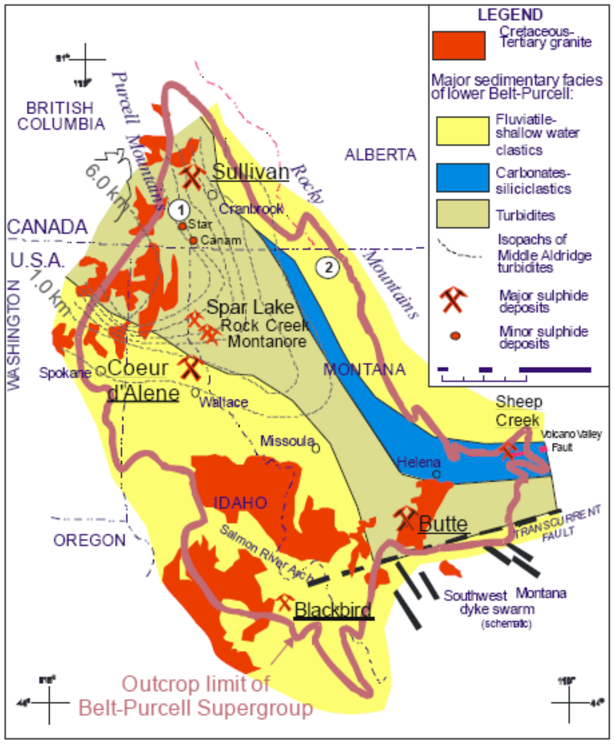


Figure 5: Extent of the Belt-Purcell Supergroup strata and major sulphide deposits in Canada and the USA.

5.1.2 Middle Purcell Supergroup

Following the main rifting episode and the deposition of the Aldridge Formation there was a period of thermal relaxation during which approximately 6 km of shallow water sediments accumulated along the flanks of the rift zone (Price and Sears, 2000). The middle Purcell Supergroup shallow shelf environment includes the Creston and Kitchener formations. The Creston Formation conformably overlies Upper Aldridge member rocks (Figure 4), and comprises green to grey siltstone, argillite, and quartzite, with abundant sedimentary structures along the eastern limb of the anticlinorium, indicative of shallow water deposition (Höy, 1993). On the western limb of the anticlinorium, however, the mudcracks and wavy bedding primary structures common in the east, are seldom preserved (Reesor, 1983). The Lower Creston consists of thinly laminated grey and green phyllite/siltstone, commonly with thin carbonate-bearing layers. There is an abrupt transition to quartzites and dark grey to green siltstones in the overlying Middle Creston, which is a much more resistant unit than the Lower Creston. The base of the Creston Formation is not exposed on any of the properties, which precludes an estimate of unit thickness;

however, based on exposure in surrounding mapped areas the Creston Formation may range from 1000-1500 m thick (Reesor, 1983). The Upper Creston does not extend laterally from the east into the western limb; in the west the Middle Creston is conformably overlain by the Kitchener Formation platformal carbonates.

The Lower Kitchener has a wide range of lithologies, all thinly interbedded, consisting of grey to white dolomites, green to grey to black to silvery phyllites, brown-weathering carbonates, and white quartzites. The Middle Kitchener consists of laminated black and grey phyllite and siltstone, and lacks carbonate along the western limb of the anticlinorium (Reesor, 1983). The Upper Kitchener forms thinly bedded, locally carbonate-bearing, silvery to dark grey phyllites and dolomites, which grade into interbedded buff dolomite (stromatolite mounds are locally preserved; Reesor, 1983) and fine-grained white quartzite. An estimated thickness for the entire Kitchener Formation is approximately 1800 m, including a thickness of ~250 m for each of the Middle and Upper Kitchener subdivisions (Reesor, 1983).

5.1.3 Upper Purcell Supergroup

The Upper Purcell Supergroup in the area consists of the Dutch Creek and Mount Nelson formations. The Dutch Creek Formation occurs conformably and abruptly above the Kitchener Formation (Figure 4). The Lower Dutch Creek is dominated by thinly bedded black and grey phyllite and siltstone, with rare carbonate and quartz-rich sandstone interbeds. There is a gradual transition into the overlying rocks of the Upper Dutch Creek, which also comprise interbedded grey to black siltstone, black phyllite, with rare thin carbonate-bearing siltstone beds towards the top of the unit. Locally there is a distinctive metre-scale thick quartzite bed at the lower portion of the Upper Dutch Creek. The contact with the overlying Mount Nelson Formation is marked by a section of thick, massive siltstone and quartzite beds- much thicker than elsewhere in the Dutch Creek (Reesor, 1983). The true thickness of the Dutch Creek Formation is difficult to determine based on the intensity of folding and faulting in the area, however, a maximum thickness of 2400 m is proposed near La France Creek, although the true thickness may be much less (Reesor, 1983).

The Mount Nelson Formation is subdivided into four distinctive units, the total thickness of which is approximately 1200 m, with individual units ranging from 250 to 350 m (Reesor, 1983). The lowermost unit, Mount Nelson 1, comprises thickly bedded white to grey to green quartzite with rare phyllitic laminations, and is directly above a distinctive quartzitic section of the Upper Dutch Creek. The Mount Nelson 2 unit lies conformably and abruptly over the Mount Nelson 1, and comprises brown-weathering carbonate with interbedded black and grey phyllite and siltstone, and local quartzite and sandstone interbeds. Mount Nelson 3 is a thin- to medium-bedded unit of black to grey phyllite and siltstone which gradationally overlies the Mount Nelson 2 unit. The uppermost subdivision of this formation, the Mount Nelson 4, is dominated by a medium-bedded, cream- to brown-weathered, white dolomite, with local thin laminations of green to black phyllite, gradationally overlying Mount Nelson 3 (Reesor, 1983).

5.2 Neoproterozoic

5.2.1 Windermere Supergroup

The onset of deposition of the Windermere Supergroup, which unconformably overlies the Purcell Supergroup, is marked by the Goat River Orogeny in the Neoproterozoic (900-800 Ma; Lydon, 2007). The Toby Conglomerate of the Windermere Supergroup is a polymictic basal conglomerate/tillite, which developed to the north of the major NE-trending Moyie and St. Mary faults, indicating a time of major extension and movement along these growth faults. There was approximately 10-12 km of movement along this fault system during the Proterozoic (T. Höy, pers. comm.). In different localities, the Mount Nelson 4 unit is variably preserved under the Toby Conglomerate; sometimes it only exists as a few thin beds, and in other areas it has been completely eroded away (Reesor, 1983). Clasts in the Toby Conglomerate consist mainly of quartzite and dolomite, within a matrix varying from quartzite to pelite to carbonate. Thickness of the unit varies from 10's of metres to as much as 700 m, and both clast and matrix compositions are directly correlated to the lithologies found immediately below the basal unconformity. Overlying the conglomerate are the rocks of the Horsethief Creek Group, which vary in composition from phyllite to schist to quartzite to limestone/marble (Reesor, 1983).

5.3 Mesozoic

The Purcell anticlinorium was formed during Mesozoic contraction, when imbricate thrust faults carried up to 15 km of Belt-Purcell and Paleozoic margin sedimentary rocks eastward on the basal decollement of the Rocky Mountain foreland thrust and fold belt (Cook and Van der Velden, 1995). The west flank of the Purcell anticlinorium is characterized by moderate to steeply dipping structures associated with the accretion of Quesnellia, a late Paleozoic-Jurassic terrane, to the western margin of North America during the Jurassic and Early Cretaceous (Cook and Van der Velden, 1995). This convergence resulted in the Late Jurassic-Cretaceous (Paleocene?) orogeny, 160-60 Ma, and involved a significant component of NW-SE shortening (Price and Sears, 2000). The Belt-Purcell Basin underwent a tectonic inversion and was telescoped by these thrust faults, which young to the east (T. Höy, pers. comm.). At the Sullivan deposit, D1 and D2 structures potentially correlate with the regional development of the Purcell anticlinorium. The orientations of structural features suggest a similar stress field, so they may be closely associated in time (Höy et al., 1981).

There was widespread Mid-Cretaceous granitic magmatism which intruded the rocks of the anticlinorium. The Fry Creek Batholith east of upper Kootenay Lake is one of these intrusions, and is a leucocratic granite consisting predominantly of equal parts feldspar, plagioclase, and quartz. It is equigranular, fine- to medium-grained, with less than 5% biotite on average (Reesor, 1983). Young mafic dykes, typically <2 metres wide (but ranging in width from <1 to ~10 m), are recognized across the area. Dykes are dark grey to dark green, medium to finely crystalline, massive, equigranular, magnetic, commonly pervasively chloritized, basaltic in composition, and commonly display quartz+/-Cu oxide veins along their margins. They are found cross-cutting the entire sequence of Purcell and Windermere Supergroup rocks.

An extensional event in the Tertiary is the youngest deformational event to affect the Belt-Purcell Supergroup. The Purcell anticlinorium is cut by both NW- and NE-trending faults displaying evidence for normal-sense displacement (reactivation) late in the tectonic history (Cook and Van der Velden, 1995). Host rocks to the Sullivan deposit have been displaced approximately 10 km southwestward relative to the North American craton by early Tertiary crustal extension (Price and Sears, 2000).

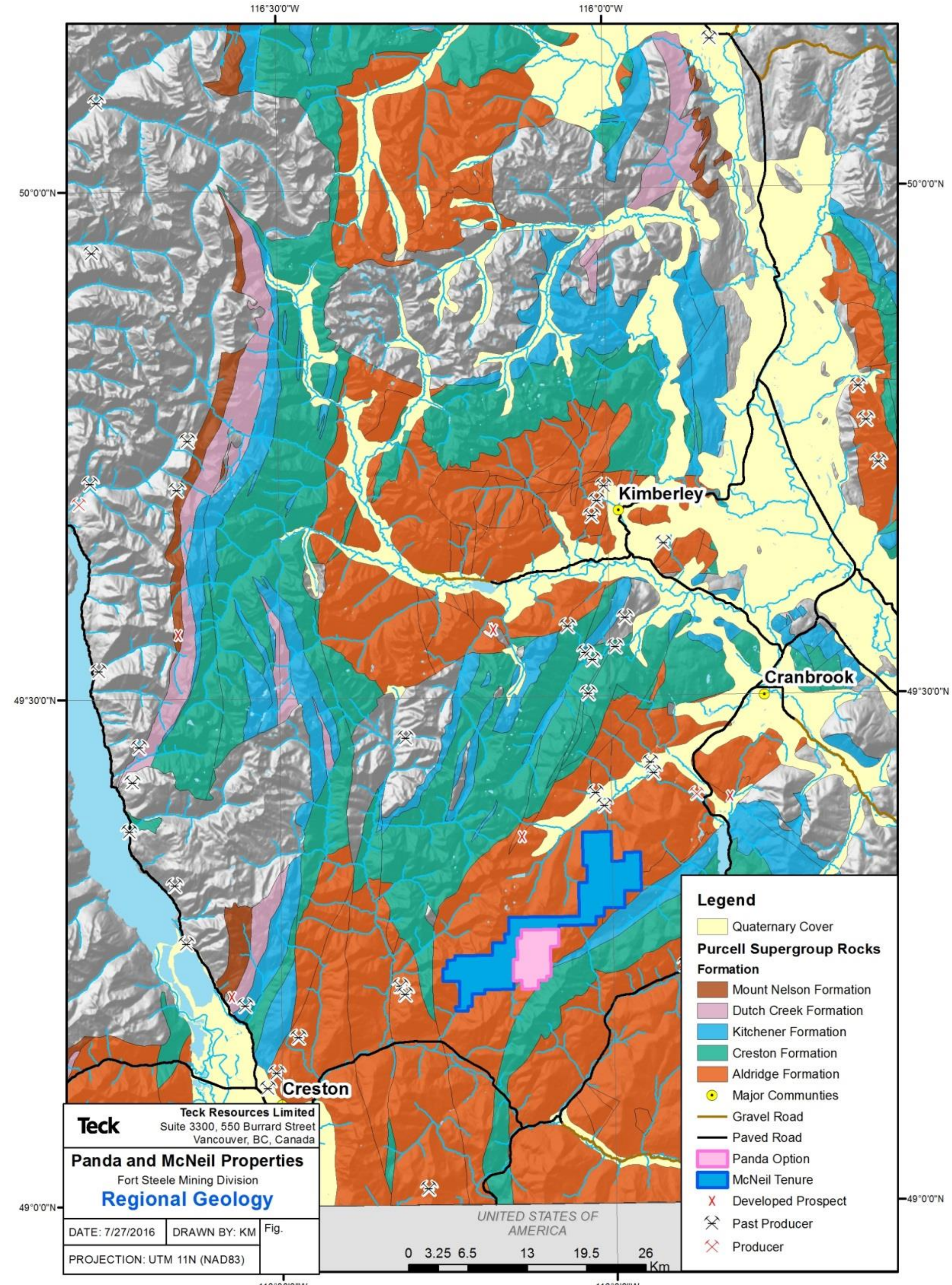


Figure 6: Regional Geology of the Panda and McNeil area and extent of Belt-Purcell Supergroup and select mineral deposits. See Appendix II for large-scale map.

5.4 Regional Mineralization

The world-class Sullivan deposit, the much smaller North Star, Kootenay King, and Stemwinder deposits, are all located in southeast BC (MacIntyre, 1991). The Sullivan deposit is a massive sulphide lead-zinc-silver deposit hosted in the Aldridge Formation. Other deposits in the Purcell Supergroup include lead-zinc replacement-style deposits in upper Purcell carbonates and numerous lead-zinc-silver and copper veins (Höy, 2000).

Sullivan deposit

The Sullivan deposit is one of the largest Zn-Pb-Ag deposits in the world. Discovered by prospectors in 1892, the deposit originally contained 155 million tonnes of ore with grades of 6.6% Pb, 5.7% Zn, and 7g/t Ag. Over the life of mine, it produced 125 million tonnes of ore. The deposit is a classic example of SEDEX-type seafloor sulphide mineralization (Lydon, 2000). Mining started in 1909, and operated for 92 years until its closure in 2001. The deposit is 2km in diameter and up to 100m thick in the core of the orebody comprising a lens of pyrrhotite-rich massive sulphide that grades laterally eastward into interbedded laminated pyrrhotite-sphalerite-galena (Figure 7 and 8).

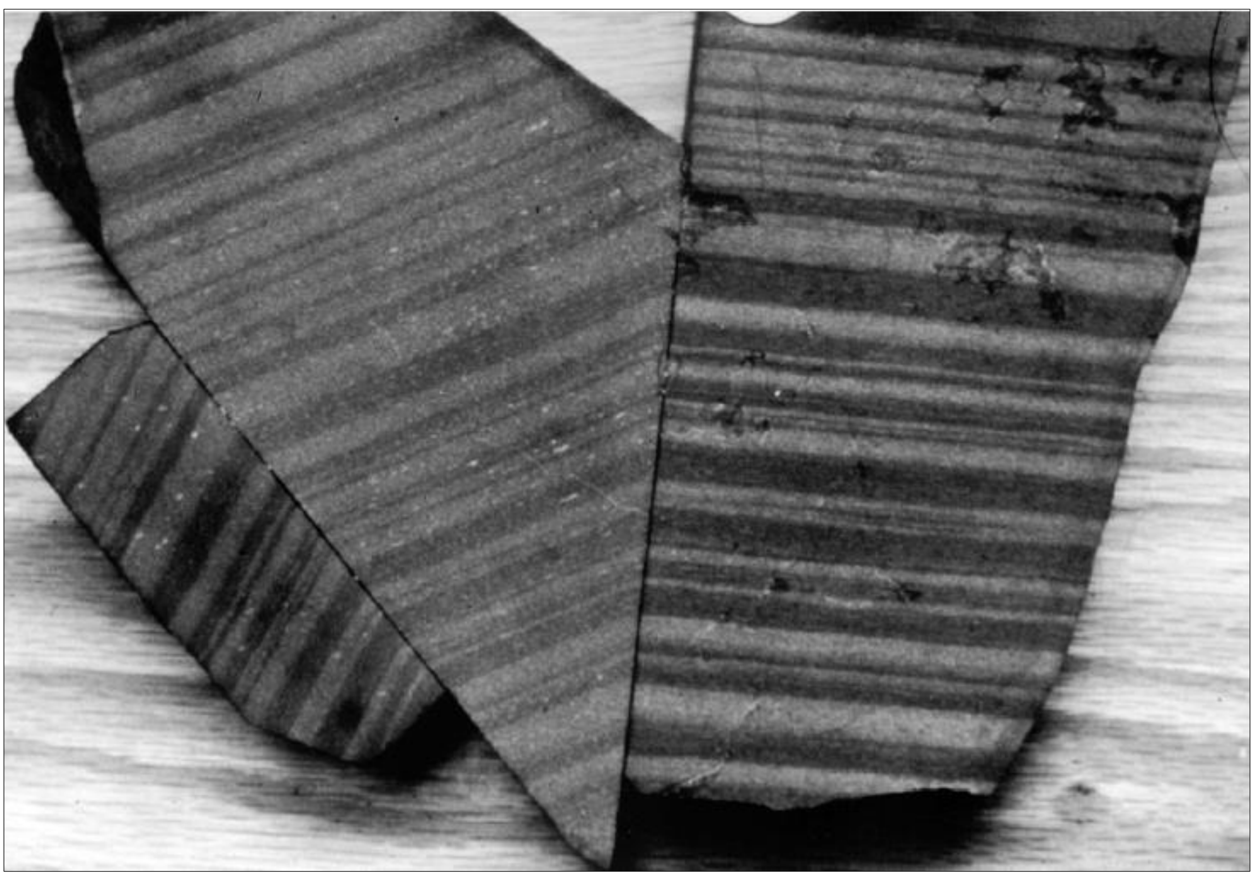


Figure 7: Examples of the marker specimens from the middle Aldridge member (specimens from Kimberley, BC and Pend Oreille Lake area, Idaho; Hamilton et al, 2000).

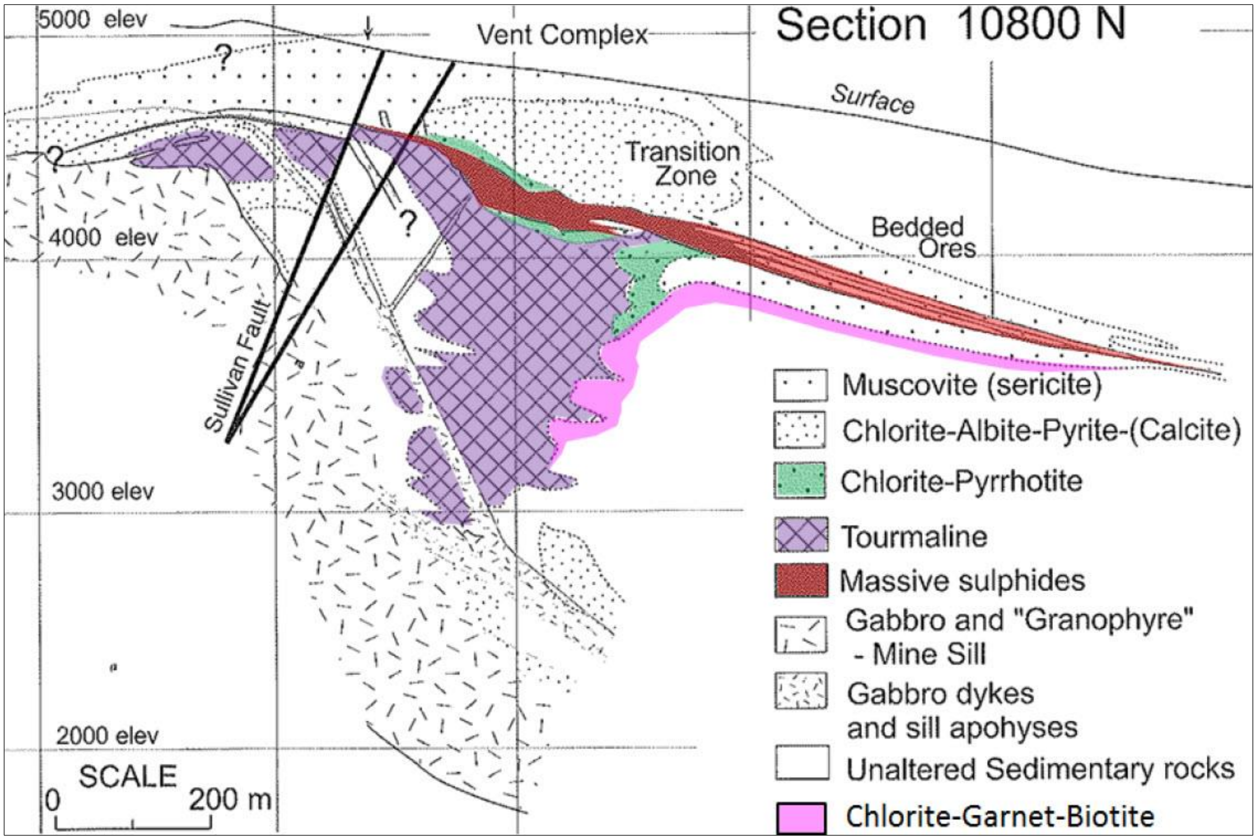


Figure 8: East-West cross-section through the Sullivan deposit showing the distribution of sulphide bodies and hydrothermal alteration types (Modified from Lydon et al., 2000).

Kootenay King

A stratiform SEDEX deposit located east of the Rocky Mountain trench (Höy et al., 2000) occurs in dolomitic to argillaceous siltstones of the Middle Aldridge formation and is second only in geological importance to the Sullivan deposit. A prominent thick bedded "quartzite" referred to as the Kootenay King Quartzite, contains the stratiform sulphide layer. The relatively small deposit was discovered in the 1880s and contains 14,616 tons at 5.4% Pb, 15.1 % Zn and 1.9 oz/t Ag.

6.0 PROPERTY GEOLOGY

The Panda and McNeil properties are located on the western limb of the Purcell Anticlinorium. The properties are underlain by the Lower and Middle Aldridge members of the Mesoproterozoic Aldridge Formation, and are intruded by the Moyie sills. The Lower Aldridge member is bound to the southeast by the Moyie fault. The Middle Aldridge member comprises the majority of both properties. Strata in the Lower Aldridge member dips predominantly to the northwest and strata in the Middle Aldridge member dips to the northwest, northeast, and east. There are a number of sedimentary fragmentals, tourmalinite, and albitite alteration throughout the properties. Outcrop is limited throughout the properties.

6.1 Structure

The Panda and McNeil properties are bound to the south by the northeast-trending Moyie fault, which thrusts the Aldridge Formation over the Creston Formation, and is the most prominent fault in the area. The northern extent of the McNeil property is bound by the northeast-trending, normal Moyie River fault. Several northeast-trending faults are located throughout the properties, and are especially abundant in the Panda Basin. Northeast of the properties, are several more northeast-trending thrust faults that are roughly parallel to the Moyie fault. Several northwest-trending faults transect the properties, including the Ice fault, and are terminated by the northeast-trending Moyie fault. The north-trending McNeil fault (normal) and the Kid and Goodie faults are also terminated by the Moyie Fault.

A gently NNE-plunging syncline is centred in the northern part of the property. The Lower Aldridge member rocks are mapped on the east limb of the syncline, north of the Moyie fault. The west limb of the syncline is cut by the north-trending McNeil fault, a major, steeply west-dipping (?) normal fault with vertical displacement.

6.2 Alteration and Mineralization

There are several BC MINFILE mineral occurrences in both the Panda and McNeil properties. Geochemical anomalies and mineralization in several drillholes on the properties are associated with the LMC and the Sullivan Horizon. Mineralization is typically characterized by veins and bedded sulphides, including sphalerite, galena, and pyrrhotite.

Drillhole M-89-8 intersected base metal sulphides immediately below the LMC. Drillhole, K97-2, contained scattered sphalerite stringers and was extended in 2002 from 762.2 to 1546.3 m to test for the Sullivan Horizon. It was stopped above the Sullivan Horizon due to a thick Middle Aldridge succession, structural repetition, and gabbroic sills. Drillhole Panda 04-1 (to 1333.8 m) was also drilled to assess the changing character of the Sullivan Horizon in the area. The drillhole reached Sullivan Time and intersected pyrrhotite and minor sphalerite and galena. The Sullivan Horizon was ~85 m thick, with the base at 1295 m.

Hydrothermal alteration in the area includes biotite, hematite, chlorite and Mn-oxide. Tourmalinite occurs in several locations throughout the properties.

7.0 2016 EXPLORATION PROGRAM

7.1 GEOLOGIC MAPPING

Geological mapping was completed in 2016 on claim numbers 1038931 and 1038932, southwest of drillholes M-90-1 and M-89-8, and 1038929 (Appendix III). The area was mapped to a) confirm geological interpretations by previous mappers, and b) collect lithogeochemical samples through all rock units, and c) use the pXRF and ASD to identify geochemical trends in the rock units and vectors to mineralization.

7.1.1 Mapping Procedures

Mapping was completed at 1:10000 scale by geologists Lara Loughrey, Kirsti Medig, Tom Danielson, and Lucy Hollis with assistance from Sara Wigelsworth between May 26th and June 15th, 2016. Base maps consisted of topographic maps with 50 m contours and a 300 m UTM grid (NAD 83 Zone 11 N) printed on letter-sized paper. Two layers of mylar overlying the base map were used to document lithology and alteration/mineralization layers, respectively. Planar structural measurements in the field were recorded as strike and dip using the North American right-hand rule.

Historical mapping on these properties includes BCGS Geoscience map 1995-1 compiled by Höy et al. and maps 1998-2 and 1988-3 compiled by D.A Brown.

7.1.2 Mapping Results

The area mapped during the 2016 field program reflected previous mapping by the BCGS with some minor exceptions related to unit boundaries and fault locations. In claims 1038931 and 1038932, the boundaries of the Moyie sills were altered to reflect mapped outcrop. In addition, the Upper Aldridge member (previously mapped and locally surrounded by the Middle Aldridge member) was not identified in outcrop and instead was mapped as the Middle Aldridge member. The Moyie sills were extended in some areas and minimised in other areas to reflect contacts mapped in outcrop.

7.1.2.1 Lithology

The Lower, Middle, and Upper Aldridge members of the Aldridge Formation were mapped on the McNeil property. The Lower Aldridge member comprises buff to rusty brown weathering, medium to dark grey, medium-bedded quartzite to quartz arenite to quartz wacke. Locally, green-weathering, dark grey, medium-bedded quartzite and quartz arenite had minor low angle folding with well-developed crenulation cleavage. In one location, buff to light grey weathering, dark grey quartzite was interspersed with decimetre-scale fragmentals with rusty white haloes, up to 30 cm wide and 8-10 cm long.

The Middle Aldridge member comprises dark grey to rusty weathering, medium to dark grey 'dirty' quartzite to quartz arenite. Layering ranged from massive to thin- to medium- bedded, cm-scale, alternating light and dark grey/black layers. Locally, dark biotite-rich laminations (replacing clay) are interlayered with argillite laminations/beds (8-20 cm thick) and quartzite and quartz arenite beds. Locally, quartz veinlets occur both parallel and perpendicular to bedding. Minor quartz+biotite+chlorite veins and veinlets also crosscut quartzite and quartz arenite. Fragmentals are interbedded with dark grey to rusty weathering, dark grey thin- to medium-bedded quartz arenite to quartzite. The fragmentals are ovoid to rounded, dm-scale, and up to 30 cm long, with rusty hematite weathering within each fragmental and white, soft, altered haloes. The fragmentals are concordant with bedding and made up of mudstone.

Figure 9: Fragmental clast in the Lower Aldridge member.

The Upper Aldridge member is made up of rusty to dark grey weathering, grey to black fine-grained, laminated siltite to argillite. Biotite replaces mm- to cm-scale carbon-rich beds and is often interlayered with thicker dm-scale beds of siltstone.

The gabbroic to dioritic Moyie sills intruded the Aldridge Formation in the mapped area. The Moyie sills comprise light grey weathering, dark grey or green/black fine- to medium-crystalline gabbro to diorite (hornblende+plagioclase+quartz+chlorite). The sills are non-magnetic. The character of the Moyie sills varied throughout the field area, but was locally finely crystalline, black-weathering, dark green gabbro with over 80% mafics including pyroxene and amphiboles. In other areas, they were coarsely crystalline gabbro, also with over 80% mafics.

7.1.2.2 Mineralization

In surface mapping, mineralization was minimal and typically disseminated in outcrop. In the Lower Aldridge member, mineralization identified in outcrop was limited to rusty weathering, disseminated, euhedral, mm-scale hematite after pyrite (1-2%) and blebby pyrite. Hairline fractures with weathered sulphides (possibly pyrite) were locally present. Traces of an unidentified silver, metallic mineral (possibly arsenopyrite) were also locally present in the Lower Aldridge member.

In the middle Aldridge member mineralization in outcrop was sparse and limited to mm-scale rusty weathering pits (1%; possible sulphides) and yellowish, disseminated, mm-scale arsenopyrite or pyrrhotite (1%). Mineralization was not identified in the upper Aldridge member.

In the Moyie sills mineralization in the mapped area was limited to trace, disseminated, mm-scale pyrite and arsenopyrite (1%).

7.1.2.3 Alteration

In the Lower Aldridge member, alteration consisted of locally rusty disseminated hematite (1-2%), moderate chloritization (25%), and silicification (25-50%). The rock was chloritized and slightly hornfelsed directly adjacent to the Moyie sills. In the Middle Aldridge member, alteration comprised local silicification (up to 80%) and very fine-grained tourmaline and biotite replacement. Biotite replaced argillite beds (up to 80%) and also occurs as mm-scale crystals and in veinlets, with some biotite locally altered to hematite. Tourmaline replacement is mm-scale and bladed along fractures (up to 30%) and is also prevalent in fragmentals (5-25%). Minor Mn-oxide (1-2%) alteration is present along fractures. Pervasive biotite alteration (50-85%) in argillite beds is prevalent in the Upper Aldridge member. White mica (5-10%) identified along the base of the turbidite beds was interpreted to alter a coarser fraction of the sediment. Alteration in the Moyie sills was limited to local Mn-oxide along fractures, biotite replacing hornblende (~50%), and silicification (70%).

7.1.3 Laboratory Lithogeochemical Data from Surface Rocks

A total of 56 rock samples were taken from McNeil outcrops. The laboratory preparation and analytical details of the surface rock analytical program are provided in Appendix V. Key results are provided below in Section 6.3.3.1.

7.1.3.1 Bulk Rock Chemistry and Mapped Lithological Units

The outcrops sampled across the property were predominantly various sedimentary units belonging to the Middle and Lower Aldridge Formations. The predominant lithological units are metamorphic siltite and quartzite with lesser occurring quartz arenite and quartz wacke. Less frequently occurring are gabbroic to dioritic intrusive Moyie sills. The major element geochemistry of the surface samples support the observed lithological units noted while mapping using sedimentary and plutonic geochemical classification diagrams (Figure 10).

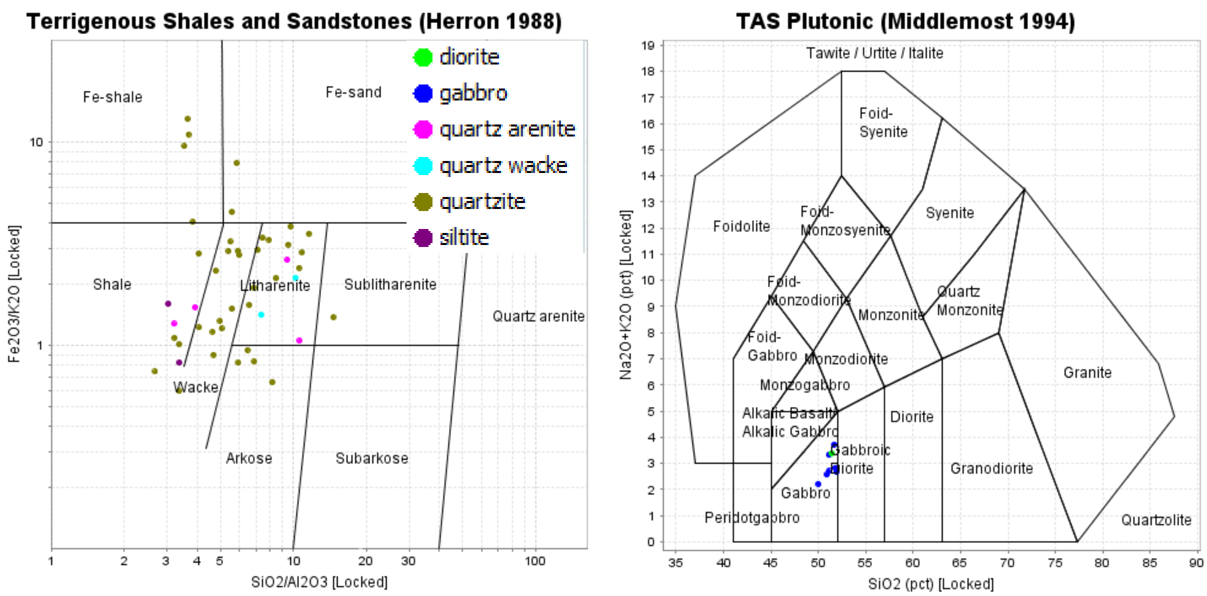


Figure 100: Terrigenous Shales and Sandstone classification (Left) (Herron, 1988) and TAS Plutonic (Right) (Middlemost, 1994) major element classification diagrams.

The gabbroic to dioritic Moyie sills, as expected, demonstrate distinct compositions compared to the sediments and metasediments of the Middle and Lower Aldridge Formations. The gabbroic to dioritic sills demonstrate relatively higher concentrations of Ca, Cr, Fe, Mn, Mn, Ti, with lower Zr, Y, Nb, REE, SiO_2 and Al_2O_3 composition; this is related to the dominance of Fe-Mg mafic minerals rather than felsic minerals as found in the quartz-rich sediments of the Middle and Lower Aldridge Formations.

There is a limited number of siltite (n=2), quartz wacke (n=2) and quartz arenite (n= 4) compared to the quartzite (n=37) units sampled. This does hinder lithological discrimination due to a lack of information. From the data collected to date the quartzite, quartz arenite, quartz wacke and siltite share very similar bulk, refractory and trace element compositions. The siltite does weakly demonstrate relatively more Al_2O_3 (due to high clay mineral content) relative to the quartz-rich units, which is moderately distinctive, but not distinct enough for separation of the units. Additional sampling is required to refine and improve the geochemical discrimination.

7.1.3.2 Trace Element Association with Zn-Pb

Limited Zn and Pb mineralization was detected during sampling; the maximum Zn concentration identified was 436.7 ppm and Pb 662.91 ppm. However, there are good strong correlations with trace (Ag, Cd, Tl, REE, ± Bi, Ni, Cu) and major (Fe, Mn, S) elements with Zn and Pb occurrences that demonstrate the potential use for future exploration. The associated trace and major element associations with Zn and Pb are related to the presence of associated pyrite/pyrrhotite mineralization and the presence of seafloor alteration (Mn association).

7.1.4 Portable XRF Analytical Data from Surface Rocks

Details regarding the portable XRF, analytical settings and sample selection can be found in Appendix VII. A summary of key results and data interpretation will follow.

Potable XRF CAUTIONARY NOTE

All data collected using the pXRF should be considered semi-quantitative as the instrument analyses a small spot area and because a systematic bias is known to occur due to instrument calibration. Results are not a substitute for lab-based geochemical analyses and under no circumstances should be used to estimate overall grade of drill core intervals. Due to the pXRF instrument's systematic bias, the content of many deleterious elements, in particular Hg, can be overestimated. However, the pattern and relative concentration (highs and lows) can be used as an effective vector to mineralization. In addition, spectral interferences influence the accuracy of element determinations. Common spectral interferences are Ba-Ti (-V), Mo-U, Hf-Zr, Sb-Cd and Pb-As. Generally, several % level concentrations are needed to cause significant interferences. In the case of the Purcell region, the spectral interferences have a minimal impact on the pXRF data.

Due to the analytical bias associated with the pXRF instrument conventional classification diagrams cannot be used in the same manner as for laboratory derived analyses. The gabbro and diorite from the Moyie Sills are expectantly relatively higher in Ca, Mg and Cr concentrations, with a relatively less K, P and Zr concentrations. The other major elements (Al, Si, Ti and Fe) are similar to the quartz-rich sedimentary samples and are not useful for discrimination purposes. The quartz arenite, quartz wacke, quartzite and siltite units are geochemically very similar within the pXRF data collected to date. There are limited numbers of quartz arenite (n=3), quartz wacke (n=1) and siltite (n=2) which limits the effectiveness of the dataset to provide a robust discrimination.

Only weak Zn and Pb concentrations were detected from surface samples with the pXRF; the maximum Zn value was 543.5 ppm and Pb 387.7 ppm. As a result of the limit mineralization detected the identified trace element associations are also very weakly correlated. Zn-Pb however, does show a positive association with anomalous Fe ± Mo, Mg, Mn, Cu and Ni, which could be potentially used for future exploration work. Additional data from more mineralized samples is required to provide more robust associated trace elements.

7.1.5 Spectral Analytical Data from Surface Rocks

Details regarding the Analytical Spectral Device (ASD), analytical settings and sample selection can be found in Appendix VIII. Spectral data was only obtainable from 54 surface samples; the two samples

(2767059 and 2767061) were not able to be scanned with the ASD due to insufficient and clean sample. A summary of key results and data interpretation will follow.

There is a lithological control associated with the wavelength position at 2350 nm; the gabbro and diorite units largely demonstrate lower 2350nm wavelength positions relative to the sedimentary units. This is likely due to a dominance of hydrous FeMg mafic minerals in the gabbro compared to the felsic minerals within the quartz-rich sedimentary units of the Middle and Lower Aldridge. The quartz arenite, quartz wacke, quartzite and siltite are not differentiated on spectral features.

There are very weakly to poorly define spectral trends with Zn and Pb grades. The lack of strong spectral trends is likely due to low Zn and Pb concentrations detected at surface. From the data collected there is a very weak trends of anomalous Zn+Pb 1) associated with 2255 ± 5nm wavelength position; 2) associated with 2207.5 ±5 nm wavelength positions; 3) associated with 2345 ± 5nm wavelength positions; and, 4) lower 1900nm hull quotient depth features. These trends very weakly correlate to, muscovite white mica, more crystalline white mica and intermediate chlorite compositions with anomalous Zn-Pb. The data trends are weak and more data is required to provide a more robust and reliable interpretation.

7.2 HISTORIC CORE REVIEW AND SAMPLING

The 2016 historical drill core review consisted of quick re-logging of historic drillholes M-89-8 and M-90-1 to verify lithology, mineralization, alteration, and structure as well as selective portable X-Ray Fluorescence (pXRF) and ASD sampling.

7.2.1 Re-Logging of Drill Core

Core logging and sampling with a pXRF and ASD was conducted at Frank O'Grady's property (7021 Wycliffe Road), located approximately 10 km northwest of Cranbrook, BC. After moving historical core boxes from stacks, core boxes and drill core were re-logged (quick-logs) and analysed with the pXRF and ASD. Re-logging was done to confirm previously logged lithology, structure, alteration, veins, and mineralization. Quick logs are included in Appendix IV.

Multi-element geochemical data had not previously been collected on the drill core. Samples for pXRF and ASD analysis were taken at approximately 1 and 2 m intervals in drillhole M-89-8 from 867 to 1082 m and every 3 m in drillhole M-90-1 from 76 to 572.1 m. Select intervals in drillholes M-89-8 and M-90-1 were not sampled as some core boxes were not salvageable due to weathering and broken core, as well as wedged within the disintegrating core-racks.

Geological Summaries of Core Re-logging Observations

Drillholes M-89-8 and M-90-1 were logged in detail by Bapty Research Limited in 1989 and 1990. Detailed drill logs can be found in Assessment Report #19,989. The 2016 fieldwork included re-examination of drill core from these two drillholes. In total, 713.6 m of drill core was re-logged (Appendix

IV). A copy of the historic log was used during the re-logging process. Stratigraphic codes were written on a single page graphic log with a summary describing the major stratigraphic formations, lithology, structure, mineralization, and alteration (Appendix IV). Re-logging confirmed that the 1989 historic logging by Bapty was an accurate description of the core.

M-89-8

Drill hole M-89-8 was re-logged (quick-log) from 866.8 to 1083.9 m for a total of 217.1 m logged (Appendix IV). The logged interval intersected the Lower and Middle Aldridge member contact. The Middle Aldridge member, from 866.8 to 957 m, is medium grey to green, siliceous siltstone to minor quartzite. Bedding is obscured in some sections due to silicification of the rock. Weak to moderate pervasive chlorite alteration and strong silica alteration is locally present. Pink garnet porphyroblasts (<3 mm) are locally present (3-5%). Mineralization is predominantly disseminated and clotted pyrrhotite (1-3%) that increases toward the contact with the Lower Aldridge member. In addition, trace honey red sphalerite is present.

Figure 11: Drillhole M-89-8 with disseminated patchy blebs of pyrrhotite in siltstone.

The Lower Aldridge member extends from 957.1 to 1083.9 m (EOH) and is a medium to dark grey to green, laminated sandstone and quartzite. The unit is moderately to strongly silicified with weak chlorite alteration and small intervals of <5% garnet porphyroblasts (Fig. 11). Mineralization is common 24 m below the contact in the form of disseminated pyrite and pyrrhotite, and trace sphalerite. Hairline fractures are commonly associated with pyrite and pyrrhotite. The hole ends in a fault zone beginning at 1081.8 m; commonly referred to as the McNeil Creek fault.

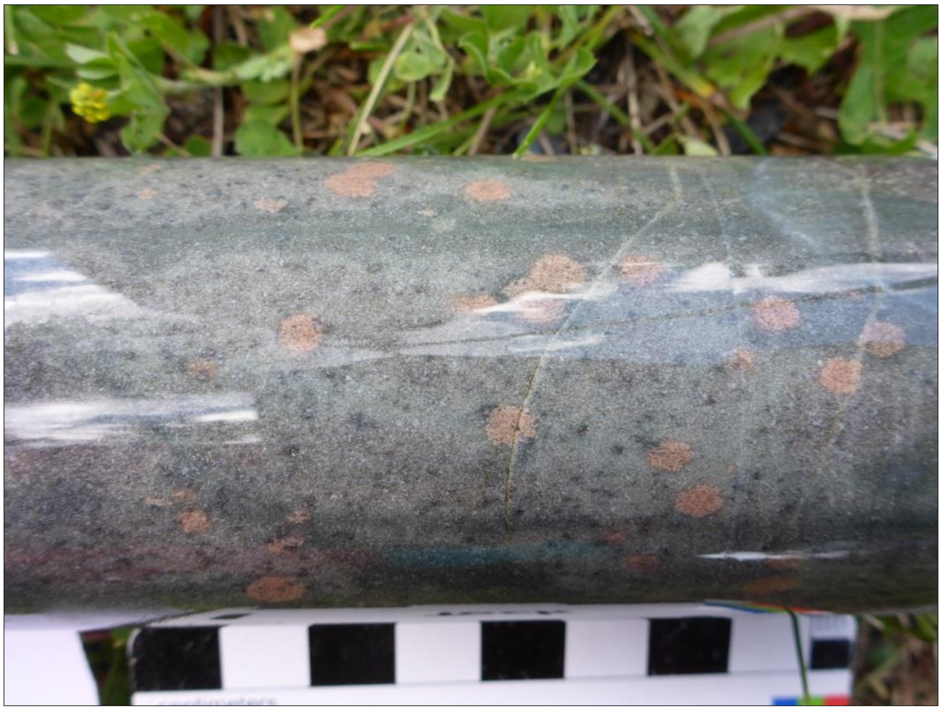


Figure 12: Drillhole M-89-8 with garnet porphyroblasts and biotite and chlorite alteration.

M-90-1

A quick-log of the drill hole was completed from 75.6 to 572.1 m (EOH; Appendix IV). Select portions of the hole were not logged because the core boxes could not be retrieved from the core rack. The Middle Aldridge member extends from surface to 534.5 m, where it is intruded by a gabbroic Moyie sill. The Middle Aldridge member, from 75.6 to 165.2 m, is medium to dark grey, and locally light green, siltstone with local bleached white concretions. Pink garnet+biotite alteration and disseminated pyrite+pyrrhotite mineralization occur throughout the Middle Aldridge member. Zones of pervasive chlorite and silica alteration are present throughout. Mineralization (pyrite+pyrrhotite) is generally more prevalent around the concretions, but it is also disseminated (<1%) throughout the siltstone and in fractures. Two barren quartz veins were noted in this interval. Pink garnet porphyroblasts are also common along bedding planes ranging from 3 to 7 mm in size.

Figure 13: Drillhole M-90-1. Siltstone with garnet+biotite altered and mineralized concretion at 305 m.

The underlying unit, from 165.2 to 534.5 m is interlayered, medium to dark grey siltstone and sandstone (quartzite). The Monroe Marker, one of many distinctive, alternating dark and light laminated siltstone layers in the Aldridge Formation, was identified between 189.3 and 190.4 m as interlayered light and dark grey laminations to beds. The unit displays localized chloritization and silicification; more prevalent in the sandstone layers, which also have associated biotite+garnet alteration. Local iron-oxide staining (10-30 cm) in host rock is present from pyrite in fractures. Quartz veins with pyrrhotite crosscut the host rock. Mineralization is present as pyrrhotite in blotchy patches ~3-4 mm in length, pyrite+pyrrhotite in healed fractures and disseminated around veins, pyrrhotite+pyrite in concretions, and pyrite stringers (365 m). The original log noted sphalerite blebs, however, these were not identified during the 2016 re-logging. A centimetric, bedded sandstone with a distinctive pink alteration and bedding-parallel pyrite mineralization is present at 335.5 m. The layer is surrounded by chlorite and silica alteration. Silica- and chlorite-alteration increases in intensity between 424-429.5 m and alteration generally increases closer to the underlying intrusive contact.

The end of the drillhole, from 534.5-572 m (EOH), is dark green to black, fine- to medium-crystalline gabbro with disseminated and fracture-filling pyrite+pyrrhotite. Pervasive chlorite alteration is prevalent. Mineralization is present in the siltstone/sandstone unit above the gabbro as minor pyrite+pyrrhotite along fractures, pyrrhotite-rich beds, and quartz veins with pyrrhotite blebs (5%). Drillhole M-90-1 ended in the Middle Aldridge member and did not reach the LMC.

7.2.2 Drill Core pXRF Analysis

7.2.2.1 pXRF Results

Details regarding the pXRF instrument, analytical settings and selection process for drill core samples can be found in Appendix VII. The pXRF analytical data and a brief interpretation of results are included herein. The pXRF was set up to detect the following elements consistently: Al, Ca, Fe, K, Mg, Mn, Mo, Nb, Pb, Rb, S, Si, Sr, Ta, Th, Ti, V, U, Zn, Zr. The following elements were reported frequently, and mostly occurring within mineralized areas: As, Cu, Hg and Ni. The other elements were not detected due to lack of measureable concentration within the core analyzed. The elements listed above provide the framework of the pXRF data presentation and review which follows.

Drillhole M-89-8

Drill hole M-89-8 intersected Middle Aldridge (866.8-957.1) and Lower Aldridge (957.1-1083.9m). Both formations comprise interbedded siltstone and quartzite units which are geochemically similar. The siltstone and quartzite units share similar bulk rock (Al, Ca, Fe, Mg, K, P, Si, Ti) and refractory (Nb, Zr, Y) and trace (Rb, Sr, Th, V) elements, hence are not easy to separate using pXRF data alone; textural and geological observations are required to supplement this data. From the Herron 1988 shales and sandstones classification, the lithological units are shales, wacks, and lithic-arenites.

Mineralization was confirmed by the occurrence of Zn and Pb within the pXRF data. Zn-only, Pb-only and associated Zn-Pb mineralization was detected by the pXRF (see Figure 14). The highest Zn concentration detected was ~3210 ppm and Pb ~630 ppm. The Zn concentrations detected in M-89-8 were erratic, whereas the Pb demonstrated a weak, but broad anomalous zone from approximately 980-1010m.

Reasonable overall correlations of Zn-Pb with Fe and S exist in the pXRF data. Weaker, but still positive associated trends with anomalous, Mn, Mo, Hg and a weak Si loss. The associated element trends with Zn and Pb are not abundantly clear, which may be the result of only weakly identified Zn and Pb mineralization. However, weak trends are demonstrated (these are better demonstrated with smoothed data to remove some of the erratic steps in reported pXRF concentrations):

- Weak, but anomalous Pb zone from ~980-1010m is associated with:
  - Patchy Zn from ~980-1005m
  - An inconsistent Si loss from ~970-1050m
  - Inconsistent moderate Mn from 970-1010m
  - An inconsistent anomalous Mo from 970-1020m

- Weak, Zn-only anomaly at ~1030-1038m associated with:
  - Erratic weakly anomalous Pb within this zone.
  - Narrow anomalous S rom ~1030-1038m
  - Broad anomalous Fe zone from 1020-1040m
  - Broad anomalous Mn zone from 1020-1050m
  - Si loss, particularly between ~1025-1035m

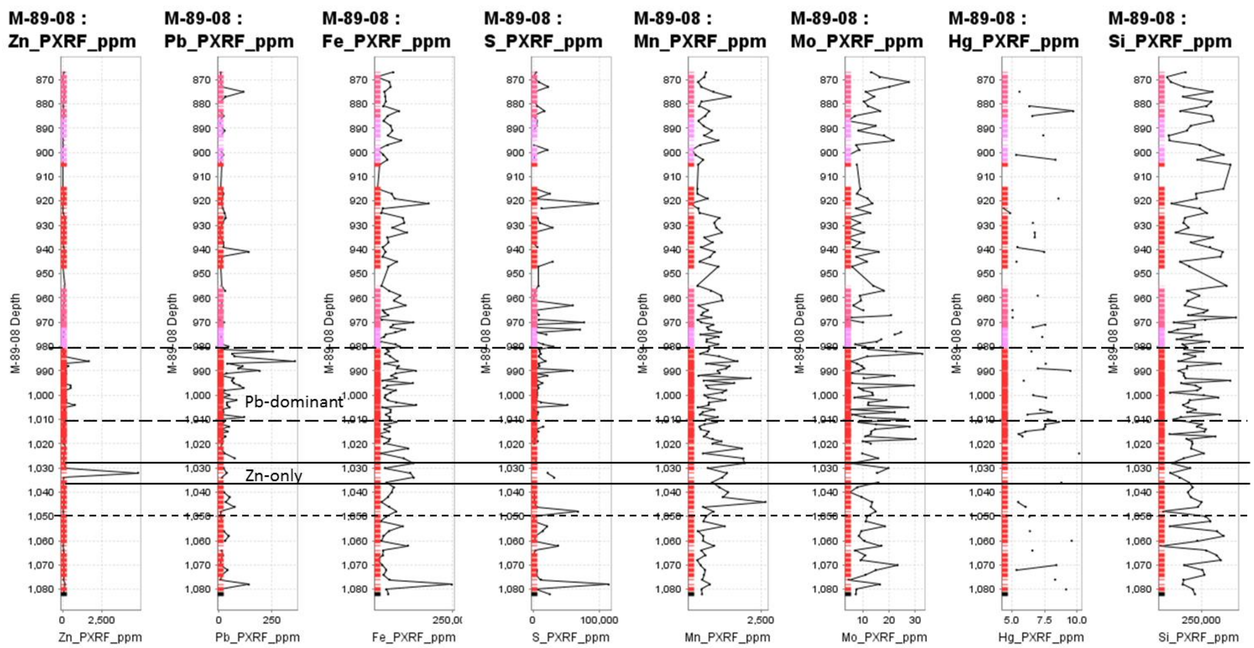


Figure 14: M-89-8 downhole collected pXRF data showing Zn, Pb, Fe, S, Mn, Mo, Hg and Si. Narrow (<5m) to slightly broader (5-25m) halos of trace element associations (Fe, S, Mo and Mn) and Si loss.

Drillhole M-90-1

As with M-89-8, the dominant lithological units within M-90-1 were siltstones and quartzite from the Middle and Lower Aldridge Formations. However, a gabbro unit was also identified. The siltstone and quartzite units shared very similar major, refractory and trace element associations with the sedimentary units identified in the M-89-8 drill hole. The gabbro is geochemically distinct, as expected (due to dominantly mafic minerals), and demonstrates higher concentrations of Ca, Fe, Mn, Mo, P and Ti with associated lower concentrations of K, Rb, Si and Zr compared to the siltstone and quartzite units.

Drill hole M-90-1 did not intersect the anomalous Zn-Pb mineralization intersected in M-89-8. The maximum Zn detected was ~4850 ppm at 114m depth. There were two Pb anomalous detections at 263m depth (~475 ppm) and 362m depth (~636 ppm). All other Zn and Pb readings were of background concentrations.

Due to the lack of intersected mineralized zones, the trace element associations identified are more limited than for M-89-8 (Figure 15). The S pXRF data is poorly detected in M-90-1 and therefore unusable as a vector/footprint element. Similarly, Hg was erratically detected, but Hg is consistently detected from ~325-410m enveloping the Pb at 362m depth. Fe was detected consistently, but anomalous zones do not correlate with Zn and Pb occurrences, e.g. at 324m depth which is related to the presence of pyrite and pyrrhotite fracture fill and blotchy patches. Si concentrations are largely unchanged downhole. There is a broad low Mo concentration between ~160-400m depth, with patchy but anomalous Mo at ~130-160m and 410-420m, which looks to be associated with pyrite/pyrrhotite rather than sphalerite-galena mineralization.

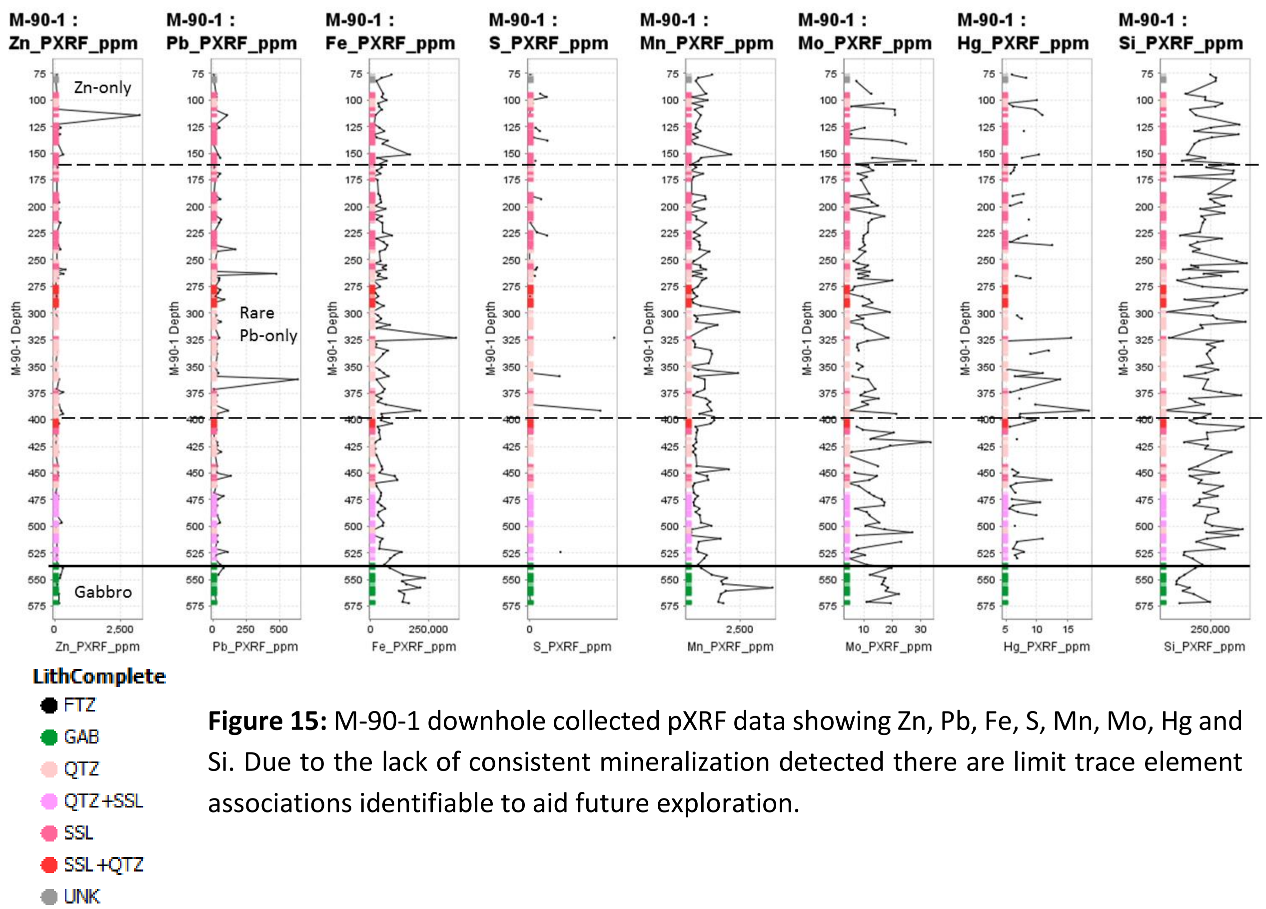


Figure 15: M-90-1 downhole collected pXRF data showing Zn, Pb, Fe, S, Mn, Mo, Hg and Si. Due to the lack of consistent mineralization detected there are limit trace element associations identifiable to aid future exploration.

7.2.2.2 Drill hole pXRF Summary and conclusions

From the pXRF data collected using 'Geochem mode' from McNeil drill holes the following elements were best detected: Al, Ca, Fe, K, Mg, Mn, Mo, Nb, Pb, Rb, S, Si, Sr, Ta, Th, Ti, V, U, Zn, Zr. From these the major elements and Zr were best for lithological discrimination. Iron, S, Mn, Mo, rarely Hg and Si demonstrated weak, but identifiable trends to aid in vectoring.

The lithological units identified in M-89-8 and M-90-1 are hard to geochemically separate (siltstone/quartzite) but the gabbro unit is geochemically distinct.

The trace element association demonstrated, particularly with pXRF data from M-89-8, is as expected with observed sulfides confirmed during re-logging. Weak sphalerite mineralization is associated with visible pyrite and pyrrhotite, explaining the associated Fe, S, Mo, and Hg enrichment with Zn-Pb (sphalerite-galena) mineralization. The noted Si loss is likely related to alteration/mineralization adding sulfides to the rock, therefore demonstrating a relative Si loss in the geochemistry.

During logging chlorite alteration was observed. However, there was no decisive indication the Fe trends in the pXRF data to accurately reflect this alteration over the presence of sulfides (pyrite and pyrrhotite particularly).

7.2.3 Drill Core Spectral Analysis

Spectral analysis of geological materials (drill core and rocks) collected from McNeil and Panda properties could create value as an exploration vector tool. This data type has not commonly been collected across the Purcell basin; although sericite (mica) alteration is commonly reported at Sullivan (Lydon et al., 2000) and surrounding properties elsewhere in the basin (Britton and Pighin, 1994). Sericite alteration may be associated with post-mineral emplacement of Moyie sills, in association with albite-chlorite-biotite alteration, or early ore-forming hydrothermal processes (Leitch et al., 2000; Turner et al., 2000). Changes in mica chemistry and crystallinity can be detected with an SWIR spectral device such as a TerraSpec™ Explore ASD machine which was used by Teck during the 2016 field work.

Appendix VIII contains the instrument details, analytical settings and sample selection process for the 2016 drill core spectral data collect during field work. Below the key spectral wavelength features and mineral identification will be outlined for each drill hole.

7.2.3.1 Spectral Results

The mineral groups (and minerals) detected using The Spectral Geologist interpretation software were white micas (muscovite, muscoviticillite, phengite) and chlorite (intermediate and Fe-rich). Less frequently detected from the spectra were carbonate minerals (ankerite, calcite and siderite), biotite epidote (epidote, ziosite), and amphibole. Incorrectly identified from 2 spectra (0.7% of data) was gypsum which is unlikely given the lithology and deposit type and no field observations supported this. Rather the gypsum was likely incorrectly identified from poor quality spectra, as a result of poor reflectance of the dark-coloured samples. The spectra obtained from approximately 9% (24 samples) was noisy due to poor reflectance making interpretation of a mineral group challenging. The dominance of white mica and chlorite is consistent with field observations. Overall, from the 263 samples analyzed across both drill holes only 26 spectra were of too poor quality; this represents 9.8% of the data.

Drillhole M-89-8

The spectral data does not appear to demonstrate a strong lithological control within hole M-89-8; most likely due to the similarity in chemistry between the siltstone and quartzite units. There is a dominance of white mica and chlorite detected with lesser occurring carbonate minerals (Figure 15). These spectral responsive minerals are largely co-identified, but there are more chlorite-rich and white mica-rich areas as detected in the spectral data. The chlorite-dominated and white-mica dominant sections occur in both siltstone and quartzite units. The more chlorite and white-mica dominant section approximately correlate to observations during re-logging.

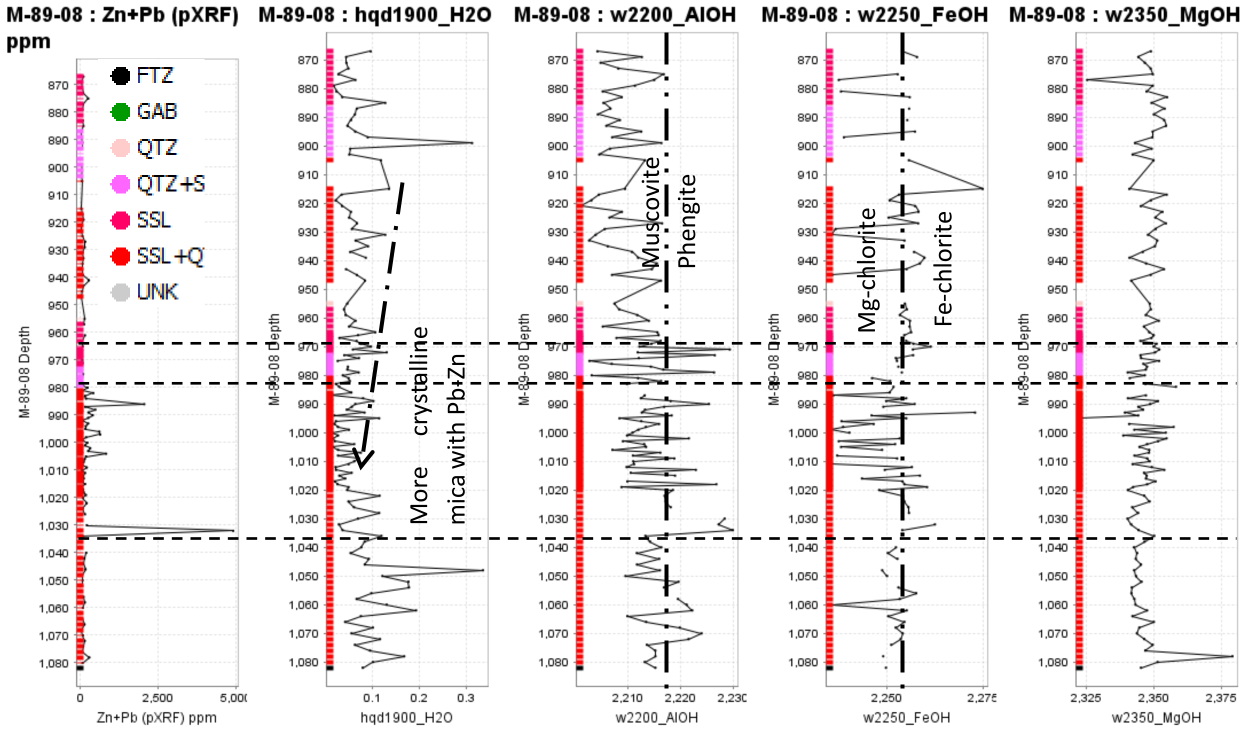
There are distinct spectral wavelength shifts downhole in the 1900nm hull quotient depth (depth of wavelength at 1900nm), 2200nm and 2250nm wavelength positions in relation to Pb-Zn occurrences; the 2350nm wavelength position does not appear to vary significantly downhole (Figure 15).

Anomalous Pb and Zn occur at approximately 980-1035m depth; associated with a low hull quotient depth in the 1900nm. This feature extends from 920m, correlating with anomalous Pb and Zn occurrence. A slight shift to deeper 1900nm feature depths occurs from 1035m to EOH. Zn-Pb are also associated with a subtle shift in the 2200nm wavelength. Overall however, there is a higher wavelength position in the 2200nm feature between approximately 970-1035m. The final association with the Pb-only anomaly is a 2250nm wavelength shift to lower wavelength positions. This is a narrower halo surrounding the Pb anomaly between approximately 980-1020m; the 2250nm shift does not appear to be strongly associated with the Zn-only occurrence downhole.

Drillhole M-90-1

Drillhole M-90-1 intersected a gabbro unit toward the end of the hole from approximately 530m-EOH. As expected due to the distinct lithological change there are also relatively sharp accompanying shifts in the 2250nm (Fe-OH) and 2350nm (Mg-OH) wavelength positions. The 2250nm feature shifts to higher wavelengths, whereas the 2350nm feature shifts to lower wavelengths (Figure 16). This is likely controlled by the abundance of hydrous Fe-Mg minerals in mafic units.

The 1900nm depth, 2200nm, 2250nm and 2350nm wavelength positions are largely unchanged through the siltstone and quartzite units of the Lower and Middle Aldridge Formations. There is however, co-indecent lower 2250nm wavelength positons with anomalous Zn at ~110m depth. This Zn-only occurrence is enveloped by lower 2250nm wavelength position from 100-175m (Figure 17). This pattern is of contrast to that demonstrated in M-89-08 (Figure 16). The anomalous Pb occurrences at approximately 260m and 360m depths were demonstrated to not be strongly related to any spectral features. Throughout the Lower and Middle Aldridge Formations there is consistent 2200nm wavelength positions (muscovite white mica) 2250nm wavelength positions (intermediate Mg-Fe chlorite) and 2350nm wavelength positions (intermediate Mg-Fe chlorite).



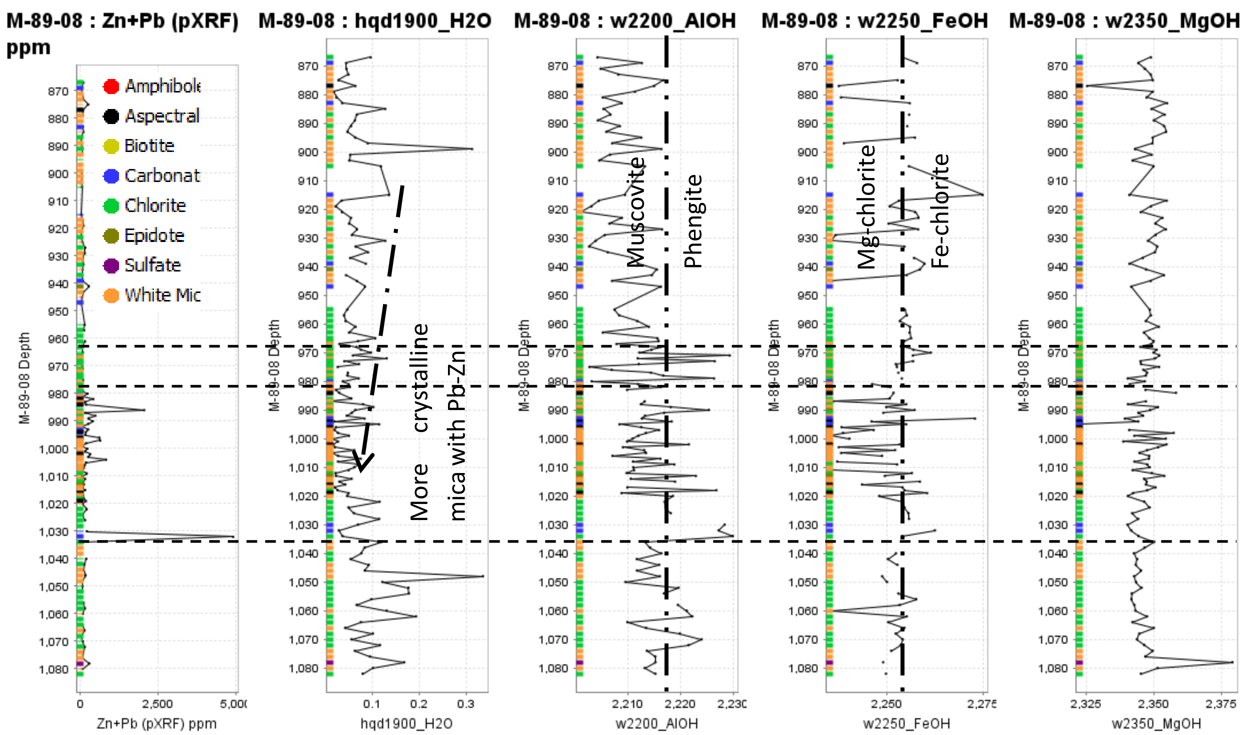


Figure 16: Zn+Pb pXRF values with accompanying spectral features for 1900nm (H2O feature), 2200nm (Al-OH), 2250nm (Fe-OH) and 2350nm (Mg-OH) from M-89-8. Top diagram is coloured by re-logged litholoigcal unit. Bottom diagram is coloured by The Spectral Geologist interpreted mineral from the spectral data. Hqd = hull quotient depth. W = wavelength position

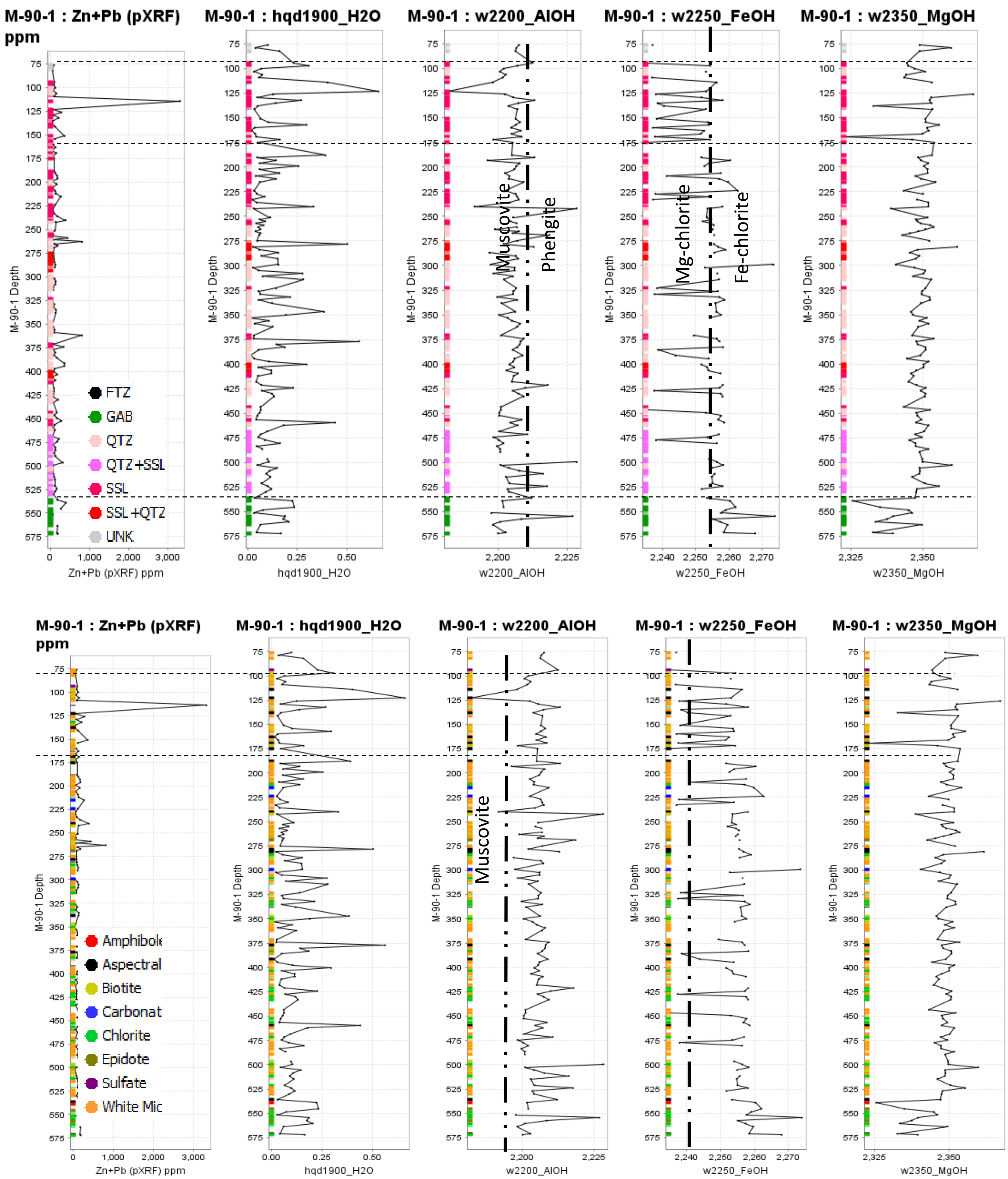


Figure 17: Zn+Pb pXRF values with accompanying spectral features for 1900nm (H2O feature), 2200nm (Al-OH), 2250nm (Fe-OH) and 2350nm (Mg-OH) from M-90-1. Top diagram is colured by re-logged litholoigcal unit. Bottom diagram is colured by The Spectral Geologist interpreted mineral from the spectral data.

7.2.3.1 Spectral Data Summary and conclusions

There is a strong lithological control, as expected in the 2250 and 2350nm wavelength position features corresponding to gabbro in hole M-90-1. These wavelength shifts are controlled by the abundance of hydrous Fe-Mg bearing mafic minerals (chlorite, amphiboles, etc.) which are more dominant in mafic units. There were no distinct spectral differences in the 1900nm hull quotient depth, 2200nm, 2250nm or 2350nm wavelength position between the siltstone and quartzite units logged from the Middle and Lower Aldridge formations.

The Zn-Pb occurrence detected using the pXRF in hole M-89-08 is associated with the following:

- A low 1900nm depth feature (crystalline white mica)
- A slightly higher 2200nm wavelength position (phengitic mica)
- A slightly lower 2250nm wavelength position (Mg-chlorite)

The associated spectral features indicate an association of crystalline white mica enveloping anomalous Pb and Zn mineralization between 980-1035m, with a crystalline halo extending 60m above mineralization. The white mica is dominantly phengitic within the 980-1035m zone, but muscovitic elsewhere in the drill hole. The low, 2250nm narrow association between 980-1020m is associated with Pb only anomalies, and signifies Mg-chlorite within this zone.

Although the enveloping spectral halo is fairly narrow, it is detectable using the key spectral characteristics of 1900nm (crystallinity indicator), 2200nm wavelength position (indication of white mica chemistry based on Al-OH bond) and the 2250nm wavelength position (indication of chlorite chemistry based on the Fe-/Mg-OH bond). The spectral data capture in M-89-8 does indicate the presence of an intersected hydrothermal alteration zonation around anomalous Pb and Zn concentrations.

8.0 PHYSICAL PROPOERTY MEASUREMENTS

Physical rock property measurements were taken to complement data collected during geological core logging. Regular magnetic susceptibility measurements (every ~3 m) were collected using a KT-9 magnetometer. Regular specific gravity measurements (every 10-15 m) were taken on 10 cm long representative pieces of drill core. Similarly, measurements were taken every 15-20 m on representative samples for Sample Core Induced Polarity (SCIP). The SCIP took measurements for apparent resistivity and apparent chargeability. Physical properties measurements are found in Appendix VIIII.

Several physical property methods were used to characterize the rocks at Panda and MacNeil from drill core. Table 5 below provides specific gravity, magnetic susceptibility, resistivity and chargeability measurements taken from drill core for the logged geological formations.

The majority of the rock units have high resistivities with variable chargeabilities, except the Moyie sills units which exhibit lower resistivities.

Table 5: Average specific gravity, magnetic susceptibility (x10-3 SI), resistivity (Ωm) and chargeability (mV/V) measurements taken from drill core for Aldridge Group formations.

StratCode	Mag Sus	SG	Resistivity	Chargeability
CHH	0.660	2.76	68162.33	23.97
LA	0.867	2.76	86487.87	23.56
LMC	0.300	2.80	1996.06	36.02
MIN	65.045	3.69	10752.43	26.62
MA	0.501	2.76	79421.28	25.94
FRINGE	0.320	2.73	14744.68	12.71
MOYIE	0.220	2.70	3844.31	6.39
MOYIE_GA	0.933	3.01	3839.49	12.33

Table 6: Magnetic Susceptibility measurements from M-89-08 and M-90-01

Hole	Dist	MagSus1	MagSus2	MagSus3	MagSus4	MagSus5	MagSus Average	MagSus StDev	SG
M-89-08	868.5	0.580	0.632	0.758	0.667	0.653	0.660	0.060	2.73
M-89-08	884.5	0.605	0.566	0.549	0.688	0.486	0.580	0.070	2.76
M-89-08	906.4	1.360	0.754	0.800	0.881	0.766	0.910	0.260	2.79
M-89-08	931.1	0.388	0.307	0.213	0.252	0.312	0.290	0.070	2.73
M-89-08	954.7	0.150	0.140	0.151	0.154	0.133	0.150	0.010	2.87
M-89-08	994.1	2.629	2.932	2.846	2.935	2.768	2.820	0.130	2.81
M-89-08	1001.3	2.895	3.100	2.900	3.039	2.951	2.980	0.090	2.76
M-89-08	1008.3	0.562	0.256	0.260	0.260	0.255	0.320	0.140	2.76
M-89-08	1014.9	1.484	1.690	1.354	1.540	1.678	1.550	0.140	2.84
M-89-08	1017.4	1.439	1.888	1.327	1.402	1.471	1.510	0.220	2.79
M-89-08	1036.9	0.399	0.340	0.434	0.447	0.353	0.390	0.050	2.78
M-89-08	1052.1	1.776	1.582	1.398	1.781	1.536	1.610	0.160	2.74
M-89-08	1063	1.101	1.162	0.930	1.025	0.939	1.030	0.100	2.71
M-89-08	1068	1.472	1.792	1.170	1.613	1.450	1.500	0.230	2.74
M-89-08	1074.8	2.202	1.640	2.252	1.161	2.000	1.850	0.450	2.78
M-89-08	1079	0.197	0.170	0.220	0.211	0.189	0.200	0.020	2.69
M-90-01	78	0.183	0.283	0.230	0.196	0.220	0.220	0.040	2.70
M-90-01	104.6	0.101	0.103	0.101	0.097	0.098	0.100	0.000	2.69
M-90-01	114.6	0.597	0.557	0.615	0.594	0.604	0.590	0.020	2.72
M-90-01	128.2	0.149	0.162	0.155	0.123	0.117	0.140	0.020	2.76

M-90-01	140.1	0.125	0.150	0.161	0.138	0.167	0.150	0.020	2.73
M-90-01	157.3	0.073	0.091	0.090	0.118	0.105	0.100	0.020	2.69
M-90-01	171.7	1.292	1.114	1.321	1.315	1.116	1.230	0.110	2.76
M-90-01	189.8	1.014	0.717	0.963	0.115	0.844	0.730	0.360	2.73
M-90-01	209.7	0.312	0.303	0.301	0.210	0.306	0.290	0.040	2.76
M-90-01	227.6	0.210	0.202	0.205	0.150	0.168	0.190	0.030	2.74
M-90-01	251.8	0.121	0.125	0.136	0.126	0.126	0.130	0.010	2.72
M-90-01	268.9	0.101	0.089	0.081	0.086	0.108	0.090	0.010	2.68
M-90-01	276.1	0.220	0.186	0.190	0.223	0.214	0.210	0.020	2.73
M-90-01	281.9	0.112	0.128	0.118	0.126	0.128	0.120	0.010	2.69
M-90-01	304.1	0.181	0.193	0.181	0.164	0.178	0.180	0.010	2.76
M-90-01	324.9	0.150	0.136	0.151	0.134	0.130	0.140	0.010	2.70
M-90-01	349.3	0.213	0.224	0.211	0.212	0.219	0.220	0.010	2.76
M-90-01	361.8	0.102	0.099	0.102	0.101	0.111	0.100	0.000	2.68
M-90-01	406.4	0.143	0.149	0.165	0.127	0.139	0.140	0.010	2.73
M-90-01	410.2	0.510	0.484	0.455	0.549	0.511	0.500	0.030	2.78
M-90-01	423	0.163	0.136	0.130	0.140	0.131	0.140	0.010	2.70
M-90-01	432.8	0.092	0.099	0.088	0.092	0.097	0.090	0.000	2.66
M-90-01	447.6	0.090	0.075	0.097	0.090	0.094	0.090	0.010	2.67
M-90-01	462.1	0.107	0.095	0.105	0.105	0.114	0.110	0.010	2.70
M-90-01	484.6	0.205	0.211	0.202	0.222	0.197	0.210	0.010	2.79
M-90-01	503.2	0.069	0.116	0.096	0.094	0.057	0.090	0.020	2.72
M-90-01	505.1	0.074	0.064	0.092	0.064	0.061	0.070	0.010	2.71
M-90-01	509.1	0.187	0.213	0.205	0.200	0.157	0.190	0.020	2.72
M-90-01	551	1.163	0.983	0.980	0.882	0.883	0.980	0.110	3.05
M-90-01	556.7	1.044	0.667	1.016	1.129	0.596	0.890	0.240	3.10
M-90-01	561.7	0.673	0.667	0.438	0.648	0.558	0.600	0.100	2.83
M-90-01	565.5	0.985	0.976	0.122	0.980	0.687	0.750	0.370	3.04

9.0 CONCLUSIONS AND RECOMMENDATIONS

The Panda and McNeil mineral tenures are located within the Belt-Purcell Supergroup which hosts the past-producing, world-class Sullivan deposit.

The mapping, re-logging, and lithogeochemical whole-rock, pXRF, and ASD exploration sampling program completed in May and June 2016 expanded understanding of the geological and geochemical character of the historical drilling and surface mapping in the Lower and Middle Aldridge members of the Purcell Supergroup. Analytical results may provide vectors for future exploration programs.

To date much of the historical exploration work on the Panda and McNeil mineral tenures has included limited drilling and lithogeochemical analyses. Drilling has largely been limited to a small area and intersected sedimentary rocks (dominantly wackes, arenite and argillite) of the Middle Aldridge member with select drill holes intersecting the LMC encompassing the contact between the Lower and Middle Aldridge members.

Analytical data show that the mapped lithologies within the properties show distinct geochemical trends and the gabbro can easily be distinguished from the sedimentary package. Trace element associations can be detected using both lab analytical and pXRF datasets. Commodity elements of interest (Zn-Pb) show spatial associations with Mo, Mn, Fe, and S. Spectral data proved a useful tool for vector potential in the region, with the association of white mica and intermediate chlorite compositions in association with elevated Zn-Pb values.

Physical property data, including specific gravity and magnetic susceptibility, proved valuable for distinguishing between formations in the Aldridge Formations. The majority of the lithologies have high resistivities and variable chargeabilities. The Moyie sills are characterized by lower resitivities. Highly mineralized portions of the LMC are characterized by high magnetic susceptibility and high specific gravity.

Recommendations for future work include: continued work with the pXRF data to identify possible lithological discriminators which could possibly aid unbiased geological logging and assessment of geochemical spatial trends on the property. Future exploration programs could also expand on lithogeochemical sampling and analyses and include soil sampling and ground geophysical surveys (ground gravity). The integration of multiple historical datasets would aid in further understanding of the Panda and McNeil mineral tenures and help to define the potential footprint of the system to determine whether a sizable conceptual target is present.

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Statement of Qualifications

I, Lucy Hollis, do certify that:

I graduated from the University of Birmingham, UK in 2006 with an MSci. In Geology and gained an M.Sc in Geological Sciences in 2009 from the University of British Columbia, Canada.

I have worked as a geologist since graduation in 2006.

The data contained in this report and the conclusions drawn from it are true and accurate to the best of my knowledge.

I hold no direct or indirect interest in the McNeil and Panda properties, or any of the adjacent properties.

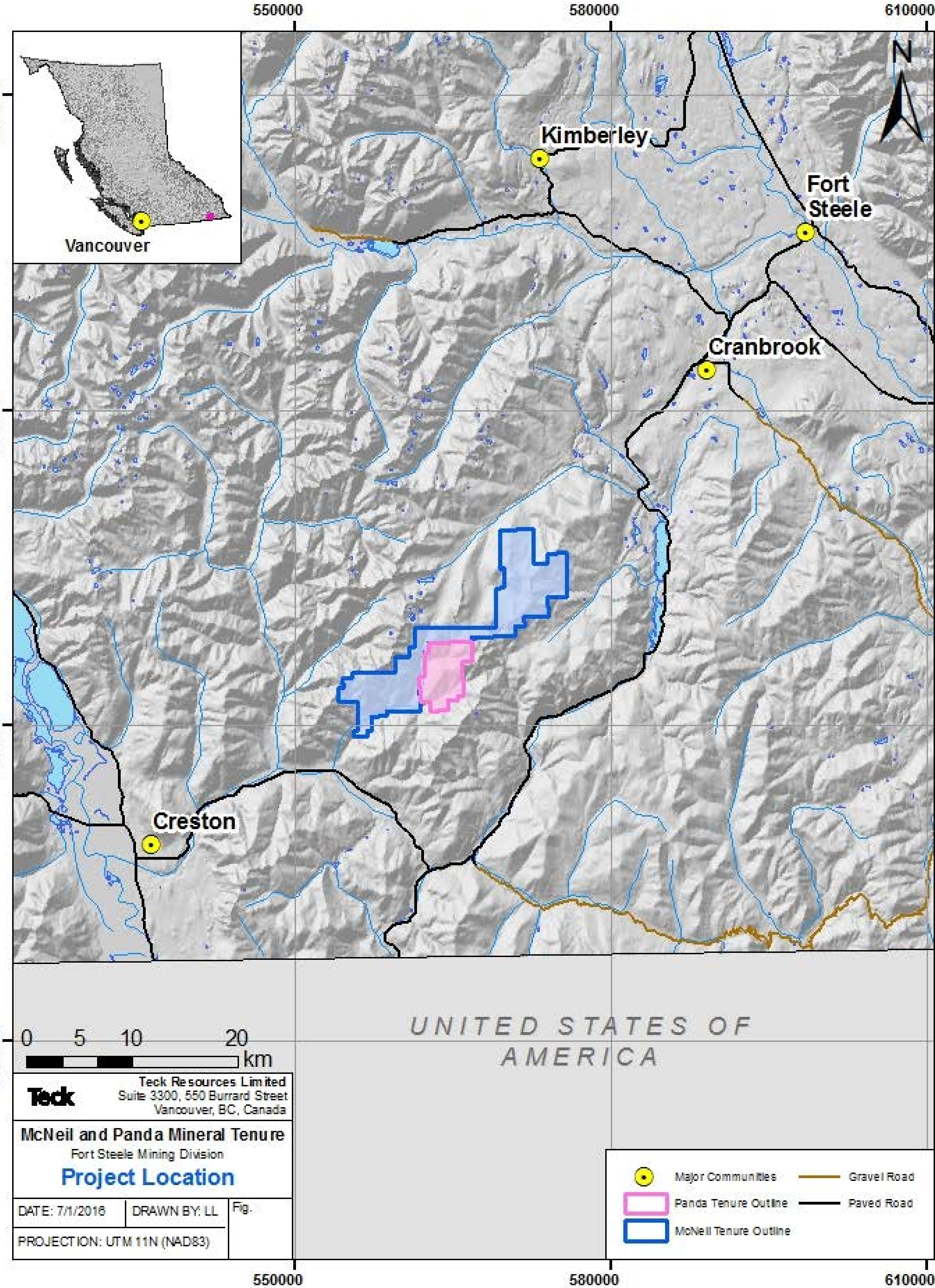
Lucy Hollis

Sept 28th, 2016

M.Sci., M.Sc

Vancouver, British Columbia

Appendix I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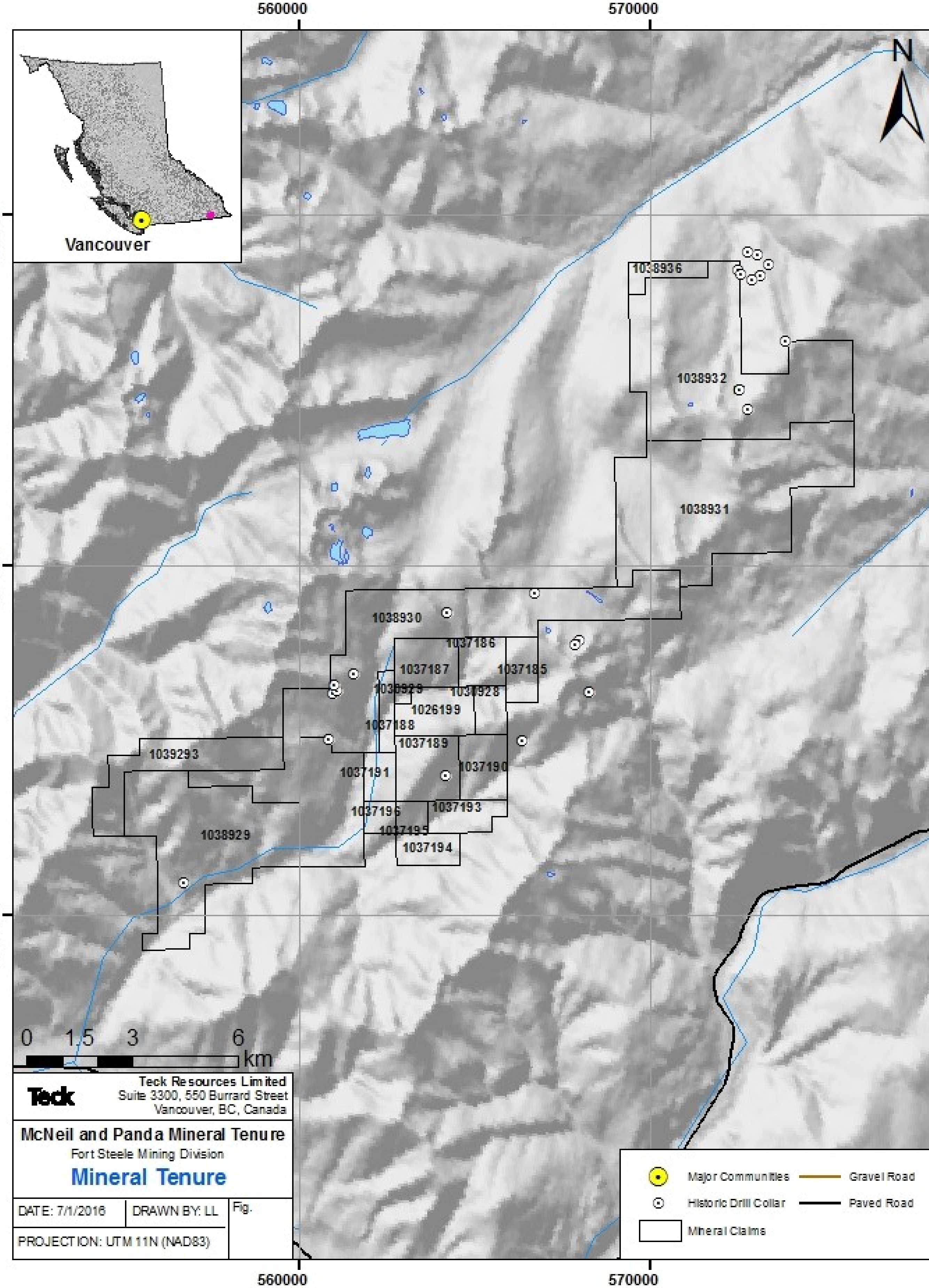
Teck Resources Limited
Suite 3300, 550 Burrard Street
Vancouver, BC, Canada
McNeil and Panda Mineral Tenure
Fort Steele Mining Division
Project Location
DATE: 7/1/2016
DRAWN BY: LL
Fig.
PROJECTION: UTM 11N (NAD83)
Major Communities
Gravel Road
Panda Tenure Outline
Paved Road
McNeil Tenure Outline



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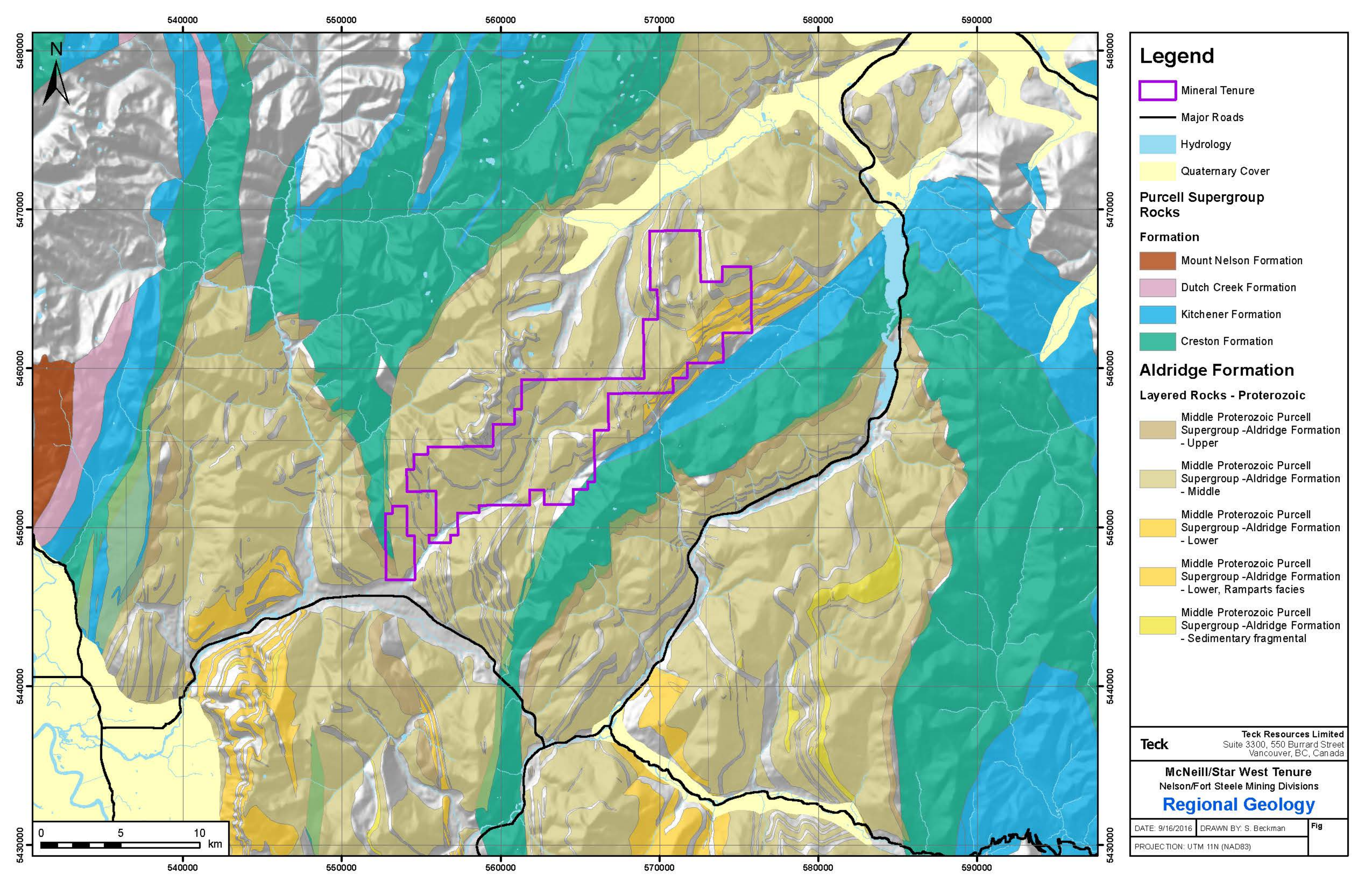
Teck
Teck Resources Limited
Suite 3300, 550 Burrard Street
Vancouver, BC, Canada
McNeil and Panda Mineral Tenure
Fort Steele Mining Division
Mineral Tenure
DATE: 7/1/2016
DRAWN BY: LL
Fig.
PROJECTION: UTM 11N (NAD83)
Major Communities
Gravel Road
Historic Drill Collar
Paved Road
Mineral Claims

Appendix II



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Legend
Mineral Tenure
Major Roads
Hydrology
Quaternary Cover
Purcell Supergroup Rocks
Formation
Mount Nelson Formation
Dutch Creek Formation
Kitchener Formation
Creston Formation
Aldridge Formation
Layered Rocks - Proterozoic
Middle Proterozoic Purcell Supergroup -Aldridge Formation - Upper
Middle Proterozoic Purcell Supergroup -Aldridge Formation - Middle
Middle Proterozoic Purcell Supergroup -Aldridge Formation - Lower
Middle Proterozoic Purcell Supergroup -Aldridge Formation - Lower, Ramparts facies
Middle Proterozoic Purcell Supergroup -Aldridge Formation - Sedimentary fragmental
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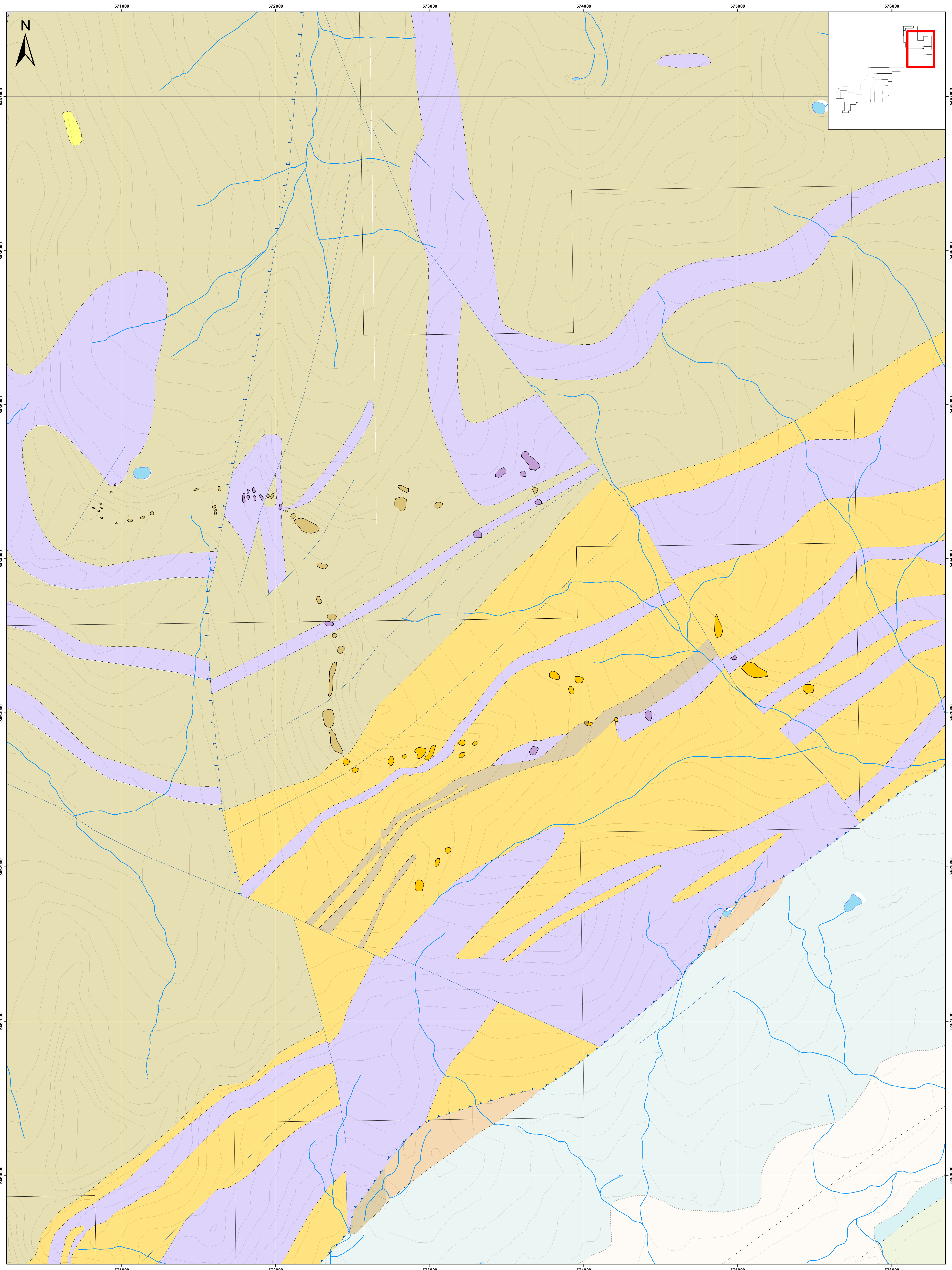
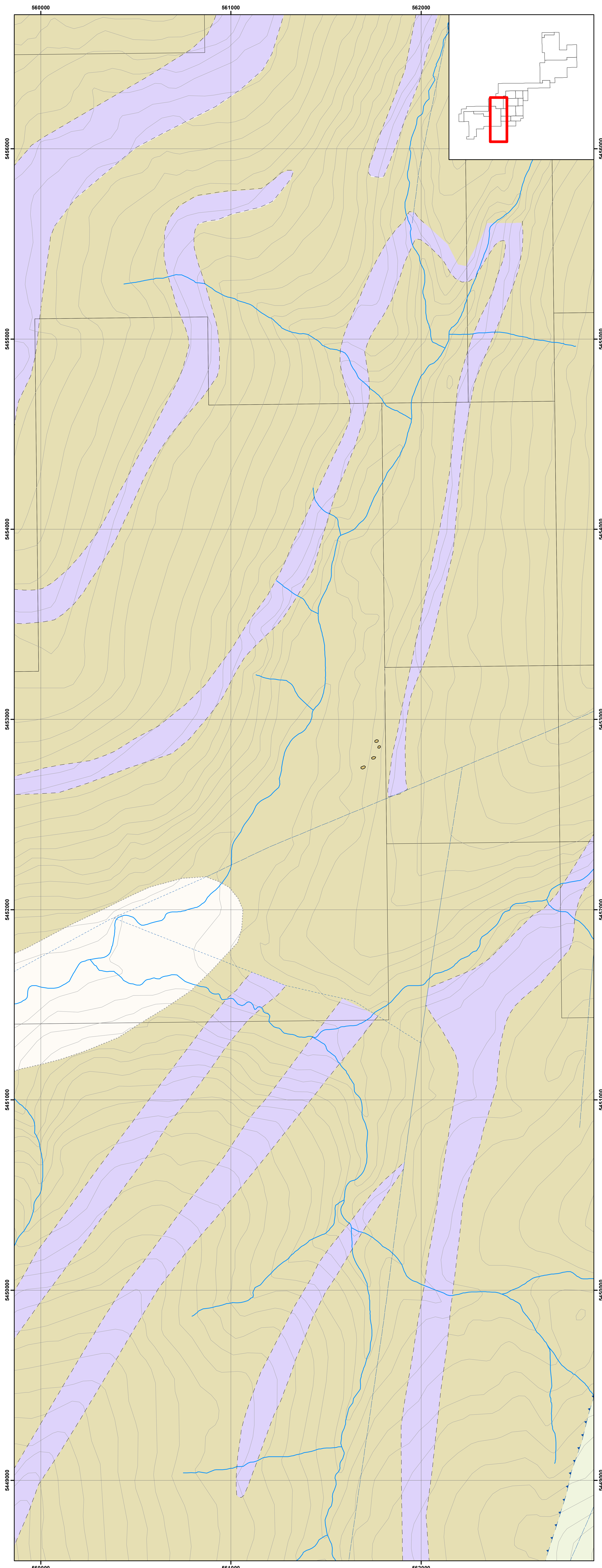
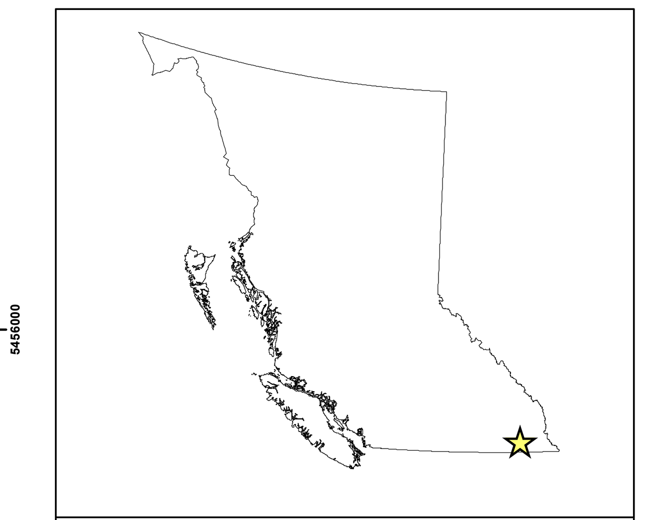
Vancouver, BC, Canada
McNeill/Star West Tenure
Nelson/Fort Steele Mining Divisions
Regional Geology
DATE: 9/16/2016
DRAWN BY: S. Beckman
Fig
PROJECTION: UTM 11N (NAD83)

Appendix III







Legend

2016 Mapped Outcrops

Unit

- Moyie Intrusions
- Upper Aldridge
- Middle Aldridge
- Lower Aldridge

Bedrock Geology

Layered Rocks - Paleozoic

- Mississippian to Lower Permian Milford Group

Layered Rocks - Upper Ordovician

- Peavine Conglomerate; DPe

Layered Rocks - Quaternary

- Eager Formation - Grey argillite, silty argillite, siltstone
- Pleistocene to Recent, unconsolidated sediments

Layered Rocks - Proterozoic

- Middle Proterozoic Purcell Supergroup - Kitchener Formation - Middle
- Middle Proterozoic Purcell Supergroup - Kitchener Formation - Lower
- Middle Proterozoic Purcell Supergroup - Creston Formation - Middle
- Middle Proterozoic Purcell Supergroup - Aldridge Formation - Upper
- Middle Proterozoic Purcell Supergroup - Aldridge Formation - Middle
- Middle Proterozoic Purcell Supergroup - Aldridge Formation - Lower

Structures

- Fault - Approximate
- Fault - Assumed
- Fault - Defined
- Extensional Fault - Approximate
- Thrust Fault - Approximate
- Thrust Fault - Defined
- Geological Contact
- Quaternary Limit of Cover

- Topographic Contour
- Hydrology
- Mineral Tenure

0 100 200 400 600 800 1,000 metres

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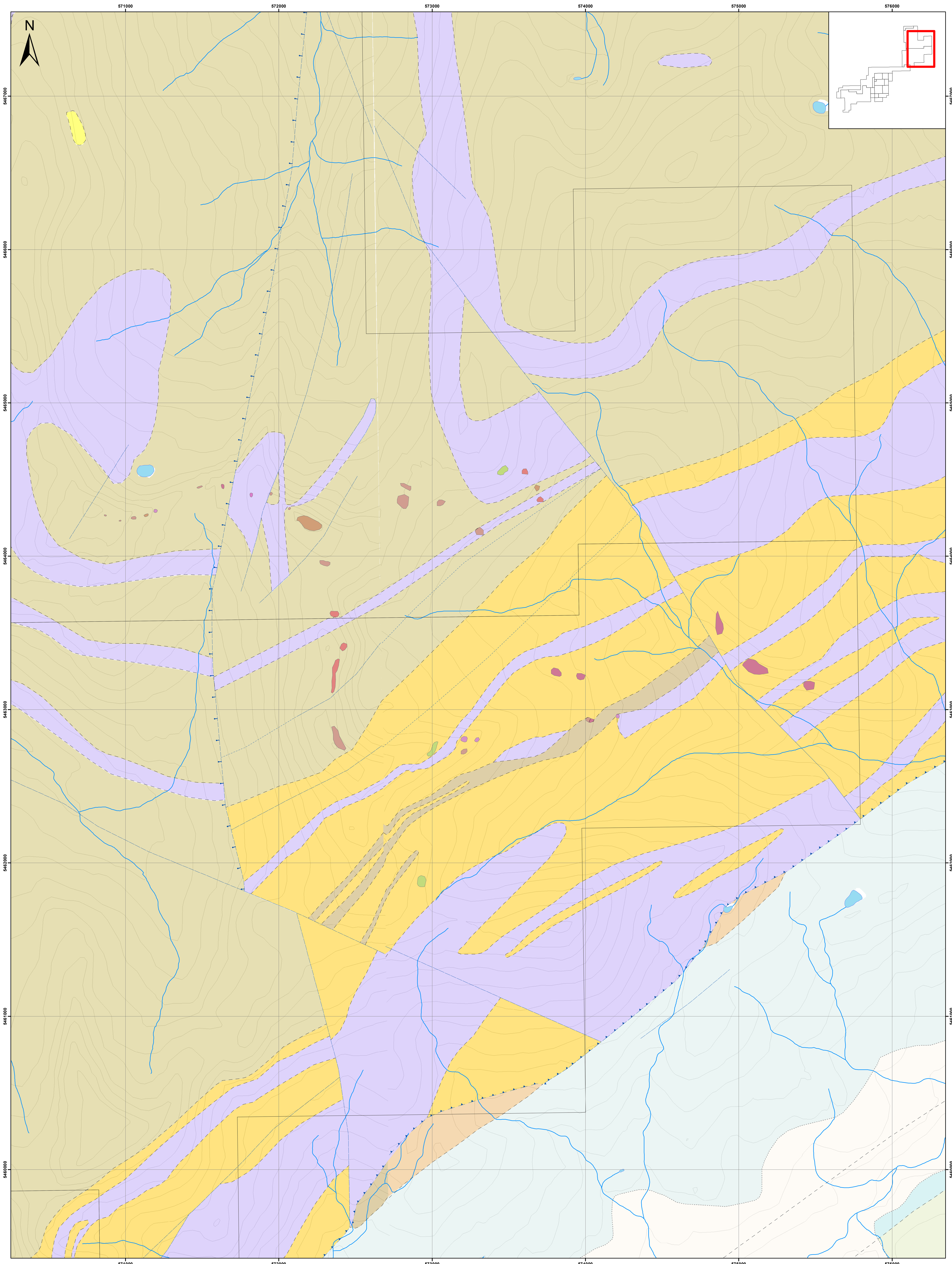
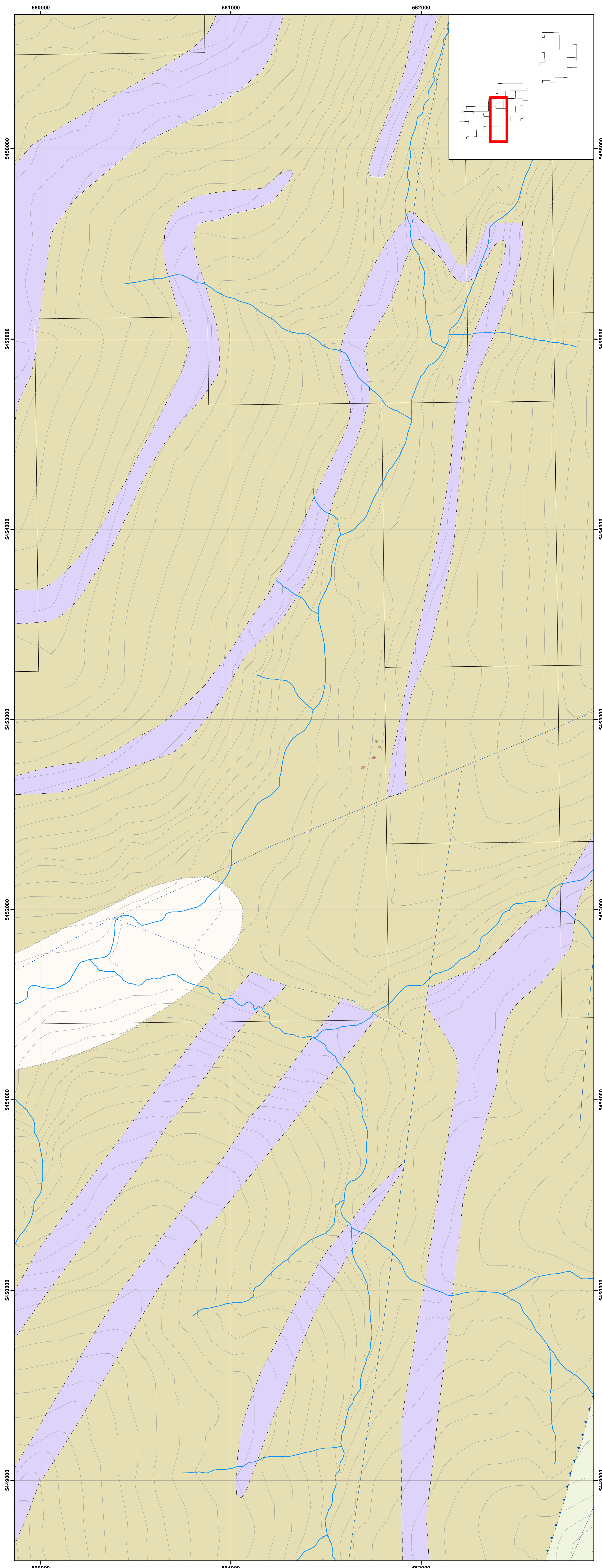
McNeil Mineral Tenure
Nelson/Fort Steele Mining Divisions

2016 Geological Mapping

DATE: 8/16/2016	SCALE: 1:10,000	**Appendix**
DRAWN BY: S. Beckman		
PROJECTION: UTM Zone 11N (NAD 83)		





Legend

2016 Mapped Alteration

Style

- Biotite
- Chlorite
- Epidote
- Garnet
- Hematite
- Mn-Oxide
- Silica
- Tourmaline

Bedrock Geology

Layered Rocks - Paleozoic

- Mississippian to Lower Permian Milford Group

Layered Rocks - Upper Ordovician

- Peavine Conglomerate; DPe

Layered Rocks - Quaternary

- Eager Formation - Grey argillite, silty argillite, siltstone
- Pleistocene to Recent, unconsolidated sediments

Layered Rocks - Proterozoic

- Middle Proterozoic Purcell Supergroup - Kitchener Formation - Middle
- Middle Proterozoic Purcell Supergroup - Kitchener Formation - Lower
- Middle Proterozoic Purcell Supergroup - Creston Formation - Middle
- Middle Proterozoic Purcell Supergroup - Aldridge Formation - Upper
- Middle Proterozoic Purcell Supergroup - Aldridge Formation - Middle
- Middle Proterozoic Purcell Supergroup - Aldridge Formation - Lower

Structures

- Fault - Approximate
- Fault - Assumed
- Fault - Defined
- Extensional Fault - Approximate
- Thrust Fault - Approximate
- Thrust Fault - Defined
- Geological Contact
- Quaternary Limit of Cover

- Topographic Contour
- Hydrology
- Mineral Tenure

0 100 200 400 600 800 1,000 metres

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McNeil Mineral Tenure
Nelson/Fort Steele Mining Divisions

2016 Mapped Alteration

DATE: 8/16/2016	SCALE: 1:10,000	**Appendix**
DRAWN BY: S. Beckman		
PROJECTION: UTM Zone 11N (NAD 83)		

Appendix IV

M-90-1

Teck

Hole #: M-90-1
Project: McNeil Ridge
Drill Contractor: —
Drillers: —
Dates Drilled: 1990
Logger: Quick Log
Dates Logged: June 12/16
Page Number: 1 of 2

75.6 – 572.1m

Depth (m)	Formation Code	Lith-1	Lith-2	Colour	Texture	Description
0 – 75.6						Casing.
						FOR GREATER DETAIL SEE ORIGINAL DRILL LOG WHICH IS FAIRLY DETAILED AND REPRESENTS THE CORE WELL
						NOTE: BOXES INTERMITTENLY MISSING BCS WE COULD NOT RETREIVE THEM FROM CORE RACK
75.6		SLT	—			Medium to dk grey to locally light green (minor sections) siltstone with local concretions bleached white with pink garnets + biotite + py + po disseminated. Local chl alt + silicification. Mineralization more prevalent around concretions, but
94.8 – 98.5		FAULT ZONE		Med-Dk Grey	Bedded to laminated	marker @ 91.7-92.3m not recovered from core rack due to compromised state. also disseminated <1% throughout siltstone (Po+Py) + in fractures. 2 barren qtz veins in this section. Locally, garnet porphyroblasts not associated w/ concretions but along bedding planes! Size variable from 3mm → 7mm...
100.1		SST	/QTZ			
		SLT				~6* boxes were not looked at bcs they are stuck in core rack
165.2	mPA2	SLT	SST			Medium to dark grey siltstone and sandstone (qtzite), units interlayered. The units display siliceous alteration locally as well as chloritization. These appear more prevalent in sst layers. Local iron oxide staining 10-30cm in length from py in fractures. Qtz veins in this section are mineralized w/ Po. Elsewhere Po is present in blotch patches ~3-4mm in length. Py + Po in healed fractures + diss. around veins. Po + Py also in concretion though they are less prevalent in this section. Py 'stringers' ~365m. Si + chl alt also has bio/garnet associated - more so in sst. The Monroe Marker was identified @ 189.3-190.4m → interlayered light and dk grey laminations to beds. Very distinctive.
						@335.5m Centimetric-bedded sst w/ pink? alteration + py + silver unidentified min (galena?) mineralisation (bedding parallel). Area surrounded by chl + si alteration.
						Sphaleirite blebs noted in Original, but were not identified.
						Become much more altered in qtzite @ 424m - 429.5m. (Alt generally greater closer to intrusive unit)

Graphic Log: Chert, Clay, Silt, Sand (V. fine, Fine, Medium, Coarse, V. Coarse), Gravel, Pebble, Cobble, Boulder

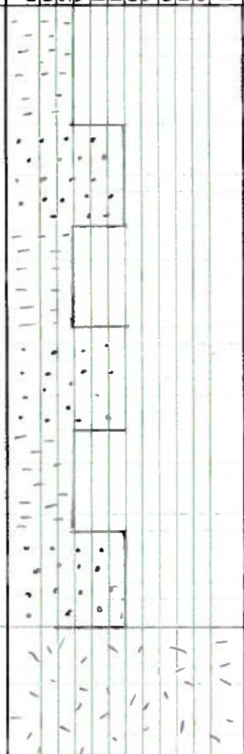
Depth scale: 0, 50, 75.6, 100, 150, 200, 250, 300, 350

Min-1			Min-2			Min-3			Alt-1			Alt-2		
Mineral	Habit & Size	Percentage	Mineral	Habit & Size	Percentage	Mineral	Habit & Size	Percentage	Mineral	Habit & Size	Percentage	Mineral	Habit & Size	Percentage

Teck

Hole #: M-90-1
Project: McNeil Ridge
Drill Contractor:
Drillers: –
Dates Drilled: 1990

Logger: Quick Log
Dates Logged: June 12/16
Page Number: 2 of 2

Depth (m)	Formation Code	Graphic Log (Chert, Clay, Silt, Sand: V. fine, Fine, Medium, Coarse, V. Coarse, Gravel, Pebble, Cobble, Boulder)	Lith-1	Lith-2	Colour	Texture	Description
350							See previous page.
400							
450			SLT	SST	Md-Dk Grey w/ light green locally		
500			534.5				534.5m
550			GABBRO		BLK TO DK GREEN		Dark green to black fine-medium grained gabbro. Disseminated sulphides throughout. Chlorite alteration, Py + Po diss + Py on fractures. Mineralised qz veins as in above unit. @551m garnet + chlorite + sphalerite??
			572.1			EOH	EOH 572.1m
600							

Min-1 Mineral	Min-1 Habit & Size	Min-1 Percentage	Min-2 Mineral	Min-2 Habit & Size	Min-2 Percentage	Min-3 Mineral	Min-3 Habit & Size	Min-3 Percentage	Alt-1 Mineral	Alt-1 Habit & Size	Alt-1 Percentage	Alt-2 Mineral	Alt-2 Habit & Size	Alt-2 Percentage

M-89-08

Hole #: M-89-08
Project: McNeil Ridge
Drill Contractor:
Drillers:
Dates Drilled: 1989

Logger: Quick log
Dates Logged: June 14, 2016
Page Number: 1

Teck

866.8 m – EOH (1083.9m)

Depth (m)	Formation Code	Lith-1	Lith-2	Colour	Texture	Description
850 – 866.8m						N/A
866.8 – 885.1	mPA2	SST	—	MD-GRY TO GRN		866.8 - 957.1m mPA2 - MIDDLE ALDRIDGE * SEE ORIGINAL DRILL LOG, CORRECT OVERALL, MEDIUM GRAY TO SLIGHTLY GREEN, VARYINGLY SILICEOUS SILTSTONE TO MINOR QUARTZITE. BEDDING IS OBSURED DUE TO DEGREE OF SILIFCATION IN SOME SECTIONS. CHLORITIC ALTERATION IS PRESENT (WEAK TO MODERATE) WITH STRONG SILICA ALTERATION. PINK GARNET PORPHYROBLASTS ARE PRESENT 3-5% (<3 mm). MINERALIZATION IS MAINLY PYRRHOTITE AS DISSEMINATIONS AND CLOTS (~1-3%) INCREASING TOWARDS THE CONTACT. TRACE HONEY RED SPHALERITE.
885.1 – 904.4		QTZ	SST			
904.4 – 948.4		SST	QTZ			
948.4 – 957		QTZ	—			GRADATIONAL
957 – 972.3	mPA1	SST	—	MD GRY TO GRN		957.1 - 1083.9m : mPA1 - LOWER ALDRIDGE * SEE ORIGINAL DRILL LOG, CORRECT. OVERALL, MED GRAY TO DARK GRAY, GREEN, THIN TO LAMINATED BEDDING, VARYINGLY SILICIFIED (MODERATE TO STRONG) CHLORITIC ALTERATION (WEAK) WITH SMALL INTERVALS OF GARNET PORPHYROBLASTS. MINERALIZATION IS COMMON ~24M AFTER CONTACT AS DISSEMINATED PYRITE AND PYRRHOTITE, WEAK SPHALERITE MINERALIZATION IS DESCRIBED IN HISTORIC LOG AND FEW SPECKS WAS OBSERVED (TRACE). HAIRLINE FRACTURES ARE COMMON W ASSOCIATED PYRITE + PYRRHOTITE SEE HISTORIC LOG FOR DETAILS.
972.3 – 980		QTZ	SST			
980 – 1081.8		SST	QTZ			
1081.8 – 1083.9		FLT				SHEAR ZONE FAULT ZONE (McNEIL CREEK FAULT) - 1081.8 - 1083.9m EOH - 1083.9m
1100						

Depth scale: 850, 900, 950, 1000, 1050, 1100

Graphic Log: Chert, Clay, Silt, Sand (V. fine, Fine, Medium, Coarse, V. Coarse), Gravel, Pebble, Cobble, Boulder

Min-1			Min-2			Min-3			Alt-1			Alt-2		
Mineral	Habit & Size	Percentage	Mineral	Habit & Size	Percentage	Mineral	Habit & Size	Percentage	Mineral	Habit & Size	Percentage	Mineral	Habit & Size	Percentage

Appendix V

Appendix V Surface Rock Samples: Laboratory Preparation, Analytical Methods and QA/QC Procedures

During the 2016 Panda and McNeil field program 67 surface rock samples (including 11 QA/QC samples) from outcrop sampling were sent to the Bureau Veritas (BV) Minerals Laboratory, Vancouver, for sample preparation and analysis.

The rocks were prepared to the specifics related to code PRP70-250. This entailed drying the sample at 60°Celsius for 24-48 hours. Once dry, the sample was crushed to 70 percent passing 10 mesh using a Terminator crusher. Once crushed, the material was passed through a riffle splitter 3 times to homogenize the sample and then it was split down to 250 g with the remainder placed in the reject bag. The original sample bag was also placed in a bar-coded reject bag; rejects were then placed in rice sacks and then bins for warehouse storage. The 250 g split was placed in a bar-coded envelope and sent to be pulverized, where the tolerance is 85% passing 200 mesh using a bowl and puck pulverizer.

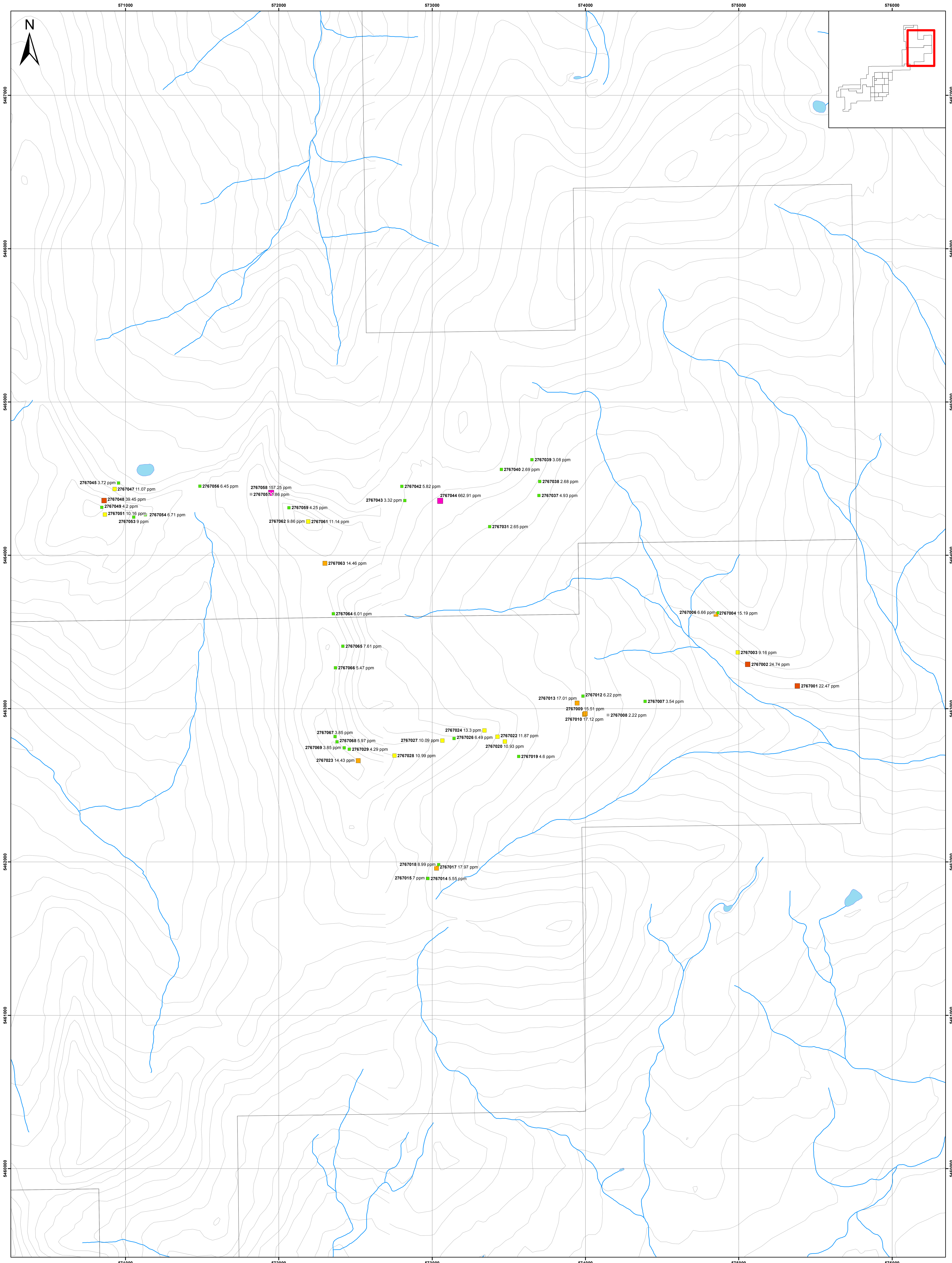
The analyses were completed at BV on sample pulps. For each sample, whole-rock characterization was completed, which consisted of a major element analytical package (LF700), trace and refractory elements (LF100), and a geochemical aqua regia digest with ICP-MS method (AQ250).

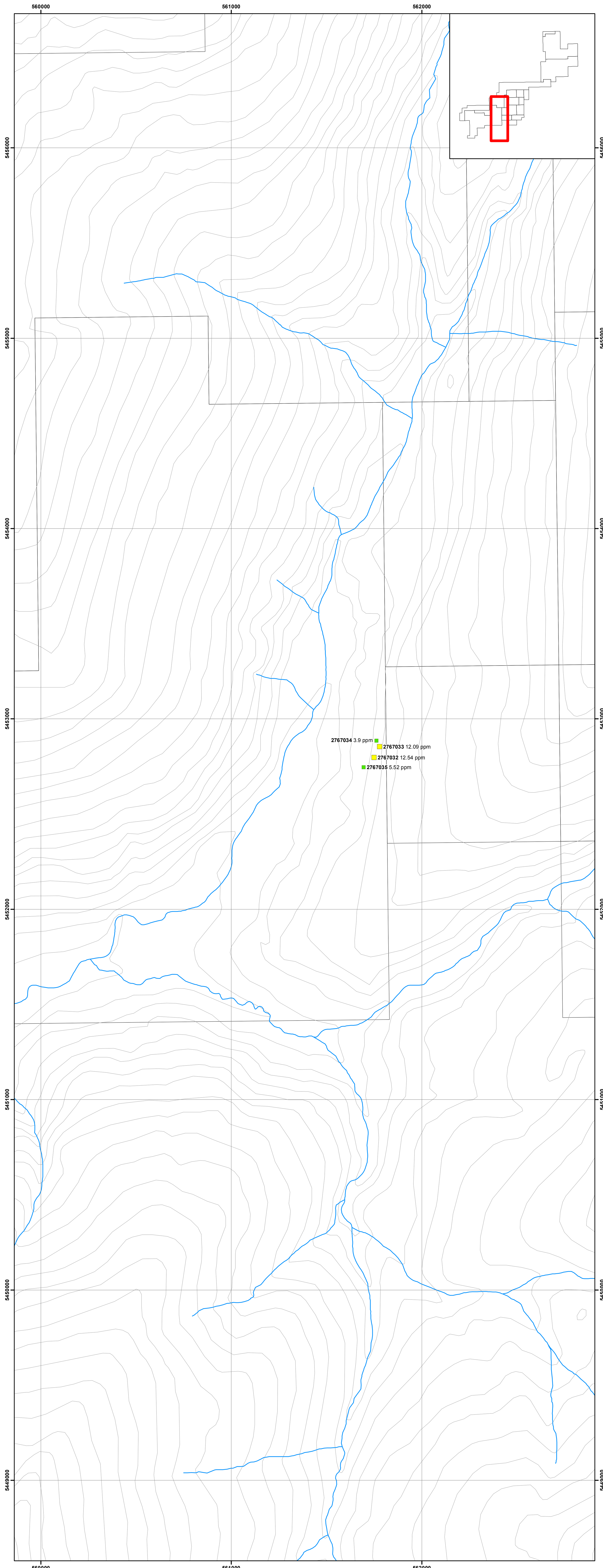
The LF700 method consists primarily of XRF analysis for major oxides on a Li-meta/tetraborate fused disk as well as Total C and S and loss on ignition (LOI). The XRF analysis on the fused glass disc reported major oxides. The LOI was determined by igniting a sample split then measuring the weight loss. Total carbon and sulfur were determined by combustion by LECO. The LF100 portion determined the rare and refractory elements by Li-meta/tetraborate decomposition to give total abundance and ICP-MS finish. The base and precious metals in the LF100 package are analyzed from a separate split of raw sample that is digested in dilute aqua region and finished by ICP-MS. Low to ultra-low trace element concentrations were obtained using the BV code AQ252. For this analytical method a 0.5 g sample split was digested using a weak aqua regia and followed with an ICP-MS finish. This supplied low level concentrations of important deleterious elements.

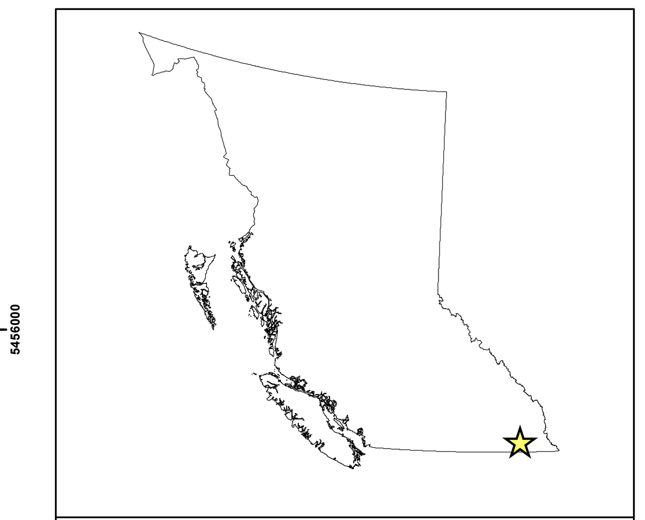
During sample collection a robust QA/QC procedure was completed. This included the insertion of:

- 2 certified reference materials (aka standards);
- 3 coarse blanks (of carbonate landscape rock sourced from Rona);
- 2 field duplicates;
- 2 Teck specified crusher duplicates; and
- 2 Teck specified pulp duplicates.

Upon receipt of analytical data from the Bureau Veritas laboratory, the QA/QC was swiftly reviewed to ensure good data quality. This QAQC review checked standards for accuracy and bias failures, as well as the coarse blank material for contamination. There were no standard failures or contamination identified for the 2016 McNeil data.







Legend

2016 Rock Samples

Pb (ppm)

- < 2.25 ppm
- 2.25 - 9 ppm
- 9 - 13.3 ppm
- 13.3 - 20 ppm
- 20 - 40 ppm
- > 40 ppm

- Topographic Contour
- Hydrology
- Mineral Tenure

0 100 200 400 600 800 1,000 metres

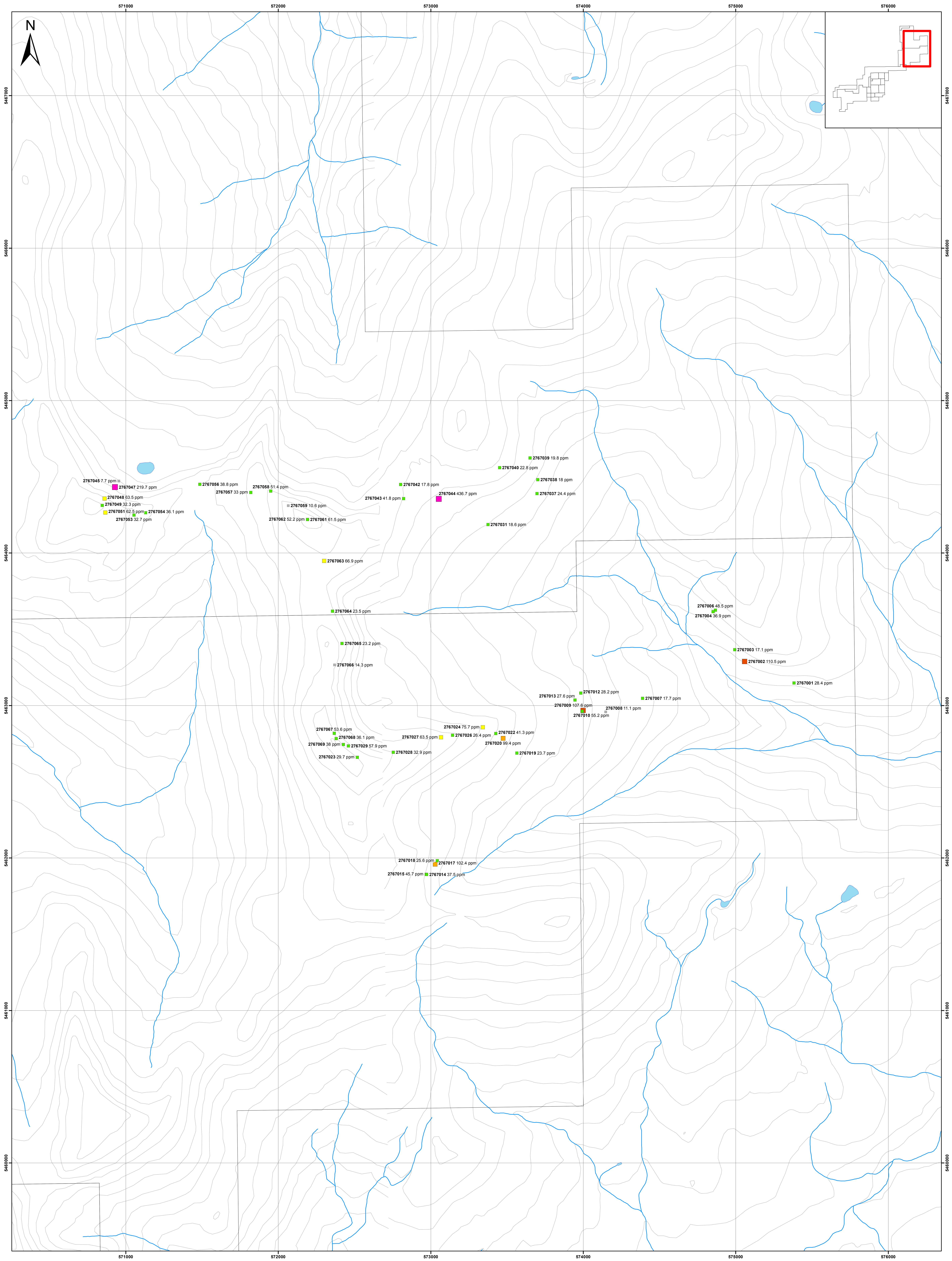
Teck

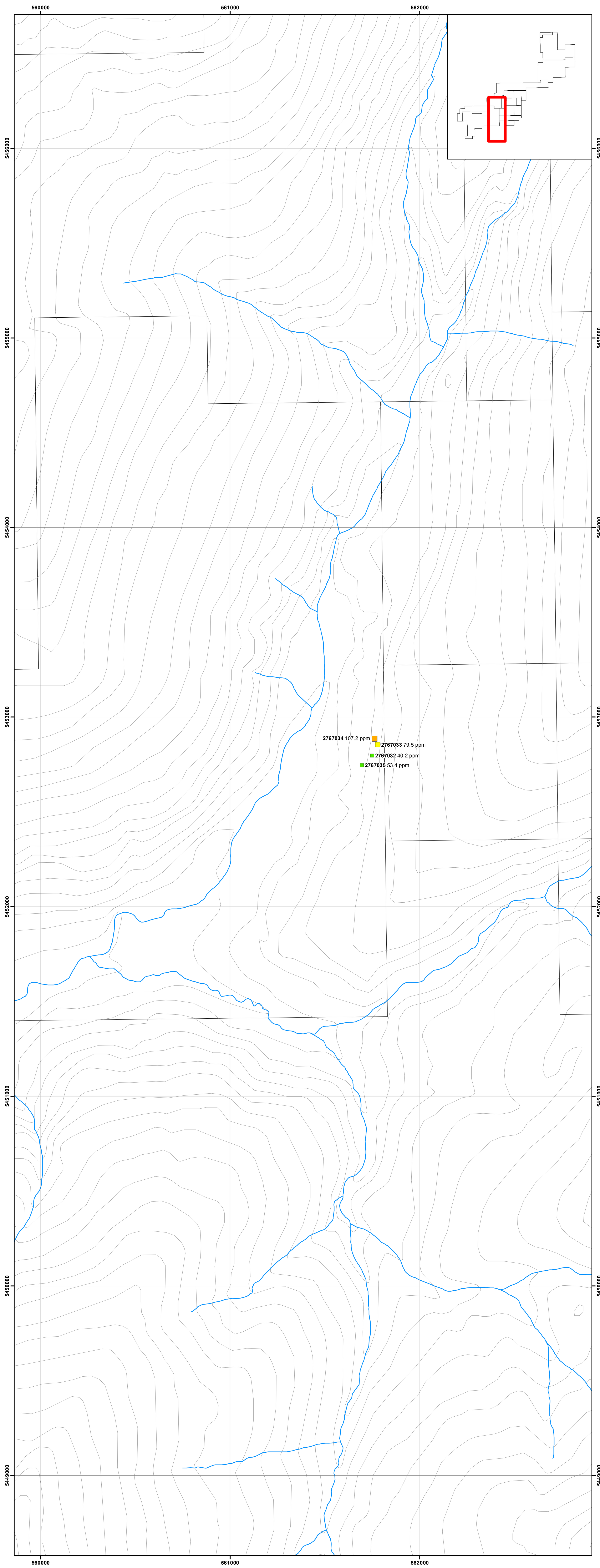
Teck Resources Limited
Suite 3300, 550 Burrard Street
Vancouver, BC, Canada

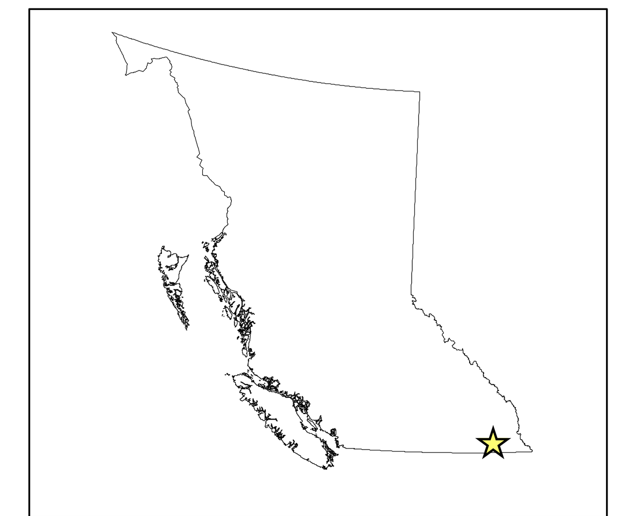
McNeil Mineral Tenure
Nelson/Fort Steele Mining Divisions

2016 Rock Sample Results (Pb)

DATE: 8/16/2016	SCALE: 1:10,000	Appendix
DRAWN BY: S. Beckman		
PROJECTION: UTM Zone 11N (NAD 83)		







Legend

2016 Rock Samples

Zn (ppm)

- < 14.3 ppm
- 14.3 - 61.5 ppm
- 61.5 - 79.5 ppm
- 79.5 - 107.2 ppm
- 107.2 - 110.5 ppm
- > 110.5 ppm

Topographic Contour

Hydrology

Mineral Tenure

0 100 200 400 600 800 1,000 metres

Teck

Teck Resources Limited
Suite 3300, 550 Burrard Street
Vancouver, BC, Canada

McNeil Mineral Tenure
Nelson/Fort Steele Mining Divisions

2016 Rock Sample Results (Zn)

DATE: 8/16/2016	SCALE: 1:10,000	**Appendix**
DRAWN BY: S. Beckman		
PROJECTION: UTM Zone 11N (NAD 83)		

Appendix VI

BUREAU VERITAS MINERAL LABORATORIES Canada

www.bureauveritas.com/um

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

Client: **Teck Resources Limited**
Suite 3300, 550 Burrard St.
Vancouver BC V6C 0B3 CANADA

Submitted By:	Michael Buchanan and Liz Stock
Receiving Lab:	Canada-Vancouver
Received:	June 13, 2016
Report Date:	June 28, 2016
Page:	1 of 4

CERTIFICATE OF ANALYSIS VAN16000957.1

CLIENT JOB INFORMATION

Project:	EXNA.CA.00.00015
Shipment ID:	PUR_2016_001
P.O. Number	
Number of Samples:	69

SAMPLE DISPOSAL

STOR-PLP	Store After 90 days Invoice for Storage
STOR-RJT	Store After 90 days Invoice for Storage

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

SAMPLE PREPARATION AND ANALYTICAL PROCEDURES

Procedure Code	Number of Samples	Code Description	Test Wgt (g)	Report Status	Lab
PRP70-250	62	Crush, split and pulverize 250 g rock to 200 mesh			VAN
SLBHP	5	Sort, label and box pulps			VAN
SPTRF	2	Split samples by riffle splitter			VAN
PUL85	2	Pulverize to 85% passing 200 mesh			VAN
LF600	69	XRF Whole Rock & ICP-MS Trace Elements		Completed	VAN
AQ250-EXT	69	1:1:1 Aqua Regia Digestion - Ultratrace ICP-MS analysis	0.5	Completed	VAN

ADDITIONAL COMMENTS

Invoice To: Teck Resources Limited
Suite 3300, 550 Burrard St.
Vancouver BC V6C 0B3
CANADA

CC:

BRITISH COLUMBIA CERTIFIED ASSAYER
Marcus Lau
MARCUS LAU
Geochemical Laboratory Manager

BUREAU VERITAS
MINERAL LABORATORIES
Canada

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Bureau Veritas Commodities Canada Ltd.

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PHONE (604) 253-3158

Client: **Teck Resources Limited**
Suite 3300, 550 Burrard St.
Vancouver BC V6C 0B3 CANADA

Project: EXNA.CA.00.00015
Report Date: June 28, 2016

CERTIFICATE OF ANALYSIS VAN16000957.1

Method		WGHT	LF700	LF700	LF700	LF700	LF700	LF700	LF700	LF700	LF700	LF700	LF700	LF700	LF700	LF700	LF100	LF100	LF100	LF100	LF100
Analyte		Wgt	SiO2	Al2O3	Fe2O3	CaO	MgO	Na2O	K2O	MnO	TiO2	P2O5	Cr2O3	Ba	LOI	SUM	Ba	Be	Co	Cs	Ga
Unit		kg	%	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm
MDL		0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.001	0.01	-5.11	0.01	1	1	0.2	0.1	0.5
2767001	Rock	1.34	72.18	13.37	3.61	0.89	1.16	4.53	1.24	0.03	0.48	0.07	0.005	0.03	1.84	99.44	295	<1	3.5	1.3	16.5
2767002	Rock	1.55	70.28	12.63	5.90	1.25	1.58	3.98	1.30	0.08	0.48	0.08	0.007	0.02	1.88	99.47	234	<1	5.3	1.7	12.9
2767003	Rock	2.16	50.01	15.01	9.82	11.39	8.91	1.60	0.61	0.16	0.54	0.03	0.050	<0.01	1.56	99.69	60	<1	40.7	0.6	12.5
2767004	Rock	2.00	77.86	10.57	3.37	0.91	0.79	1.95	2.38	0.06	0.41	0.05	0.004	0.03	1.26	99.65	327	3	2.9	1.7	11.1
2767005	Rock	2.41	10.76	0.26	0.15	47.95	2.95	0.08	0.01	0.01	0.03	0.01	0.002	<0.01	37.73	99.95	14	<1	<0.2	<0.1	<0.5
2767006	Rock	1.83	81.73	8.05	3.44	1.42	0.79	0.90	1.60	0.07	0.28	0.03	<0.001	0.03	1.26	99.62	210	3	5.1	2.8	7.8
2767007	Rock	2.03	51.08	14.53	9.65	10.86	8.35	1.94	1.38	0.17	0.48	0.03	0.028	0.03	1.67	100.21	242	1	34.8	0.3	11.7
2767008	Rock	1.76	80.82	9.88	1.74	0.53	0.41	1.39	2.65	0.02	0.42	0.02	0.003	0.05	1.09	99.04	456	<1	1.9	1.6	11.2
2767009	Rock	1.58	69.93	12.78	4.95	1.78	1.88	4.28	1.53	0.10	0.41	0.12	0.004	0.03	1.60	99.40	300	2	4.7	1.3	17.4
2767010	Rock	1.62	63.52	18.80	5.08	0.31	1.19	0.90	6.18	0.05	0.66	0.05	0.009	0.08	2.76	99.61	814	1	5.1	5.3	22.8
2767011	Rock	1.52	61.68	19.66	5.20	0.33	1.32	0.98	6.61	0.06	0.70	0.05	0.008	0.10	2.77	99.46	937	<1	6.4	5.1	22.8
2767012	Rock	1.49	81.70	8.60	2.76	2.43	0.54	1.49	0.88	0.08	0.38	0.03	0.003	0.02	1.05	99.97	165	<1	2.2	3.2	8.7
2767013	Rock	0.94	63.86	18.99	3.86	0.61	0.99	0.57	6.50	0.04	0.73	0.39	0.008	0.14	2.69	99.40	1257	<1	2.9	6.3	22.6
2767014	Rock	1.38	66.66	16.33	4.66	0.81	1.34	2.01	3.81	0.04	0.64	0.11	0.006	0.08	3.08	99.58	722	<1	1.6	3.8	18.9
2767015	Rock	1.45	72.05	12.37	4.64	0.97	1.67	4.68	0.59	0.05	0.41	0.11	0.005	0.02	1.94	99.51	115	1	2.2	0.3	10.9
2767016	Rock DUP		72.08	12.38	4.63	0.97	1.68	4.68	0.60	0.05	0.41	0.11	0.003	0.02	1.96	99.56	112	3	2.0	0.4	10.9
2767017	Rock	1.44	64.53	13.52	8.12	3.06	2.92	0.88	3.49	0.09	0.56	0.11	0.007	0.03	2.33	99.67	317	3	7.6	10.9	16.3
2767018	Rock	2.08	70.18	13.91	4.26	1.16	1.11	2.35	3.52	0.03	0.56	0.09	0.005	0.07	2.66	99.91	670	<1	13.4	4.4	15.7
2767019	Rock	1.18	51.67	14.45	9.53	9.37	8.39	2.05	1.68	0.16	0.54	0.04	0.068	0.03	1.96	99.94	236	<1	31.5	2.0	12.1
2767020	Rock	1.59	59.87	19.64	6.43	1.53	1.51	3.56	4.02	0.07	0.72	0.07	0.008	0.07	2.15	99.66	622	3	6.8	7.2	19.4
2767021	Pulp DUP		59.96	19.74	6.44	1.52	1.52	3.57	4.03	0.07	0.71	0.07	0.008	0.07	2.13	99.84	612	9	6.5	7.1	19.8
2767022	Rock	1.22	66.22	16.29	4.52	0.41	2.26	5.92	1.60	0.06	0.62	0.09	0.005	0.03	2.11	100.15	213	1	1.9	1.4	17.9
2767023	Rock	1.13	62.99	18.68	5.21	0.48	1.42	1.51	5.15	0.03	0.70	0.08	0.009	0.11	3.46	99.82	1075	1	2.1	9.0	22.9
2767024	Rock	1.16	68.33	14.71	4.08	2.60	2.12	2.67	3.50	0.08	0.55	0.09	0.006	0.06	1.31	100.11	668	1	3.5	12.5	20.7
2767025	Rock Pulp	0.03	76.19	4.22	5.26	3.71	0.40	0.12	0.77	0.17	0.22	0.42	0.022	0.13	6.18	97.83	1390	<1	10.7	6.0	7.3
2767026	Rock	1.42	77.55	12.04	2.36	0.57	0.55	2.62	2.49	0.03	0.33	0.03	0.002	0.04	1.12	99.74	434	<1	2.2	4.7	11.3
2767027	Rock	1.62	68.34	14.60	3.71	1.70	1.71	2.80	4.13	0.06	0.59	0.11	0.007	0.09	1.88	99.76	890	<1	5.8	8.8	16.9
2767028	Rock	1.40	73.94	12.48	2.86	1.74	1.24	1.99	3.48	0.06	0.46	0.07	0.005	0.07	1.65	100.04	600	3	1.4	5.1	13.3
2767029	Rock	1.47	61.76	19.13	5.94	0.28	1.49	1.65	5.45	0.04	0.73	0.08	0.006	0.12	3.29	99.99	1089	2	3.7	5.9	22.9
2767030	Rock	1.93	10.85	0.32	0.21	47.92	2.71	0.05	0.04	0.01	0.03	0.02	<0.001	<0.01	37.87	100.02	43	<1	0.3	<0.1	<0.5

BUREAU VERITAS MINERAL LABORATORIES Canada

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Bureau Veritas Commodities Canada Ltd.

9050 Shaughnessy St Vancouver BC V6P 6E5 CANADA
PHONE (604) 253-3158

Client: **Teck Resources Limited**
Suite 3300, 550 Burrard St.
Vancouver BC V6C 0B3 CANADA

Project: EXNA.CA.00.00015
Report Date: June 28, 2016

CERTIFICATE OF ANALYSIS VAN16000957.1

	Method	LF100	LF100	LF100	LF100	LF100	LF100	LF100	LF100	LF100	LF100	LF100	LF100	LF100	LF100	LF100	LF100	LF100	LF100	LF100	LF100
	Analyte	Hf	Nb	Rb	Sn	Sr	Ta	Th	U	V	W	Zr	Y	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb
	Unit	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
	MDL	0.1	0.1	0.1	1	0.5	0.1	0.2	0.1	8	0.5	0.1	0.1	0.1	0.1	0.02	0.3	0.05	0.02	0.05	0.01
2767001	Rock	6.1	12.2	47.1	20	171.1	0.8	11.0	3.2	51	1.3	213.5	29.5	40.6	86.7	10.58	38.4	7.34	1.42	6.26	0.92
2767002	Rock	7.5	11.2	54.4	1	166.9	0.8	12.6	3.9	55	0.6	256.9	35.3	48.5	92.2	12.13	45.1	8.46	1.55	7.33	1.08
2767003	Rock	1.0	2.4	25.1	1	106.3	0.2	1.5	0.3	230	<0.5	41.3	13.4	6.0	11.6	1.53	6.8	1.44	0.52	2.00	0.37
2767004	Rock	7.4	8.9	79.7	4	55.6	0.7	10.0	2.9	42	0.7	281.4	23.4	23.7	38.2	5.87	23.6	4.27	0.81	3.60	0.61
2767005	Rock	<0.1	0.2	<0.1	<1	78.0	<0.1	<0.2	<0.1	11	<0.5	3.1	2.0	1.1	1.0	0.19	0.9	0.19	0.04	0.25	0.04
2767006	Rock	5.1	6.5	93.3	3	64.4	0.6	8.1	2.2	28	1.0	194.2	16.3	21.9	55.2	5.29	18.9	3.66	0.69	3.41	0.52
2767007	Rock	1.1	2.0	48.1	3	149.8	0.1	1.4	0.4	212	<0.5	42.6	11.5	5.6	11.3	1.42	5.7	1.45	0.49	1.94	0.33
2767008	Rock	7.2	9.1	79.7	4	45.8	0.7	7.6	1.9	33	2.1	276.7	17.1	15.0	32.3	3.71	14.5	2.58	0.49	2.38	0.41
2767009	Rock	8.0	12.0	68.9	4	93.6	0.8	11.2	3.5	35	0.6	287.6	36.4	25.0	84.7	6.45	25.3	5.42	1.03	5.56	0.94
2767010	Rock	6.4	14.4	224.3	4	52.4	1.0	16.6	3.3	84	2.8	223.5	23.1	9.6	16.7	2.38	9.2	1.91	0.45	2.62	0.54
2767011	Rock	7.0	14.5	238.0	4	59.3	1.1	16.5	4.0	83	3.2	244.1	20.6	4.5	7.4	1.07	4.0	1.01	0.33	1.57	0.39
2767012	Rock	11.0	8.3	62.6	<1	80.4	0.6	10.8	2.7	32	0.6	412.1	26.1	31.8	64.6	7.63	29.9	5.87	1.07	5.15	0.79
2767013	Rock	9.6	15.6	209.7	4	40.7	1.2	16.8	4.4	76	3.9	327.8	54.1	72.5	149.9	16.93	64.8	11.73	1.91	11.74	1.75
2767014	Rock	6.1	13.2	134.6	3	96.1	0.9	12.8	3.5	73	1.5	216.1	29.9	38.8	76.3	8.73	30.8	6.34	1.15	5.46	0.90
2767015	Rock	5.9	9.5	17.4	1	111.3	0.8	9.0	2.8	36	<0.5	229.5	23.1	35.1	74.0	8.77	33.2	6.46	1.11	5.84	0.82
2767016	Rock DUP	6.2	9.9	18.4	2	109.0	0.7	10.0	3.0	35	0.8	234.3	23.5	34.5	72.3	8.68	34.3	6.33	1.10	5.64	0.81
2767017	Rock	5.4	9.9	184.2	1	181.8	0.8	11.3	3.0	74	0.6	197.4	15.2	25.1	54.6	6.59	24.6	4.76	1.26	4.06	0.59
2767018	Rock	5.7	11.6	128.0	3	92.1	0.7	10.7	3.3	66	1.9	202.2	23.2	28.1	55.3	6.60	25.3	4.88	1.12	4.45	0.67
2767019	Rock	1.4	2.6	69.9	1	126.9	0.1	2.3	0.7	215	<0.5	55.0	14.3	7.9	15.4	1.91	8.3	1.83	0.49	2.26	0.37
2767020	Rock	6.2	13.4	186.3	2	173.6	1.0	17.0	3.5	80	1.3	217.1	46.0	26.5	58.1	7.08	28.0	5.74	1.60	6.57	1.15
2767021	Pulp DUP	6.3	12.9	189.2	2	176.2	1.0	17.6	3.4	77	2.2	216.7	48.0	27.1	58.4	7.13	28.5	5.78	1.48	6.90	1.13
2767022	Rock	6.8	12.1	55.2	3	61.8	0.9	11.3	3.5	63	1.2	249.1	29.2	39.2	82.1	9.75	37.3	7.01	1.00	5.75	0.86
2767023	Rock	6.4	15.3	230.1	4	82.9	1.3	17.5	3.8	80	3.6	222.9	23.3	21.8	47.6	5.23	19.0	3.73	0.74	3.54	0.58
2767024	Rock	6.8	13.4	179.2	3	175.7	1.0	11.9	2.9	47	0.9	254.2	31.1	26.8	57.3	6.79	24.4	4.82	0.95	4.10	0.67
2767025	Rock Pulp	2.5	5.5	40.6	2	437.6	0.3	3.4	10.3	167	1.0	106.8	30.2	22.5	30.1	5.18	20.7	3.89	1.12	4.34	0.63
2767026	Rock	4.3	9.0	108.6	2	113.4	0.9	13.5	2.7	20	2.1	142.5	18.9	11.5	22.8	2.38	8.8	1.63	0.35	1.89	0.37
2767027	Rock	6.7	12.0	152.3	2	143.4	0.8	9.4	3.2	54	0.9	252.0	22.7	17.4	39.9	4.97	19.0	3.66	0.78	3.35	0.56
2767028	Rock	5.0	9.3	119.8	2	130.2	0.7	9.5	2.6	44	1.2	194.7	24.9	33.2	65.2	7.33	26.4	4.95	0.79	4.00	0.64
2767029	Rock	7.3	16.7	199.9	4	66.3	1.1	19.6	5.2	81	3.7	258.2	28.8	22.7	45.6	5.51	20.6	4.39	0.75	4.12	0.76
2767030	Rock	0.1	<0.1	0.2	<1	79.4	<0.1	<0.2	<0.1	<8	<0.5	3.1	2.4	1.3	1.0	0.19	0.9	0.16	0.05	0.26	0.05

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PHONE (604) 253-3158

Project: EXNA.CA.00.00015
Report Date: June 28, 2016

CERTIFICATE OF ANALYSIS VAN16000957.1

	Method	LF100	LF100	LF100	LF100	LF100	LF100	TC000	TC000	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250
	Analyte	Dy	Ho	Er	Tm	Yb	Lu	TOT/C	TOT/S	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Au	Cd
	Unit	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	%	ppm	ppb	ppm
	MDL	0.05	0.02	0.03	0.01	0.05	0.01	0.02	0.02	0.01	0.01	0.01	0.1	2	0.1	0.1	1	0.01	0.1	0.2	0.01
2767001	Rock	5.40	1.09	3.11	0.47	3.18	0.51	0.03	0.04	0.89	13.18	22.47	28.4	24	7.2	3.3	232	2.35	10.6	1.1	<0.01
2767002	Rock	6.62	1.33	3.75	0.54	3.87	0.58	0.05	0.03	0.79	14.45	24.74	110.5	83	12.1	6.5	581	3.96	4.2	0.6	0.10
2767003	Rock	2.53	0.49	1.50	0.22	1.58	0.23	0.04	0.04	0.20	58.00	9.16	17.1	49	56.6	14.4	183	1.32	3.0	1.4	0.04
2767004	Rock	4.17	0.88	2.70	0.41	2.89	0.45	0.03	<0.02	0.53	14.27	15.19	36.9	42	8.6	3.4	343	2.08	1.3	0.3	0.03
2767005	Rock	0.26	0.06	0.21	0.02	0.15	0.02	10.37	<0.02	<0.01	0.70	0.34	0.9	12	<0.1	0.2	100	0.06	0.3	1.0	<0.01
2767006	Rock	2.87	0.60	1.79	0.28	1.89	0.30	0.05	0.03	0.55	22.26	6.66	48.5	58	10.9	5.4	337	2.15	0.9	<0.2	0.06
2767007	Rock	2.20	0.47	1.35	0.20	1.45	0.20	0.03	<0.02	0.15	68.64	3.54	17.7	38	20.5	10.1	191	0.88	0.9	1.7	0.04
2767008	Rock	2.83	0.58	1.91	0.32	2.23	0.37	0.03	<0.02	0.48	3.47	2.22	11.1	16	4.3	1.8	118	0.89	1.9	2.3	<0.01
2767009	Rock	6.04	1.40	4.09	0.65	4.49	0.70	0.06	<0.02	0.72	9.84	15.51	107.6	27	11.2	5.8	603	2.93	1.3	0.7	0.11
2767010	Rock	3.68	0.85	2.85	0.45	3.01	0.53	0.04	<0.02	0.33	18.78	17.12	55.2	22	11.6	5.4	337	2.91	0.8	0.4	0.02
2767011	Rock	3.07	0.79	2.60	0.44	3.00	0.52	0.03	<0.02	0.38	7.84	17.76	64.4	18	13.3	6.1	362	2.94	0.5	0.6	<0.01
2767012	Rock	4.60	1.03	2.96	0.51	3.65	0.65	0.04	<0.02	0.74	13.59	6.22	28.2	76	3.5	2.7	215	1.50	2.1	<0.2	0.02
2767013	Rock	10.30	1.92	5.59	0.77	5.40	0.82	0.03	<0.02	1.60	11.20	17.01	27.6	58	4.6	2.6	203	1.96	0.2	1.3	0.02
2767014	Rock	5.20	1.13	3.08	0.49	3.27	0.54	0.07	0.09	1.19	14.56	5.55	37.5	28	3.4	2.1	273	2.83	0.6	1.6	<0.01
2767015	Rock	4.58	0.87	2.23	0.35	2.49	0.41	0.04	0.05	0.33	15.25	7.00	45.7	23	5.2	2.7	406	3.21	1.1	1.2	0.03
2767016	Rock DUP	4.58	0.85	2.35	0.35	2.59	0.42	0.04	0.05	0.33	16.29	6.99	42.8	22	4.9	2.9	406	3.23	1.2	<0.2	0.01
2767017	Rock	3.15	0.58	1.69	0.24	1.81	0.32	<0.02	0.09	2.39	12.96	17.97	102.4	47	14.2	8.4	608	4.94	1.2	<0.2	0.06
2767018	Rock	3.94	0.80	2.59	0.41	2.98	0.47	0.06	0.89	1.30	43.13	8.99	25.6	48	26.5	15.3	197	2.70	0.7	1.9	0.02
2767019	Rock	2.45	0.51	1.56	0.23	1.54	0.23	0.05	<0.02	0.22	41.64	4.60	23.7	24	32.3	14.1	224	1.60	10.7	0.2	0.06
2767020	Rock	7.83	1.65	5.18	0.74	5.06	0.80	0.11	<0.02	0.60	16.46	10.93	99.4	93	16.6	6.8	559	4.15	11.1	0.9	0.02
2767021	Pulp DUP	7.50	1.62	5.03	0.78	5.17	0.75	0.12	<0.02	0.56	16.20	10.90	98.1	93	16.4	6.7	540	3.97	12.1	0.9	0.03
2767022	Rock	5.29	1.05	3.37	0.52	3.53	0.52	0.05	<0.02	1.43	16.26	11.87	41.3	34	7.4	2.3	470	3.04	0.8	1.5	0.01
2767023	Rock	3.89	0.84	2.55	0.41	2.96	0.46	0.07	0.05	0.38	36.36	14.43	29.7	75	3.6	2.0	240	3.11	7.5	3.1	<0.01
2767024	Rock	4.53	1.02	3.30	0.53	3.64	0.60	0.10	<0.02	0.73	10.61	13.30	75.7	49	5.6	3.1	584	2.70	0.5	0.4	0.04
2767025	Rock Pulp	4.13	0.88	2.59	0.40	2.43	0.42	2.91	3.10	24.50	108.50	133.10	809.3	2719	149.8	9.7	1317	3.50	27.4	1.2	3.07
2767026	Rock	2.75	0.64	2.09	0.36	2.42	0.39	0.03	<0.02	0.33	3.62	6.49	26.4	53	3.6	2.4	219	1.37	0.2	<0.2	0.01
2767027	Rock	3.55	0.81	2.57	0.42	2.72	0.42	0.03	0.26	1.29	22.19	10.09	63.5	66	8.4	7.0	448	2.55	0.6	0.9	0.08
2767028	Rock	3.96	0.81	2.70	0.40	2.95	0.43	<0.02	0.10	0.75	10.10	10.99	32.9	55	3.6	1.7	337	1.79	2.8	1.4	0.03
2767029	Rock	4.92	0.99	3.30	0.48	3.74	0.53	0.14	<0.02	0.94	27.88	4.29	57.9	32	8.9	3.6	336	3.53	7.3	0.9	<0.01
2767030	Rock	0.26	0.06	0.15	0.03	0.20	0.02	10.60	<0.02	0.01	1.31	0.32	1.2	16	0.1	0.5	103	0.10	0.3	<0.2	<0.01

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Project: EXNA.CA.00.00015
Report Date: June 28, 2016

CERTIFICATE OF ANALYSIS VAN16000957.1

Method		AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250
Analyte		Sb	Bi	P	Cr	B	Tl	Hg	Se	Te	Ge	In	Re	Be	Li	Pd	Pt
Unit		ppm	ppm	%	ppm	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppb	ppb
MDL		0.02	0.02	0.001	0.5	20	0.02	5	0.1	0.02	0.1	0.02	1	0.1	0.1	10	2
2767001	Rock	0.15	0.63	0.031	28.5	<20	0.12	<5	0.3	0.03	<0.1	<0.02	<1	0.3	5.1	<10	<2
2767002	Rock	0.19	0.66	0.037	34.7	<20	0.24	<5	<0.1	<0.02	0.1	<0.02	<1	0.1	9.9	<10	<2
2767003	Rock	0.10	0.05	0.017	39.0	<20	0.04	<5	0.1	0.03	<0.1	<0.02	<1	0.3	8.2	13	5
2767004	Rock	0.18	0.19	0.023	18.1	<20	0.15	<5	0.1	<0.02	<0.1	<0.02	<1	0.4	4.6	<10	<2
2767005	Rock	<0.02	<0.02	0.006	0.6	<20	<0.02	<5	0.2	<0.02	<0.1	<0.02	<1	<0.1	0.3	<10	<2
2767006	Rock	0.48	0.20	0.015	12.6	<20	0.36	<5	<0.1	<0.02	<0.1	<0.02	<1	0.2	4.8	<10	2
2767007	Rock	0.05	0.06	0.015	23.6	<20	0.03	<5	<0.1	<0.02	<0.1	<0.02	<1	<0.1	1.7	<10	<2
2767008	Rock	0.05	0.36	0.011	7.8	<20	0.13	<5	<0.1	0.02	<0.1	<0.02	<1	<0.1	2.1	<10	4
2767009	Rock	0.07	0.19	0.050	25.5	<20	0.16	<5	<0.1	<0.02	<0.1	0.04	<1	0.4	10.5	<10	<2
2767010	Rock	0.09	0.20	0.024	15.5	<20	0.55	<5	<0.1	<0.02	<0.1	<0.02	<1	0.3	14.1	<10	<2
2767011	Rock	0.08	0.15	0.021	17.5	<20	0.56	<5	<0.1	0.03	<0.1	<0.02	<1	0.4	15.9	<10	<2
2767012	Rock	0.13	0.07	0.012	17.3	<20	0.26	<5	<0.1	<0.02	<0.1	0.02	<1	<0.1	7.5	<10	2
2767013	Rock	0.05	0.26	0.174	11.8	<20	0.45	<5	<0.1	<0.02	<0.1	<0.02	<1	0.3	12.1	<10	<2
2767014	Rock	0.06	0.83	0.047	14.8	<20	0.34	<5	0.3	0.08	<0.1	<0.02	<1	0.4	4.5	<10	6
2767015	Rock	0.04	0.22	0.046	30.8	<20	0.06	<5	<0.1	0.03	0.1	<0.02	<1	0.3	4.6	<10	<2
2767016	Rock DUP	0.04	0.21	0.049	31.1	<20	0.06	<5	<0.1	<0.02	<0.1	<0.02	<1	0.2	4.8	<10	<2
2767017	Rock	0.06	0.24	0.047	37.8	<20	0.85	<5	<0.1	<0.02	<0.1	0.03	<1	0.6	14.6	<10	2
2767018	Rock	0.06	0.80	0.037	17.8	<20	0.37	<5	0.4	<0.02	<0.1	<0.02	<1	0.2	7.6	<10	<2
2767019	Rock	0.05	0.07	0.020	110.0	<20	0.04	<5	0.1	0.02	<0.1	<0.02	<1	<0.1	10.3	<10	8
2767020	Rock	0.06	0.98	0.032	31.3	<20	0.83	<5	0.3	<0.02	<0.1	<0.02	<1	0.3	26.4	<10	<2
2767021	Pulp DUP	0.07	0.95	0.029	32.1	<20	0.82	<5	0.2	<0.02	0.1	<0.02	<1	0.5	25.7	<10	3
2767022	Rock	0.11	0.52	0.044	29.5	<20	0.13	<5	0.1	<0.02	<0.1	0.04	<1	0.2	8.0	<10	3
2767023	Rock	0.09	1.49	0.034	16.4	<20	0.59	<5	0.2	0.06	<0.1	<0.02	<1	0.5	8.3	<10	<2
2767024	Rock	0.11	0.34	0.040	31.9	<20	0.60	<5	<0.1	0.04	<0.1	<0.02	<1	0.2	18.8	<10	<2
2767025	Rock Pulp	5.00	0.14	0.169	56.6	<20	3.40	336	16.2	0.08	<0.1	<0.02	39	0.5	3.1	<10	4
2767026	Rock	0.05	0.24	0.015	7.3	<20	0.38	<5	0.1	<0.02	<0.1	<0.02	<1	<0.1	11.1	<10	<2
2767027	Rock	0.30	0.23	0.050	37.2	<20	0.51	<5	<0.1	0.03	<0.1	0.04	<1	0.3	24.6	<10	<2
2767028	Rock	0.15	0.17	0.032	22.9	<20	0.31	<5	0.2	<0.02	<0.1	<0.02	<1	0.2	14.3	<10	6
2767029	Rock	0.12	0.89	0.035	20.8	<20	0.44	<5	0.2	0.04	<0.1	<0.02	<1	0.5	12.8	<10	<2
2767030	Rock	<0.02	<0.02	0.008	0.9	<20	<0.02	<5	<0.1	<0.02	<0.1	<0.02	<1	<0.1	0.6	<10	<2

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Project: EXNA.CA.00.00015
Report Date: June 28, 2016

CERTIFICATE OF ANALYSIS VAN16000957.1

	Method	WGHT	LF700	LF700	LF700	LF700	LF700	LF700	LF700	LF700	LF700	LF700	LF700	LF700	LF700	LF700	LF100	LF100	LF100	LF100	LF100
	Analyte	Wgt	SiO2	Al2O3	Fe2O3	CaO	MgO	Na2O	K2O	MnO	TiO2	P2O5	Cr2O3	Ba	LOI	SUM	Ba	Be	Co	Cs	Ga
	Unit	kg	%	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm
	MDL	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.001	0.01	-5.11	0.01	1	1	0.2	0.1	0.5
2767031	Rock	2.06	51.74	13.44	12.60	9.89	7.09	2.31	0.52	0.19	1.11	0.08	0.031	<0.01	0.99	100.00	75	<1	45.5	0.7	17.3
2767032	Rock	2.18	82.53	8.74	2.08	1.63	0.57	2.44	0.79	0.04	0.29	0.04	0.003	0.02	0.67	99.84	174	<1	0.8	3.4	6.5
2767033	Rock	1.93	73.56	12.34	5.08	1.89	1.05	2.48	1.83	0.22	0.47	0.05	0.003	0.03	1.14	100.16	304	1	11.0	3.9	10.5
2767034	Rock	2.11	61.22	19.08	7.11	0.40	1.72	1.40	5.58	0.08	0.70	0.08	0.007	0.11	2.37	99.87	991	4	13.2	7.8	24.0
2767035	Rock	1.91	65.97	16.80	5.03	1.96	1.37	2.84	3.26	0.08	0.66	0.07	0.005	0.08	1.72	99.86	749	5	7.2	5.1	18.0
2767036	Rock	1.90	64.51	17.56	5.05	2.30	1.38	3.34	2.96	0.08	0.70	0.08	0.005	0.07	1.87	99.91	682	3	7.3	5.3	18.0
2767037	Rock	1.73	51.08	13.52	12.15	10.07	7.37	2.12	0.58	0.19	1.05	0.08	0.033	<0.01	1.33	99.59	86	<1	40.6	1.2	15.1
2767038	Rock	1.17	83.73	7.92	1.78	1.81	0.52	0.76	1.69	0.05	0.36	0.03	0.004	0.02	1.15	99.82	144	2	2.7	1.0	7.7
2767039	Rock	1.19	50.89	14.29	11.83	11.07	6.48	2.30	0.26	0.18	0.93	0.07	0.008	<0.01	1.23	99.53	57	<1	39.7	0.5	16.2
2767040	Rock	1.53	51.94	14.06	12.53	10.67	6.08	2.32	0.37	0.19	1.04	0.09	<0.001	0.01	0.58	99.87	66	<1	43.3	4.1	15.9
2767041	Rock DUP		51.86	14.05	12.62	10.70	6.09	2.32	0.36	0.19	1.05	0.09	<0.001	0.01	0.59	99.92	64	3	44.4	4.2	15.8
2767042	Rock	1.29	83.12	7.89	2.24	3.11	0.66	0.51	0.93	0.10	0.33	0.03	0.003	0.01	0.91	99.84	84	<1	2.7	2.6	7.2
2767043	Rock	0.97	59.37	22.10	4.74	0.62	1.26	1.92	6.39	0.05	0.86	0.06	0.008	0.12	2.58	100.09	1121	6	8.2	10.2	25.5
2767044	Rock	1.46	74.32	9.97	5.87	1.78	1.74	1.86	1.74	0.10	0.36	0.17	0.004	0.03	1.49	99.44	259	3	5.4	5.5	14.1
2767045	Rock	1.28	91.76	4.04	1.02	0.08	0.17	1.03	0.89	0.02	0.24	0.02	0.002	0.05	0.46	99.80	540	<1	1.2	0.2	1.2
2767046	Pulp DUP		91.70	4.03	1.04	0.08	0.17	1.03	0.89	0.02	0.22	0.02	0.002	0.05	0.47	99.73	526	<1	1.6	0.4	1.3
2767047	Rock	1.59	48.69	12.64	16.05	5.62	4.47	1.66	3.96	0.20	1.65	0.14	<0.001	0.10	4.35	99.56	940	<1	49.4	57.1	19.2
2767048	Rock	1.24	75.66	10.61	3.48	3.30	1.07	1.92	1.18	0.07	0.42	0.06	0.002	0.03	1.89	99.70	218	1	5.5	1.7	11.1
2767049	Rock	1.65	72.74	13.02	4.06	1.18	0.87	2.35	2.68	0.05	0.47	0.05	0.003	0.05	1.86	99.40	439	<1	7.3	4.6	14.9
2767050	Rock Pulp	0.03	76.18	4.21	5.26	3.71	0.40	0.11	0.78	0.17	0.24	0.41	0.020	0.13	5.23	96.88	1195	<1	8.9	5.1	4.6
2767051	Rock	2.03	77.93	9.83	4.64	1.72	1.04	1.82	1.40	0.06	0.36	0.06	0.003	0.02	1.01	99.89	180	4	7.8	4.7	9.6
2767052	Rock	2.15	11.75	0.65	0.16	47.75	2.76	0.23	0.05	0.01	0.03	0.02	0.002	<0.01	36.84	100.27	26	<1	0.3	<0.1	<0.5
2767053	Rock	1.40	79.02	9.33	3.95	0.74	0.95	1.89	1.85	0.03	0.37	0.05	0.003	0.03	1.36	99.58	263	5	3.2	5.1	10.3
2767054	Rock	1.58	87.87	6.03	1.66	0.52	0.55	0.95	1.21	0.03	0.27	0.02	0.002	0.02	0.64	99.79	205	<1	0.9	2.5	5.1
2767055	Rock Pulp	0.03	76.14	4.20	5.25	3.68	0.40	0.11	0.78	0.17	0.22	0.41	0.023	0.13	4.91	96.44	1241	<1	9.5	5.3	4.3
2767056	Rock	1.52	80.92	8.33	3.31	2.27	0.74	1.22	0.86	0.09	0.31	0.05	0.002	0.01	1.31	99.41	152	1	9.8	1.9	7.9
2767057	Rock	1.52	51.46	15.27	11.80	7.86	6.53	2.35	1.03	0.20	0.98	0.08	0.007	<0.01	2.28	99.86	128	1	40.9	0.5	16.2
2767058	Rock	1.26	73.46	12.47	4.21	1.76	1.29	3.70	1.44	0.05	0.46	0.08	0.004	0.02	1.28	100.25	133	7	8.9	9.8	11.9
2767059	Rock	2.41	77.28	11.21	2.97	1.73	0.45	0.84	3.57	0.04	0.42	0.04	0.003	0.02	1.35	99.94	229	<1	2.6	4.2	10.8
2767060	Rock	2.13	81.09	9.54	2.48	1.60	0.35	0.77	2.44	0.05	0.38	0.05	0.002	0.03	1.30	100.09	186	<1	1.8	2.8	10.1

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Project: EXNA.CA.00.00015
Report Date: June 28, 2016

CERTIFICATE OF ANALYSIS VAN16000957.1

	Method	LF100	LF100	LF100	LF100	LF100	LF100	LF100	LF100	LF100	LF100	LF100	LF100	LF100	LF100	LF100	LF100	LF100	LF100	LF100	LF100
	Analyte	Hf	Nb	Rb	Sn	Sr	Ta	Th	U	V	W	Zr	Y	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb
	Unit	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
	MDL	0.1	0.1	0.1	1	0.5	0.1	0.2	0.1	8	0.5	0.1	0.1	0.1	0.1	0.02	0.3	0.05	0.02	0.05	0.01
2767031	Rock	2.5	5.1	24.3	<1	127.8	0.4	1.7	0.3	346	<0.5	91.1	24.4	8.8	20.0	2.73	12.1	3.12	0.97	3.96	0.64
2767032	Rock	5.0	7.4	46.5	1	134.3	0.6	7.3	1.7	18	<0.5	180.1	12.2	18.4	38.7	4.36	15.9	2.87	0.48	2.11	0.31
2767033	Rock	5.1	11.6	106.2	<1	122.0	0.7	11.3	2.3	35	0.6	191.4	39.4	23.9	55.6	6.07	24.4	5.00	1.17	5.75	0.95
2767034	Rock	5.2	15.5	236.2	8	58.3	1.2	19.8	3.0	95	3.3	188.9	38.5	54.1	106.2	12.66	48.7	9.30	1.70	8.61	1.25
2767035	Rock	6.3	13.0	115.8	2	84.2	1.1	14.0	3.5	69	2.7	215.0	24.5	22.8	46.7	5.98	22.8	4.26	0.80	3.85	0.64
2767036	Rock	5.8	12.9	106.9	2	100.4	0.8	15.3	3.6	72	2.3	202.4	25.6	19.4	36.4	5.01	19.2	3.86	0.86	3.97	0.68
2767037	Rock	2.2	4.6	31.7	<1	112.2	0.3	1.7	0.3	290	<0.5	74.5	19.7	6.9	16.1	2.06	9.6	2.63	0.82	3.16	0.54
2767038	Rock	12.3	8.8	73.6	1	34.3	0.7	11.1	2.8	28	1.2	471.2	25.6	31.8	66.7	7.49	28.2	5.21	0.81	4.82	0.75
2767039	Rock	1.9	4.1	8.2	<1	140.7	0.2	1.4	0.4	275	<0.5	69.3	19.3	6.8	13.4	1.95	8.6	2.35	0.86	3.13	0.51
2767040	Rock	2.0	4.2	28.1	<1	126.8	0.3	1.6	0.4	310	<0.5	76.3	20.1	7.0	15.9	2.25	10.6	2.55	0.91	3.63	0.58
2767041	Rock DUP	2.0	4.7	27.7	<1	122.2	0.2	1.6	0.3	305	<0.5	75.6	21.5	7.2	16.1	2.09	9.5	2.63	0.94	3.35	0.56
2767042	Rock	8.8	8.0	64.0	1	41.6	0.6	10.1	2.5	27	<0.5	349.8	35.1	38.2	74.8	9.01	33.3	6.27	1.13	6.25	1.02
2767043	Rock	8.0	18.4	231.3	4	72.5	1.6	22.6	3.9	94	4.0	270.3	35.7	14.4	28.7	3.84	14.5	3.42	0.54	3.43	0.71
2767044	Rock	6.8	10.3	130.3	1	77.1	0.7	12.1	2.6	39	<0.5	260.1	88.9	49.7	82.6	11.75	44.1	8.73	1.56	10.40	1.91
2767045	Rock	7.1	5.6	17.1	<1	34.7	0.5	7.1	1.2	<8	1.0	284.6	10.3	15.6	34.9	3.81	13.9	2.62	0.43	2.17	0.34
2767046	Pulp DUP	7.5	5.6	17.4	<1	33.2	0.4	6.9	1.1	<8	0.8	279.6	11.1	15.5	33.8	3.72	14.3	2.64	0.46	2.22	0.32
2767047	Rock	2.8	7.0	287.0	1	106.7	0.6	2.2	0.5	431	<0.5	112.4	29.2	10.6	24.6	3.38	14.8	3.92	1.21	4.80	0.83
2767048	Rock	6.8	10.8	65.4	1	144.6	0.7	11.8	2.9	35	<0.5	265.2	44.1	46.8	87.2	10.95	41.7	7.41	1.41	7.65	1.21
2767049	Rock	5.6	10.8	129.6	2	91.5	0.7	12.3	2.9	43	1.1	211.8	37.6	44.2	55.9	9.08	35.1	6.19	1.22	6.52	1.04
2767050	Rock Pulp	2.6	4.6	36.0	2	396.9	0.4	3.6	9.6	142	0.8	100.6	25.6	20.4	26.8	4.42	17.7	3.54	1.00	4.12	0.62
2767051	Rock	5.5	8.1	105.7	1	143.6	0.7	10.6	2.3	31	<0.5	200.6	31.5	34.9	52.8	7.43	28.3	5.33	1.12	5.27	0.83
2767052	Rock	<0.1	0.2	1.0	<1	82.2	<0.1	<0.2	0.2	<8	<0.5	3.3	2.2	1.2	1.0	0.21	0.9	0.16	0.05	0.24	0.04
2767053	Rock	6.5	9.4	111.0	1	123.1	0.8	10.1	2.2	31	0.9	246.1	14.8	16.2	35.9	4.08	14.4	2.42	0.43	2.07	0.33
2767054	Rock	7.9	6.3	63.9	<1	68.4	0.5	7.5	2.2	15	1.1	320.1	13.0	17.5	36.6	4.16	14.5	3.03	0.49	2.11	0.33
2767055	Rock Pulp	2.4	4.8	36.8	2	411.5	0.3	3.3	9.5	143	1.0	98.7	26.9	20.0	26.7	4.49	18.1	3.65	0.93	4.13	0.61
2767056	Rock	5.4	7.0	50.6	1	127.6	0.6	8.5	2.1	20	<0.5	199.2	37.5	29.4	56.4	6.77	26.4	5.59	1.05	5.90	1.00
2767057	Rock	2.0	4.4	54.7	<1	160.2	0.3	1.7	0.3	276	0.6	74.8	20.5	7.8	16.2	2.17	9.6	2.52	0.85	3.25	0.55
2767058	Rock	7.4	10.9	108.0	<1	121.4	0.7	11.3	3.2	39	<0.5	273.7	35.1	41.1	83.6	10.22	38.2	7.39	1.64	6.91	1.07
2767059	Rock	7.1	10.5	162.6	2	40.8	0.8	11.4	2.5	29	2.6	271.1	21.8	19.1	39.7	4.77	19.0	3.93	0.73	3.60	0.63
2767060	Rock	8.3	9.8	117.6	3	28.4	0.6	11.2	2.7	30	1.3	313.2	33.4	39.5	79.9	9.94	35.4	7.03	1.54	6.58	1.02

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Project: EXNA.CA.00.00015
Report Date: June 28, 2016

CERTIFICATE OF ANALYSIS   VAN16000957.1

	Method	LF100	LF100	LF100	LF100	LF100	LF100	TC000	TC000	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250
	Analyte	Dy	Ho	Er	Tm	Yb	Lu	TOT/C	TOT/S	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Au	Cd
	Unit	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	%	ppm	ppb	ppm
	MDL	0.05	0.02	0.03	0.01	0.05	0.01	0.02	0.02	0.01	0.01	0.01	0.1	2	0.1	0.1	1	0.01	0.1	0.2	0.01
2767031	Rock	4.29	0.88	2.50	0.37	2.34	0.38	<0.02	<0.02	0.37	86.66	2.65	18.6	46	21.0	10.2	244	1.87	0.7	2.4	0.02
2767032	Rock	2.06	0.44	1.58	0.28	1.86	0.30	0.06	<0.02	0.50	15.68	12.54	40.2	35	3.5	1.5	281	1.36	2.3	0.3	0.02
2767033	Rock	6.33	1.34	4.07	0.62	4.32	0.62	0.04	<0.02	0.28	20.01	12.09	79.5	45	16.7	10.2	498	2.94	15.1	0.3	0.08
2767034	Rock	6.91	1.33	4.08	0.60	4.26	0.64	<0.02	<0.02	0.26	0.84	3.90	107.2	17	24.5	11.6	481	4.13	1.2	2.0	0.07
2767035	Rock	4.15	0.85	2.86	0.48	3.55	0.58	<0.02	<0.02	0.27	16.87	5.52	53.4	20	11.5	7.0	496	3.12	0.2	1.6	0.03
2767036	Rock	4.41	0.93	3.12	0.54	3.78	0.60	0.04	<0.02	0.19	22.45	9.93	60.7	18	12.7	6.8	481	3.23	<0.1	1.8	<0.01
2767037	Rock	3.52	0.75	2.17	0.32	2.03	0.32	<0.02	<0.02	0.14	93.87	4.93	24.4	53	26.0	10.5	261	1.81	1.0	2.2	0.05
2767038	Rock	4.46	0.93	2.69	0.44	2.95	0.49	0.12	<0.02	0.13	0.90	2.68	18.0	19	5.9	2.8	284	0.97	1.0	2.0	0.04
2767039	Rock	3.34	0.69	2.10	0.28	2.11	0.29	0.05	<0.02	0.15	82.01	3.08	19.8	65	19.3	10.4	283	2.10	0.4	3.1	0.07
2767040	Rock	3.77	0.81	2.29	0.33	2.18	0.33	<0.02	<0.02	0.12	222.44	2.69	22.8	73	28.0	14.2	222	2.81	0.4	5.3	0.12
2767041	Rock DUP	3.63	0.77	2.28	0.33	2.24	0.34	<0.02	<0.02	0.17	221.88	2.64	22.5	75	27.2	13.3	223	2.75	0.4	3.8	0.10
2767042	Rock	6.21	1.13	3.70	0.54	3.58	0.54	0.02	0.08	0.27	28.59	5.82	17.8	48	7.7	3.0	321	1.30	3.2	3.0	0.10
2767043	Rock	5.46	1.27	4.28	0.67	5.15	0.78	<0.02	<0.02	0.21	3.71	3.32	41.8	15	15.3	7.6	230	2.54	0.4	1.6	<0.01
2767044	Rock	13.05	2.87	8.64	1.17	7.48	1.13	<0.02	0.09	0.51	89.71	662.91	436.7	910	11.9	6.0	739	4.13	3.3	1.1	0.67
2767045	Rock	2.05	0.40	1.07	0.21	1.24	0.22	0.02	<0.02	0.12	3.00	3.72	7.7	23	2.1	1.3	116	0.52	1.5	1.4	0.02
2767046	Pulp DUP	2.07	0.38	1.25	0.19	1.38	0.22	0.03	<0.02	0.10	3.02	3.64	7.1	15	1.9	1.4	117	0.53	1.6	1.6	0.02
2767047	Rock	5.10	1.07	3.20	0.45	3.05	0.47	0.87	<0.02	0.17	72.22	11.07	219.7	50	39.9	46.1	1035	9.60	4.9	2.1	0.25
2767048	Rock	7.31	1.44	4.47	0.64	4.21	0.61	0.18	0.08	0.61	24.36	39.45	63.5	105	14.5	5.9	437	2.26	0.8	0.4	0.28
2767049	Rock	6.68	1.27	3.70	0.58	3.70	0.56	0.09	<0.02	0.26	13.71	4.20	32.3	19	15.8	7.4	282	2.47	3.0	2.7	0.04
2767050	Rock Pulp	3.77	0.77	2.50	0.35	2.39	0.39	2.79	3.01	23.70	106.09	131.39	786.1	2746	152.1	9.7	1340	3.57	27.1	1.1	2.99
2767051	Rock	5.02	1.06	3.39	0.50	3.37	0.50	0.05	0.03	0.35	24.21	10.16	62.5	52	15.1	7.7	291	3.05	16.0	1.2	0.04
2767052	Rock	0.27	0.04	0.19	0.02	0.18	0.02	10.20	<0.02	0.03	0.71	0.41	0.5	12	0.7	0.1	100	0.06	<0.1	0.7	<0.01
2767053	Rock	2.28	0.49	1.81	0.32	2.35	0.39	0.03	0.08	0.20	10.86	9.00	32.7	36	5.2	3.6	179	2.70	0.2	0.5	<0.01
2767054	Rock	2.06	0.46	1.56	0.27	2.02	0.36	0.02	<0.02	0.28	1.85	6.71	36.1	29	3.9	1.5	159	1.07	0.9	3.2	0.02
2767055	Rock Pulp	3.82	0.76	2.51	0.35	2.47	0.40	2.82	2.97	24.72	114.39	144.47	855.8	2955	159.7	10.1	1406	3.71	27.7	1.7	3.08
2767056	Rock	6.07	1.27	3.34	0.49	3.23	0.48	0.08	0.02	0.33	29.60	6.45	38.8	49	13.7	11.4	400	2.14	22.6	0.7	0.07
2767057	Rock	3.44	0.72	2.04	0.30	2.03	0.31	0.04	<0.02	0.11	127.77	1.86	33.0	38	35.8	19.6	581	3.38	0.9	3.0	0.04
2767058	Rock	6.12	1.19	3.74	0.57	4.01	0.58	0.04	0.16	7.18	48.29	157.25	51.4	427	11.1	10.7	370	2.96	1.6	0.8	0.05
2767059	Rock	3.85	0.81	2.42	0.40	2.77	0.46	0.05	<0.02	0.27	16.99	4.25	10.6	25	4.5	2.5	244	1.71	1.5	0.4	0.02
2767060	Rock	5.94	1.12	3.39	0.51	3.35	0.50	0.03	0.02	0.37	25.62	3.63	7.3	29	3.6	2.0	195	1.37	6.4	0.4	0.01

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Project: EXNA.CA.00.00015
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CERTIFICATE OF ANALYSIS VAN16000957.1

	Method	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250
	Analyte	Sb	Bi	P	Cr	B	Tl	Hg	Se	Te	Ge	In	Re	Be	Li	Pd	Pt
	Unit	ppm	ppm	%	ppm	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppb	ppb
	MDL	0.02	0.02	0.001	0.5	20	0.02	5	0.1	0.02	0.1	0.02	1	0.1	0.1	10	2
2767031	Rock	0.14	0.04	0.039	34.8	<20	0.03	<5	0.3	<0.02	<0.1	<0.02	<1	<0.1	6.4	15	12
2767032	Rock	0.15	0.12	0.019	18.3	<20	0.23	<5	<0.1	<0.02	<0.1	<0.02	<1	<0.1	8.4	<10	<2
2767033	Rock	0.12	0.68	0.020	26.4	<20	0.46	<5	<0.1	<0.02	<0.1	<0.02	<1	0.2	14.9	<10	<2
2767034	Rock	0.07	0.13	0.034	21.4	<20	0.74	<5	<0.1	<0.02	<0.1	<0.02	<1	0.5	21.7	<10	<2
2767035	Rock	0.05	0.03	0.027	18.7	<20	0.80	<5	<0.1	0.04	<0.1	<0.02	<1	0.3	12.6	<10	<2
2767036	Rock	0.05	0.04	0.033	24.2	<20	1.07	<5	<0.1	0.02	<0.1	<0.02	<1	0.4	12.4	<10	<2
2767037	Rock	0.10	0.06	0.035	35.1	<20	0.04	<5	<0.1	0.05	<0.1	<0.02	<1	0.3	9.1	11	9
2767038	Rock	0.18	0.03	0.014	12.0	<20	0.17	<5	<0.1	<0.02	<0.1	<0.02	<1	0.1	7.5	<10	<2
2767039	Rock	0.09	0.03	0.027	9.6	<20	0.02	<5	0.1	0.02	<0.1	<0.02	<1	0.3	7.6	52	57
2767040	Rock	0.04	0.04	0.037	5.7	<20	0.16	<5	0.1	0.07	<0.1	0.03	<1	0.3	6.7	<10	2
2767041	Rock DUP	0.05	0.04	0.038	5.9	<20	0.16	<5	0.3	0.05	<0.1	0.02	<1	<0.1	6.2	<10	2
2767042	Rock	0.08	0.03	0.012	18.9	<20	0.19	<5	<0.1	<0.02	<0.1	<0.02	<1	0.6	8.2	<10	<2
2767043	Rock	0.14	0.05	0.027	15.6	<20	0.53	<5	<0.1	<0.02	<0.1	<0.02	<1	0.4	19.1	<10	<2
2767044	Rock	0.29	1.39	0.076	20.6	<20	0.69	<5	0.4	0.13	0.1	0.26	<1	0.3	25.3	<10	<2
2767045	Rock	0.12	0.02	0.009	7.7	<20	0.03	<5	<0.1	0.03	<0.1	<0.02	<1	0.2	1.7	<10	<2
2767046	Pulp DUP	0.10	<0.02	0.009	7.5	<20	0.03	<5	<0.1	<0.02	<0.1	<0.02	<1	0.2	1.7	<10	<2
2767047	Rock	0.03	<0.02	0.058	8.7	<20	2.27	<5	<0.1	0.04	0.2	0.03	<1	0.1	44.7	<10	<2
2767048	Rock	0.46	0.37	0.025	23.2	<20	0.17	<5	0.1	0.05	<0.1	<0.02	<1	0.2	13.6	<10	<2
2767049	Rock	0.10	0.14	0.021	17.1	<20	0.43	<5	<0.1	<0.02	<0.1	<0.02	<1	0.5	8.3	<10	<2
2767050	Rock Pulp	5.17	0.15	0.174	58.7	<20	3.61	328	16.1	0.09	<0.1	0.03	39	0.8	3.9	<10	2
2767051	Rock	0.26	0.36	0.025	20.8	<20	0.67	<5	<0.1	0.04	<0.1	0.02	<1	0.2	18.4	<10	<2
2767052	Rock	<0.02	<0.02	0.007	1.1	<20	<0.02	<5	<0.1	<0.02	<0.1	<0.02	<1	<0.1	0.4	<10	<2
2767053	Rock	0.16	0.17	0.023	17.7	<20	0.64	<5	<0.1	<0.02	<0.1	0.02	<1	<0.1	15.9	<10	<2
2767054	Rock	0.12	0.08	0.008	9.8	<20	0.35	<5	<0.1	<0.02	<0.1	<0.02	<1	0.1	10.8	<10	<2
2767055	Rock Pulp	4.98	0.15	0.185	63.4	<20	3.80	332	17.6	0.13	<0.1	0.03	42	0.7	4.1	16	4
2767056	Rock	0.39	0.53	0.021	14.2	<20	0.25	<5	<0.1	0.04	<0.1	<0.02	<1	0.4	11.4	<10	<2
2767057	Rock	0.06	0.08	0.037	14.3	<20	0.05	<5	<0.1	0.02	<0.1	<0.02	<1	0.2	5.0	32	22
2767058	Rock	0.08	1.58	0.036	28.3	<20	0.71	<5	<0.1	0.02	<0.1	<0.02	<1	0.3	13.9	<10	<2
2767059	Rock	0.07	0.08	0.016	12.4	<20	0.28	<5	<0.1	<0.02	<0.1	<0.02	<1	0.7	8.2	<10	<2
2767060	Rock	0.05	0.11	0.020	11.5	<20	0.20	<5	0.2	<0.02	<0.1	<0.02	<1	0.4	4.9	<10	<2

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Project: EXNA.CA.00.00015
Report Date: June 28, 2016

CERTIFICATE OF ANALYSIS VAN16000957.1

	Method	WGHT	LF700	LF700	LF700	LF700	LF700	LF700	LF700	LF700	LF700	LF700	LF700	LF700	LF700	LF700	LF100	LF100	LF100	LF100	LF100
	Analyte	Wgt	SiO2	Al2O3	Fe2O3	CaO	MgO	Na2O	K2O	MnO	TiO2	P2O5	Cr2O3	Ba	LOI	SUM	Ba	Be	Co	Cs	Ga
	Unit	kg	%	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm
	MDL	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.001	0.01	-5.11	0.01	1	1	0.2	0.1	0.5
2767061	Rock	1.60	70.55	14.16	4.36	1.28	1.47	2.19	3.31	0.06	0.54	0.11	0.004	0.07	1.60	99.73	632	<1	3.4	16.8	17.0
2767062	Rock	1.40	62.83	19.65	4.34	1.52	1.27	3.67	3.93	0.06	0.76	0.07	0.010	0.08	1.93	100.13	663	3	4.8	15.2	22.6
2767063	Rock	1.70	75.92	11.53	4.03	0.68	0.93	2.37	2.55	0.04	0.43	0.05	0.004	0.06	1.31	99.92	499	3	4.2	12.7	11.7
2767064	Rock	1.33	52.46	14.24	10.92	10.39	7.11	1.63	1.00	0.19	0.68	0.06	0.023	0.02	1.34	100.06	139	<1	39.8	0.7	14.2
2767065	Rock	1.70	52.08	14.26	10.91	10.03	7.06	2.27	0.84	0.18	0.67	0.06	0.026	<0.01	1.56	99.96	78	<1	36.5	0.8	13.6
2767066	Rock	1.34	52.03	14.66	10.12	10.80	7.40	1.43	1.06	0.17	0.61	0.05	0.038	0.01	1.56	99.95	160	<1	38.1	0.7	13.1
2767067	Rock	1.21	83.08	7.19	3.90	1.48	0.86	1.19	1.10	0.05	0.24	0.04	0.002	0.01	0.92	100.08	137	2	5.5	8.5	6.4
2767068	Rock	1.52	76.79	11.24	4.13	0.78	0.83	2.50	2.15	0.04	0.44	0.05	0.003	0.04	1.30	100.30	336	<1	5.0	7.4	12.1
2767069	Rock	1.44	83.76	7.71	1.92	2.52	0.41	1.46	0.67	0.08	0.32	0.03	0.004	0.02	0.86	99.78	230	<1	4.6	2.3	9.4

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Project: EXNA.CA.00.00015
Report Date: June 28, 2016

CERTIFICATE OF ANALYSIS VAN16000957.1

	Method	LF100	LF100	LF100	LF100	LF100	LF100	LF100	LF100	LF100	LF100	LF100	LF100	LF100	LF100	LF100	LF100	LF100	LF100	LF100	LF100
	Analyte	Hf	Nb	Rb	Sn	Sr	Ta	Th	U	V	W	Zr	Y	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb
	Unit	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
	MDL	0.1	0.1	0.1	1	0.5	0.1	0.2	0.1	8	0.5	0.1	0.1	0.1	0.1	0.02	0.3	0.05	0.02	0.05	0.01
2767061	Rock	7.0	12.1	168.7	8	64.4	0.8	11.0	3.2	46	2.5	257.9	30.4	27.4	64.4	7.72	28.9	5.51	1.00	4.63	0.72
2767062	Rock	7.0	16.7	178.0	4	158.2	1.1	18.7	4.6	84	3.1	244.9	37.9	28.0	62.1	7.20	27.7	5.26	1.37	5.49	0.93
2767063	Rock	5.9	10.2	139.5	3	75.0	0.9	11.6	5.0	38	1.6	208.6	41.2	41.7	80.7	9.79	39.0	7.42	1.22	7.73	1.25
2767064	Rock	1.5	3.2	47.3	<1	112.6	0.2	2.1	0.6	261	0.5	59.8	16.9	8.7	17.5	2.20	8.7	2.09	0.60	2.38	0.44
2767065	Rock	1.7	3.0	40.2	1	107.3	0.2	2.6	0.6	264	0.8	59.8	16.4	9.1	17.7	2.25	10.0	2.12	0.67	2.72	0.45
2767066	Rock	1.6	2.6	49.4	<1	97.4	0.3	2.3	0.7	248	0.6	58.2	14.7	8.6	16.0	2.04	8.4	2.04	0.60	2.50	0.41
2767067	Rock	4.4	6.1	88.9	<1	41.7	0.4	5.5	1.2	16	<0.5	166.1	16.9	17.5	35.2	4.22	16.0	3.29	0.92	2.79	0.44
2767068	Rock	6.1	10.4	118.8	2	109.1	0.7	10.9	3.0	32	1.2	225.3	32.6	33.9	64.1	8.17	30.5	5.71	1.28	5.34	0.85
2767069	Rock	9.5	8.8	49.5	2	102.0	0.5	10.1	2.2	39	<0.5	368.5	34.4	38.5	68.1	8.94	35.2	6.54	1.29	6.88	1.10

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Project: EXNA.CA.00.00015
Report Date: June 28, 2016

CERTIFICATE OF ANALYSIS VAN16000957.1

	Method	LF100	LF100	LF100	LF100	LF100	LF100	TC000	TC000	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250
	Analyte	Dy	Ho	Er	Tm	Yb	Lu	TOT/C	TOT/S	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Au	Cd
	Unit	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	%	ppm	ppb	ppm
	MDL	0.05	0.02	0.03	0.01	0.05	0.01	0.02	0.02	0.01	0.01	0.01	0.1	2	0.1	0.1	1	0.01	0.1	0.2	0.01
2767061	Rock	4.87	1.05	3.56	0.58	3.94	0.59	0.02	0.04	0.72	9.95	11.14	61.5	75	4.6	3.9	447	2.84	1.2	0.6	0.02
2767062	Rock	6.42	1.33	4.21	0.63	4.20	0.67	0.04	<0.02	0.41	6.49	9.86	52.2	38	7.9	4.5	321	2.62	0.7	<0.2	<0.01
2767063	Rock	7.53	1.47	4.46	0.60	4.14	0.59	0.03	0.02	0.29	25.40	14.46	66.9	46	14.2	4.9	287	2.70	5.9	0.9	0.01
2767064	Rock	2.95	0.61	1.92	0.30	1.77	0.30	<0.02	<0.02	0.22	56.42	6.01	23.5	34	19.3	15.0	255	1.66	4.8	0.6	0.01
2767065	Rock	3.01	0.60	1.93	0.28	1.85	0.28	<0.02	<0.02	0.23	84.18	7.61	23.2	49	22.7	14.6	261	1.68	9.3	1.0	0.03
2767066	Rock	2.53	0.57	1.72	0.26	1.62	0.25	0.04	<0.02	0.20	62.71	5.47	14.3	51	21.6	12.4	180	1.22	3.7	0.5	0.05
2767067	Rock	2.94	0.53	1.82	0.31	2.06	0.33	0.04	0.06	0.40	52.64	3.85	53.6	76	6.8	6.2	353	2.77	1.5	2.4	0.02
2767068	Rock	5.50	1.12	3.66	0.53	3.49	0.55	0.05	<0.02	0.44	17.75	5.97	36.1	56	8.3	5.6	288	2.69	1.7	1.6	<0.01
2767069	Rock	6.37	1.23	3.67	0.55	3.88	0.59	0.07	<0.02	0.11	1.91	3.85	38.0	10	6.1	3.9	228	0.92	1.7	3.1	0.08

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Project: EXNA.CA.00.00015
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CERTIFICATE OF ANALYSIS VAN16000957.1

	Method	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250
	Analyte	Sb	Bi	P	Cr	B	Tl	Hg	Se	Te	Ge	In	Re	Be	Li	Pd	Pt
	Unit	ppm	ppm	%	ppm	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppb	ppb
	MDL	0.02	0.02	0.001	0.5	20	0.02	5	0.1	0.02	0.1	0.02	1	0.1	0.1	10	2
2767061	Rock	0.05	0.53	0.047	21.9	<20	0.67	<5	<0.1	0.04	<0.1	0.03	<1	<0.1	25.9	<10	<2
2767062	Rock	0.05	0.30	0.029	24.1	<20	0.61	<5	<0.1	<0.02	<0.1	<0.02	<1	0.3	24.6	<10	<2
2767063	Rock	0.12	0.38	0.020	17.9	<20	0.65	<5	0.1	<0.02	<0.1	0.02	<1	0.2	19.7	<10	<2
2767064	Rock	0.11	0.07	0.025	36.4	<20	0.06	<5	0.1	<0.02	<0.1	<0.02	<1	0.3	7.9	<10	<2
2767065	Rock	0.13	0.05	0.026	45.6	<20	0.04	<5	<0.1	<0.02	<0.1	<0.02	<1	0.3	4.8	<10	<2
2767066	Rock	0.19	0.05	0.022	38.0	<20	0.04	<5	0.3	<0.02	<0.1	<0.02	<1	0.2	5.2	<10	<2
2767067	Rock	0.06	0.70	0.015	16.4	<20	0.46	<5	<0.1	0.05	0.2	<0.02	<1	0.3	17.3	<10	<2
2767068	Rock	0.09	0.59	0.022	21.4	<20	0.49	<5	<0.1	<0.02	<0.1	0.02	<1	0.6	13.6	<10	<2
2767069	Rock	0.13	0.07	0.012	13.4	<20	0.11	<5	<0.1	0.04	<0.1	<0.02	<1	0.1	4.1	<10	<2

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QUALITY CONTROL REPORT VAN16000957.1

Method		WGHT	LF700	LF700	LF700	LF700	LF700	LF700	LF700	LF700	LF700
Analyte		Wgt	SiO2	Al2O3	Fe2O3	CaO	MgO	Na2O	K2O	MnO	TiO2
Unit		kg	%	%	%	%	%	%	%	%	%
MDL		0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Pulp Duplicates											
2767003	Rock	2.16	50.01	15.01	9.82	11.39	8.91	1.60	0.61	0.16	0.54
REP 2767003	QC		49.95	14.98	9.80	11.35	8.89	1.58	0.61	0.16	0.53
2767011	Rock	1.52	61.68	19.66	5.20	0.33	1.32	0.98	6.61	0.06	0.70
REP 2767011	QC										
2767018	Rock	2.08	70.18	13.91	4.26	1.16	1.11	2.35	3.52	0.03	0.56
REP 2767018	QC		70.19	13.89	4.21	1.15	1.10	2.36	3.51	0.03	0.56
2767025	Rock Pulp	0.03	76.19	4.22	5.26	3.71	0.40	0.12	0.77	0.17	0.22
REP 2767025	QC										
2767031	Rock	2.06	51.74	13.44	12.60	9.89	7.09	2.31	0.52	0.19	1.11
REP 2767031	QC										
2767046	Pulp DUP		91.70	4.03	1.04	0.08	0.17	1.03	0.89	0.02	0.22
REP 2767046	QC										
2767053	Rock	1.40	79.02	9.33	3.95	0.74	0.95	1.89	1.85	0.03	0.37
REP 2767053	QC		78.96	9.32	3.96	0.74	0.95	1.89	1.85	0.03	0.37
2767059	Rock	2.41	77.28	11.21	2.97	1.73	0.45	0.84	3.57	0.04	0.42
REP 2767059	QC										
2767060	Rock	2.13	81.09	9.54	2.48	1.60	0.35	0.77	2.44	0.05	0.38
REP 2767060	QC										
2767069	Rock	1.44	83.76	7.71	1.92	2.52	0.41	1.46	0.67	0.08	0.32
REP 2767069	QC		83.49	7.67	1.92	2.52	0.41	1.46	0.67	0.08	0.32
Core Reject Duplicates											
2767029	Rock	1.47	61.76	19.13	5.94	0.28	1.49	1.65	5.45	0.04	0.73
DUP 2767029	QC		61.57	19.04	5.88	0.28	1.50	1.66	5.39	0.05	0.76
2767063	Rock	1.70	75.92	11.53	4.03	0.68	0.93	2.37	2.55	0.04	0.43
DUP 2767063	QC		75.67	11.57	4.05	0.68	0.93	2.36	2.54	0.04	0.42
Reference Materials											
STD DS10	Standard										
STD DS10	Standard										

Method		LF700	LF700	LF700	LF700	LF700	LF100	LF100	LF100	LF100	LF100
Analyte		P2O5	Cr2O3	Ba	LOI	SUM	Ba	Be	Co	Cs	Ga
Unit		%	%	%	%	%	ppm	ppm	ppm	ppm	ppm
MDL		0.01	0.001	0.01	-5.11	0.01	1	1	0.2	0.1	0.5
Pulp Duplicates											
2767003	Rock	0.03	0.050	<0.01	1.56	99.69	60	<1	40.7	0.6	12.5
REP 2767003	QC	0.03	0.047	<0.01	1.57	99.51					
2767011	Rock	0.05	0.008	0.10	2.77	99.46	937	<1	6.4	5.1	22.8
REP 2767011	QC										
2767018	Rock	0.09	0.005	0.07	2.66	99.91	670	<1	13.4	4.4	15.7
REP 2767018	QC	0.08	0.006	0.07	2.64	99.82					
2767025	Rock Pulp	0.42	0.022	0.13	6.18	97.83	1390	<1	10.7	6.0	7.3
REP 2767025	QC										
2767031	Rock	0.08	0.031	<0.01	0.99	100.00	75	<1	45.5	0.7	17.3
REP 2767031	QC						77	<1	44.9	0.5	17.6
2767046	Pulp DUP	0.02	0.002	0.05	0.47	99.73	526	<1	1.6	0.4	1.3
REP 2767046	QC										
2767053	Rock	0.05	0.003	0.03	1.36	99.58	263	5	3.2	5.1	10.3
REP 2767053	QC	0.05	0.004	0.02	1.38	99.53					
2767059	Rock	0.04	0.003	0.02	1.35	99.94	229	<1	2.6	4.2	10.8
REP 2767059	QC						236	2	3.0	4.0	11.6
2767060	Rock	0.05	0.002	0.03	1.30	100.09	186	<1	1.8	2.8	10.1
REP 2767060	QC										
2767069	Rock	0.03	0.004	0.02	0.86	99.78	230	<1	4.6	2.3	9.4
REP 2767069	QC	0.03	0.004	0.03	0.87	99.47	237	<1	3.8	1.7	7.8
Core Reject Duplicates											
2767029	Rock	0.08	0.006	0.12	3.29	99.99	1089	2	3.7	5.9	22.9
DUP 2767029	QC	0.09	0.008	0.12	3.34	99.67	1125	<1	3.3	5.7	22.8
2767063	Rock	0.05	0.004	0.06	1.31	99.92	499	3	4.2	12.7	11.7
DUP 2767063	QC	0.05	0.005	0.06	1.33	99.70	516	3	4.6	13.7	11.0
Reference Materials											
STD DS10	Standard										
STD DS10	Standard										

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Project: EXNA.CA.00.00015
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QUALITY CONTROL REPORT VAN16000957.1

	Method	LF100	LF100	LF100	LF100	LF100	LF100	LF100	LF100	LF100	LF100	LF100	LF100	LF100	LF100	LF100	LF100	LF100	LF100	LF100	LF100
	Analyte	Hf	Nb	Rb	Sn	Sr	Ta	Th	U	V	W	Zr	Y	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb
	Unit	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
	MDL	0.1	0.1	0.1	1	0.5	0.1	0.2	0.1	8	0.5	0.1	0.1	0.1	0.1	0.02	0.3	0.05	0.02	0.05	0.01
Pulp Duplicates																					
2767003	Rock	1.0	2.4	25.1	1	106.3	0.2	1.5	0.3	230	<0.5	41.3	13.4	6.0	11.6	1.53	6.8	1.44	0.52	2.00	0.37
REP 2767003	QC																				
2767011	Rock	7.0	14.5	238.0	4	59.3	1.1	16.5	4.0	83	3.2	244.1	20.6	4.5	7.4	1.07	4.0	1.01	0.33	1.57	0.39
REP 2767011	QC																				
2767018	Rock	5.7	11.6	128.0	3	92.1	0.7	10.7	3.3	66	1.9	202.2	23.2	28.1	55.3	6.60	25.3	4.88	1.12	4.45	0.67
REP 2767018	QC																				
2767025	Rock Pulp	2.5	5.5	40.6	2	437.6	0.3	3.4	10.3	167	1.0	106.8	30.2	22.5	30.1	5.18	20.7	3.89	1.12	4.34	0.63
REP 2767025	QC																				
2767031	Rock	2.5	5.1	24.3	<1	127.8	0.4	1.7	0.3	346	<0.5	91.1	24.4	8.8	20.0	2.73	12.1	3.12	0.97	3.96	0.64
REP 2767031	QC	2.7	5.4	24.9	1	131.4	0.3	1.7	0.4	344	<0.5	98.6	24.4	9.4	20.4	2.75	12.3	3.09	0.95	3.81	0.64
2767046	Pulp DUP	7.5	5.6	17.4	<1	33.2	0.4	6.9	1.1	<8	0.8	279.6	11.1	15.5	33.8	3.72	14.3	2.64	0.46	2.22	0.32
REP 2767046	QC																				
2767053	Rock	6.5	9.4	111.0	1	123.1	0.8	10.1	2.2	31	0.9	246.1	14.8	16.2	35.9	4.08	14.4	2.42	0.43	2.07	0.33
REP 2767053	QC																				
2767059	Rock	7.1	10.5	162.6	2	40.8	0.8	11.4	2.5	29	2.6	271.1	21.8	19.1	39.7	4.77	19.0	3.93	0.73	3.60	0.63
REP 2767059	QC	7.1	10.1	163.5	2	41.1	0.9	11.4	2.7	30	1.7	268.3	21.8	20.4	39.8	4.99	17.4	3.70	0.76	3.67	0.61
2767060	Rock	8.3	9.8	117.6	3	28.4	0.6	11.2	2.7	30	1.3	313.2	33.4	39.5	79.9	9.94	35.4	7.03	1.54	6.58	1.02
REP 2767060	QC																				
2767069	Rock	9.5	8.8	49.5	2	102.0	0.5	10.1	2.2	39	<0.5	368.5	34.4	38.5	68.1	8.94	35.2	6.54	1.29	6.88	1.10
REP 2767069	QC	8.9	9.5	49.3	1	102.4	0.6	10.4	2.1	30	<0.5	347.7	35.2	38.7	68.8	8.95	34.2	6.73	1.32	6.62	1.07
Core Reject Duplicates																					
2767029	Rock	7.3	16.7	199.9	4	66.3	1.1	19.6	5.2	81	3.7	258.2	28.8	22.7	45.6	5.51	20.6	4.39	0.75	4.12	0.76
DUP 2767029	QC	7.2	16.1	200.7	4	67.4	1.1	19.4	4.9	80	3.8	255.3	28.9	22.8	45.3	5.52	20.6	4.21	0.80	4.12	0.72
2767063	Rock	5.9	10.2	139.5	3	75.0	0.9	11.6	5.0	38	1.6	208.6	41.2	41.7	80.7	9.79	39.0	7.42	1.22	7.73	1.25
DUP 2767063	QC	5.3	10.1	138.9	2	78.1	0.7	11.9	4.4	35	1.7	204.6	41.2	40.5	81.7	9.63	37.0	7.63	1.30	8.04	1.23
Reference Materials																					
STD DS10	Standard																				
STD DS10	Standard																				

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Project: EXNA.CA.00.00015
Report Date: June 28, 2016

QUALITY CONTROL REPORT VAN16000957.1

	Method	LF100	LF100	LF100	LF100	LF100	LF100	TC000	TC000	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250
	Analyte	Dy	Ho	Er	Tm	Yb	Lu	TOT/C	TOT/S	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Au	Cd
	Unit	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	%	ppm	ppb	ppm
	MDL	0.05	0.02	0.03	0.01	0.05	0.01	0.02	0.02	0.01	0.01	0.01	0.1	2	0.1	0.1	1	0.01	0.1	0.2	0.01
Pulp Duplicates																					
2767003	Rock	2.53	0.49	1.50	0.22	1.58	0.23	0.04	0.04	0.20	58.00	9.16	17.1	49	56.6	14.4	183	1.32	3.0	1.4	0.04
REP 2767003	QC																				
2767011	Rock	3.07	0.79	2.60	0.44	3.00	0.52	0.03	<0.02	0.38	7.84	17.76	64.4	18	13.3	6.1	362	2.94	0.5	0.6	<0.01
REP 2767011	QC									0.33	7.60	17.53	66.1	22	11.4	6.3	369	2.99	0.5	<0.2	0.01
2767018	Rock	3.94	0.80	2.59	0.41	2.98	0.47	0.06	0.89	1.30	43.13	8.99	25.6	48	26.5	15.3	197	2.70	0.7	1.9	0.02
REP 2767018	QC																				
2767025	Rock Pulp	4.13	0.88	2.59	0.40	2.43	0.42	2.91	3.10	24.50	108.50	133.10	809.3	2719	149.8	9.7	1317	3.50	27.4	1.2	3.07
REP 2767025	QC							2.89	3.11												
2767031	Rock	4.29	0.88	2.50	0.37	2.34	0.38	<0.02	<0.02	0.37	86.66	2.65	18.6	46	21.0	10.2	244	1.87	0.7	2.4	0.02
REP 2767031	QC	4.21	0.88	2.44	0.37	2.35	0.37														
2767046	Pulp DUP	2.07	0.38	1.25	0.19	1.38	0.22	0.03	<0.02	0.10	3.02	3.64	7.1	15	1.9	1.4	117	0.53	1.6	1.6	0.02
REP 2767046	QC									0.10	2.97	3.80	7.5	9	2.0	1.3	120	0.54	1.5	1.0	0.03
2767053	Rock	2.28	0.49	1.81	0.32	2.35	0.39	0.03	0.08	0.20	10.86	9.00	32.7	36	5.2	3.6	179	2.70	0.2	0.5	<0.01
REP 2767053	QC																				
2767059	Rock	3.85	0.81	2.42	0.40	2.77	0.46	0.05	<0.02	0.27	16.99	4.25	10.6	25	4.5	2.5	244	1.71	1.5	0.4	0.02
REP 2767059	QC	3.93	0.79	2.50	0.41	2.87	0.45														
2767060	Rock	5.94	1.12	3.39	0.51	3.35	0.50	0.03	0.02	0.37	25.62	3.63	7.3	29	3.6	2.0	195	1.37	6.4	0.4	0.01
REP 2767060	QC							0.03	0.03												
2767069	Rock	6.37	1.23	3.67	0.55	3.88	0.59	0.07	<0.02	0.11	1.91	3.85	38.0	10	6.1	3.9	228	0.92	1.7	3.1	0.08
REP 2767069	QC	6.53	1.26	3.69	0.52	3.65	0.60	0.07	<0.02	0.12	2.10	3.82	41.4	13	6.3	3.8	245	0.94	1.5	2.4	0.06
Core Reject Duplicates																					
2767029	Rock	4.92	0.99	3.30	0.48	3.74	0.53	0.14	<0.02	0.94	27.88	4.29	57.9	32	8.9	3.6	336	3.53	7.3	0.9	<0.01
DUP 2767029	QC	4.94	0.95	3.17	0.50	3.56	0.56	0.14	<0.02	0.87	27.18	4.16	56.5	28	9.7	3.7	333	3.53	7.6	1.3	0.01
2767063	Rock	7.53	1.47	4.46	0.60	4.14	0.59	0.03	0.02	0.29	25.40	14.46	66.9	46	14.2	4.9	287	2.70	5.9	0.9	0.01
DUP 2767063	QC	7.38	1.41	4.25	0.61	3.82	0.60	0.02	<0.02	0.25	26.37	14.96	69.4	45	15.0	5.0	291	2.72	6.2	1.1	<0.01
Reference Materials																					
STD DS10	Standard									15.68	153.27	154.22	364.6	1925	75.3	12.8	884	2.91	47.4	89.9	2.65
STD DS10	Standard									14.64	159.99	161.11	386.8	1854	77.2	13.4	859	2.82	42.8	90.8	2.48

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Project: EXNA.CA.00.00015
Report Date: June 28, 2016

QUALITY CONTROL REPORT   VAN16000957.1

	Method	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250
	Analyte	Sb	Bi	P	Cr	B	Tl	Hg	Se	Te	Ge	In	Re	Be	Li	Pd	Pt
	Unit	ppm	ppm	%	ppm	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppb	ppb
	MDL	0.02	0.02	0.001	0.5	20	0.02	5	0.1	0.02	0.1	0.02	1	0.1	0.1	10	2
Pulp Duplicates																	
2767003	Rock	0.10	0.05	0.017	39.0	<20	0.04	<5	0.1	0.03	<0.1	<0.02	<1	0.3	8.2	13	5
REP 2767003	QC																
2767011	Rock	0.08	0.15	0.021	17.5	<20	0.56	<5	<0.1	0.03	<0.1	<0.02	<1	0.4	15.9	<10	<2
REP 2767011	QC	0.07	0.15	0.022	17.1	<20	0.56	<5	0.2	<0.02	<0.1	<0.02	<1	0.4	15.9	<10	<2
2767018	Rock	0.06	0.80	0.037	17.8	<20	0.37	<5	0.4	<0.02	<0.1	<0.02	<1	0.2	7.6	<10	<2
REP 2767018	QC																
2767025	Rock Pulp	5.00	0.14	0.169	56.6	<20	3.40	336	16.2	0.08	<0.1	<0.02	39	0.5	3.1	<10	4
REP 2767025	QC																
2767031	Rock	0.14	0.04	0.039	34.8	<20	0.03	<5	0.3	<0.02	<0.1	<0.02	<1	<0.1	6.4	15	12
REP 2767031	QC																
2767046	Pulp DUP	0.10	<0.02	0.009	7.5	<20	0.03	<5	<0.1	<0.02	<0.1	<0.02	<1	0.2	1.7	<10	<2
REP 2767046	QC	0.11	<0.02	0.008	8.3	<20	0.02	<5	<0.1	<0.02	<0.1	<0.02	<1	0.2	1.7	<10	<2
2767053	Rock	0.16	0.17	0.023	17.7	<20	0.64	<5	<0.1	<0.02	<0.1	0.02	<1	<0.1	15.9	<10	<2
REP 2767053	QC																
2767059	Rock	0.07	0.08	0.016	12.4	<20	0.28	<5	<0.1	<0.02	<0.1	<0.02	<1	0.7	8.2	<10	<2
REP 2767059	QC																
2767060	Rock	0.05	0.11	0.020	11.5	<20	0.20	<5	0.2	<0.02	<0.1	<0.02	<1	0.4	4.9	<10	<2
REP 2767060	QC																
2767069	Rock	0.13	0.07	0.012	13.4	<20	0.11	<5	<0.1	0.04	<0.1	<0.02	<1	0.1	4.1	<10	<2
REP 2767069	QC	0.11	0.05	0.012	14.5	<20	0.11	<5	<0.1	<0.02	<0.1	<0.02	<1	0.2	5.2	11	<2
Core Reject Duplicates																	
2767029	Rock	0.12	0.89	0.035	20.8	<20	0.44	<5	0.2	0.04	<0.1	<0.02	<1	0.5	12.8	<10	<2
DUP 2767029	QC	0.09	0.92	0.035	20.3	<20	0.43	<5	<0.1	<0.02	<0.1	<0.02	<1	0.6	11.3	<10	<2
2767063	Rock	0.12	0.38	0.020	17.9	<20	0.65	<5	0.1	<0.02	<0.1	0.02	<1	0.2	19.7	<10	<2
DUP 2767063	QC	0.11	0.39	0.021	18.6	<20	0.67	<5	<0.1	<0.02	<0.1	0.02	<1	0.2	19.0	<10	<2
Reference Materials																	
STD DS10	Standard	7.93	12.66	0.079	54.1	<20	5.21	269	2.3	4.95	<0.1	0.25	48	0.4	20.6	109	203
STD DS10	Standard	7.52	13.23	0.075	55.6	<20	5.26	274	2.0	4.95	<0.1	0.26	48	0.9	21.2	119	165

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QUALITY CONTROL REPORT VAN16000957.1

		WGHT	LF700	LF700	LF700	LF700	LF700	LF700	LF700	LF700	LF700	LF700	LF700	LF700	LF700	LF700	LF100	LF100	LF100	LF100	LF100
		Wgt	SiO2	Al2O3	Fe2O3	CaO	MgO	Na2O	K2O	MnO	TiO2	P2O5	Cr2O3	Ba	LOI	SUM	Ba	Be	Co	Cs	Ga
		kg	%	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm
		0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.001	0.01	-5.11	0.01	1	1	0.2	0.1	0.5
STD DS10	Standard																				
STD GS311-1	Standard																				
STD GS311-1	Standard																				
STD GS311-1	Standard																				
STD GS910-4	Standard																				
STD GS910-4	Standard																				
STD GS910-4	Standard																				
STD OREAS45EA	Standard																				
STD OREAS45EA	Standard																				
STD OREAS45EA	Standard																				
STD OREAS72B	Standard		51.40	9.04	9.62	3.91	16.05	1.30	1.32	0.13	0.34	0.06	0.146	0.03	5.51	98.87					
STD OREAS72B	Standard		51.35	8.96	9.76	3.95	16.11	1.32	1.33	0.13	0.34	0.06	0.147	0.03	5.36	98.85					
STD OREAS72B	Standard		51.54	9.01	9.82	3.96	16.17	1.34	1.33	0.13	0.34	0.06	0.148	0.04	5.47	99.36					
STD OREAS72B	Standard		51.34	8.97	9.73	3.96	16.08	1.34	1.34	0.13	0.36	0.05	0.146	0.03	5.19	98.67					
STD SO-19	Standard																452	18	22.2	4.1	15.8
STD SO-19	Standard																466	18	21.2	4.2	16.8
STD SO-19	Standard																466	16	21.5	4.4	16.9
STD SO-19	Standard																461	18	22.3	4.5	15.2
STD SO-19	Standard																471	19	23.5	4.3	15.6
STD SO-19	Standard																481	14	23.2	4.6	16.2
STD SO-19	Standard																532	20	25.9	4.7	19.1
STD SO-19	Standard																522	19	26.0	4.7	19.5
STD SY-4(D)	Standard		49.96	20.86	6.08	7.92	0.54	7.01	1.67	0.11	0.27	0.14	0.001	0.03	4.56	99.15					
STD SY-4(D)	Standard		50.15	20.77	6.19	7.98	0.52	7.34	1.69	0.11	0.27	0.13	<0.001	0.04	4.56	99.73					
STD SY-4(D)	Standard		50.03	20.78	6.19	7.98	0.53	7.37	1.69	0.11	0.27	0.12	0.002	0.04	4.56	99.70					
STD SY-4(D)	Standard		50.09	20.77	6.20	8.00	0.52	7.34	1.69	0.11	0.28	0.13	<0.001	0.04	4.56	99.74					
STD GS311-1 Expected																					
STD GS910-4 Expected																					
STD DS10 Expected																					

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		LF100	LF100	LF100	LF100	LF100	LF100	LF100	LF100	LF100	LF100	LF100	LF100	LF100	LF100	LF100	LF100	LF100	LF100	LF100	LF100
		Hf	Nb	Rb	Sn	Sr	Ta	Th	U	V	W	Zr	Y	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb
		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
		0.1	0.1	0.1	1	0.5	0.1	0.2	0.1	8	0.5	0.1	0.1	0.1	0.1	0.02	0.3	0.05	0.02	0.05	0.01
STD DS10	Standard																				
STD GS311-1	Standard																				
STD GS311-1	Standard																				
STD GS311-1	Standard																				
STD GS910-4	Standard																				
STD GS910-4	Standard																				
STD GS910-4	Standard																				
STD OREAS45EA	Standard																				
STD OREAS45EA	Standard																				
STD OREAS45EA	Standard																				
STD OREAS72B	Standard																				
STD OREAS72B	Standard																				
STD OREAS72B	Standard																				
STD OREAS72B	Standard																				
STD SO-19	Standard	2.8	66.3	18.3	18	324.4	4.6	12.1	18.7	163	7.9	107.0	33.7	65.7	148.6	17.98	71.5	12.47	3.47	9.81	1.29
STD SO-19	Standard	3.1	67.6	18.9	18	324.1	4.7	12.9	18.7	169	9.7	108.4	33.4	67.6	147.9	17.99	70.5	12.12	3.45	10.18	1.29
STD SO-19	Standard	3.2	68.4	18.8	19	323.2	4.6	12.3	19.0	172	9.5	108.9	33.3	66.6	150.6	18.03	70.1	12.51	3.52	9.78	1.30
STD SO-19	Standard	3.0	67.0	18.4	18	328.7	4.4	12.2	19.8	170	9.0	108.5	33.4	66.0	148.9	17.92	71.2	12.74	3.48	9.93	1.29
STD SO-19	Standard	3.2	70.6	19.6	19	337.3	4.9	12.9	19.7	167	8.3	112.5	32.8	68.9	153.9	18.59	72.2	12.98	3.62	9.88	1.35
STD SO-19	Standard	2.9	69.2	19.3	18	330.9	4.8	13.1	19.5	160	9.7	109.2	32.8	68.4	150.0	18.25	73.3	12.70	3.34	10.09	1.32
STD SO-19	Standard	3.1	74.2	21.4	20	354.3	5.0	13.2	19.7	177	9.5	118.5	38.0	72.1	159.2	20.19	77.1	13.14	3.70	10.28	1.34
STD SO-19	Standard	3.1	74.2	21.0	20	349.1	5.1	13.3	20.0	177	10.0	117.7	37.5	71.4	160.1	20.34	79.9	13.41	3.71	10.72	1.35
STD SY-4(D)	Standard																				
STD SY-4(D)	Standard																				
STD SY-4(D)	Standard																				
STD SY-4(D)	Standard																				
STD GS311-1 Expected																					
STD GS910-4 Expected																					
STD DS10 Expected																					

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		LF100 Dy	LF100 Ho	LF100 Er	LF100 Tm	LF100 Yb	LF100 Lu	TC000 TOT/C	TC000 TOT/S	AQ250 Mo	AQ250 Cu	AQ250 Pb	AQ250 Zn	AQ250 Ag	AQ250 Ni	AQ250 Co	AQ250 Mn	AQ250 Fe	AQ250 As	AQ250 Au	AQ250 Cd
		ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	%	ppm	ppb	ppm
		0.05	0.02	0.03	0.01	0.05	0.01	0.02	0.02	0.01	0.01	0.01	0.1	2	0.1	0.1	1	0.01	0.1	0.2	0.01
STD DS10	Standard									12.25	140.05	156.98	343.6	1861	67.4	11.5	842	2.69	44.7	99.7	2.48
STD GS311-1	Standard							1.00	2.41												
STD GS311-1	Standard							0.97	2.45												
STD GS311-1	Standard							0.98	2.40												
STD GS910-4	Standard							2.74	8.76												
STD GS910-4	Standard							2.68	8.42												
STD GS910-4	Standard							2.67	8.64												
STD OREAS45EA	Standard									1.45	712.78	14.43	31.0	262	409.1	49.6	403	22.33	11.1	56.4	0.03
STD OREAS45EA	Standard									1.57	693.36	15.47	31.4	236	403.7	53.4	403	22.37	10.1	59.2	0.03
STD OREAS45EA	Standard									1.44	677.27	14.19	26.1	247	372.7	48.3	387	20.94	10.0	59.0	0.03
STD OREAS72B	Standard																				
STD OREAS72B	Standard																				
STD OREAS72B	Standard																				
STD OREAS72B	Standard																				
STD SO-19	Standard	7.00	1.27	3.69	0.50	3.38	0.46														
STD SO-19	Standard	7.08	1.27	3.58	0.51	3.29	0.50														
STD SO-19	Standard	7.10	1.26	3.73	0.50	3.24	0.50														
STD SO-19	Standard	7.09	1.30	3.41	0.49	3.20	0.47														
STD SO-19	Standard	7.48	1.23	3.64	0.50	3.35	0.50														
STD SO-19	Standard	6.96	1.24	3.47	0.52	3.26	0.48														
STD SO-19	Standard	7.44	1.32	3.58	0.53	3.42	0.52														
STD SO-19	Standard	7.41	1.34	3.54	0.52	3.30	0.52														
STD SY-4(D)	Standard																				
STD SY-4(D)	Standard																				
STD SY-4(D)	Standard																				
STD SY-4(D)	Standard																				
STD GS311-1 Expected								1.02	2.35												
STD GS910-4 Expected								2.65	8.27												
STD DS10 Expected										13.6	154.61	150.55	370	2020	74.6	12.9	875	2.7188	46.2	91.9	2.62

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Project: EXNA.CA.00.00015
Report Date: June 28, 2016

QUALITY CONTROL REPORT VAN16000957.1

		AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250
		Sb	Bi	P	Cr	B	Tl	Hg	Se	Te	Ge	In	Re	Be	Li	Pd	Pt
		ppm	ppm	%	ppm	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppb	ppb
		0.02	0.02	0.001	0.5	20	0.02	5	0.1	0.02	0.1	0.02	1	0.1	0.1	10	2
STD DS10	Standard	7.86	12.95	0.076	50.4	<20	5.30	305	2.0	4.72	<0.1	0.24	52	0.3	19.3	109	203
STD GS311-1	Standard																
STD GS311-1	Standard																
STD GS311-1	Standard																
STD GS910-4	Standard																
STD GS910-4	Standard																
STD GS910-4	Standard																
STD OREAS45EA	Standard	0.28	0.28	0.029	822.8	<20	0.08	5	1.1	0.11	0.2	0.09	<1	0.5	2.7	67	123
STD OREAS45EA	Standard	0.26	0.28	0.027	867.2	<20	0.06	<5	0.7	0.09	0.2	0.09	<1	0.6	2.7	61	114
STD OREAS45EA	Standard	0.33	0.29	0.027	767.5	<20	0.06	14	0.7	0.07	0.2	0.08	<1	0.4	2.5	58	113
STD OREAS72B	Standard																
STD OREAS72B	Standard																
STD OREAS72B	Standard																
STD OREAS72B	Standard																
STD SO-19	Standard																
STD SO-19	Standard																
STD SO-19	Standard																
STD SO-19	Standard																
STD SO-19	Standard																
STD SO-19	Standard																
STD SO-19	Standard																
STD SO-19	Standard																
STD SY-4(D)	Standard																
STD SY-4(D)	Standard																
STD SY-4(D)	Standard																
STD SY-4(D)	Standard																
STD GS311-1 Expected																	
STD GS910-4 Expected																	
STD DS10 Expected		9	11.65	0.0765	54.6		5.1	300	2.3	5.01	0.08	0.23	50	0.63	19.4	110	191

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QUALITY CONTROL REPORT VAN16000957.1

		WGHT	LF700	LF700	LF700	LF700	LF700	LF700	LF700	LF700	LF700	LF700	LF700	LF700	LF700	LF700	LF100	LF100	LF100	LF100	LF100
		Wgt	SiO2	Al2O3	Fe2O3	CaO	MgO	Na2O	K2O	MnO	TiO2	P2O5	Cr2O3	Ba	LOI	SUM	Ba	Be	Co	Cs	Ga
		kg	%	%	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm
		0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.001	0.01	-5.11	0.01	1	1	0.2	0.1	0.5
STD OREAS45EA Expected																					
STD SO-19 Expected																	486	20	24	4.5	17.5
STD SY-4(D) Expected			49.9	20.69	6.21	8.05	0.54	7.1	1.68	0.108	0.287	0.131	0.00175	0.034	4.56						
STD OREAS72B Expected			51.165	8.9728	9.724	3.96	16.22	1.2915	1.33	0.13	0.3553	0.0611	0.145	0.0335	5.14	100					
BLK	Blank																2	<1	<0.2	<0.1	<0.5
BLK	Blank																<1	<1	<0.2	<0.1	<0.5
BLK	Blank																1	<1	<0.2	<0.1	<0.5
BLK	Blank																				
BLK	Blank																				
BLK	Blank																				
BLK	Blank																				
BLK	Blank																				
BLK	Blank																				
BLK	Blank																<1	<1	<0.2	<0.1	<0.5
SI BLK	Blank		98.65	0.30	0.03	<0.01	0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.001	<0.01	0.47	99.50					
SI BLK	Blank		98.09	0.30	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.001	<0.01	0.62	99.01					
SI BLK	Blank		98.32	0.31	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.001	<0.01	0.58	99.21					
SI BLK	Blank		98.45	0.30	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	0.03	<0.01	<0.001	<0.01	0.54	99.32					
Prep Wash																					
ROCK-VAN	Prep Blank		70.87	14.05	3.09	2.53	0.79	4.47	2.31	0.08	0.36	0.09	0.002	0.09	1.13	99.86	835	<1	3.6	0.2	13.2
ROCK-VAN	Prep Blank		70.91	14.06	3.10	2.53	0.78	4.48	2.31	0.08	0.35	0.09	<0.001	0.09	1.08	99.86	850	<1	3.7	0.3	12.1

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		LF100	LF100	LF100	LF100	LF100	LF100	LF100	LF100	LF100	LF100	LF100	LF100	LF100	LF100	LF100	LF100	LF100	LF100	LF100	LF100
		Hf	Nb	Rb	Sn	Sr	Ta	Th	U	V	W	Zr	Y	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb
		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
		0.1	0.1	0.1	1	0.5	0.1	0.2	0.1	8	0.5	0.1	0.1	0.1	0.1	0.02	0.3	0.05	0.02	0.05	0.01
STD OREAS45EA Expected																					
STD SO-19 Expected		3.1	68.5	19.5	19	317.1	4.9	13	19.4	165	9.8	112	35.5	71.3	161	19.4	75.7	13.7	3.81	10.53	1.41
STD SY-4(D) Expected																					
STD OREAS72B Expected																					
BLK	Blank	<0.1	<0.1	<0.1	<1	<0.5	<0.1	<0.2	<0.1	<8	<0.5	0.2	<0.1	<0.1	<0.1	<0.02	<0.3	<0.05	<0.02	<0.05	<0.01
BLK	Blank	<0.1	<0.1	<0.1	<1	<0.5	<0.1	<0.2	<0.1	<8	<0.5	0.1	<0.1	<0.1	<0.1	<0.02	<0.3	<0.05	<0.02	<0.05	<0.01
BLK	Blank	<0.1	0.2	<0.1	<1	<0.5	<0.1	<0.2	<0.1	<8	<0.5	0.1	<0.1	0.1	<0.1	<0.02	<0.3	<0.05	<0.02	<0.05	<0.01
BLK	Blank																				
BLK	Blank																				
BLK	Blank																				
BLK	Blank																				
BLK	Blank																				
BLK	Blank																				
BLK	Blank	<0.1	<0.1	<0.1	<1	<0.5	<0.1	<0.2	<0.1	<8	<0.5	<0.1	<0.1	<0.1	<0.1	<0.02	<0.3	<0.05	<0.02	<0.05	<0.01
SI BLK	Blank																				
SI BLK	Blank																				
SI BLK	Blank																				
SI BLK	Blank																				
Prep Wash																					
ROCK-VAN	Prep Blank	3.4	5.8	41.9	<1	215.9	0.5	3.2	1.6	60	<0.5	132.7	16.3	12.3	24.1	2.69	10.4	2.51	0.69	2.56	0.44
ROCK-VAN	Prep Blank	3.7	6.2	42.6	<1	217.8	0.4	3.1	1.4	47	<0.5	140.0	17.3	14.2	26.4	3.07	11.5	2.40	0.71	2.52	0.43

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		LF100	LF100	LF100	LF100	LF100	LF100	TC000	TC000	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250
		Dy	Ho	Er	Tm	Yb	Lu	TOT/C	TOT/S	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Au	Cd
		ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	%	ppm	ppb	ppm
		0.05	0.02	0.03	0.01	0.05	0.01	0.02	0.02	0.01	0.01	0.01	0.1	2	0.1	0.1	1	0.01	0.1	0.2	0.01
STD OREAS45EA Expected										1.6	709	14.3	31.4	260	381	52	400	23.51	10.3	53	0.03
STD SO-19 Expected		7.5	1.39	3.78	0.55	3.55	0.53														
STD SY-4(D) Expected																					
STD OREAS72B Expected																					
BLK	Blank	<0.05	<0.02	<0.03	<0.01	<0.05	<0.01														
BLK	Blank	<0.05	<0.02	<0.03	<0.01	<0.05	<0.01														
BLK	Blank	<0.05	<0.02	<0.03	<0.01	<0.05	<0.01														
BLK	Blank							<0.02	<0.02												
BLK	Blank							<0.02	<0.02												
BLK	Blank							<0.02	<0.02												
BLK	Blank									<0.01	0.03	<0.01	<0.1	10	<0.1	<0.1	<1	<0.01	<0.1	<0.2	<0.01
BLK	Blank									<0.01	<0.01	<0.01	<0.1	6	<0.1	<0.1	<1	<0.01	<0.1	<0.2	<0.01
BLK	Blank									<0.01	0.04	0.01	<0.1	2	<0.1	<0.1	<1	<0.01	<0.1	<0.2	<0.01
BLK	Blank	<0.05	<0.02	<0.03	<0.01	<0.05	<0.01														
SI BLK	Blank																				
SI BLK	Blank																				
SI BLK	Blank																				
SI BLK	Blank																				
Prep Wash																					
ROCK-VAN	Prep Blank	2.82	0.56	1.81	0.30	2.13	0.36	0.04	<0.02	0.92	4.62	1.82	33.4	22	1.4	3.9	455	1.76	1.1	0.3	0.06
ROCK-VAN	Prep Blank	2.82	0.56	1.86	0.29	2.22	0.35	0.03	<0.02	1.09	5.06	1.72	32.9	22	1.4	4.1	464	1.81	0.6	1.7	0.02

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		AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250
		Sb	Bi	P	Cr	B	Tl	Hg	Se	Te	Ge	In	Re	Be	Li	Pd	Pt
		ppm	ppm	%	ppm	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppb	ppb
		0.02	0.02	0.001	0.5	20	0.02	5	0.1	0.02	0.1	0.02	1	0.1	0.1	10	2
STD OREAS45EA Expected		0.32	0.26	0.029	849		0.072	10	0.78	0.07	0.26	0.08		0.41	2.37	66	108
STD SO-19 Expected																	
STD SY-4(D) Expected																	
STD OREAS72B Expected																	
BLK	Blank																
BLK	Blank																
BLK	Blank																
BLK	Blank																
BLK	Blank																
BLK	Blank																
BLK	Blank	<0.02	<0.02	<0.001	<0.5	<20	<0.02	<5	<0.1	<0.02	<0.1	<0.02	<1	<0.1	<0.1	<10	<2
BLK	Blank	<0.02	<0.02	<0.001	<0.5	<20	<0.02	<5	0.1	<0.02	<0.1	<0.02	<1	<0.1	<0.1	<10	<2
BLK	Blank	<0.02	<0.02	<0.001	<0.5	<20	<0.02	<5	<0.1	<0.02	<0.1	<0.02	<1	<0.1	<0.1	13	<2
BLK	Blank																
SI BLK	Blank																
SI BLK	Blank																
SI BLK	Blank																
SI BLK	Blank																
Prep Wash																	
ROCK-VAN	Prep Blank	0.03	0.04	0.043	3.5	<20	<0.02	<5	<0.1	<0.02	<0.1	0.03	<1	0.2	4.3	<10	<2
ROCK-VAN	Prep Blank	0.03	0.03	0.044	3.4	<20	<0.02	<5	<0.1	<0.02	<0.1	<0.02	<1	0.4	3.8	<10	4

Appendix VII

Appendix VII Analysis of Historic Core and Surface Rocks with a Portable XRF: Instrument Details, Sampling Strategy, and QA/QC procedures

The historic drillholes, M-89-8 and M-90-1, were analyzed using Teck Resources Ltd.'s portable XRF (pXRF) analytical instrument. Teck Resources Ltd. owns an Olympus Premium pXRF instrument which contains a 40KeV Rh X-ray tube. All pXRF analyses were completed in 'Geochem' mode. Each analysis was for 70 seconds, with beam 1 set for a 40 second analysis and beam 2 for 30 seconds. During operation the manufacturer built workstation was used.

Drillhole M-89-8 was analyzed from 867-1082 m depth by regularly spaced spot analyses with the pXRF. Between 867-965 m and 1020-1083 m the sample spacing was every 2 m, whereas between 965-1020 m the sample spacing was 1 m. Within the interval 965-1020 m minor mineralization of pyrite, pyrrhotite and weak sphalerite was observed, hence the tighter pXRF spot analyses.

Drillhole M-90-1 consisted of more irregular sample spacing of downhole spot pXRF analysis, although most were at 3 m. Unlike M-89-8, the entirety of M-90-1 was analyzed with the pXRF. The irregular spot analyses were due to missing core boxes and/or the presence of fault zones.

Due to the small analytical area of the pXRF, samples were chosen to reflect the lithology at the selected depth and were devoid of veins and represented only one lithology, alteration, and mineralization type. Samples were at least 1 in^3 and a minimum of 1.5 cm thick. Based on these strict sampling protocols, the pXRF data reflects representative whole-rock samples in core.

The pXRF was also used on outcrop chip samples. Chip samples were taken from each outcrop at each station, but only selected outcrops were sampled for whole-rock laboratory analysis. Where laboratory and pXRF samples were taken, the same sample ID was used in order to easily merge the pXRF and laboratory data. Each chip sample was analyzed using the pXRF once. Representative chip samples were selected and contained only one lithology, mineralization, and alteration type, were devoid of veins, and had vegetation removed prior to pXRF analysis. Each chip sample was analyzed for 70 seconds using the Geochem mode.

During pXRF data collection a robust QA/QC procedure was followed. The same QA/QC procedures were undertaken for core and chip sample pXRF analyses. This consisted of three components. At the start of the day a calibration check, a pXRF blank (powdered SiO_2), and three certified reference materials (CRM) (in that order) were analyzed. Then, throughout the day, every 20 routine samples one pXRF duplicate (completed by analyzing the same sample twice), one pXRF blank and one CRM was analyzed and after every 50th sample a calibration check was completed. Finally, at the end of the day, if more than 12 samples were run another pXRF duplicate, blank, and CRM was run prior to a final calibration check, although if less than 12 samples only a calibration check was completed. After a day of analyses the data was exported and the QA/QC reviewed. The pXRF QA/QC review consisted of assessing the pXRF blank for contamination and the accuracy, bias, drift assessment compared to the CRM data. As the pXRF instrument producing precise but inaccurate data the failure of the standards was assessed relative to the pXRF reading ±20% error. The contamination failure was related to Zn and Pb analyzes on the pXRF blank being >10 ppm. During the pXRF analytical program the instrument reported consistent values with no failures in CRMs or blanks identified.

Sample	Sample Name	w1900_H2O	hqd1900_H2O	w1900_H2O	w2200_AlOH	hqd2200_AlOH	w2200_AlOH	w2250_Fe(	hqd2250_F	w2250_FeOH	w2350_MgOH	hqd2350_MgOH	w2350_MgOH	w2330_Carb	hqd2330_Carb	w2330_Carb	Crystallinity index	sericite crystallinity	Date_Taken	SampleID	Hole_ID	Depth_From	Depth_To	Year	Date	Type	StationID	Property
PUR1600475.asd	FSFR.2249 Int=4.5 sec	1923.42	0.44	38.12	2204.4	0.0216	30.475	2258.59	0.0275	22.712	2347.48	0.037	34.612	2347.48	0.037	1	0.049	NULL	6/13/2016	PUR1600475	M-90-01	459.5	459.6	2016	6/13/2016	Core		McNeil
PUR1600476.asd	FSFR.2249 Int=4.5 sec	1916.24	0.0401	36.633	2208.4	0.0657	35.185	2256.73	0.0592	26.209	2349.36	0.0671	35.532	2349.36	0.0671	1	1.637	1.637	6/13/2016	PUR1600476	M-90-01	456.5	456.6	2016	6/13/2016	Core		McNeil
PUR1600477.asd	FSFR.2249 Int=4.5 sec	1917.85	0.18	34.659	2207.03	0.264	34.394	NULL	NULL	NULL	2351.76	0.153	37.917	2351.76	0.153	1	1.466	1.466	6/13/2016	PUR1600477	M-90-01	462.1	462.2	2016	6/13/2016	Core		McNeil
PUR1600478.asd	FSFR.2249 Int=4.5 sec	1915.88	0.0954	34.972	2200.37	0.164	30.067	NULL	NULL	NULL	2350.24	0.0742	33.581	2350.24	0.0742	1	1.716	1.716	6/13/2016	PUR1600478	M-90-01	468.4	468.5	2016	6/13/2016	Core		McNeil
PUR1600479.asd	FSFR.2249 Int=4.5 sec	1916.23	0.0638	41.716	2210.49	0.123	35.367	2256.95	0.11	24.511	2347.17	0.137	38.593	2347.17	0.137	1	1.933	1.933	6/13/2016	PUR1600479	M-90-01	471.4	471.5	2016	6/13/2016	Core		McNeil
PUR1600480.asd	FSFR.2249 Int=4.5 sec	1910.93	0.0517	36.963	2198.3	0.215	30.419	2253.51	0.075	25.81	2349.41	0.156	37.599	2349.41	0.156	1	4.153	4.153	6/13/2016	PUR1600480	M-90-01	474.4	474.5	2016	6/13/2016	Core		McNeil
PUR1600481.asd	FSFR.2249 Int=4.5 sec	1919.82	0.0857	39.121	2200.24	0.243	31.604	2238.02	0.0793	21.402	2345.11	0.121	35.984	2345.11	0.121	1	2.835	2.835	6/13/2016	PUR1600481	M-90-01	477.4	477.5	2016	6/13/2016	Core		McNeil
PUR1600482.asd	FSFR.2249 Int=4.5 sec	1917.11	0.161	32.34	2201.91	0.104	29.886	2256.35	0.0292	28.215	2347.26	0.0476	32.548	2347.26	0.0476	1	0.644	0.644	6/13/2016	PUR1600482	M-90-01	480.4	480.5	2016	6/13/2016	Core		McNeil
PUR1600483.asd	FSFR.2249 Int=4.5 sec	1920.12	0.0427	27.303	2199.57	0.206	31.17	NULL	NULL	NULL	2347.34	0.132	30.423	2347.34	0.132	1	4.816	4.816	6/13/2016	PUR1600483	M-90-01	483.4	483.5	2016	6/13/2016	Core		McNeil
PUR1600484.asd	FSFR.2249 Int=4.5 sec	1916.47	0.0715	32.799	2200.81	0.135	30.895	NULL	NULL	NULL	2351.71	0.0613	35.701	2351.71	0.0613	1	1.888	1.888	6/13/2016	PUR1600484	M-90-01	486.4	486.5	2016	6/13/2016	Core		McNeil
PUR1600485.asd	FSFR.2249 Int=4.5 sec	NULL	NULL	NULL	2200.81	0.327	32.454	NULL	NULL	NULL	2348.69	0.215	35.634	2348.69	0.215	1	NULL	NULL	6/13/2016	PUR1600485	M-90-01	489.4	489.5	2016	6/13/2016	Core		McNeil
PUR1600486.asd	FSFR.2249 Int=4.5 sec	1927.39	0.0974	43.073	NULL	NULL	NULL	2254	0.173	24.586	2349.62	0.177	35.252	2349.62	0.177	1	NULL	NULL	6/13/2016	PUR1600486	M-90-01	496.5	496.6	2016	6/13/2016	Core		McNeil
PUR1600487.asd	FSFR.2249 Int=4.5 sec	1937.44	0.105	49.414	2228.21	0.0608	31.035	2256.37	0.189	26.069	2349.71	0.254	41.486	2349.71	0.254	1	0.578	0.578	6/13/2016	PUR1600487	M-90-01	499.5	499.6	2016	6/13/2016	Core		McNeil
PUR1600488.asd	FSFR.2249 Int=4.5 sec	1930.58	0.0464	35.907	2200.86	0.0664	31.914	2258.3	0.0535	20.831	2359.83	0.107	36.304	2356.39	0.108	1	1.432	1.432	6/13/2016	PUR1600488	M-90-01	502.5	502.6	2016	6/13/2016	Core		McNeil
PUR1600489.asd	FSFR.2249 Int=4.5 sec	1931.39	0.146	45.786	2203.95	0.016	35.413	2254.87	0.114	21.803	2348.67	0.161	36.115	2348.67	0.161	1	0.11	NULL	6/13/2016	PUR1600489	M-90-01	505.5	505.6	2016	6/13/2016	Core		McNeil
PUR1600490.asd	FSFR.2249 Int=4.5 sec	1913.42	0.109	33.589	2207.59	0.268	34.754	NULL	NULL	NULL	2348.76	0.158	34.743	2348.76	0.158	1	2.454	2.454	6/13/2016	PUR1600490	M-90-01	508.5	508.6	2016	6/13/2016	Core		McNeil
PUR1600491.asd	FSFR.2249 Int=4.5 sec	1920.02	0.0915	37.129	2216.12	0.0209	34.465	2255.71	0.0622	25.164	2348.59	0.0615	36.566	2348.59	0.0615	1	0.228	NULL	6/13/2016	PUR1600491	M-90-01	511.5	511.6	2016	6/13/2016	Core		McNeil
PUR1600492.asd	FSFR.2249 Int=4.5 sec	1922.18	0.112	32.833	2202.83	0.368	33.164	2254.8	0.185	28.097	2346.1	0.28	35.643	2346.1	0.28	1	3.272	3.272	6/13/2016	PUR1600492	M-90-01	514.5	514.6	2016	6/13/2016	Core		McNeil
PUR1600496.asd	FSFR.2249 Int=4.5 sec	1914.74	0.0673	46.922	2204.1	0.219	33.44	2255.02	0.155	24.134	2350.53	0.196	37.405	2350.53	0.196	1	3.251	3.251	6/13/2016	PUR1600496	M-90-01	521	521.1	2016	6/13/2016	Core		McNeil
PUR1600497.asd	FSFR.2249 Int=4.5 sec	1941.31	0.0983	42.601	2217.57	0.0417	30.232	2258.05	0.0398	24.167	2355.4	0.0338	30.917	2355.4	0.0338	1	0.425	0.425	6/13/2016	PUR1600497	M-90-01	524	524.1	2016	6/13/2016	Core		McNeil
PUR1600498.asd	FSFR.2249 Int=4.5 sec	1915.85	0.117	39.662	2203.38	0.253	33.863	2251.78	0.135	28.516	2347.8	0.176	35.491	2347.8	0.176	1	2.161	2.161	6/13/2016	PUR1600498	M-90-01	527	527.1	2016	6/13/2016	Core		McNeil
PUR1600499.asd	FSFR.2249 Int=4.5 sec	1917.57	0.0891	38.348	2203.91	0.303	34.858	NULL	NULL	NULL	2347.5	0.197	37.332	2347.5	0.197	1	3.401	3.401	6/13/2016	PUR1600499	M-90-01	530	530.1	2016	6/13/2016	Core		McNeil
PUR1600500.asd	FSFR.2249 Int=4.5 sec	1924.96	0.0314	39.259	2212.04	0.0459	33.27	2253.37	0.047	24.837	2347.14	0.0577	31.599	2347.14	0.0577	1	1.464	NULL	6/13/2016	PUR1600500	M-90-01	536	536.1	2016	6/13/2016	Core		McNeil
PUR1600501.asd	FSFR.2249 Int=4.5 sec	1916.9	0.224	36.14	2201.5	0.0059	30.874	2260.29	0.0129	27.485	2325.47	0.113	38.086	2325.47	0.113	1	0.0263	NULL	6/13/2016	PUR1600501	M-90-01	539	539.1	2016	6/13/2016	Core		McNeil
PUR1600502.asd	FSFR.2249 Int=4.5 sec	1917.97	0.233	37.245	2202	0.0231	28.493	2261.99	0.0513	27.588	2334.95	0.166	40.478	2334.95	0.166	1	0.0991	NULL	6/13/2016	PUR1600502	M-90-01	545.4	545.5	2016	6/13/2016	Core		McNeil
PUR1600503.asd	FSFR.2249 Int=4.5 sec	1914.1	0.0744	28.531	NULL	NULL	NULL	2259.04	0.136	27.464	2344.83	0.203	43.818	2344.83	0.203	1	NULL	NULL	6/13/2016	PUR1600503	M-90-01	548.4	548.5	2016	6/13/2016	Core		McNeil
PUR1600504.asd	FSFR.2249 Int=4.5 sec	1918.86	0.0299	41.203	2197.6	0.00877	25.319	2257.62	0.0314	24.266	2346.07	0.146	42.371	2346.07	0.146	1	0.293	NULL	6/13/2016	PUR1600504	M-90-01	551.4	551.5	2016	6/13/2016	Core		McNeil
PUR1600505.asd	FSFR.2249 Int=4.5 sec	1918.61	0.186	40.546	2226.77	0.00435	16.421	2273.87	0.0659	27.827	2339.54	0.151	39.687	2339.54	0.151	1	0.0233	NULL	6/13/2016	PUR1600505	M-90-01	554.4	554.5	2016	6/13/2016	Core		McNeil
PUR1600506.asd	FSFR.2249 Int=4.5 sec	1912.22	0.177	33.684	2208.41	0.00225	31.35	2255.08	0.0391	27.652	2337.41	0.12	36.83	2337.41	0.12	1	0.0127	NULL	6/13/2016	PUR1600506	M-90-01	557.4	557.5	2016	6/13/2016	Core		McNeil
PUR1600507.asd	FSFR.2249 Int=4.5 sec	1910.31	0.205	31.446	2200.79	0.00663	26.061	2257.38	0.0289	27.318	2333.42	0.132	39.903	2333.42	0.132	1	0.0324	NULL	6/13/2016	PUR1600507	M-90-01	560.4	560.5	2016	6/13/2016	Core		McNeil
PUR1600508.asd	FSFR.2249 Int=4.5 sec	1924.79	0.0616	46.341	2198.19	0.0178	26.275	2259.61	0.0292	24.626	2349.49	0.16	43.038	2349.49	0.16	1	0.289	NULL	6/13/2016	PUR1600508	M-90-01	563.4	563.5	2016	6/13/2016	Core		McNeil
PUR1600509.asd	FSFR.2249 Int=4.5 sec	1927.15	0.0425	40.308	2202.73	0.0131	29.194	2258.45	0.022	24.828	2332.56	0.127	44.212	2332.56	0.127	1	0.309	NULL	6/13/2016	PUR1600509	M-90-01	570.9	571	2016	6/13/2016	Core		McNeil
PUR1600510.asd	FSFR.2249 Int=4.5 sec	1922.04	0.166	42.832	2199.99	0.00955	27.778	2267.9	0.0432	29.287	2339.43	0.0734	43.807	2339.43	0.0734	1	0.0575	NULL	6/13/2016	PUR1600510	M-90-01	572.1	572.2	2016	6/13/2016	Core		McNeil
PUR1600511.asd	FSFR.2249 Int=4.5 sec	1923.69	0.0472	42.227	2203.73	0.0492	34.047	2240.44	0.0447	21.523	2332.69	0.048	35.482	2332.69	0.048	1	1.043	NULL	6/13/2016	PUR1600511	M-90-01	138	138.1	2016	6/13/2016	Core		McNeil
PUR1600512.asd	FSFR.2249 Int=4.5 sec	1919.02	0.031	39.688	2206.91	0.0531	32.505	2253.01	0.031	24.457	2353.16	0.034	30.225	2353.16	0.034	1	1.716	1.716	6/13/2016	PUR1600512	M-90-01	141	141.1	2016	6/13/2016	Core		McNeil
PUR1600513.asd	FSFR.2249 Int=4.5 sec	1911.14	0.0623	31.284	2206.33	0.0993	31.597	2238.23	0.0392	27.332	2350.67	0.0562	37.514	2350.67	0.0562	1	1.593	1.593	6/13/2016	PUR1600513	M-90-01	151	151.1	2016	6/13/2016	Core		McNeil
PUR1600514.asd	FSFR.2249 Int=4.5 sec	1908.49	0.102	35.351	2207.87	0.113	31.129	2253.65	0.0636	26.508	2350.75	0.111	39.337	2350.75	0.111	1	1.104	1.104	6/13/2016	PUR1600514	M-90-01	154.2	154.3	2016	6/13/2016	Core		McNeil
PUR1600515.asd	FSFR.2249 Int=4.5 sec	1916.29	0.295	35.044	2206.37	0.0956	32.556	2253.99	0.0399	29.865	2355.41	0.0278	39.413	2355.41	0.0278	1	0.323	0.323	6/13/2016	PUR1600515	M-90-01	157	157.1	2016	6/13/2016	Core		McNeil
PUR1600519.asd	FSFR.2249 Int=4.5 sec	1915.01	0.0331	32.428	2204.73	0.156	31.329	2237.08	0.0514	19.871	2351.26	0.0712	33.783	2351.26	0.0712	1	4.719	4.719	6/13/2016	PUR1600519	M-90-01	160	160.1	2016	6/13/2016	Core		McNeil
PUR1600520.asd	FSFR.2249 Int=4.5 sec	1935.16	0.0172	37.109	2208.15	0.0611	32.922	2252.54	0.0247	25.06	2351.86	0.0357	26.811	2351.86	0.0357	1	3.562	NULL	6/13/2016	PUR1600520	M-90-01	163	163.1	2016	6/13/2016	Core		McNeil
PUR1600521.asd	FSFR.2249 Int=4.5 sec	1905.58	0.0352	42.056	2204.82	0.219	32.141	2251.53	0.0885	28.271	2349.69	0.172	40.371	2349.69	0.172	1	6.231	6.231	6/13/2016	PUR1600521	M-90-01	166	166.1	2016	6/13/2016	Core		McNeil
PUR1600522.asd	FSFR.2249 Int=4.5 sec	1937.94	0.0402	33.28	2208.44	0.0348	27.923	2237.68	0.0304	22.609	2322.67	0.0256	27.539	2322.6	0.0253	1	0.865	NULL	6/13/2016	PUR1600522	M-90-01	169	169.1	2016	6/13/2016	Core		McNeil
PUR1600523.asd	FSFR.2249 Int=4.5 sec	1911.44	0.16	32.312	2198.31	0.0219	34.295	2254.3	0.0523	22.085	2346.09	0.0869	35.022	2346.09	0.0869	1	0.137	NULL	6/13/2016	PUR1600523	M-90-01	172	172.1	2016	6/13/2016	Core		McNeil
PUR1600524.asd	FSFR.2249 Int=4.5 sec	1907.01	0.048	29.833	2205.22	0.127	31.105	2235.53	0.0495	21.748	2353.71	0.0657	38.066	2353.71	0.0657	1	2.641	NULL	6/13/2016	PUR1600524	M-90-01	175	175.1	2016	6/13/2016	Core		McNeil
PUR1600525.asd	FSFR.2249 Int=4.5 sec	1923.03	0.391	37.476	2204.99	0.101	30.855	NULL	NULL	NULL	2352.98	0.0334	38.468	2352.98	0.0334	1	0.259	NULL	6/13/2016	PUR1600525	M-90-01	188	188.1	2016	6/13/2016	Core		McNeil
PUR1600526.asd	FSFR.2249 Int=4.5 sec	1933.04	0.0452	35.812	2213.07	0.0586	32.398	2251.67	0.0418	26.481	2348.15	0.0439	36.896	2348.15	0.0439	1	1.297	1.297	6/13/2016	PUR1600526	M-90-01	190	190.1	2016	6/13/2016	Core		McNeil
PUR1600527.asd	FSFR.2249 Int=4.5 sec	1921.93	0.14	38.479	2196.21	0.00917	30.73	2260.36	0.00903	23.58	2349.09	0.0142	28.181	2349.09	0.0142	1	0.0653	0.0653	6/13/2016	PUR1600527	M-90-01	193	193.1	2016	6/13/2016	Core		McNeil
PUR1600528.asd	FSFR.2249 Int=4.5 sec	1930.08	0.0583	44.565	2207.71	0.0326	32.119	2254.01	0.0119	24.048	2351.67	0.0241	29.865	2351.67	0.0241	1	0.56	0.56	6/13/2016	PUR1600528	M-90-01	196	196.1	2016	6/13/2016	Core		McNeil
PUR1600529.asd	FSFR.2249 Int=4.5 sec	1918.83	0.255	35.424	2206.51	0.154	31.831	2252.61	0.054	28.772	2350.2	0.0917	37.055	2350.2	0.0917	1	0.604	0.604	6/13/2016	PUR1600529	M-90-01	199	199.1	2016	6/13/2016	Core		McNeil
PUR1600530.asd	FSFR.2249 Int=4.5 sec	1912.18	0.0576	28.992	2205.8	0.12	32.087	NULL	NULL	NULL	2351.49	0.0719	34.81	2351.49	0.0719	1	2.092	2.092	6/13/2016	PUR1600530	M-90-01	202	202.1	2016	6/13/2016	Core		McNeil
PUR1600531.asd	FSFR.2249 Int=4.5 sec	1915.77	0.158	36.889	2202.49	0.0565	31.518	2257.53	0.0554	21.991	2351.47	0.0858	38.551	2351.47	0.0858	1	0.358	0.358	6/13/2016	PUR1600531	M-90-01	206	206.1	2016	6/13/2016	Core		McNeil
PUR1600532.asd	FSFR.2249 Int=4.5 sec	1923.8	0.0381	33.794	2204.08	0.085	30.647	2241.24	0.0403	22.822	2347.24	0.0602	34.715	2347.24	0.0602	1	2.229	2.229	6/13/2016	PUR1600532	M-90-01	209	209.1	2016	6/13/2016	Core		McNeil
PUR1600533.asd	FSFR.2249 Int=4.5 sec	1929.64	0.14	47.613	2203.81	0.028	35.142	2257.03	0.14	26.166	2349.21	0.212	39.7	2349.21	0.212	1	0.2	NULL	6/13/2016	PUR1600533	M-90-01	212	212.1	2016	6/13/2016	Core		McNeil
PUR1600534.asd	FSFR.2249 Int=4.5 sec	1927.87	0.0593	42.069	2209.12	0.018	27.106	2259.74	0.0198	23.016	2354.19	0.0176	39.288	2311.66	0.0212	1	0.304	0.304	6/13/2016	PUR1600534	M-90-01	215	215.1	2016	6/13/2016	Core		McNeil
PUR1600535.asd	FSFR.2249 Int=4.5 sec	1926.36	0.029	36.465	2202.5	0.0633	29.813	2262.64	0.0295	32.958	2343.18	0.0741	35.469	2343.18	0.0741	1	2.18	2.18	6/13/2016	PUR1600535	M-90-01	224	224.1	2016	6/13/2016	Core		McNeil
PUR1600536.asd	FSFR.2249 Int=4.5 sec	1913.24	0.0437	39.496	2206.33	0.15	31.586	2237.85	0.0579	22.847	2349.87	0.071	38.018	2349.87	0.071	1	3.423	3.423	6/13/2016	PUR1600536	M-90-01	227	227.1	2016	6/13/2016	Core		McNeil
PUR1600537.asd	FSFR.2249 Int=4.5 sec	1939.45	0.083	40.775	2206.86	0.0994	32.646	2253.96	0.0494	29.059	NULL	NULL	NULL	NULL	NULL	1	1.197	1.197	6/13/2016	PUR1600537	M-90-01	230	230.1	2016	6/13/2016	Core		McNeil
PUR1600538.asd	FSFR.2249 Int=4.5 sec	1914.3	0.0214	27.688	2207.43	0.136	31.504	2237.11	0.0422	27.368	2347.81	0.0821	30.728	2347.81	0.0821	1	6.37	6.37	6/13/2016	PUR1600538	M-90-01	233	233.1	2016	6/13/2016	Core		McNeil
PUR1600542.asd	FSFR.2249 Int=4.5 sec	1939.75	0.0425	46.538	2204.32	0.0869	32.246	NULL	NULL	NULL	2351.69	0.0416	32.852	2351.69	0.0416	1	2.042	2.042	6/13/2016	PUR1600542	M-90-01	236	236.1	2016	6/13/2016	Core		McNeil
PUR1600543.asd	FSFR.2249 Int=4.5 sec	1917.07	0.331	34.471	2191.55	0.00394	27.353	2258.03	0.0242	23.871	2351.71	0.00908	36.873	2351.71	0.00908	1	0.0119	NULL	6/13/2016	PUR1600543	M-90-01	240	240.1	2016	6/13/2016	Core		McNeil
PUR1600544.asd	FSFR.2249 Int=4.5 sec	1934.98	0.0281	45.014	2228.15	0.0189	34.3	2253.55	0.0552	24.563	2338.72	0.0623	39.798	2338.72	0.0623	1	0.672	NULL	6/13/2016	PUR1600544	M-90-01	242	242.1	2016	6/13/2016	Core		McNeil

SAMPLEID	HOLEID	SAMPFROM	SAMPTO	SA_PXRF_I	SA_PXRF_UNIT	Al_PXRF_p	As_PXRF_	Bi_PXRF_p	Ca_PXRF_	Cr_PXRF_	Cu_PXRF_	Fe_PXRF_	Hg_PXRF_	K_PXRF_p	LE_PXRF_	Mg_PXRF_	Mn_PXRF_	Mo_PXRF_	Nb_PXRF_	Ni_PXRF_	P_PXRF_p	Pb_PXRF_	Rb_PXRF_	S_PXRF_p	Se_PXRF_	Si_PXRF_p	Sn_PXRF_	Sr_PXRF_p	Ta_PXRF_	Th_PXRF_	Ti_PXRF_p	U_PXRF_p	V_PXRF_p	Y_PXRF_p	Zn_PXRF_	Zr_PXRF_p
PUR1600334	M-89-08	1012	1012.1	12-Jun-16	PPM	81667.4			2563.52			37238.7	7.56	30585.5	568551	23523.4	566.54	15.08	34.93			12.23	107.9			249502		139.79	73.22	40.19	4611.69	7.77	338.44	39.3	84.57	290.03
PUR1600335	M-89-08	1013	1013.1	12-Jun-16	PPM	36439.5			6728.56		72.01	54122.1	7.56	7939.81	639957	10567.3	399.17	27.8	31.44			47.34	55.44	15203.9		225813		141.78	54.67	39.1	1916.42	7	121.92	33.65	69.56	203.98
PUR1600336	M-89-08	1014	1014.1	12-Jun-16	PPM	81229.1			2145.94	50.26		35759.1	7.45	45325.2	530748	26157.2	438.85	14.72	35.25			11.79	172.55	4213.82		268749		56.85	79.95	30.09	4088.11		341.34	33.53	69.74	242.03
PUR1600337	M-89-08	1015	1015.1	12-Jun-16	PPM	52500.1			18297.8		26.1	50943.5	6.05	23465.1	560824	18910.6	709.06	13.22	33.2		426.9	41.21	173.42	7957.61		261787		151.02	72.46	37.45	2953.86	6.56	270.89	39.55	114.36	239.7
PUR1600338	M-89-08	1016	1016.1	12-Jun-16	PPM	35883			283917	69.92		15190.5	5.53	8495.77	529611	27386.1	644.74	13.13	15.07			6.12	43.93	1046.78		95345.4		199.3	25.56	13.91	1657.37		264.76	60.4	11.45	93.76
PUR1600339	M-89-08	1017	1017.1	12-Jun-16	PPM	40714.7	4.73		29171.9			28910	5.83	16985.5	531207	25392.4	543.11	10.95	27.27		3845.97	31.07	124.09	4947.58		314588		72.81	47.53	31.9	2390.41		124.68	48.88	60.16	713.5
PUR1600340	M-89-08	1018	1018.1	12-Jun-16	PPM	42156.3			23785.6			53607.4		8200.01	676293	13261.9	839.88	30.06	39.19			14.74	50.36	2051.64		176473		200.02	47.73	53.4	2511.4			45.4	97.85	240.71
PUR1600341	M-89-08	1019	1019.1	12-Jun-16	PPM	61796.6	3.72		50135.6	104.7		49892.6		19588.2	572903	30771.2	1140.44	9.99	25.04		565.17	17.73	62.75	6918.74		201752		175.25	60.98	29.66	3266.18	6.18	309.18	40.26	163.04	261.83
PUR1600342	M-89-08	1020	1020.1	12-Jun-16	PPM	57086.2			74051.9	71.7		35466.7		27412.6	567496	26737	835.45	13.1	12.88		1096.23	14.4	239.34	1695.01		204640		76.46	67.33	16.76	2230.26		617.69	20.24	73.3	29.51
PUR1600343	M-89-08	1022	1022.1	12-Jun-16	PPM	96916.8			771.7	99.51		110373		23669.7	495464	62232.5	1835.27		37.6			7.87	166.56			198388		66.43	78.45		9015.94		419.05	43.91	194.24	219.4
PUR1600344	M-89-08	1024	1024.1	12-Jun-16	PPM	91622.1			18077.2	112.89		25170.6	10.14	48068.5	520104	29378.4	517.69	9.83	37.16			26.01	206.35			259137		187.37	143.47	34.33	5998.37	7.56	670.42	57.27	55	368.2
PUR1600345	M-89-08	1026	1026.1	12-Jun-16	PPM	70373.5			24974.4	54.8		96485		12992.1	568400	55369.5	1889.28	15.86	22.59		429.98	74.45	74.18	2914.42		162670		103.75	78.21	15.98	2591.45		149.19	38.98	79.78	202.03
PUR1600349	M-89-08	1028	1028.1	12-Jun-16	PPM	62711.6	5.34		35771.4	50.36		126979		8993.9	604350	44537.2	1926.49	5.72	17.74				77.87	5529.01		107359		56.96	58.23		1089.25		114.29	36.47	56.13	274.17
PUR1600350	M-89-08	1030	1030.11034	12-Jun-16	PPM	46341.8			6848.48			38001.6		21988	686761		681.09	19.76	39.07			22.7	157.56			193370		193.78	83.11	41.16	4596.54	9.18	304.47	52.9	187.71	300.14
PUR1600351	M-89-08	1032	1032.1	12-Jun-16	PPM	40685.2	7.78		173146			116966		4797.08	504004	32067.7	1325.98	15.41	14.45			37.13	23.26	21967.1		98556.5		418.3	137.89	21.99	445.5		199.78	46.61	4853.63	133.85
PUR1600352	M-89-08	1034	1034.1	12-Jun-16	PPM	68624.7			33758.6	38.57		127436		2949.89	547082	42075.1	1169.65		12.82		400.54	14.55	14.54	31722.9		142978		88.83	29.22		1246.33		134.88	38.25	65.67	120.22
PUR1600353	M-89-08	1036	1036.1	12-Jun-16	PPM	101712	3.57		47509	303.35		42907.7	8.79	59581	518039	32185	818.39	15.97	42.91				259.12			188098		48.58	110.32	54.9	6664.42		1125.32	82.59	46.34	383.45
PUR1600354	M-89-08	1038	1038.1	12-Jun-16	PPM	105552	4.35			151.97		65997.3		64348.6	507753	40033.2	1071.48	7.96	40.49	18.03	747.34		334.81			205570		52.12	85.47	44.89	7075.37		650.26	50.38	75.65	335.11
PUR1600355	M-89-08	1040	1040.1	12-Jun-16	PPM	62680.9	3.86		9057.74			60119.9		17653.5	609152	49532.7	1367.69	5.38	26.1		1873.48	25.04	91.49	2512.83		183305		123.09	66.32	28.96	1700.16	6.69	243.28	31.1	165	228.01
PUR1600356	M-89-08	1042	1042.1	12-Jun-16	PPM	70317.8			18594.1			47783.3		30674.7	591769	37351.3	1185.81	9.6	25.58		1552.52	51.29	85.91	1218.19		197392		118.88	50.11	28.22	1289.25	5.51	159.22	36.18	79.05	222.38
PUR1600357	M-89-08	1044	1044.1	12-Jun-16	PPM	36928.1			37447.8	66.51		26763.3	5.5	11756.8	618100	14011	2629.83	13.63	28.37			31.76	68.22	1212.12		247916		174.76	51.97	32.69	2210.68	6.87	185.48	44.62	63.84	250.54
PUR1600358	M-89-08	1046	1046.1	12-Jun-16	PPM	50543.5			1393.23	68.92		51533.7	6.07	21033.9	617249	16385.8	518.35	13.09	32.71		491.34	73.93	98.94	5362.5		231401		72.35	75.93	40.83	3000.66		221.57	33.02	93.43	255.41
PUR1600359	M-89-08	1048	1048.1	12-Jun-16	PPM	20188.6			73069.3	84.77		73139.4		12703.9	684749		875.38	14.89	25.05			8.73	122.8	67865.5		64671.4		145.53	50.66	25.27	1709.44	5.76	278.42	30.13	50.33	185.65
PUR1600360	M-89-08	1050	1050.1	12-Jun-16	PPM	60343.8	4.5		2560.47	54.53		42123	6.35	25793.4	576008	20468.5	614.29	11.62	32.49	14.42		8.17	120.17	1610.04		266064		70.05	74.99	27.22	3322.02	4.9	306.58	34.65	67.93	254.14
PUR1600361	M-89-08	1052	1052.1	12-Jun-16	PPM	45303.8	3.36		38615.9	44.75		25029.3		26133.5	552321	18050.9	532.87	11.13	25.04			12.83	185.23	454.73		290073		71.85	40.98	26.13	2479.61	6.52	284.77	42.05	51.93	199.16
PUR1600362	M-89-08	1054	1054.1	12-Jun-16	PPM	39339.8	4.18		16749.3		23.12	93797.8		8504.14	701547	18977.6	1251.37	18.45	27.98				72.66	20973.9		96301.5		99.68	70.01	31.09	1654		221.15	67.53	55.82	211.7
PUR1600363	M-89-08	1056	1056.1	12-Jun-16	PPM	57608.6			8380.54		17.67	50970.3	6.39	8091.57	509429	25811.7	338.85	9.5	24.17			23.74	71.15	14498.8		321992		179.98	45.4	22.5	2100.37	7.05		23.08	80.24	267.54
PUR1600364	M-89-08	1058	1058.1	12-Jun-16	PPM	60204.4			12990			33028.5		15518.7	488744	28368.2	524.44	8.53	16.16			46.28	135.17	3472.28		353814		160.5	55.97	24.84	2363.95		165.83	16.14	102.06	240.54
PUR1600365	M-89-08	1060	1060.1	12-Jun-16	PPM	74583.6	4.39		16296.4	96.88		26164.2	9.58	56091.3	561191	25212.6	519.66	10.7	45.34		218.75	28.58	212.53	2467.25		228112		212.71	105.83	48.53	6920.33		1050.05	38.64	55.93	303.77
PUR1600366	M-89-08	1062	1062.1	12-Jun-16	PPM	18811.4			53889.1	54.65		109573		762.64	725011		893.54	17.07	20.33				26.22	37527.8		52170.9		191.58	41.4	28.21	710.27			44.59	36.91	188.89
PUR1600367	M-89-08	1064	1064.1	12-Jun-16	PPM	84602.2			4036.87	62.15		32379.3	6.58	37858.7	533458	27149.5	456.77	7.08	45.49			12.96	153.47	3388.73		270051		66.16	90.02	35.66	5211.1		547.27	34.84	52.9	293.02
PUR1600368	M-89-08	1066	1066.1	12-Jun-16	PPM	50022.3	3.72		11669.6			32047.6		17667	540663	23340.9	598.7	10.99	29.93			19.41	94.78	454.74		319876		121.67	40.34	28.96	2603.75		219	42.54	113.02	332.41
PUR1600381	M-89-08	1068	1068.1	13-Jun-16	PPM	43804.2						16230.3		18944.5	558713	18958.1	319.37	9.21	20.99			8.96	41.68			340391		31.62	36.81	26.03	2039.23	5.95	200.27	30.59	20.89	167.35
PUR1600382	M-89-08	1070	1070.1	13-Jun-16	PPM	27629.3	5.89		6739.63	143.32		29325.9	8.41	12916.5	753779		438.13	23.22	44.01			9.94	95.82			165104		83.88	84.82	47.84	2865.21	8.59	284.07	41.96	75.9	245.25
PUR1600383	M-89-08	1072	1072.1	13-Jun-16	PPM	43170.2			18077.1			41818.2	5.37	13635.3	609042	11965.2	582.91	14.94	23.1		766.47	40.68	100.26	5626.33		252260		127.67	51.83	33.87	2110.29	5.81	183.3	27.73	100.5	231.82
PUR1600384	M-89-08	1074	1074.1	13-Jun-16	PPM	54702			9706.05			33392.3		13676.8	599043	18474	544.85	11.03	29.98			15.01	84.32	4818.59		261531		171.93	64.99	29.99	2948.16	8.24	377.36	42.24	77.02	250.65
PUR1600385	M-89-08	1076	1076.1	13-Jun-16	PPM	45199.1			115217	120.62		52358.8	8.31	11334.3	572190	25759.2	486.39	4.71	22.57	14.31	595.5	6.99	82.82	11623.1		161489		84.37	46.47	9.58	2697.98		266.28	80.72	59.87	241.37
PUR1600386	M-89-08	1078	1078.1	13-Jun-16	PPM	59644.8			49532.9	180.58	307.96	246122		21958.4	311477	30339.8	745.1	16.56	41.96	766.16		140.46	89.47	114073	11.26	157820		58.14	65.13	70.71	5464.7	12.23	645.95	75.3	148.06	191.81
PUR1600387	M-89-08	1080	1080.1	13-Jun-16	PPM	68216.6	3.86		15096.3	138.17		42027.5	9.15	39257.6	584904	29832.9	468.79	7.65	37.35		1351.35	7.85	198.55	3187.44		206461	29.69	75.71	102.22	34.03	7642.57		486.12	55.01	63.3	304.91
PUR1600388	M-89-08	1082	1082.1	13-Jun-16	PPM	82649.1				151.24	50.51	48256.1		31335.5	541886	43541.5	483.01	7.42	26.22	114.07	1396.66		109.21	25165.5		216778		50.43	55.58	30.28	7128.36	6.33	456.03	21.63	77.35	223.8
PUR1600389	M-90-1	76	76.1	13-Jun-16	PPM	106005	4.46	15.32	7431.83	935.42		89192.3	5.99	32527.2	467478	34817.1	1214.78		29.52	33.3		7.82	278.67	1809.31		248357		116	99.17	59.2	6021.5	14.13	2286.15	94.78	80.53	1086.08
PUR1600390	M-90-1	79	79.1	13-Jun-16	PPM	137226	14.94			83.95		46474.3	8.28	73740.2	425919	37608.5	585.43		40.06	26.61		9.51	334.87			270918		64.27	116.87	30.52	5653.54		682.64	114.49	49.17	298.53
PUR1600391	M-90-1	82	82.1	13-Jun-16	PPM	80905.2			13631.9	117.69		24036.1		20590.4	555122	30977.5	477.79	7.42	26.67			9.59	106.98			269615		64.33	50.51	25.3	3325.01		539.29	27.9	48.35	294.73
PUR1600392	M-90-1	94	94.1	13-Jun-16	PPM	47625.4			38571.3	53.39	37.48	53422		17215.1	646612	16948.3	956.09	12.67	29.82	68.96		28.07	131.94	25865.9		148786		59.83	58.17	34.48	2784.83		354.35	44.77	72.24	227.1
PUR1600393	M-90-1	97	97.1	13-Jun-16	PPM	62214.1	3.55		27629.3	42.47	18.81	47968.3		3960.51	559938	26072.2	302.23		17.3	22.3		28.77	88.1	41825		227979		201.32	35.26	17.77	1264.56	4.75	155.45	32.64	57.88	120.66
PUR1600394	M-90-1	100	100.1	13-Jun-16	PPM	123651	13.47		8184.54	306.79		68011.3	9.99	44106.5	474192	37013.1	1015.6		52.64	34.85		27.7	197.09	1954.4		227197		115.88	101.74	130.55	11972.2	6.68	926.8	161.37	94.59	522.41
PUR1600395	M-90-1	103	103.1	13-Jun-16	PPM	41274.4	3.09		1907.68		25.55	32302.2	5.17	13185.9	591179	13760.1	285.69	16.96	23.12			7.2	109.54	7060.26		296347		47.39	37.58	35.5	1965.4		163.45	29.32	58.24	170.72
PUR1600396	M-90-1	106	106.1	13-Jun-16	PPM	108032	7.39		8292.27	258.37		35552.8	6.15	48322.3	489348	27936.8	783.39	5.63	45.15			26.02	194.46	703.16		267952		128.31	99.83	112.41	10611.6	5.63	918.89	106.01	125.7	425.52
PUR1600397	M-90-1	109	109.1	13-Jun-16	PPM	85089.6	4.67		1293.98	91.52		48253.6	9.76	50750.5	623133	14538	432.51	20.93	53.23			11.19	264.09	2852.37		166780		64.41	111.79	52.58	5168.81	17.07	600.27	55.26	79.66	271.1
PUR1600398	M-90-1	114	114.1	13-Jun-16	PPM	71579.9			110039			20738.9	10.9	13102.8	567369	18096.8	706.47	20.97	26.1			106.73	109.7	825.34		190610		2553.47	63.76	21.06	494.61		113.2	29.98	3211.01	170.38
PUR1600399	M-90-1	123	123.1	13-Jun-16	PPM	52650	6.31		10731.6			17364.7		7290.5	521425	22931.9	485.93		18.63			29.69	50.78			364227		480.75	29.86	30.52	1847.98	8.76	101.55	32.09	37.29	219.87
PUR1600400	M-90-1	126	126.1	13-Jun-16	PPM	82429.1			50067.4	69.13	15.53	37991.4		18029.5	519269	23124.4	464.31	10.35	31.45	23.26		50.5	147.57	14249.4		250668		71.24	69.87	26.5	2267.91	4.81	390.11	41.62	227.46	260.52
PUR1600404	M-90-1	129	129.1	13-Jun-16	PPM	72356.9	5.98		26417.8	80.51		58208.6	7.89	27222.2	572117	26946.3	687.6	4.65	28.48	41.14		9.66	176.98	25062.9		184319		66.9	72.52	16.41	5369.49	5.34	473.61	30.85	64.35	206.4
PUR1600405	M-90-1	132	132.1	13-Jun-16	PPM	43716			17713.6			17650		21250.1	513843	22033.4	348.03	5.69	19.02			4.31	107.86			361074		96.61	24	20.78	1442.3		223.36	26.11	205.81	196.38
PUR1600406	M-90-1	135	135.1	13-Jun-16	PPM	84745.7			14409.7	460.67		24777.5		45328.5	531457	27784.8	564.44	3.84	25.74	32.95		15.05	212.78	9499.15		254303		94.43	53.01	24.64	4503.85	6.4	1250.28	31.43	44.34	371
PUR1600407	M-90-1	251	251.1	13-Jun-16	PPM	53134.9			6861.28			42523.2		11462.6	503078	23314.9	379.11	6.46	19.96		2313.25	21.76	127.83	1030.17		353136		163.55	45.09	23.37	1967.35	5.59	100.18	28.95	91.88	164.75
PUR1600408	M-90-1	253	253.1	13-Jun-16	PPM	37456.4			15665.5			13099.8		997.71	515889	19704.3	258.23	8.11	21.77			14.56	40.71			394251		110.45	30.51	28.75	1770.51		161.61	36.83	33.53	421.1
PUR1600409	M-90-1	255	255.1	13-Jun-16	PPM	86955.8	3.33		1967.2	178.36		65994.7		17790.6	613949	36987.8	684.47	11.53	25.84			13.21	154.32			171283		124.36	55.38	29.5	2867.82		589.98	39.97	57.92	235.49
PUR1600410	M-90-1	257	257.1	13-Jun-16	PPM	76543.5	6.13		16874.5	62.24	50.95	51685.6		32077	570283	27318.3	688.19	10.35	30.19	21.84	1062.95	16.31	182.44	17981.9		199704		60.72	77.51	38.49	4544.01	6.04	326.9	41.97	40.42	264.36
PUR1600411	M-90-1	259	259.1	13-Jun-16	PPM	73198.6			34631.5			64843.3		1867.27	638082	29006.7	942.89	7.38	19.3			26.98	58.73	15490.9		138156		142.07	27.47	28.58	2707.54		148.75	36.48	409.53	168.88
PUR1600412	M-90-1	261	261.1	13-Jun-16	PPM	48030.8	3.97		7715.01			16427.7		6533.36	537253	22475.7	307.05	12.11	21.32			31.68	55.8	372.58		358233		107.98	31.98	24.52	1848.57		204.76	25	39.23	244.46
PUR1600413	M-90-1	263	263.1	13-Jun-16	PPM	82336.8			5471.94		37.81	39485.1		34160.2	582081	30351.3	741	8.2	21.96			475.47	60.09	620.83		221692		102.5	21.67	25.75	1370.05		293.85	48.3	334.79	259.63
PUR1600414	M-90-1	265	265.1	13-Jun-16	PPM	52437.3			13474.8			30775.1	6.63	19453.7	557093	19117.4	336	11.58	28.5			13.45	153.05	12752		290962		64.1	54.29	33.59	2743.09	5.7	181.53	28.88	86.38	188.4
PUR1600415	M-90-1	267	267.1	13-Jun-16	PPM	89695.5			800.36	129.06		67720.3	8.97	40620.7	595668	34635.6	948.07	8.09	34.01		981.16	50.08	248.94			163857		93.81	95.48	49.1	3227.68	7.87	534.8	50.59	131.37	403.18
PUR1600416	M-90-1	269	269.1	13-Jun-16	PPM	14673.6			160110			13101.6		2019.69	690092		751.93	20.05	31.73			48.18	53.92			115879		113.18	35.5	53.65	1886.64	7.94	128.08	60.8	39.88	893.06
PUR1600417	M-90-1	308	308.1	13-Jun-16	PPM	48796.6			27414.6		16.19	23978.7		1580.84	484077	21606.3	479.12	4.03	20.43			61.4	40.18			389285		109.74	36.56	22.56	1966.9	4.11	131.67	24.28	61.36	283.44
PUR1600418	M-90-1	305	305.1	13-Jun-16	PPM	80830.7	5.15					44346.8	7.56	49862.9	517563	25674	559.32	9.9	42.63		757.07	21.81	267.17			274367		81.43	88.01	34.21	4507.28		520.34	59.52	110.33	284.4
PUR1600419	M-90-1	302	302.1	13-Jun-16	PPM	95360.5			1489.03	98.1		31822.2	6.81	61156.5	523626	20791.4	415.42	7.57	46.22			28.2	275.01			258233		93.9	111.13	35.68	5239.47	5.63	657.7	86.27	76.52	337.8
PUR1600420	M-90-1	299	299.1	13-Jun-16	PPM	12394.6			246729			7433.26			657851		2450.74	19.13	21.51			21.78	27.73	344.03		71015.3		143.57	17.61	29.47	893.68		304.59	32.68	15.83	255.02
PUR1600421	M-90-1	293	293.1	13-Jun-16	PPM	60068.1	3.14		9276.55			56833.5		11590.7	573530	25757.3	689	9.73	30.88				134.51			259658		31.89	51.86	32.22	1733.97		190.76	36.72	38.55	302.65
PUR1600422	M-90-1	290	290.1	13-Jun-16	PPM	58829.5	3.6					28314.2		29912.5	586260	14324.3	349.33	13.03	34.08			13.14	148.32			277812		49.43	73.15	39.22	3108.85		249.48	37.84	99.15	329.7
PUR1600423	M-90-1	287	287.1	13-Jun-16	PPM	43297.5			151281			13078.8		21660.6	607868	16095.5	306.87	11.89	23.19			86.06	72.99			144759		91	28.01	28.99	868.52		102.01	32.82	38.72	268.72
PUR1600427	M-90-1	284	284.1	13-Jun-16	PPM	49272.8			14165.8			32745.3		9537.79	560210	22752.1	541.01	9.54	21.06		2113.81	21.79	106.6	651.5		305010		148.7	43.28	24.8	2116.69		182.5	32.74	79.01	212.58
PUR1600428	M-90-1	281	281.1	13-Jun-16	PPM	49706.7			3148.84	41.53		20481.2		22773.6	501399	21240.4	382.01	3.93	21.83			39.8	98.6			377890		130.59	31.14	29.18	2197.77			32.94	52.41	299.22
PUR1600429	M-90-1	278	278.1	13-Jun-16	PPM	44027.8			5475.71			11765.9	4.75	27418.9	494619	18089.8	313.95	6.2	23.07			57.63	113.76			395090		85.4	28.33	23.84	2245.55		266.28	27.73	27.08	289.94
PUR1600430	M-90-1	275	275.1	13-Jun-16	PPM	52745.8	3.5		5196.1	41.83		40031.4		15251	651115	15465.3	561.05	6.79	25.59	38.63		16.27	81.02			216353		114	53.61	30.71	2311.15		191.11	44.51	59.87	262.95
PUR1600431	M-90-1	311	311.1	13-Jun-16	PPM	86090.8	3.04		4718.94	103.43		82600.4		30966.4	551491	28439.3	1462.99	9.65	27.25			4.72	92.61	1961.29		208199		59.59	61.22	29.51	2974.07	5.91	345.96	29.62	70.16	252.65
PUR1600432	M-90-1	314	314.1	13-Jun-16	PPM	72485.6	4.4		90609.1	74.75		25642		17238.5	551604	19872.1	953.42	10.53	26.23			19.09	111.64		2.23	217424		313.15	38.31	41.55	2777.6	8.03	371.63	25.92	56.87	289.09
PUR1600433	M-90-1	323	323.1	13-Jun-16	PPM	23459.6			10195	128.98	187.41	364488	15.51	8267.71	302524		116.09	18.68	14.8	78.5		49.92	28.77	206742	4.73	82255.3		22.27		69.51	827.93	11.3	373.37	86.96		33.4
PUR1600434	M-90-1	326	326.1	13-Jun-16	PPM	41518.9			27632.7			16392.3	5.13	1348.53	596133	14726.7	379.07	11.28	27.81			17.38	47.21			299237		153.56	46.83	38.71	1737.99	8.8	134.35	36.23	38.68	328.59
PUR1600435	M-90-1	329	329.1	13-Jun-16	PPM	56722.2	5.8		28046.5	437.08		25064.6		31440.4	590808	24306.5	451	7.85	43.82		1105.71	31.74	173.84	722.91		234071		76.97	87.93	39.34	4558.36	6.94	1093.68	65.56	67.89	564.54
PUR1600436	M-90-1	332	332.1	13-Jun-16	PPM	47628.4			19576.7			20214.7		3600.97	628534	9029.46	425.85	7.69	32.09			25.64	65.44			266777		239.29	44.8	42.07	2755.12	11.82	176.88	56.48	44.28	711.52
PUR1600437	M-90-1	335	335.1	13-Jun-16	PPM	82708.6			14852.1	656.2		73871.9	11.92	42639.3	493795	31745.5	1160.21	8.24	49.13	21.24	916.58	27.97	263.07	446.07		247610		76.73	88.48	38.62	6105.85		1998.04	451.63	111.83	345.3
PUR1600438	M-90-1	338	338.1	13-Jun-16	PPM	107496	4.12		7718.86	148.07		52773.5	8.95	54044.5	496629	36165.9	1208.32		36.2	47.28	880.77	34.38	266.08	980.38		233885		246.6	89.11	54.95	5840.96	7.4	772.48	85.92	98.22	476.73
PUR1600439	M-90-1	347	347.1	13-Jun-16	PPM	63643			76221			15433.4		12833.1	546295	23963	1070.02	7.57	18.37		299.33	26.38	60.63			257719		123.96	14.31	27.45	1793.12		126.27	30.88	36.99	257.24
PUR1600440	M-90-1	350	350.1	13-Jun-16	PPM	13273.4			167554			5458.51		388.82	599782	18790	166.41	9.66	8.44			7.65	3.21			193849		6.86		14.57	532.24		131.14	5.12	15.38	3.85
PUR1600441	M-90-1	353	353.1	13-Jun-16	PPM	83048.5			32842	469.44		36271.9	5.22	24385.5	507223	26016.8	581.9	8.21	37.1			27.77	187.29	4801.18		279719		40.64	63.39	30.16	2554.46		1309.79	82.26	48.85	246.38
PUR1600442	M-90-1	356.1	356.2	13-Jun-16	PPM	99258.5			16876.8	389.33		56707.1	10.94	52034.4	488044	26945.2	2393.78		74.06			41.79	303.79	6020.61		228502		124.99	164.67	105.18	18892.7	21.18	1719.04	107.58	65.98	1195.58

SAMPLEID	HOLEID	SAMPFROM	SAMPTO	SA_PXRF_I	SA_PXRF_UNIT	Al_PXRF_p	As_PXRF_	Bi_PXRF_p	Ca_PXRF_	Cr_PXRF_	Cu_PXRF_	Fe_PXRF_	Hg_PXRF	K_PXRF_p	LE_PXRF_	Mg_PXRF_	Mn_PXRF_	Mo_PXRF_	Nb_PXRF_	Ni_PXRF_	P_PXRF_p	Pb_PXRF_	Rb_PXRF_	S_PXRF_p	Se_PXRF_	Si_PXRF_p	Sn_PXRF_	Sr_PXRF_	Ta_PXRF_	Th_PXRF_	Ti_PXRF_p	U_PXRF_p	V_PXRF_p	Y_PXRF_p	Zn_PXRF_	Zr_PXRF_p
PUR1600443	M-90-1	362	362.1	13-Jun-16	PPM	129657			8587.26	743.22		24556.1	13.74	75528.4	479585	27269.8	878.82	11.58	63.41	18.2		636.23	307.96			239457		108.72	123.36	104.1	9188.35	15.07	2279.88	294.4	170.07	402.44
PUR1600444	M-90-1	359	359.1	13-Jun-16	PPM	59113.8				60.21		76938.6	6.46	38132.8	584010	19853.4	409.4	6.07	32.34			28.11	203.49	73017.3		143663		127.43	81.77	24.76	3616.68		351.09	33.42	68.31	221.1
PUR1600445	M-90-1	371	371.1	13-Jun-16	PPM	90711.6	4.92		3566.02	100.87	44.53	60275.3	7.42	46191.8	545009	27484.7	869.9	14.13	43.25	50.62		8.95	249.3			219377		31.46	89.76	45.89	4909.26		545.72	78.15	71.77	218.54
PUR1600446	M-90-1	374	374.1	13-Jun-16	PPM	48022.6	3.58		474.7	42.22	77.73	51508.3	5.67	17057.7	563496	21649.1	537.9	10.42	25.8			13.38	178.51	801.92		291375		78.23	35.46	31.81	3765.57		208.5	53.36	321.18	224.67
PUR1600450	M-90-1	377	377.1	13-Jun-16	PPM	46848.7	4.65		12186.6			19180.1		3667.35	521479	22195.6	354.69	8.87	21.93			34.62	59.08			371510		97.46	35.35	29.71	1852.8	4.79	101.98	27.43	44.55	254.26
PUR1600451	M-90-1	380	380.1	13-Jun-16	PPM	69157.1	4.32		57685	1222.98		46879.3	7.18	34179.2	595737	22340.5	928.03	15.27	40.28			5.85	266.08			163494		71.27	86.76	38.31	4266.46		3166.44	52.75	117.1	238.28
PUR1600452	M-90-1	383	383.1	13-Jun-16	PPM	63227.3			136426			29893.9		26118.3	534497	19060.7	1134.58	9.44	20.31			27.33	147.19			187107		164.5	44.87	29.21	1557.97		263.02	43.81	59.89	167.84
PUR1600453	M-90-1	385.6	385.7	13-Jun-16	PPM	81135.5	5.68		10879	106.14		65017.6	9.74	53498.2	520821	30410.2	992.63	11.52	45.72	59.72	4430.99	8.38	303.22	166.24		223116		16.74	78.39	33.61	7698.56		735.33	66.48	156.73	196.67
PUR1600454	M-90-1	391.4	391.5	13-Jun-16	PPM	28430.7		52.4	18070.5	1232.63	59.11	211378	18.38	2194.83	487703	14128.7	1192.37	4.98		659.96		115.03	84.79	172918	7.18	56269.4		78.01	38.01	256.42	1554.78	13.14	2667.29	531.93	244.64	94.91
PUR1600455	M-90-1	394.4	394.5	13-Jun-16	PPM	63011.4	5.8		8052.21			45983.8	7.3	23261.5	588704	16859.3	644.12	21.46	36.24			36.86	136.94			249319		133.91	58.47	49.38	2879.35		251.85	36.23	318.32	192.98
PUR1600456	M-90-1	397.4	397.5	13-Jun-16	PPM	98793.3			9652.76	313.99		49759.4	7.22	52614.7	506660	32977.1	1307.22		46.15	38.07	843.19	31.81	222.16	1441.22		222109		57.03	96.07	54.65	20947.3	9.82	868.64	129.45	72.7	947.44
PUR1600457	M-90-1	400.4	400.5	13-Jun-16	PPM	95199.9	6.57		6417.67	654.47		44114.1	9.79	56999.1	587454	21251.8	1311.57		42.84	23.84	1414.4	9.29	215.98			164870		78.59	126.56	34.15	16800.1	11.64	2020.1	75.36	76.99	781.32
PUR1600458	M-90-1	403.4	403.5	13-Jun-16	PPM	82863.9	5.43		10286.2	192.09		91273.9	7.89	30049.3	541475	35942.6	1148.68		41.42	51.34	1734.64	8.51	237.14			193512		46.75	88.53	51.87	9147.24	8.73	609.2	59.92	161.97	995.45
PUR1600459	M-90-1	406.4	406.5	13-Jun-16	PPM	63860.3					46.34	29918	5.64	22596.8	470674	27157.6	462.23	7.54	23.02			8.88	126.31			381507		60.95	58.55	27.68	2916.17		208.09	33.21	48.4	253.47
PUR1600460	M-90-1	409.4	409.5	13-Jun-16	PPM	54542.7			18723.1			37461.6		10072.5	499775	25942.5	553.21	9.65	25.18			28.03	108.55	679.77		348849		113.65	46.35	30.05	2536.29		142.98	27.63	97.92	234.02
PUR1600461	M-90-1	411.9	412	13-Jun-16	PPM	71320.6	4.85			49.54		35518.5		45469.6	584104	17008.3	505.4	20.52	42.33		257.62	13.07	155.15	5313.74		234415		19.56	71.52	38.51	4835.66	6.62	441.05	50.55	44.81	292.55
PUR1600462	M-90-1	418.1	418.2	13-Jun-16	PPM	110639			7249.8	94.08		40855.1	6.77	65408.1	498631	31238.9	471.44	12.39	46.62	19.08	1203.03	10.03	323.46			237534		32.91	131.09	47.64	4890.14	8.23	678.1	70.43	76.83	322.35
PUR1600463	M-90-1	421.1	421.2	13-Jun-16	PPM	20173.1	11.21		15353.2	114.29		21162.8		5940.97	790275		507.57	33.47	34.58			34.5	63.71			143314		102.13	35.1	56.48	2157.11	7.06	216.83	38.06	50.64	319
PUR1600464	M-90-1	424.1	424.2	13-Jun-16	PPM	25910			8443.23			14664		3437.18	705359		361.58	19.28	31.23			36.99	50.63			238811		73.68	27.93	50.89	2233.01	6.13		35.97	39.1	408.39
PUR1600465	M-90-1	427.1	427.2	13-Jun-16	PPM	38725.2			14113.2			20914.6		11754.2	670762	12360.4	470.64	15.51	27.16			27.23	80.83	191.62		227267		114.31	34.43	41.22	2423.64		172.43	36.01	48.62	419.63
PUR1600466	M-90-1	430.1	430.2	13-Jun-16	PPM	20713.1	11.25		15434.1	76.34		14037.5		6126.95	581070	15291.3	332.26	5.84	36.04	19.54	3646.27	62.94	52.26			333392		58.62	38.64	47.96	8289.08	12.23	244.16	95.01	130.4	776.39
PUR1600467	M-90-1	433.1	433.2	13-Jun-16	PPM	53050	6.04		25219.6	58.76		24900	4.74	17599.3	553419	25161.5	464.91	4.23	26.91		1271.54	15.7	90.4			292382		63.08	30.17	36.68	5272.79	4.69	205.83	45.63	51.39	614.7
PUR1600468	M-90-1	443.5	443.6	13-Jun-16	PPM	69860.7			14157.9	52.38		46969.3		36924.2	604906	20681	511.77	15	39.86	15.22	1671.51	32.52	211.33			198118		67.52	67.17	38.91	4897.94	5.67	363.76	30.7	124.17	238.17
PUR1600469	M-90-1	446.5	446.6	13-Jun-16	PPM	110408			3211.92	274.6		50044.2	6.02	51491.9	567820	29166.3	1979.72		36.55	20.52	1132.36	25.37	180.37			162535		33.41	79.64	37.98	19930	7.82	872.56	46.46	73.11	586.19
PUR1600473	M-90-1	449.5	449.6	13-Jun-16	PPM	113360			5818.51	93.89		38377.3	7	47779.1	473937	29626.3	500.38	6.88	31.25	31.19	472.97	32.96	197.29			282760		48.67	81.49	48.01	5660.63	7.08	613.31	113.13	129.51	266.25
PUR1600474	M-90-1	452.5	452.6	13-Jun-16	PPM	62810.3			10033.2	47.34	90.89	103001	6.26	11980.3	611093	25538.4	997.62	14.63	26.69	26.75		135.24	110.64	5071.99		165560		35.82	59.12	33.54	2669.69		180.06	160.78	138.11	178.14
PUR1600475	M-90-1	459.5	459.6	13-Jun-16	PPM	122660	3.56		10302.1	117.63		20066	6.66	53285.8	557702	26222.2	417.06	4.56	28.47		667.58	13.32	121.49			200106		17.44	72.82	28.89	7138.7	5.6	498.77	63.13	48.47	401.48
PUR1600476	M-90-1	456.5	456.6	13-Jun-16	PPM	108604			2826.79	67.92		113748	12.36	55644.1	460250	37498	1047.36	11.96	59.1	27.06		9.34	262.47			213401		31.63	103.04	44.68	5471.16		434.6	95.55	100.47	248.64
PUR1600477	M-90-1	462.1	462.2	13-Jun-16	PPM	68959.1			770.11	50.06	314.14	25089.4	5.74	36064.8	541871	21973.6	346.18	8.3	37.49			26.7	175.65			299360		28.32	77.28	34.72	4077.44		278.6	50.31	83.43	317.83
PUR1600478	M-90-1	468.4	468.5	13-Jun-16	PPM	100488	4.55		4593.7	280.23		44127.4	6.56	60331.6	536659	25994.7	387.52	11.99	37.04			10.8	347.86			220565		24.96	95.32	33.11	4713.55		1029.42	37.57	43.51	176.18
PUR1600479	M-90-1	471.4	471.5	13-Jun-16	PPM	61773.1			14580.9	46.64		43598.1		13013.6	559111	24969.1	577.71	13.66	29.3		576.66	81.83	55.54			277558		64.01	53.97	29.92	3251.94		200.96	38.5	136.92	238.39
PUR1600480	M-90-1	474.4	474.5	13-Jun-16	PPM	57002.5			3806.8			39038.7	5.97	28994.3	645152	14919.8	439.67	16.33	40.01			39.22	164.39			204878		38.83	90.34	38.88	4466.36	5.16	423.64	54.96	133.02	251.04
PUR1600481	M-90-1	477.4	477.5	13-Jun-16	PPM	112786			4177.52	150.69		28919.6	10.54	68912.6	552969	20689.9	375.14	17.33	42.46			16.51	231.49			204769		18.56	124.93	77.98	4377.09	6.04	856.2	91.51	46.02	333.27
PUR1600482	M-90-1	480.4	480.5	13-Jun-16	PPM	61536.7			3392.34	77.81		45346.3	6.15	33867.4	655007	12968.4	404.94	17.08	41.62		218.79	33.25	217.4			181248		39.59	97.68	44.08	4595.11	9.09	483.09	41.59	88.77	218.24
PUR1600483	M-90-1	483.4	483.5	13-Jun-16	PPM	82022.4			620.92	68.42		62257.8	5.54	36081	506797	28379.3	638.51	6.98	38.16	17.85	933.2	23.07	223.85			276991		34.24	84.21	29.46	4005.68	10.52	341.4	34.62	107.5	247.42
PUR1600484	M-90-1	486.4	486.5	13-Jun-16	PPM	120017				82.62		34797.2	6.94	59901.3	466902	31179.9	466.39	11.08	36.65			12.64	213.82			280349		235.1	99.07	22.17	4844.38	6.72	497.96	19.35	82.92	216.14
PUR1600485	M-90-1	489.4	489.5	13-Jun-16	PPM	73857.4			4623	68.03		30135.5	9.92	41565	584436	18685.7	663.06	12.05	43.96		741.26	34.8	213.71			237386		32.09	114.19	46.3	6387.39	5.15	472.42	47.94	91.21	327.42
PUR1600486	M-90-1	496.5	496.6	13-Jun-16	PPM	39868.8	5.97		18156.5		164.57	54750.8		16961.1	624576	12322.3	703.83	15.5	27.28		1512.32	53.99	124.49	1539.8		226332		44.57	49.68	39.83	2128.91	8.84		66.95	261.82	284.12
PUR1600487	M-90-1	499.5	499.6	13-Jun-16	PPM	61137.7			29967.7	213.38		52075.8	6.45	14928.5	546162	34171.8	1185.91	10.65	20.52	13.13	809.36	19.2	36.25			255238		58.4	46.62	25.07	2921.38		596.62	116.35	55.33	184.25
PUR1600488	M-90-1	502.5	502.6	13-Jun-16	PPM	33507.7	5.24		28911		46.45	15665		2509.13	520484	18876.1	296.97	17.34	20.64			15.13	44.58			377493		44.92	30.47	29.17	1518.9	4.08	179.81	32.29	34.11	234.19
PUR1600489	M-90-1	505.5	505.6	13-Jun-16	PPM	26180			29084.9		66.97	14339.5		2772.41	692910		283.04	27.08	33.41			20.86	36.24			231947		49.12	40.67	59.13	1822.5	7.18		42.53	41.46	236.04
PUR1600490	M-90-1	508.5	508.6	13-Jun-16	PPM	40356.6			28756.3			14601.5		2077.71	528667	19922.1	254.67	7.49	17.24		3239.58	35.11	36.72			360104		38.82	31.43	26.1	1537.2	4.71		23.36	41.19	221.36
PUR1600491	M-90-1	511.5	511.6	13-Jun-16	PPM	116698			22554.6	174.8		51059.9	10.93	57339.8	448288	38270.8	1601.57		52.01	32.22	435.11	22.37	221.05			235497		41.56	109.66	32.19	25938.1		897.72	41.82	72.89	607.16
PUR1600492	M-90-1	514.5	514.6	13-Jun-16	PPM	46568.7			28270.5			40588.6	6.79	16382.2	658741	12420.1	601.5	23.19	45.46			37.04	70.58			192038		62.89	79.21	47.03	3300.7	5.64	269.7	56.05	80.33	304.94
PUR1600496	M-90-1	521	521.1	13-Jun-16	PPM	63845.9			4645.98	67.2		37233.2	6.14	25613.3	528380	27789.5	515.56	8.08	29.75		1603.24	20.18	127.95			305830		51.25	65.65	28.27	3412.73	7.21	346.55	39.17	89.07	243.44
PUR1600497	M-90-1	524	524.1	13-Jun-16	PPM	42219	75.23		12288.7	229.69	932.09	132599	7.91	5812.04	562247	19824.4	576.9	5.73	10.77	523.77		111.52	29.59	75360.7	4.12	144182		25.76	28.25	11.64	2065.98		550.19	114.28	45.27	118.69
PUR1600498	M-90-1	527	527.1	13-Jun-16	PPM	69667.8			6117.57	39.07	20.54	101913	6.45	21333	629298	25297	975.03	10.49	26.67	44.81	981.79	25.93	166.39			141147		81.89	74.63	23.07	2119.15		284.86	44.55	90	211.85
PUR1600499	M-90-1	530	530.1	13-Jun-16	PPM	98730.4	11.33		5793.06	146.39		82982.5	6.81	28235.6	547931	51902.1	861.27	5.06	32.61	45.94		15.97	229.97			177811		32.28	118.77	50.47	3958.41		768.52	38.77	63.05	228.86
PUR1600500	M-90-1	536	536.1	13-Jun-16	PPM	82594.1	6.74		9023.25	64.15		57519		23999.6	571714	31580.4	582.18	11.23	34.08	20.17	358.91	57.7	128.69			216529		118.09	85.94	32.52	4702.56	5.32	450.91	36.66	122.77	221.59
PUR1600501	M-90-1	539	539.1	13-Jun-16	PPM	30753.2	11.84		77438.6		62.45	82210.3		7371.03	595225	13913	716.28	19.78	23.85		2314.7	82.11	18.52			187302		357.7	37.7	39.56	1505.86		181.37	42.42	312.77	60.2
PUR1600502	M-90-1	545.4	545.5	13-Jun-16	PPM	45666.4			43896.2		127.52	138870		11811.9	573396	27314	1199.95	12.17	21.06		2507.62	41.76	70.71	615.85		144298		174.18	40.54	26.16	9223.11		337.76	35.55	225.94	87.44
PUR1600503	M-90-1	548.4	548.5	13-Jun-16	PPM	59179.9			47231.8			231687		1674.74	502689	24882.4	1893.03	17.65	30.02		286.09		31.83			123423		316.35	109.51	39.33	5479		546.25	78.79	199.59	204.61
PUR1600504	M-90-1	551.4	551.5	13-Jun-16	PPM	44882.6			101967			133953		776.72	571375	28801.3	1631.85	17.01	14.62			8.96	11.13	390.03		112724		530.25	43.91	34.7	2346.98		363.76	21.25	55.56	50.19
PUR1600505	M-90-1	554.4	554.5	13-Jun-16	PPM	42080.7	6.11		113697		33.92	152625		6078.22	542406	24927.3	1705.1	16.4	21.22		428.03		41.07			111670		378.62	53.5	34.66	3256.06		354.09	33.61	101.23	52.74
PUR1600506	M-90-1	557.4	557.5	13-Jun-16	PPM	51964.2	8.11		66708.1			211540		9166.77	462317	21013.1	3958.39	18.54	20.37		561.37		133.26	1300.3		165904		349.38	96.01	32.57	4391.33		306.15	62.93	76.32	72.31
PUR1600507	M-90-1	560.4	560.5	13-Jun-16	PPM	42166.5			57064.3			120245		4006.73	619310	16208.7	1839.42	17.73	24.1				56.2			137666		100.78	62.19	24.91	824.13		111.49	39.34	57.75	174.6
PUR1600508	M-90-1	563.4	563.5	13-Jun-16	PPM	33946.2	6.84		45242.5		60.1	143558		2478.46	581366		1616.79	22.34	37.6		1274.68	15.19	13.19	353.57		181216		122.65	74.63	49.31	7946.9			66.35	163.5	368.08
PUR1600509	M-90-1	570.9	571	13-Jun-16	PPM	54377.3			55434.3			136706		3483.83	460338	26648.4	1501.17	11	19.99		4368.74	23.01	8.29	1479.32		246780		184.3	69.63	23.01	7982.58		233.33	43.96	146.9	137.55
PUR1600510	M-90-1	572	572.1	13-Jun-16	PPM	44341.7			28243.4		134.52	162965		8199.43	607028	18664.1	1728.24	19.51	18.56		1297.13	15.67	38.34	496.17		124268		138.21	56.47	32.57	1853.37		153.38	32.42	173.02	103.98
PUR1600511	M-90-1	138	138.1	13-Jun-16	PPM	46153.3	9.5			45.32	31.5	73007.7		26279.1	587288	15861.2	258.95	19.95	33.92			7.37	209.58	43511		204011		67.4	60.57	14.65	2484.28		265.39	45.13	41.66	292.93
PUR1600512	M-90-1	141	141.1	13-Jun-16	PPM	85685.6	5.06					51026.3		61373.7	590171	20203.8	438.4	24.87	45.82		349.16	5.99	294.73			183891		45.7	96.64	54.86	5404.77	9.64	479.62	39.63	112.28	241.11
PUR1600513	M-90-1	151	151.1	13-Jun-16	PPM	66478.7			7909.46	380.7		167708	10.32	37980.5	514410	28362.5	2082.74		87.14			38.48	429.18			155083		410.55	92.61	173.72	14355.4	24.26	937.01	218.92	322.64	2504.99
PUR1600514	M-90-1	154.2	154.3	13-Jun-16	PPM	104378			39689.4	57.43		27689.6	7.59	9160.86	559547	21658.4	716.43	12.99	54.99			55.92	94.06			227714		438.81	137.37	71.34	7608.92	13.62	240.22	44.15	56.83	551.95
PUR1600515	M-90-1	157	157.1	13-Jun-16	PPM	44105.2	18.3		25360.7	235.68		68708.9		20820.6	687457		595.91	28.3	45.19				190.69	14254.1		134512		267.76	72.25	54.76	2181.72		710.79	66.14	69.26	244.82
PUR1600519	M-90-1	160	160.1	13-Jun-16	PPM	64571.3	4.85		1903.87			40137.2		27601.7	495864	24022.5	336.22	7.34	27.3	13.62		7.47	171.31			341118		62.22	59.19	35.96	3449.88		295.21	32.44	65.12	213.01
PUR1600520	M-90-1	163	163.1	13-Jun-16	PPM	95970.7	10.06		5880.42	474.1		47099.6	6.41	54865.8	528481	26593.8	496.36	11.83	38.95		1155.1	13.14	257.93			232137		85.83	85.34	35.15	4552.36	6.47	1330.12	48.47	116.07	248.59
PUR1600521	M-90-1	166	166.1	13-Jun-16	PPM	50384.2	3.06			49.62		24962.7	6.26	18401.2	543686	17182.2	265.49	13.37	25.75			4.53	101.11			341876		49.39	48.06	31.7	2437.29	5.25	158.56	34.15	49.98	224.93
PUR1600522	M-90-1	169	169.1	13-Jun-16	PPM	75370.6			11753.5	57.01		42140.4	5.75	25861.4	477964	24103.8	804.51	7.9	33.21			55.9	211.59	240.38		337043		121.71	71.41	29.83	3444.17	5.25	242.7	49.84	92.92	290.04
PUR1600523	M-90-1	172	172.1	13-Jun-16	PPM	41512.4			227730	100.72		7685.68			596566	19557.2	374.24	11.13	20.78			37.12	40.77			104658		167.33	22.27	30.53	911.55		297.13	40.02	24.69	213.14
PUR1600524	M-90-1	175	175.1	13-Jun-16	PPM	50635.2	4.1					29601.1		14621.5	533636	21468.1	301.79	9	20.67			14.84	112.03			346959		60.52	47.66	33.76	2032.88		152.48	32.21	79.11	177.9
PUR1600525	M-90-1	188	188.1	13-Jun-16	PPM	99505.5			28334.2	51.12		32647.8	7.85	40938.7	527150	24752.7	298.48	12.07	36.96			13.07	218.4	955.02		240707		132.37	77.55	41.33	3401.26		331.96	44.12	79.71	263.01
PUR1600526	M-90-1	190	190.1	13-Jun-16	PPM	80624.4			9759.31	59.2		40277.9	6.08	35264.4	464398	29326.4	887.12	5.21	32.88		425.66	28.71	211.75	1740.84		332155		111.61	82.16	30.41	3806.97	5.79	331.63	49.5	96.64	282.8
PUR1600527	M-90-1	193	193.1	13-Jun-16	PPM	52557.4	4.95		29873.2	58.49		41091.3		14984.8	561818	19359.2	930.21	11.54	32.94	16.53		57.46	183.84	28162.3		246575		131.9	72.89	36.82	3328.25	5.43	284.48	42.7	114.47	265.26
PUR1600528	M-90-1	196	196.1	13-Jun-16	PPM	67646.1	5.26					44812.6	7.51	35333.8	563084	17955.6	433.22	12.83	38.93	21.01		11.28	226.17			265074		43.27	87.3	38.8	4391.2		331.88	40.25	169.89	234.7
PUR1600529	M-90-1	199	199.1	13-Jun-16	PPM	42370.9	4.4		490.36			20357.9	5.65	14541.4	597292	17312.3	237.01	15.03	26.6			6.7	96.05			304053		49.3	53.1	36	2494.7		158.7	33.58	51.2	314.95
PUR1600530	M-90-1	202	202.1	13-Jun-16	PPM	98852.7	2.91		2996.03	56.69		63592.9		21886.3	558188	39771.8	869.38	4.81	28.21	24.66	325.75	6.26	131.47			207581		41.11	56.39	23.37	4831.62		226.27	63.59	155.99	282.5
PUR1600531	M-90-1	206	206.1	13-Jun-16	PPM	30811.2	3.57		64427.6			3640.23		715.98	574679	17771.7	136.27	12.18	34.35			17.12	17.36			304997		56.24	13.47	25.24	2488.53	3.79		21.6	43.35	84.65
PUR1600532	M-90-1	209	209.1	13-Jun-16	PPM	75523.6			9040.97	218.22		48324.7		45286.5	586674	16198	493.44	17.28	46.25	22.98		25.73	221.99			211528		75.5	77.75	42.94	5111.12	9.79	705.84	39	90.76	225.66
PUR1600533	M-90-1	212	212.1	13-Jun-16	PPM	90660.3			332.07	108.39		26349	8.69	76890.6	546046	22642.6	511.54	12.82	51.78		388.94	61.92	293.52			226867		121.7	125.83	45.2	7038.12	6.63	841.87	83.91	69.86	441.59
PUR1600534	M-90-1	215	215.1	13-Jun-16	PPM	75749.9			35999.7			50218		38404.9	543304	28487.2	939.51	11.64	41.45		533.77	47.63	173.3	2424.29		218001		118.38	59.27	37.73	4377.18		475.13	65.99	220.51	310.07
PUR1600535	M-90-1	224	224.1	13-Jun-16	PPM	105463	4.06		7575.87	146.78	27.13	52137.8		53109.3	528169	23347.2	385.14	11.43	34.64	112.28		13.27	203.37	17883.5		206400		56.02	75.09	31.79	3940.57		497.89	40.38	101.25	233.59
PUR1600536	M-90-1	227	227.1	13-Jun-16	PPM	68834.2	4.81		37103.6	146.69		90660.2	8.38	33656.4	575464	13915.1	656.08	10	44.26	49.59		15.78	212.2	42707.3		126862		112.36	87.67	29.61	8418.48	9.41	411.23	59.88	52.59	468.12
PUR1600537	M-90-1	230	230.1	13-Jun-16	PPM	79917.8	3.93		866.93	81.42		23998.3	7.02	42315.9	528236	24066.9	378.34	9.81	42.43			16.78	194.39			294200		95.16	94.69	31.59	4496.16		472.39	55.52	45.41	373.21
PUR1600538	M-90-1	233	233.1	13-Jun-16	PPM	91456.8	5.81		40279.8	86.85		55785.6	5.64	41497.4	542466	25465.4	624	9.83	40.76	33.27		6.11	280.53			196574		51.86	94.5	32.4	4486.43		385.26	52.62	83.94	195.1
PUR1600542	M-90-1	236	236.1	13-Jun-16	PPM	99601.1	6		18019.9	187.06	127.31	71209.1	12.47	44448.1	569508	21143	659.44	10.43	41.17	103.83	437.3	25.29	259.59	922.74		166428		44.1	92.83	111.85	5168.67		790.36	177.79	145.72	244.04
PUR1600543	M-90-1	240	240.1	13-Jun-16	PPM	70623.4			53237.2	272.94		61574.9		2029.18	574208	25024.3	638.58	8.42	16.57			169.29	30.71	4779.72		204847		150.12	27.45	29.1	1154.08		687.53	116.2	218.51	157.09
PUR1600544	M-90-1	242	242.1	13-Jun-16	PPM	44158.6			101909	58.53	23.28	38928.8		9540.7	599090	23066.4	1094.1	10.61	22.88		1225.66	35.39	75.81	91.63		178392		158.85	30.51	26.96	1544.07		193.44	32.27	97.03	193.55

Appendix VIII

Appendix VIII Analysis of Historic Core and Surface Rocks with an Analytical Spectral Device: Instrument Details, Sampling Strategy and QA/QC procedures

Spectral data, gathered using an Analytical Spectral Device (ASD) was also obtained from rock chip and hole drill hole samples using an identical sampling strategy as for the pXRF samples. Each rock chip and down hole sample (from M-89-08 and M-90-1 only) had both spectral and pXRF data.

The ASD used was a TerraSpec® Explorer model unit. The TerraSpec ASD collected both SWIR and VNIR wavelength range of spectral information for each spectra/sample analyzed. The ASD was set to collect spectra over 45 seconds, with a dark current of 70 and white reference of 30. Each spectral reading was allowed to run three times consecutively to ensure a good response with the forth reading saved. Given the dark nature of the rocks this contrast provided good spectral quality. During data collection a mica standard and duplicates were taken every 20 samples to test and review the spectral quality and expected results. The white reference and re-calibration of the ASD was also completed every 20 samples to ensure good quality spectra. The corresponding sample details (sample ID, location, holeID, depth, etc.) were collected alongside a raw .asd spectral file.

After data collection the raw spectra were assessed in the software The Spectral Geologist© (hereafter referred to as TSG). Through the TSG software spectral features (wavelength position, depth and width) that correspond to metal-hydroxide bonds in hydrous minerals was extracted. The wavelength features focused upon were 1900nm (corresponding to water features), 2200nm (corresponding to Al-OH bonds in white micas), 2250nm (corresponding to the Fe-OH bond commonly associated with chlorites), and 2350nm (corresponding to the Mg-OH bond commonly associated with chlorites).

Sample	Sample Name	w1900_H2O	hqd1900_H2O	w1900_H2O	w2200_AlOH	hqd2200_AlOH	w2200_AlOH	w2250_Fe	hqd2250_F	w2250_FeOH	w2350_MgOH	hqd2350_MgOH	w2350_MgOH	w2330_Carb	hqd2330_Carb	w2330_Carb	Crystallinity index	sericite crystallinity	Date_Taken	SampleID	Hole_ID	Depth_From	Depth_To	Year	Date	Type	StationID	Property
PUR1600160.asd	FSFR.2249 Int=4.5 sec	1916.45	0.0731	39.033	2208.35	0.0463	33.587	2257.01	0.0934	24.808	2349.13	0.104	42.152	2349.13	0.104	1	0.633	0.633	6/10/2016	PUR1600160				2016	6/10/2016	Rock	LEL16_001	McNeil
PUR1600161.asd	FSFR.2249 Int=4.5 sec	1929.7	0.0498	33.805	2208.59	0.0453	31.007	2257.79	0.0528	21.344	2354.79	0.0546	33.636	2354.79	0.0546	1	0.909	NULL	6/10/2016	PUR1600161				2016	6/10/2016	Rock	LEL16_002	McNeil
PUR1600162.asd	FSFR.2249 Int=4.5 sec	1919.4	0.186	40.589	2206.45	0.114	28.989	2271.45	0.0225	31.997	2320.63	0.142	27.227	2320.9	0.142	1	0.611	NULL	6/10/2016	PUR1600162				2016	6/10/2016	Rock	LEL16_003	McNeil
PUR1600163.asd	FSFR.2249 Int=4.5 sec	1930.1	0.113	46.046	2206.11	0.193	31.46	2253.08	0.0901	26.997	2353.39	0.173	35.478	2353.39	0.173	1	1.718	1.718	6/10/2016	PUR1600163				2016	6/10/2016	Rock	LEL16_004	McNeil
PUR1600164.asd	FSFR.2249 Int=4.5 sec	1921.12	0.0398	39.205	2203.28	0.268	33.058	NULL	NULL	NULL	2350.29	0.153	35.749	2350.29	0.153	1	6.727	6.727	6/10/2016	PUR1600164				2016	6/10/2016	Rock	LEL16_005	McNeil
PUR1600165.asd	FSFR.2249 Int=4.5 sec	1911.37	0.095	31.002	2206.71	0.129	31.922	2254.53	0.0788	17.336	2324.07	0.219	39.22	2324.07	0.219	1	1.357	1.357	6/10/2016	PUR1600165				2016	6/10/2016	Rock	LEL16_006	McNeil
PUR1600166.asd	FSFR.2249 Int=4.5 sec	1920.77	0.0714	45.174	2209.19	0.0926	31.571	2255.3	0.0748	23.448	2349.56	0.145	36.352	2349.56	0.145	1	1.298	1.298	6/10/2016	PUR1600166				2016	6/10/2016	Rock	LEL16_007	McNeil
PUR1600167.asd	FSFR.2249 Int=4.5 sec	1917.25	0.105	42.793	2206.38	0.035	29.497	2255.43	0.107	25.801	2344.53	0.11	40.666	2344.53	0.11	1	0.332	NULL	6/10/2016	PUR1600167				2016	6/10/2016	Rock	LEL16_008	McNeil
PUR1600168.asd	FSFR.2249 Int=4.5 sec	1916.51	0.0827	34.215	2203.1	0.309	31.819	NULL	NULL	NULL	2348.36	0.169	36.381	2348.36	0.169	1	3.728	3.728	6/10/2016	PUR1600168				2016	6/10/2016	Rock	LEL16_009A	McNeil
PUR1600169.asd	FSFR.2249 Int=4.5 sec	1923.74	0.103	42.159	2203.76	0.242	30.943	NULL	NULL	NULL	2348.78	0.133	37.421	2348.78	0.133	1	2.347	2.347	6/10/2016	PUR1600169				2016	6/10/2016	Rock	LEL16_009B	McNeil
PUR1600170.asd	FSFR.2249 Int=4.5 sec	1917.57	0.119	41.572	2206.56	0.0773	23.891	2255.05	0.0485	23.736	2351.19	0.0943	35.018	2351.19	0.0943	1	0.647	0.647	6/10/2016	PUR1600170				2016	6/10/2016	Rock	LEL16_010	McNeil
PUR1600171.asd	FSFR.2249 Int=4.5 sec	1917.18	0.0805	36.39	2204.83	0.268	29.581	NULL	NULL	NULL	2348.17	0.135	36.192	2348.17	0.135	1	3.334	3.334	6/10/2016	PUR1600171				2016	6/10/2016	Rock	LEL16_011	McNeil
PUR1600172.asd	FSFR.2249 Int=4.5 sec	1928.53	0.14	46.902	2207.06	0.131	31.606	2260.37	0.062	20.703	2352.32	0.0303	33.988	2352.32	0.0303	1	0.934	0.934	6/10/2016	PUR1600172				2016	6/10/2016	Rock	LEL16_012A	McNeil
PUR1600173.asd	FSFR.2249 Int=4.5 sec	1931.74	0.169	47.469	2207.39	0.0288	28.737	2254.68	0.0589	28.177	2352.54	0.0588	34.4	2352.54	0.0588	1	0.171	0.171	6/10/2016	PUR1600173				2016	6/10/2016	Rock	LEL16_012B	McNeil
PUR1600174.asd	FSFR.2249 Int=4.5 sec	1929.79	0.259	48.254	2206.32	0.0867	26.853	2255.99	0.0596	21.611	2351.96	0.0894	36.707	2351.96	0.0894	1	0.335	0.335	6/10/2016	PUR1600174				2016	6/10/2016	Rock	LEL16_013	McNeil
PUR1600175.asd	FSFR.2249 Int=4.5 sec	1928.61	0.19	47.46	2208.53	0.13	33.125	2261.15	0.111	21.649	2348.91	0.0151	22.649	NULL	NULL	1	0.685	0.685	6/10/2016	PUR1600175				2016	6/10/2016	Rock	LEL16_014	McNeil
PUR1600176.asd	FSFR.2249 Int=4.5 sec	1912.7	0.118	34.14	2207.17	0.0267	34.615	2255.18	0.145	26.078	2327	0.283	39.626	2327	0.283	1	0.225	NULL	6/10/2016	PUR1600176				2016	6/10/2016	Rock	LEL16_015	McNeil
PUR1600180.asd	FSFR.2249 Int=4.5 sec	1923.11	0.135	42.239	2205.41	0.14	28.893	NULL	NULL	NULL	2349.6	0.0405	30.113	2349.6	0.0405	1	1.041	1.041	6/10/2016	PUR1600180				2016	6/10/2016	Rock	LEL16_016	McNeil
PUR1600181.asd	FSFR.2249 Int=4.5 sec	1918.75	0.113	37.564	2206.65	0.0846	31.286	2254.31	0.0942	22.019	2343.73	0.114	35.621	2343.73	0.114	1	0.75	0.75	6/10/2016	PUR1600181				2016	6/10/2016	Rock	LEL16_017	McNeil
PUR1600183.asd	FSFR.2249 Int=4.5 sec	1929.04	0.126	45.594	2211	0.0205	26.545	2250.07	0.0271	24.053	2331.8	0.0259	33.463	2331.8	0.0259	1	0.163	NULL	6/10/2016	PUR1600183				2016	6/10/2016	Rock	LEL16_018	McNeil
PUR1600184.asd	FSFR.2249 Int=4.5 sec	1925.22	0.0227	45.425	2204.08	0.254	31.2	2238.9	0.077	26.668	2347.81	0.163	37.056	2347.81	0.163	1	11.176	11.176	6/10/2016	PUR1600184				2016	6/10/2016	Rock	LEL16_019	McNeil
PUR1600185.asd	FSFR.2249 Int=4.5 sec	1931.96	0.257	48.253	2206.88	0.026	27.213	2254.71	0.0138	29.15	2376.11	0.00701	24.409	NULL	NULL	1	0.101	NULL	6/10/2016	PUR1600185				2016	6/10/2016	Rock	LEL16_020	McNeil
PUR1600186.asd	FSFR.2249 Int=4.5 sec	1935.67	0.139	47.884	2208.56	0.0274	36.319	2251.79	0.0432	22.071	2349.54	0.0494	39.054	2349.54	0.0494	1	0.196	NULL	6/10/2016	PUR1600186				2016	6/10/2016	Rock	LEL16_021	McNeil
PUR1600182.asd	FSFR.2249 Int=4.5 sec	1925.09	0.0942	45.041	2206.1	0.19	31.451	NULL	NULL	NULL	2349.24	0.101	35.643	2349.24	0.101	1	2.014	2.014	6/10/2016	PUR1600182				2016	6/10/2016	Rock	LEL16_023	McNeil
PUR1600187.asd	FSFR.2249 Int=4.5 sec	1938.83	0.0529	46.355	2205.73	0.0366	29.587	2266.48	0.0365	24.238	2338.29	0.0294	41.364	2338.29	0.0294	1	0.692	NULL	6/10/2016	PUR1600187				2016	6/10/2016	Rock	LEL16_024	McNeil
PUR1600188.asd	FSFR.2249 Int=4.5 sec	1917.38	0.0844	39.605	2206.2	0.0504	29.86	2254.63	0.0614	27.897	2326.68	0.204	31.395	2326.68	0.204	1	0.597	NULL	6/10/2016	PUR1600188				2016	6/10/2016	Rock	LEL16_025	McNeil
PUR1600189.asd	FSFR.2249 Int=4.5 sec	1915.07	0.0297	29.521	2207.69	0.0194	22.215	2253.79	0.0505	21.179	2351.47	0.0538	34.765	2351.47	0.0538	1	0.654	NULL	6/10/2016	PUR1600189				2016	6/10/2016	Rock	LEL16_027	McNeil
PUR1600190.asd	FSFR.2249 Int=4.5 sec	1911.54	0.02	32.723	2201.65	0.242	30.249	NULL	NULL	NULL	2351.17	0.17	38.187	2351.17	0.17	1	12.098	12.098	6/10/2016	PUR1600190				2016	6/10/2016	Rock	LEL16_028	McNeil
PUR1600191.asd	FSFR.2249 Int=4.5 sec	1909.27	0.0453	30.096	2205.44	0.217	30.545	2254.51	0.0962	26.253	2350.57	0.167	36.717	2350.57	0.167	1	4.786	4.786	6/10/2016	PUR1600191				2016	6/10/2016	Rock	LEL16_029	McNeil
PUR1600192.asd	FSFR.2249 Int=4.5 sec	1914.25	0.126	33.735	2206.68	0.0676	33.374	2255.85	0.0952	23.413	2322.04	0.217	39.16	2322.04	0.217	1	0.535	NULL	6/10/2016	PUR1600192				2016	6/10/2016	Rock	LEL16_030	McNeil
PUR1600193.asd	FSFR.2249 Int=4.5 sec	1910.59	0.0255	33.588	2205.87	0.287	33.015	NULL	NULL	NULL	2349.71	0.186	36.122	2349.71	0.186	1	11.268	11.268	6/10/2016	PUR1600193				2016	6/10/2016	Rock	LEL16_031	McNeil
PUR1600194.asd	FSFR.2249 Int=4.5 sec	1914.05	0.0542	32.882	2204.36	0.0267	28.064	NULL	NULL	NULL	2323.69	0.24	28.424	2323.69	0.24	1	0.491	NULL	6/10/2016	PUR1600194				2016	6/10/2016	Rock	LEL16_032	McNeil
PUR1600195.asd	FSFR.2249 Int=4.5 sec	1941.16	0.0305	33.969	2223.69	0.0299	23.249	2253.42	0.0274	22.631	2323.89	0.0452	27.263	2317.94	0.045	1	0.978	NULL	6/10/2016	PUR1600195				2016	6/10/2016	Rock	LEL16_033	McNeil
PUR1600196.asd	FSFR.2249 Int=4.5 sec	1919.55	0.0211	41.762	2203.38	0.202	31.121	2237.77	0.061	26.102	2351.2	0.117	38.495	2351.2	0.117	1	9.58	9.58	6/10/2016	PUR1600196				2016	6/10/2016	Rock	LEL16_035	McNeil
PUR1600197.asd	FSFR.2249 Int=4.5 sec	1916.27	0.106	38.222	2206.11	0.0389	22.822	2254.65	0.114	23.996	2344.89	0.109	34.02	2344.89	0.109	1	0.368	NULL	6/10/2016	PUR1600197				2016	6/10/2016	Rock	LEL16_036	McNeil
PUR1600198.asd	FSFR.2249 Int=4.5 sec	1924.12	0.0353	46.796	2206.92	0.187	33.077	NULL	NULL	NULL	2351.9	0.11	36.807	2351.9	0.11	1	5.303	5.303	6/10/2016	PUR1600198				2016	6/10/2016	Rock	LEL16_037	McNeil
PUR1600199.asd	FSFR.2249 Int=4.5 sec	1922.48	0.0361	38.474	2206.1	0.0038	32.508	2254.05	0.0324	24.457	2345.51	0.0519	34.95	2345.51	0.0519	1	0.105	NULL	6/10/2016	PUR1600199				2016	6/10/2016	Rock	LEL16_038	McNeil
PUR1600203.asd	FSFR.2249 Int=4.5 sec	1934.81	0.0644	45.024	NULL	NULL	NULL	2255.94	0.0537	25.677	2346.12	0.0846	40.062	2346.12	0.0846	1	NULL	NULL	6/10/2016	PUR1600203				2016	6/10/2016	Rock	LEL16_039	McNeil
PUR1600204.asd	FSFR.2249 Int=4.5 sec	1925.81	0.0662	37.091	2208.02	0.035	35.244	NULL	NULL	NULL	2321.91	0.0136	33.7	2312.27	0.0197	1	0.529	NULL	6/10/2016	PUR1600204				2016	6/10/2016	Rock	LEL16_040	McNeil
PUR1600205.asd	FSFR.2249 Int=4.5 sec	1941.96	0.0299	34.203	2203.5	0.0664	30.367	2249.63	0.0313	23.259	2376.83	0.0314	41.107	2350.55	0.0314	1	2.218	2.218	6/10/2016	PUR1600205				2016	6/10/2016	Rock	LEL16_041	McNeil
PUR1600206.asd	FSFR.2249 Int=4.5 sec	1911.64	0.0393	30.52	2203.79	0.138	29.337	2251.44	0.053	26.921	2348.62	0.101	35.634	2348.62	0.101	1	3.525	3.525	6/10/2016	PUR1600206				2016	6/10/2016	Rock	LEL16_043	McNeil
PUR1600207.asd	FSFR.2249 Int=4.5 sec	1917.11	0.0244	33.808	2205.05	0.165	29.731	2249.89	0.054	27.855	2347.24	0.112	36.627	2347.24	0.112	1	6.761	6.761	6/10/2016	PUR1600207				2016	6/10/2016	Rock	LEL16_044	McNeil
PUR1600208.asd	FSFR.2249 Int=4.5 sec	1917.55	0.0763	45.321	2202.58	0.0696	30.701	2257.28	0.113	23.491	2353.51	0.212	39.845	2353.51	0.212	1	0.912	0.912	6/10/2016	PUR1600208				2016	6/10/2016	Rock	LEL16_046	McNeil
PUR1600209.asd	FSFR.2249 Int=4.5 sec	1912.03	0.128	33.314	2208.24	0.124	33.888	2254.01	0.115	20.079	2340.2	0.227	40.897	2340.2	0.227	1	0.968	0.968	6/10/2016	PUR1600209				2016	6/10/2016	Rock	LEL16_048	McNeil
PUR1600210.asd	FSFR.2249 Int=4.5 sec	1933.56	0.067	41.923	2208.05	0.0241	32.286	2251.38	0.0399	23.981	2346.78	0.0358	26.691	2346.78	0.0358	1	0.359	NULL	6/10/2016	PUR1600210				2016	6/10/2016	Rock	LEL16_049	McNeil
PUR1600211.asd	FSFR.2249 Int=4.5 sec	1913.13	0.1	34.933	2204.17	0.316	30.481	NULL	NULL	NULL	2347.12	0.164	35.375	2347.12	0.164	1	3.159	3.159	6/10/2016	PUR1600211				2016	6/10/2016	Rock	LEL16_050A	McNeil
PUR1600212.asd	FSFR.2249 Int=4.5 sec	1917.99	0.0921	37.219	2205.04	0.302	32.073	NULL	NULL	NULL	2350.57	0.243	33.792	2350.57	0.243	1	3.276	3.276	6/10/2016	PUR1600212				2016	6/10/2016	Rock	LEL16_050B	McNeil
PUR1600213.asd	FSFR.2249 Int=4.5 sec	1924.63	0.105	44.486	2206.26	0.167	32.137	2251.78	0.066	27.308	2346.05	0.0977	40.6	2346.05	0.0977	1	1.591	1.591	6/10/2016	PUR1600213				2016	6/10/2016	Rock	LEL16_051A	McNeil
PUR1600214.asd	FSFR.2249 Int=4.5 sec	1918.88	0.0422	35.306	2204.29	0.175	30.797	2237.38	0.0527	27.1	2349.33	0.0992	35.364	2349.33	0.0992	1	4.157	4.157	6/10/2016	PUR1600214				2016	6/10/2016	Rock	LEL16_051B	McNeil
PUR1600215.asd	FSFR.2249 Int=4.5 sec	1927.06	0.235	48.012	2207.57	0.0168	19.538	2255.34	0.0535	24.897	2350.63	0.0383	40.811	2350.63	0.0383	1	0.0713	NULL	6/10/2016	PUR1600215				2016	6/10/2016	Rock	LEL16_052	McNeil
PUR1600216.asd	FSFR.2249 Int=4.5 sec	1925.45	0.172	45.681	2202.2	0.0321	30.095	2256.15	0.0372	26.031	NULL	NULL	NULL	2311.11	0.103	1	0.187	NULL	6/10/2016	PUR1600216				2016	6/10/2016	Rock	LEL16_053	McNeil
PUR1600217.asd	FSFR.2249 Int=4.5 sec	1914.54	0.251	33.63	2206.67	0.107	27.718	2254.59	0.116	24.557	NULL	NULL	NULL	2320.36	0.285	1	0.427	NULL	6/10/2016	PUR1600217				2016	6/10/2016	Rock	LEL16_055	McNeil
PUR1600218.asd	FSFR.2249 Int=4.5 sec	1916.98	0.102	35.284	2203.83	0.0647	32.099	2254.68	0.0843	25.586	2322.68	0.18	33.358	2322.63	0.18	1	0.631	NULL	6/10/2016	PUR1600218				2016	6/10/2016	Rock	LEL16_056	McNeil
PUR1600219.asd	FSFR.2249 Int=4.5 sec	1913.6	0.058	31.349	2204.16	0.0132	23.488	2255.57	0.0839	23.478	2348.65	0.0759	38.445	2348.65	0.0759	1	0.228	NULL	6/10/2016	PUR1600219				2016	6/10/2016	Rock	LEL16_057	McNeil
PUR1600220.asd	FSFR.2249 Int=4.5 sec	1913.97	0.0394	43.611	2206.22	0.0319	23.64	2254.8	0.035	20.192	2363.29	0.0292	32.124	2343.6	0.0255	1	0.81	NULL	6/10/2016	PUR1600220				2016	6/10/2016	Rock	LEL16_058	McNeil
PUR1600221.asd	FSFR.2249 Int=4.5 sec	1921.07	0.112	45.358	2208.78	0.192	33.786	2255.04	0.116	25.694	2349.3	0.257	38.439	2349.3	0.257	1	1.719	1.719	6/10/2016	PUR1600221				2016	6/10/2016	Rock	LEL16_059	McNeil
PUR1600234.asd	FSFR.2249 Int=4.5 sec	1926.29	0.0973	46.108	2204.17	0.148	33.584	2253.95	0.101	25.837	2348.81	0.13	37.652	2348.81	0.13	1	1.521	1.521	6/12/2016	PUR1600234	M-89-08	867	867.1	2016	6/12/2016	Core		McNeil
PUR1600235.asd	FSFR.2249 Int=4.5 sec	1920.19	0.0457	28.822	2212.58	0.0328	35.278	2257.78	0.049	26.425	2344.19	0.0815	37.754	2344.19	0.0815	1	0.717	0.717	6/12/2016	PUR1600235	M-89-08	869	869.1	2016	6/12/2016	Core		McNeil
PUR1600236.asd	FSFR.2249 Int=4.5 sec	1937.09	0.0464	47.124	2204.76	0.162	33.84	NULL	NULL	NULL	2346.56	0.0884	36.752	2346.56	0.0884	1	3.486	3.486	6/12/2016	PUR1600236	M-89-08	871	871.1	2016	6/12/2016	Core		McNeil
PUR1600237.asd	FSFR.2249 Int=4.5 sec	1929.11	0.0504	47.63	2208.13	0.156	35.093	NULL	NULL	NULL	2348.74	0.0875	37.852	2348.74	0.0875	1	3.094	3.094	6/12/2016	PUR1600237	M-89-08	873	873.1	2016	6/12/2016	Core		McNeil
PUR1600238.asd	FSFR.2249 Int=4.5 sec	1950.82	0.0293	33.795	2216.75	0.13	31.358	2252.74	0.123	25.48	2349.52	0.212	38.869	2349.52	0.212	1	4.454	4.454	6/12/2016	PUR1600238	M-89-08	875	875.1	2016	6/12/2016	Core		McNeil
PUR1600239.asd	FSFR.2249 Int=4.5 sec	1927.19	0.0651	37.252	2214.91	0.0453	30.405	2237.38	0.047	19.716	2325.31	0.0444	39.222	2325.31	0.0444	1	0.696	NULL	6/12/2016	PUR1600239	M-89-08	877	877.1	2016	6/12/2016	Core		McNeil
PUR1600240.asd	FSFR.2249 Int=4.5 sec	1927.2	0.0197	39.188	2211.28	0.161	34.292	NULL	NULL	NULL	2349.53	0.108	33.012	2349.53	0.108	1	8.146	8.146	6/12/2016	PUR1600240	M-89-08	879	879.1	2016	6/12/2016	Core		McNeil
PUR1600241.asd	FSFR.2249 Int=4.5 sec	1923.06	0.0252	24.747	2205.18	0.26	33.997	2237.93	0.11	23.788	2347.19	0.15	32.846	2347.19	0.15	1	10.302	10.302	6/12/2016	PUR1600241	M-89-08	881	881.1	2016	6/12/2016	Core		McNeil
PUR1600242.asd	FSFR.2249 Int=4.5 sec	1935.26	0.0375	43.763	2208.77	0.0408	34.067	2255.89	0.0402	18.191	2354.77	0.0361	35.284	2354.77	0.0361	1	1.088	1.088	6/12/2016	PUR1600242	M-89-08	883	883.1	2016	6/12/2016	Core		McNeil
PUR1600243.asd	FSFR.2249 Int=4.5 sec	1911.69	0.128	36.793	2205.32	0.265	33.603	NULL	NULL	NULL	2349.01	0.153	35.963	2349.01	0.153	1	2.063	2.063	6/12/2016	PUR1600243	M-89-08	885	885.1	2016	6/12/2016	Core		McNeil
PUR1600244.asd	FSFR.2249 Int=4.5 sec	1950.25	0.0682	45.486	2206.64	0.152	34.768	2255.74	0.169	23.704	2353.91	0.189	39.87	2353.91	0.189	1	2.224	2.224	6/12/2016	PUR1600244	M-89-08	887	887.1	2016	6/12/2016	Core		McNeil
PUR1600245.asd	FSFR.2249 Int=4.5 sec	1912.86	0.064	32.741	2204.25	0.29	35.734	NULL	NULL	NULL	2349.89	0.19	35.356	2349.89	0.19	1	4.533	4.533	6/12/2016	PUR1600245	M-89-08	889	889.1	2016	6/12/2016	Core		McNeil
PUR1600246.asd	FSFR.2249 Int=4.5 sec	1925.8	0.056	47.709	2208.43	0.0436	34.548	2255.25	0.0548	21.613	2353.66	0.0603	37.451	2353.66	0.0603	1	0.779	0.779	6/12/2016	PUR1600246	M-89-08	891	891.1	2016	6/12/2016	Core		McNeil
PUR1600247.asd	FSFR.2249 Int=4.5 sec	1916.86	0.0485	36.689	2205.86	0.184	34.229	NULL	NULL	NULL	2354.39	0.103	36.805	2354.39	0.103	1	3.796	3.796	6/12/2016	PUR1600247	M-89-08	893	893.1	2016	6/12/2016	Core		McNeil
PUR1600248.asd	FSFR.2249 Int=4.5 sec	1950.61	0.0648	46.859	2212.47	0.0882	34.92	2257.25	0.145	23.675	2349.44	0.143	38.328	2349.44	0.143	1	1.36	1.36	6/12/2016	PUR1600248	M-89-08	895	895.1	2016	6/12/2016	Core		McNeil
PUR1600249.asd	FSFR.2249 Int=4.5 sec	1918.5	0.0912	51.424	2206.97	0.406	36.052	2238.71	0.224	26.605	2349.33	0.265	36.7	2349.33	0.265	1	4.457	4.457	6/12/2016	PUR1600249	M-89-08	897	897.1	2016	6/12/2016	Core		McNeil
PUR1600250.asd	FSFR.2249 Int=4.5 sec	1914.75	0.311	37.944	2216.29	0.187	32.578	NULL	NULL	NULL	2342.93	0.0985	38.896	2342.93	0.0985	1	0.601	0.601	6/12/2016	PUR1600250	M-89-08	899	899.1	2016	6/12/2016	Core		McNeil
PUR1600251.asd	FSFR.2249 Int=4.5 sec	1913.96	0.0542	39.446	2206.57	0.177	34.133	NULL	NULL	NULL	2349.11	0.118	33.414	2349.11	0.118	1	3.256	3.256	6/12/2016	PUR1600251	M-89-08	901	901.1	2016	6/12/2016	Core		McNeil
PUR1600252.asd	FSFR.2249 Int=4.5 sec	1909.75	0.0522	35.708	2204.53	0.202	34.838	NULL	NULL	NULL	2342.04	0.128	36.503	2342.04	0.128	1	3.876	3.876	6/12/2016	PUR1600252	M-89-08	903	903.1	2016	6/12/2016	Core		McNeil
PUR1600253.asd	FSFR.2249 Int=4.5 sec	1919.56	0.119	44.947	2213.19	0.193	33.643	2255.67	0.183	22.442	2349.78	0.254	39.795	2349.78	0.254	1	1.626	1.626	6/12/2016	PUR1600253	M-89-08	905	905.1	2016	6/12/2016	Core		McNeil
PUR1600257.asd	FSFR.2249 Int=4.5 sec	1915.73	0.136	34.933	2209.4	0.0104	26.347	2274.92	0.0251	16.303	2340.85	0.108	36.797	2340.85	0.108	1	0.0769	0.0769	6/12/2016	PUR1600257	M-89-08	915	915.1	2016	6/12/2016	Core		McNeil
PUR1600258.asd	FSFR.2249 Int=4.5 sec	1938.67	0.0363	42.262	2204.44	0.0486	29.997	2253.09	0.0202	29.024	2354.65	0.0149	31.465	2354.65	0.0149	1	1.337	1.337	6/12/2016	PUR1600258	M-89-08	917	917.1	2016	6/12/2016	Core		McNeil
PUR1600259.asd	FSFR.2249 Int=4.5 sec	1925.54	0.0234	32.469	2203.03	0.124	30.849	2250.64	0.0432	26.816	2348.83	0.0831	38.157	2348.83	0.0831	1	5.312	5.312	6/12/2016	PUR1600259	M-89-08	919	919.1	2016	6/12/2016	Core		McNeil
PUR1600260.asd	FSFR.2249 Int=4.5 sec	1930.51	0.037	46.219	2200.96	0.0598	31.171	2257.29	0.0298	26.215	2345.07	0.0187	32.492	2345.07	0.0187	1	1.617	1.617	6/12/2016	PUR1600260	M-89-08	921	921.1	2016	6/12/2016	Core		McNeil
PUR1600261.asd	FSFR.2249 Int=4.5 sec	1925.32	0.0559	46.215	2208.81	0.0652	34.566	2258.17	0.0973	23.94	2353.1	0.119	36.307	2353.1	0.119	1	1.166	1.166	6/12/2016	PUR1600261	M-89-08	923	923.1	2016	6/12/2016	Core		McNeil
PUR1600262.asd	FSFR.2249 Int=4.5 sec	1932.4	0.0518	45.447	2206.46	0.113	34.389	2250.39	0.0556	29.014	2350.45	0.0838	36.496	2350.45	0.0838	1	2.175	2.175	6/12/2016	PUR1600262	M-89-08	925	925.1	2016	6/12/2016	Core		McNeil
PUR1600263.asd	FSFR.2249 Int=4.5 sec	1929.02	0.0684	47.674	2216.43	0.0451	33.578	2258.08	0.103	25.329	2354.36	0.0987	39.051	2354.36	0.0987	1	0.66	NULL	6/12/2016	PUR1600263	M-89-08	927	927.1	2016	6/12/2016	Core		McNeil
PUR1600264.asd	FSFR.2249 Int=4.5 sec	1912.36	0.0578	34.747	2205.56	0.0894	32.094	2236.54	0.034	27.487	2350.54	0.0602	31.795	2350.54	0.0602	1	1.546	1.546	6/12/2016	PUR1600264	M-89-08	929	929.1	2016	6/12/2016	Core		McNeil
PUR1600265.asd	FSFR.2249 Int=4.5 sec	1939.92	0.128	44.202	2203.85	0.12	32.293	2235.5	0.0522	25.987	2347.7	0.0621	34.319	2347.7	0.0621	1	0.945	0.945	6/12/2016	PUR1600265	M-89-08	931	931.1	2016	6/12/2016	Core		McNeil
PUR1600266.asd	FSFR.2249 Int=4.5 sec	1915.01	0.0656	36.06	2202.61	0.267	35.3	2254.51	0.152	28.712	2351.15	0.193	36.436	2351.15	0.193	1	4.077	4.077	6/12/2016	PUR1600266	M-89-08	933	933.1	2016	6/12/2016	Core		McNeil

Sample	Sample Name	w1900_H2O	hqd1900_H2O	w1900_H2O	w2200_AlOH	hqd2200_AlOH	w2200_AlOH	w2250_Fe(	hqd2250_F	w2250_FeOH	w2350_MgOH	hqd2350_MgOH	w2350_MgOH	w2330_Carb	hqd2330_Carb	w2330_Carb	Crystallinity index	sericite crystallinity	Date_Taken	SampleID	Hole_ID	Depth_From	Depth_To	Year	Date	Type	StationID	Property
PUR1600267.asd	FSFR.2249 Int=4.5 sec	1910.99	0.0918	33.474	2206.12	0.238	34.062	NULL	NULL	NULL	2350.28	0.143	37.41	2350.28	0.143	1	2.591	2.591	6/12/2016	PUR1600267	M-89-08	935	935.1	2016	6/12/2016	Core		McNeil
PUR1600268.asd	FSFR.2249 Int=4.5 sec	1922.35	0.0541	46.518	2210.72	0.0893	34.196	2257.02	0.0934	22.061	2345.83	0.146	38.979	2345.83	0.146	1	1.649	1.649	6/12/2016	PUR1600268	M-89-08	937	937.1	2016	6/12/2016	Core		McNeil
PUR1600269.asd	FSFR.2249 Int=4.5 sec	1922.02	0.0871	43.927	2211.87	0.025	34.226	2259.75	0.0514	27.609	2340.88	0.122	37.116	2340.88	0.122	1	0.287	NULL	6/12/2016	PUR1600269	M-89-08	939	939.1	2016	6/12/2016	Core		McNeil
PUR1600270.asd	FSFR.2249 Int=4.5 sec	NULL	NULL	NULL	2215.45	0.0368	30.22	2258.52	0.0442	19.634	2347.04	0.0677	36.214	2347.04	0.0677	1	NULL	NULL	6/12/2016	PUR1600270	M-89-08	941	941.1	2016	6/12/2016	Core		McNeil
PUR1600271.asd	FSFR.2249 Int=4.5 sec	1919.06	0.0454	43.728	2214.48	0.0695	35.18	2255.06	0.0409	28.975	2353.62	0.0525	38.596	2353.62	0.0525	1	1.531	1.531	6/12/2016	PUR1600271	M-89-08	943	943.1	2016	6/12/2016	Core		McNeil
PUR1600272.asd	FSFR.2249 Int=4.5 sec	1933.7	0.0682	47.31	2206.93	0.071	32.652	2235.66	0.0296	27.438	2348.74	0.0334	31.583	2348.74	0.0334	1	1.04	1.04	6/12/2016	PUR1600272	M-89-08	945	945.1	2016	6/12/2016	Core		McNeil
PUR1600273.asd	FSFR.2249 Int=4.5 sec	1930.57	0.0853	46.216	2216.21	0.0222	35.296	NULL	NULL	NULL	2341.54	0.125	37.613	2341.54	0.125	1	0.261	NULL	6/12/2016	PUR1600273	M-89-08	947	947.1	2016	6/12/2016	Core		McNeil
PUR1600274.asd	FSFR.2249 Int=4.5 sec	1950.86	0.0482	38.461	2207.39	0.233	34.809	2254.61	0.132	27.452	2348.39	0.196	35.159	2348.39	0.196	1	4.834	4.834	6/12/2016	PUR1600274	M-89-08	955	955.1	2016	6/12/2016	Core		McNeil
PUR1600275.asd	FSFR.2249 Int=4.5 sec	1950.73	0.0413	48.959	2208.31	0.0562	35.628	2255.16	0.0699	22.832	2348.82	0.0692	42.406	2348.82	0.0692	1	1.361	1.361	6/12/2016	PUR1600275	M-89-08	957	957.1	2016	6/12/2016	Core		McNeil
PUR1600276.asd	FSFR.2249 Int=4.5 sec	1931.6	0.0446	45.234	2211.71	0.113	33.871	2253.31	0.0702	27.308	2346.91	0.1	34.325	2346.91	0.1	1	2.534	2.534	6/12/2016	PUR1600276	M-89-08	959	959.1	2016	6/12/2016	Core		McNeil
PUR1600280.asd	FSFR.2249 Int=4.5 sec	1912	0.0655	30.902	2213.91	0.0538	34.327	2255.94	0.0888	23.155	2351.75	0.0992	37.647	2351.75	0.0992	1	0.821	0.821	6/12/2016	PUR1600280	M-89-08	961	961.1	2016	6/12/2016	Core		McNeil
PUR1600281.asd	FSFR.2249 Int=4.5 sec	1953.69	0.0518	43.982	2205.2	0.123	34.621	2255.85	0.0925	24.647	2346.23	0.108	33.51	2346.23	0.108	1	2.371	2.371	6/12/2016	PUR1600281	M-89-08	963	963.1	2016	6/12/2016	Core		McNeil
PUR1600282.asd	FSFR.2249 Int=4.5 sec	1917.85	0.107	38.356	2215.52	0.162	34.066	2256.27	0.152	25.087	2348.2	0.181	40.528	2348.2	0.181	1	1.504	1.504	6/12/2016	PUR1600282	M-89-08	965	965.1	2016	6/12/2016	Core		McNeil
PUR1600283.asd	FSFR.2249 Int=4.5 sec	1920.39	0.0707	43.7	2215.77	0.132	33.037	2254.47	0.0978	26.927	2349.84	0.134	37.95	2349.84	0.134	1	1.863	1.863	6/12/2016	PUR1600283	M-89-08	966	966.1	2016	6/12/2016	Core		McNeil
PUR1600284.asd	FSFR.2249 Int=4.5 sec	1915.91	0.0316	39.023	2207.79	0.148	34.948	NULL	NULL	NULL	2348.99	0.0863	36.082	2348.99	0.0863	1	4.677	4.677	6/12/2016	PUR1600284	M-89-08	967	967.1	2016	6/12/2016	Core		McNeil
PUR1600285.asd	FSFR.2249 Int=4.5 sec	1922.24	0.0676	45.469	2216.15	0.169	34.006	2254.93	0.153	24.766	2344.92	0.205	39.67	2344.92	0.205	1	2.505	2.505	6/12/2016	PUR1600285	M-89-08	968	968.1	2016	6/12/2016	Core		McNeil
PUR1600286.asd	FSFR.2249 Int=4.5 sec	1924.41	0.0768	47.873	2214.41	0.065	34.033	2256.85	0.114	24.133	2350.91	0.125	39.185	2350.91	0.125	1	0.847	0.847	6/12/2016	PUR1600286	M-89-08	969	969.1	2016	6/12/2016	Core		McNeil
PUR1600287.asd	FSFR.2249 Int=4.5 sec	1943.86	0.0977	39.223	2212.13	0.037	29.668	2261.36	0.0339	24.426	2349.77	0.0284	38.092	2349.77	0.0284	1	0.379	0.379	6/12/2016	PUR1600287	M-89-08	970	970.1	2016	6/12/2016	Core		McNeil
PUR1600288.asd	FSFR.2249 Int=4.5 sec	1919.94	0.0599	46.738	2229.25	0.0368	35.127	2256.71	0.113	26.281	2351.9	0.119	39.81	2351.9	0.119	1	0.615	0.615	6/12/2016	PUR1600288	M-89-08	971	971.1	2016	6/12/2016	Core		McNeil
PUR1600289.asd	FSFR.2249 Int=4.5 sec	1911.24	0.131	35.55	2211.81	0.29	34.541	NULL	NULL	NULL	2350.29	0.192	35.707	2350.29	0.192	1	2.218	2.218	6/12/2016	PUR1600289	M-89-08	972	972.1	2016	6/12/2016	Core		McNeil
PUR1600290.asd	FSFR.2249 Int=4.5 sec	1948.9	0.0418	42.338	2226.41	0.0205	25.184	2256.76	0.0685	27.415	2344.96	0.0495	43.333	2344.96	0.0495	1	0.491	NULL	6/12/2016	PUR1600290	M-89-08	973	973.1	2016	6/12/2016	Core		McNeil
PUR1600291.asd	FSFR.2249 Int=4.5 sec	1917.84	0.0727	45.108	2212.03	0.154	35.545	2252.26	0.12	26.472	2345.17	0.139	41.932	2345.17	0.139	1	2.125	2.125	6/12/2016	PUR1600291	M-89-08	974	974.1	2016	6/12/2016	Core		McNeil
PUR1600292.asd	FSFR.2249 Int=4.5 sec	1945.94	0.028	36.724	2202.66	0.132	33.268	2252.57	0.0788	26.397	2351.83	0.114	34.952	2351.83	0.114	1	4.733	4.733	6/12/2016	PUR1600292	M-89-08	975	975.1	2016	6/12/2016	Core		McNeil
PUR1600293.asd	FSFR.2249 Int=4.5 sec	NULL	NULL	NULL	2206.88	0.418	36.338	NULL	NULL	NULL	2346.02	0.267	38.519	2346.02	0.267	1	NULL	NULL	6/12/2016	PUR1600293	M-89-08	976	976.1	2016	6/12/2016	Core		McNeil
PUR1600294.asd	FSFR.2249 Int=4.5 sec	1957.9	0.0493	43.137	2214.3	0.145	34.31	2252.91	0.134	25.229	2347.38	0.177	39.614	2347.38	0.177	1	2.94	2.94	6/12/2016	PUR1600294	M-89-08	977	977.1	2016	6/12/2016	Core		McNeil
PUR1600295.asd	FSFR.2249 Int=4.5 sec	1912.58	0.0482	39.197	2216.65	0.264	33.37	NULL	NULL	NULL	2346.93	0.229	36.388	2346.93	0.229	1	5.482	5.482	6/12/2016	PUR1600295	M-89-08	978	978.1	2016	6/12/2016	Core		McNeil
PUR1600296.asd	FSFR.2249 Int=4.5 sec	1931.74	0.072	47.606	2226.26	0.0213	36.432	2253.84	0.0505	21.173	2340.25	0.0495	38.473	2340.25	0.0495	1	0.295	0.295	6/12/2016	PUR1600296	M-89-08	979	979.1	2016	6/12/2016	Core		McNeil
PUR1600297.asd	FSFR.2249 Int=4.5 sec	1931.41	0.0387	45.964	2203.09	0.0151	33.823	NULL	NULL	NULL	2346.54	0.0182	36.959	2310.2	0.0193	1	0.389	NULL	6/12/2016	PUR1600297	M-89-08	980	980.1	2016	6/12/2016	Core		McNeil
PUR1600298.asd	FSFR.2249 Int=4.5 sec	1912.33	0.0507	34.176	2211.86	0.0463	32.243	2246.06	0.0287	25.457	2341	0.0697	36.829	2341	0.0697	1	0.912	0.912	6/12/2016	PUR1600298	M-89-08	981	981.1	2016	6/12/2016	Core		McNeil
PUR1600299.asd	FSFR.2249 Int=4.5 sec	1937.01	0.0536	40.005	2216.23	0.0426	36.042	2250.78	0.0408	25.469	NULL	NULL	NULL	2320.49	0.0366	1	0.795	NULL	6/12/2016	PUR1600299	M-89-08	982	982.1	2016	6/12/2016	Core		McNeil
PUR1600303.asd	FSFR.2249 Int=4.5 sec	1923.51	0.024	39.67	2209.79	0.0812	31.915	NULL	NULL	NULL	2346.82	0.0552	32.494	2346.82	0.0552	1	3.378	3.378	6/12/2016	PUR1600303	M-89-08	983	983.1	2016	6/12/2016	Core		McNeil
PUR1600304.asd	FSFR.2249 Int=4.5 sec	1921.61	0.0312	33.189	NULL	NULL	NULL	2251.65	0.0289	25.277	2358.07	0.0319	38.335	2358.13	0.0323	1	NULL	NULL	6/12/2016	PUR1600304	M-89-08	984	984.1	2016	6/12/2016	Core		McNeil
PUR1600305.asd	FSFR.2249 Int=4.5 sec	1934.26	0.0565	46.67	NULL	NULL	NULL	2250.66	0.0471	24.836	NULL	NULL	NULL	NULL	NULL	1	NULL	NULL	6/12/2016	PUR1600305	M-89-08	986	986.1	2016	6/12/2016	Core		McNeil
PUR1600306.asd	FSFR.2249 Int=4.5 sec	1924.47	0.013	37.804	2213.12	0.0813	32.645	2235.96	0.0422	23.927	2346.95	0.0532	33.028	2346.95	0.0532	1	6.267	6.267	6/12/2016	PUR1600306	M-89-08	987	987.1	2016	6/12/2016	Core		McNeil
PUR1600307.asd	FSFR.2249 Int=4.5 sec	1921.86	0.0814	38.904	2212.4	0.0518	34.295	2254.98	0.0526	22.242	2340.33	0.0598	40.08	2340.33	0.0598	1	0.636	0.636	6/12/2016	PUR1600307	M-89-08	988	988.1	2016	6/12/2016	Core		McNeil
PUR1600308.asd	FSFR.2249 Int=4.5 sec	1916.17	0.103	33.349	2218.04	0.0443	30.114	2249.75	0.0549	22.952	2351.42	0.0748	40.085	2351.42	0.0748	1	0.431	0.431	6/12/2016	PUR1600308	M-89-08	989	989.1	2016	6/12/2016	Core		McNeil
PUR1600309.asd	FSFR.2249 Int=4.5 sec	1915.65	0.065	35.771	2225.29	0.0179	32.616	2257.17	0.034	21.124	2348.52	0.0653	38.475	2348.52	0.0653	1	0.276	NULL	6/12/2016	PUR1600309	M-89-08	990	990.1	2016	6/12/2016	Core		McNeil
PUR1600310.asd	FSFR.2249 Int=4.5 sec	1919.6	0.0578	33.739	2216.83	0.0269	32.517	2249	0.0371	20.326	2344.17	0.0443	43.064	2344.17	0.0443	1	0.466	0.466	6/12/2016	PUR1600310	M-89-08	991	991.1	2016	6/12/2016	Core		McNeil
PUR1600311.asd	FSFR.2249 Int=4.5 sec	1934.29	0.0468	42.077	2213.19	0.0483	31.009	NULL	NULL	NULL	2345.92	0.0365	29.778	2345.92	0.0365	1	1.032	1.032	6/12/2016	PUR1600311	M-89-08	992	992.1	2016	6/12/2016	Core		McNeil
PUR1600312.asd	FSFR.2249 Int=4.5 sec	1908.61	0.0842	26.256	2212.6	0.0272	29.042	2272.95	0.0291	27.322	2339.21	0.0924	37.261	2339.21	0.0924	1	0.322	NULL	6/12/2016	PUR1600312	M-89-08	993	993.1	2016	6/12/2016	Core		McNeil
PUR1600313.asd	FSFR.2249 Int=4.5 sec	1938.08	0.021	34.358	2218.24	0.0351	32.305	2245.93	0.0353	17.987	2344.14	0.041	32.277	2344.14	0.041	1	1.669	NULL	6/12/2016	PUR1600313	M-89-08	994	994.1	2016	6/12/2016	Core		McNeil
PUR1600314.asd	FSFR.2249 Int=4.5 sec	1920.09	0.115	38.789	2208.36	0.00453	23.111	2254.98	0.021	27.251	2322.69	0.03	37.794	2322.69	0.03	1	0.0393	NULL	6/12/2016	PUR1600314	M-89-08	995	995.1	2016	6/12/2016	Core		McNeil
PUR1600315.asd	FSFR.2249 Int=4.5 sec	1936.96	0.0242	39.197	2212.49	0.0212	31.036	2238.09	0.0164	22.187	NULL	NULL	NULL	2319.75	0.0171	1	0.875	NULL	6/12/2016	PUR1600315	M-89-08	996	996.1	2016	6/12/2016	Core		McNeil
PUR1600316.asd	FSFR.2249 Int=4.5 sec	1925.89	0.0206	33.999	2215.84	0.0329	32.684	2246.44	0.0297	23.471	2340.8	0.0422	35.159	2340.8	0.0422	1	1.594	1.594	6/12/2016	PUR1600316	M-89-08	997	997.1	2016	6/12/2016	Core		McNeil
PUR1600317.asd	FSFR.2249 Int=4.5 sec	1920.05	0.0284	33.293	2213.35	0.0713	32.251	2238.51	0.032	22.841	2357.18	0.0351	34.248	2357.18	0.0351	1	2.509	2.509	6/12/2016	PUR1600317	M-89-08	998	998.1	2016	6/12/2016	Core		McNeil
PUR1600318.asd	FSFR.2249 Int=4.5 sec	1921.86	0.0515	36.802	2211.95	0.0536	33.827	2235.19	0.03	22.256	2342.71	0.0491	35.804	2342.71	0.0491	1	1.042	1.042	6/12/2016	PUR1600318	M-89-08	999	999.1	2016	6/12/2016	Core		McNeil
PUR1600319.asd	FSFR.2249 Int=4.5 sec	1922.58	0.0165	35.809	2210.82	0.09	32.071	2240.12	0.0419	22.465	2354.29	0.066	34.18	2354.29	0.066	1	5.443	5.443	6/12/2016	PUR1600319	M-89-08	1000	1000.1	2016	6/12/2016	Core		McNeil
PUR1600320.asd	FSFR.2249 Int=4.5 sec	1901.15	0.0285	39.352	2209.78	0.0654	31.944	NULL	NULL	NULL	2338.62	0.0454	34.877	2338.62	0.0454	1	2.299	2.299	6/12/2016	PUR1600320	M-89-08	1001	1001.1	2016	6/12/2016	Core		McNeil
PUR1600321.asd	FSFR.2249 Int=4.5 sec	1933.44	0.0177	31.096	2221.48	0.0549	28.716	2253.28	0.0461	26.405	2354.57	0.0674	34.232	2354.57	0.0674	1	3.11	NULL	6/12/2016	PUR1600321	M-89-08	1002	1002.1	2016	6/12/2016	Core		McNeil
PUR1600322.asd	FSFR.2249 Int=4.5 sec	1933.61	0.022	40.884	2209.01	0.0298	32.056	2237.37	0.0167	29.974	2351.44	0.0179	40.929	2351.44	0.0179	1	1.353	1.353	6/12/2016	PUR1600322	M-89-08	1003	1003.1	2016	6/12/2016	Core		McNeil
PUR1600326.asd	FSFR.2249 Int=4.5 sec	1940.46	0.0626	42.468	2213.03	0.0329	32.892	2252.05	0.023	26.859	2347.4	0.0241	37.179	2347.4	0.0241	1	0.526	0.526	6/12/2016	PUR1600326	M-89-08	1004	1004.1	2016	6/12/2016	Core		McNeil
PUR1600327.asd	FSFR.2249 Int=4.5 sec	1913.34	0.0168	36.094	2213.38	0.145	34.255	2237.95	0.0604	23.713	2344.6	0.0974	37.405	2344.6	0.0974	1	8.607	8.607	6/12/2016	PUR1600327	M-89-08	1005	1005.1	2016	6/12/2016	Core		McNeil
PUR1600328.asd	FSFR.2249 Int=4.5 sec	1925.26	0.0288	43.366	2207.01	0.0419	33.608	2248.67	0.0246	26.774	2348.2	0.0349	33.516	2348.2	0.0349	1	1.453	1.453	6/12/2016	PUR1600328	M-89-08	1006	1006.1	2016	6/12/2016	Core		McNeil
PUR1600329.asd	FSFR.2249 Int=4.5 sec	1916.91	0.0766	40.334	2216.08	0.0434	31.238	NULL	NULL	NULL	2348.08	0.0462	35.584	2348.08	0.0462	1	0.567	0.567	6/12/2016	PUR1600329	M-89-08	1007	1007.1	2016	6/12/2016	Core		McNeil
PUR1600330.asd	FSFR.2249 Int=4.5 sec	1917.73	0.0286	34.322	2210.9	0.0727	34.461	2236.97	0.032	27.686	2342.74	0.0478	37.745	2342.74	0.0478	1	2.538	2.538	6/12/2016	PUR1600330	M-89-08	1008	1008.1	2016	6/12/2016	Core		McNeil
PUR1600331.asd	FSFR.2249 Int=4.5 sec	1924.84	0.0725	43.42	2218.75	0.0401	30.715	2252.59	0.0511	25.441	2347.42	0.0688	36.487	2347.42	0.0688	1	0.553	0.553	6/12/2016	PUR1600331	M-89-08	1009	1009.1	2016	6/12/2016	Core		McNeil
PUR1600332.asd	FSFR.2249 Int=4.5 sec	1911.44	0.0625	31.868	2210.95	0.205	35.227	NULL	NULL	NULL	2348.35	0.137	34.796	2348.35	0.137	1	3.279	3.279	6/12/2016	PUR1600332	M-89-08	1010	1010.1	2016	6/12/2016	Core		McNeil
PUR1600333.asd	FSFR.2249 Int=4.5 sec	1932.86	0.0508	46.382	2211.13	0.0583	33.823	2235.15	0.0284	24.033	2342.06	0.037	38.072	2342.06	0.037	1	1.147	1.147	6/12/2016	PUR1600333	M-89-08	1011	1011.1	2016	6/12/2016	Core		McNeil
PUR1600334.asd	FSFR.2249 Int=4.5 sec	1925.06	0.0235	39.635	2209.7	0.0726	34.226	2256.46	0.0522	24.578	2349.12	0.0712	35.634	2349.12	0.0712	1	3.088	3.088	6/12/2016	PUR1600334	M-89-08	1012	1012.1	2016	6/12/2016	Core		McNeil
PUR1600335.asd	FSFR.2249 Int=4.5 sec	1908.4	0.0242	28.527	2222.82	0.0358	28.425	2249.38	0.0417	20.841	2353.71	0.0565	29.243	2353.71	0.0565	1	1.479	NULL	6/12/2016	PUR1600335	M-89-08	1013	1013.1	2016	6/12/2016	Core		McNeil
PUR1600336.asd	FSFR.2249 Int=4.5 sec	1914.51	0.0572	30.882	2210.49	0.374	36.819	NULL	NULL	NULL	2346.26	0.247	36.218	2346.26	0.247	1	6.551	6.551	6/12/2016	PUR1600336	M-89-08	1014	1014.1	2016	6/12/2016	Core		McNeil
PUR1600337.asd	FSFR.2249 Int=4.5 sec	1916.82	0.0312	38.348	2218.88	0.055	26.524	2258.54	0.0439	23.298	2347.25	0.0679	34.583	2347.25	0.0679	1	1.764	1.764	6/12/2016	PUR1600337	M-89-08	1015	1015.1	2016	6/12/2016	Core		McNeil
PUR1600338.asd	FSFR.2249 Int=4.5 sec	1909.86	0.0439	31.625	NULL	NULL	NULL	2243.43	0.0352	23.399	2346.96	0.0465	31.707	2346.96	0.0465	1	NULL	NULL	6/12/2016	PUR1600338	M-89-08	1016	1016.1	2016	6/12/2016	Core		McNeil
PUR1600339.asd	FSFR.2249 Int=4.5 sec	1926.27	0.0216	41.653	2209.86	0.0659	33.737	2253.98	0.0401	29.226	2350.49	0.0946	34.098	2350.49	0.0946	1	3.05	3.05	6/12/2016	PUR1600339	M-89-08	1017	1017.1	2016	6/12/2016	Core		McNeil
PUR1600340.asd	FSFR.2249 Int=4.5 sec	1917.74	0.0276	34.322	2226.71	0.0217	31.77	2254.5	0.0722	24.904	2347.41	0.118	39.813	2347.41	0.118	1	0.788	NULL	6/12/2016	PUR1600340	M-89-08	1018	1018.1	2016	6/12/2016	Core		McNeil
PUR1600341.asd	FSFR.2249 Int=4.5 sec	1916.58	0.0508	37.541	2208.74	0.0186	26.649	2260.41	0.0109	23.279	2342.26	0.0209	39.284	2312.38	0.0222	1	0.367	NULL	6/12/2016	PUR1600341	M-89-08	1019	1019.1	2016	6/12/2016	Core		McNeil
PUR1600342.asd	FSFR.2249 Int=4.5 sec	1916.74	0.0479	37.437	2218.48	0.0467	32.319	2247.93	0.0298	26.245	2340.3	0.0532	38.331	2340.3	0.0532	1	0.974	0.974	6/12/2016	PUR1600342	M-89-08	1020	1020.1	2016	6/12/2016	Core		McNeil
PUR1600343.asd	FSFR.2249 Int=4.5 sec	1908.78	0.116	25.663	2216.91	0.125	34.663	2254.09	0.149	23.918	2346.34	0.163	42.284	2346.34	0.163	1	1.077	1.077	6/12/2016	PUR1600343	M-89-08	1022	1022.1	2016	6/12/2016	Core		McNeil
PUR1600344.asd	FSFR.2249 Int=4.5 sec	1911.27	0.0506	24.783	2217.12	0.124	30.49	2254.49	0.0983	27.008	2348.33	0.146	40.244	2348.33	0.146	1	2.458	2.458	6/12/2016	PUR1600344	M-89-08	1024	1024.1	2016	6/12/2016	Core		McNeil
PUR1600345.asd	FSFR.2249 Int=4.5 sec	1940.3	0.0622	50.19	2218.07	0.0505	30.364	2255.55	0.0788	21.844	2341.88	0.101	40.04	2341.88	0.101	1	0.813	0.813	6/12/2016	PUR1600345	M-89-08	1026	1026.1	2016	6/12/2016	Core		McNeil
PUR1600349.asd	FSFR.2249 Int=4.5 sec	1936.01	0.115	47.299	NULL	NULL	NULL	2255.71	0.125	26.197	2344.11	0.153	41.288	2344.11	0.153	1	NULL	NULL	6/12/2016	PUR1600349	M-89-08	1028	1028.1	2016	6/12/2016	Core		McNeil
PUR1600350.asd	FSFR.2249 Int=4.5 sec	1930.89	0.0704	47.181	2228.29	0.0101	27.362	NULL	NULL	NULL	2340.16	0.147	37.567	2340.16	0.147	1	0.143	NULL	6/12/2016	PUR1600350	M-89-08	1030	1030.1	2016	6/12/2016	Core		McNeil
PUR1600351.asd	FSFR.2249 Int=4.5 sec	1935.49	0.0302	40.883	2227.15	0.0236	21.662	2262.47	0.03	25.952	2341.53	0.0773	35.734	2341.53	0.0773	1	0.779	NULL	6/12/2016	PUR1600351	M-89-08	1032	1032.1	2016	6/12/2016	Core		McNeil
PUR1600352.asd	FSFR.2249 Int=4.5 sec	1910.17	0.0381	26.197	2229.83	0.0262	27.969	2253.92	0.0668	25.91	2344.23	0.0871	41.197	2344.23	0.0871	1	0.689	0.689	6/12/2016	PUR1600352	M-89-08	1034	1034.1	2016	6/12/2016	Core		McNeil
PUR1600353.asd	FSFR.2249 Int=4.5 sec	1908.82	0.12	31.655	2213.26	0.423	36.035	NULL	NULL	NULL	2350.05	0.271	37.273	2350.05	0.271	1	3.519	3.519	6/12/2016	PUR1600353	M-89-08	1036	1036.1	2016	6/12/2016	Core		McNeil
PUR1600354.asd	FSFR.2249 Int=4.5 sec	1913.28	0.0847	31.421	2214.15	0.19	33.729	NULL	NULL	NULL	2346.44	0.139	35.847	2346.44	0.139	1	2.242	2.242	6/12/2016	PUR1600354	M-89-08	1038	1038.1	2016	6/12/2016	Core		McNeil
PUR1600355.asd	FSFR.2249 Int=4.5 sec	1914.95	0.0777	33.194	2216.27	0.0703	31.706	2252.28	0.101	22.931	2342.55	0.131	40.331	2342.55	0.131	1	0.904	0.904	6/12/2016	PUR1600355	M-89-08	1040	1040.1	2016	6/12/2016	Core		McNeil
PUR1600356.asd	FSFR.2249 Int=4.5 sec	1914.25	0.0551	37.626	2211.65	0.0383	34.41	2250.15	0.0471	24.146	2343.75	0.0592	41.283	2343.75	0.0592	1	0.694	0.694	6/12/2016	PUR1600356	M-89-08	1042	1042.1	2016	6/12/2016	Core		McNeil
PUR1600357.asd	FSFR.2249 Int=4.5 sec	1917.24	0.0934	35.446	2215.88	0.117	35.047	2252.68	0.0906	26.948	2343.2	0.173	40.763	2343.2	0.173	1	1.253	1.253	6/12/2016	PUR1600357	M-89-08	1044	1044.1	2016	6/12/2016	Core		McNeil
PUR1600358.asd	FSFR.2249 Int=4.5 sec	1910.51	0.0849	30.685	2211.67	0.327	37.106	NULL	NULL	NULL	2345.11	0.236	37.864	2345.11	0.236	1	3.847	3.847	6/12/2016	PUR1600358	M-89-08	1046	1046.1	2016	6/12/2016	Core		McNeil
PUR1600359.asd	FSFR.2249 Int=4.5 sec	1942.08	0.334	36.997	2216.01	0.0603	31.26	2248.69	0.0289	29.215	2342.59	0.0405	32.005	2342.59	0.0405	1	0.181	0.181	6/12/2016	PUR1600359	M-89-08	1048	1048.1	2016	6/12/2016	Core		McNeil
PUR1600360.asd	FSFR.2249 Int=4.5 sec	1915.76	0.122	35.091	2209.5	0.134	34.751	2249.96	0.0767	29.148	2343.31	0.0996	39.024	2343.31	0.0996	1	1.099	1.099	6/12/2016	PUR1600360	M-89-08	1050	1050.1	2016	6/12/2016	Core		McNeil
PUR1600361.asd	FSFR.2249 Int=4.5 sec	1914.93	0.177	34.469	2219.55	0.166	29.566	NULL	NULL	NULL	2345.37	0.167	39.772	2345.37	0.167	1	0.937	0.937	6/12/2016	PUR1600361	M-89-08	1052	1052.1	2016	6/12/2016	Core		McNeil
PUR1600362.asd	FSFR.2249 Int=4.5 sec	1915.87	0.178	37.644	2216.78	0.101	34.8	2252.94	0.108	24.577	2341.75	0.133	42.748	2341.75	0.133	1	0.571	0.571	6/12/2016	PUR1600362	M-89-08	1054	1054.1	2016	6/12/2016	Core		McNeil
PUR1600363.asd	FSFR.2249 Int=4.5 sec	1920.27	0.0987	41.247	NULL	NULL	NULL	2257.57	0.0592	28.548	2341.64	0.0742	42.133	2341.64	0.0742	1	NULL	NULL	6/12/2016	PUR1600363	M-89-08	1056	1056.1	2016	6/12/2016	Core		McNeil
PUR1600364.asd	FSFR.2249 Int=4.5 sec	1911.55	0.0678	36.106	2219.43	0.0699	32.898	2253.26	0.102	23.413	2342.71	0.126	39.42	2342.71	0.126	1	1.031	1.031	6/12/2016	PUR1600364	M-89-08	1058	1058.1	2016	6/12/2016	Core		McNeil

Sample	Sample Name	w1900_H2O	hqd1900_H2O	w1900_H2O	w2200_AlOH	hqd2200_AlOH	w2200_AlOH	w2250_Fe(	hqd2250_F	w2250_FeOH	w2350_MgOH	hqd2350_MgOH	w2350_MgOH	w2330_Carb	hqd2330_Carb	w2330_Carb	Crystallinity index	sericite crystallinity	Date_Taken	SampleID	Hole_ID	Depth_From	Depth_To	Year	Date	Type	StationID	Property
PUR1600365.asd	FSFR.2249 Int=4.5 sec	1919.08	0.131	42.545	2221.08	0.0992	29.272	2235.44	0.0747	27.003	2343.1	0.0973	40.871	2343.1	0.0973	1	0.756	0.756	6/12/2016	PUR1600365	M-89-08	1060	1060.1	2016	6/12/2016	Core		McNeil
PUR1600366.asd	FSFR.2249 Int=4.5 sec	1918.8	0.193	38.855	2222.14	0.0535	29.701	2255.1	0.0766	22.356	2347.37	0.0943	41.319	2347.37	0.0943	1	0.277	NULL	6/12/2016	PUR1600366	M-89-08	1062	1062.1	2016	6/12/2016	Core		McNeil
PUR1600367.asd	FSFR.2249 Int=4.5 sec	1918.57	0.0767	35.909	2209.85	0.223	35.504	2250.27	0.138	28.128	2341.98	0.187	37.086	2341.98	0.187	1	2.909	2.909	6/12/2016	PUR1600367	M-89-08	1064	1064.1	2016	6/12/2016	Core		McNeil
PUR1600368.asd	FSFR.2249 Int=4.5 sec	1933.76	0.0436	50.443	2213.39	0.14	34.962	2254.48	0.117	25.631	2349.9	0.208	41.115	2349.9	0.208	1	3.204	3.204	6/12/2016	PUR1600368	M-89-08	1066	1066.1	2016	6/12/2016	Core		McNeil
PUR1600381.asd	FSFR.2249 Int=4.5 sec	1942.03	0.102	47.021	2219.77	0.0943	29.775	2252.21	0.117	23.439	2344.53	0.143	40.263	2344.53	0.143	1	0.92	0.92	6/13/2016	PUR1600381	M-89-08	1068	1068.1	2016	6/13/2016	Core		McNeil
PUR1600382.asd	FSFR.2249 Int=4.5 sec	1940.36	0.057	41.717	2223.92	0.0735	32.005	2254.06	0.104	22.927	2343.64	0.111	39.896	2343.64	0.111	1	1.289	1.289	6/13/2016	PUR1600382	M-89-08	1070	1070.1	2016	6/13/2016	Core		McNeil
PUR1600383.asd	FSFR.2249 Int=4.5 sec	1921.75	0.117	46.511	2221.44	0.115	31.318	2253.53	0.14	23.885	2346.36	0.161	40.169	2346.36	0.161	1	0.99	0.99	6/13/2016	PUR1600383	M-89-08	1072	1072.1	2016	6/13/2016	Core		McNeil
PUR1600384.asd	FSFR.2249 Int=4.5 sec	1956.04	0.0642	38.922	2213.54	0.292	35.159	2251.04	0.181	28.901	2349.46	0.237	37.579	2349.46	0.237	1	4.543	4.543	6/13/2016	PUR1600384	M-89-08	1074	1074.1	2016	6/13/2016	Core		McNeil
PUR1600385.asd	FSFR.2249 Int=4.5 sec	1927.01	0.0961	50.132	2215.15	0.22	35.676	NULL	NULL	NULL	2346.75	0.162	40.13	2346.75	0.162	1	2.288	2.288	6/13/2016	PUR1600385	M-89-08	1076	1076.1	2016	6/13/2016	Core		McNeil
PUR1600386.asd	FSFR.2249 Int=4.5 sec	1943.49	0.168	36.698	2215.16	0.028	31.897	2248.98	0.0174	27.511	2378.9	0.00736	31.184	2312.54	0.00885	1	0.166	NULL	6/13/2016	PUR1600386	M-89-08	1078	1078.1	2016	6/13/2016	Core		McNeil
PUR1600387.asd	FSFR.2249 Int=4.5 sec	1934.93	0.102	47.752	2213.13	0.163	34.163	NULL	NULL	NULL	2351.27	0.094	37.361	2351.27	0.094	1	1.595	1.595	6/13/2016	PUR1600387	M-89-08	1080	1080.1	2016	6/13/2016	Core		McNeil
PUR1600388.asd	FSFR.2249 Int=4.5 sec	1941.49	0.0805	46.365	2215.16	0.17	34.015	2249.69	0.125	26.734	2345.12	0.148	39.348	2345.12	0.148	1	2.113	2.113	6/13/2016	PUR1600388	M-89-08	1082	1082.1	2016	6/13/2016	Core		McNeil
PUR1600389.asd	FSFR.2249 Int=4.5 sec	1911.87	0.0999	31.844	2207.51	0.113	32.7	2236.99	0.049	28.624	2348.71	0.0612	38.967	2348.71	0.0612	1	1.135	1.135	6/13/2016	PUR1600389	M-90-01	76	76.1	2016	6/13/2016	Core		McNeil
PUR1600390.asd	FSFR.2249 Int=4.5 sec	1915.77	0.0365	36.108	2206.54	0.101	31.415	NULL	NULL	NULL	2359.6	0.0737	41.066	2357.33	0.0718	1	2.775	2.775	6/13/2016	PUR1600390	M-90-01	79	79.1	2016	6/13/2016	Core		McNeil
PUR1600391.asd	FSFR.2249 Int=4.5 sec	1909.56	0.158	29.626	2206.21	0.273	33.374	NULL	NULL	NULL	2348.72	0.17	37.395	2348.72	0.17	1	1.732	1.732	6/13/2016	PUR1600391	M-90-01	82	82.1	2016	6/13/2016	Core		McNeil
PUR1600392.asd	FSFR.2249 Int=4.5 sec	1944.06	0.23	36.816	2212.38	0.052	31.613	2235.08	0.0283	24.966	2344.28	0.00868	26.71	2344.28	0.00868	1	0.226	NULL	6/13/2016	PUR1600392	M-90-01	94	94.1	2016	6/13/2016	Core		McNeil
PUR1600393.asd	FSFR.2249 Int=4.5 sec	1910.17	0.307	31.73	2206.89	0.0365	29.211	2254.36	0.0423	22.318	2344.73	0.0262	35.987	2344.73	0.0262	1	0.119	NULL	6/13/2016	PUR1600393	M-90-01	97	97.1	2016	6/13/2016	Core		McNeil
PUR1600394.asd	FSFR.2249 Int=4.5 sec	1910.04	0.0661	34.51	2202.04	0.0856	29.299	NULL	NULL	NULL	2346.96	0.0342	31.173	2346.96	0.0342	1	1.294	1.294	6/13/2016	PUR1600394	M-90-01	100	100.1	2016	6/13/2016	Core		McNeil
PUR1600395.asd	FSFR.2249 Int=4.5 sec	1911.66	0.0295	35.319	2200.67	0.0813	28.417	2253.06	0.0478	25.855	2350.59	0.0662	38.219	2350.59	0.0662	1	2.755	2.755	6/13/2016	PUR1600395	M-90-01	103	103.1	2016	6/13/2016	Core		McNeil
PUR1600396.asd	FSFR.2249 Int=4.5 sec	1913.49	0.0704	35.04	2202.79	0.0553	28.601	NULL	NULL	NULL	2344.03	0.0124	32.42	2344.03	0.0124	1	0.786	0.786	6/13/2016	PUR1600396	M-90-01	106	106.1	2016	6/13/2016	Core		McNeil
PUR1600397.asd	FSFR.2249 Int=4.5 sec	1908.12	0.0541	33.796	2201.65	0.19	30.111	2236.84	0.061	25.621	2343.35	0.0958	35.089	2343.35	0.0958	1	3.512	3.512	6/13/2016	PUR1600397	M-90-01	109	109.1	2016	6/13/2016	Core		McNeil
PUR1600398.asd	FSFR.2249 Int=4.5 sec	1921.53	0.402	38.427	2198.09	0.00456	27.401	2256.33	0.0374	19.753	2352.93	0.131	36.505	2352.93	0.131	1	0.0113	NULL	6/13/2016	PUR1600398	M-90-01	114	114.1	2016	6/13/2016	Core		McNeil
PUR1600399.asd	FSFR.2249 Int=4.5 sec	1920.76	0.66	37.417	2181.99	0.0812	27.009	2253.14	0.00952	17.496	NULL	NULL	NULL	NULL	NULL	1	0.123	NULL	6/13/2016	PUR1600399	M-90-01	123	123.1	2016	6/13/2016	Core		McNeil
PUR1600400.asd	FSFR.2249 Int=4.5 sec	1923.54	0.126	38.279	2202.48	0.0437	28.586	2237.96	0.0213	19.336	2367.29	0.0269	31.773	2356.3	0.0221	1	0.347	0.347	6/13/2016	PUR1600400	M-90-01	126	126.1	2016	6/13/2016	Core		McNeil
PUR1600404.asd	FSFR.2249 Int=4.5 sec	1930.74	0.0456	40.915	2205.47	0.078	32.088	2251.72	0.0376	29.251	2352.68	0.0432	32.744	2352.68	0.0432	1	1.712	1.712	6/13/2016	PUR1600404	M-90-01	129	129.1	2016	6/13/2016	Core		McNeil
PUR1600405.asd	FSFR.2249 Int=4.5 sec	1914.43	0.268	33.745	2213.07	0.0489	33.73	2258.13	0.244	26.103	2352.18	0.246	36.766	2352.18	0.246	1	0.183	NULL	6/13/2016	PUR1600405	M-90-01	132	132.1	2016	6/13/2016	Core		McNeil
PUR1600406.asd	FSFR.2249 Int=4.5 sec	1915.03	0.139	36.723	2207.3	0.202	33.916	2238.48	0.0807	30.159	2352.85	0.134	36.879	2352.85	0.134	1	1.454	1.454	6/13/2016	PUR1600406	M-90-01	135	135.1	2016	6/13/2016	Core		McNeil
PUR1600407.asd	FSFR.2249 Int=4.5 sec	1918.57	0.111	32.836	2205.43	0.231	32.783	2253.35	0.0913	29.408	2351.42	0.15	39.166	2351.42	0.15	1	2.079	2.079	6/13/2016	PUR1600407	M-90-01	251	251.1	2016	6/13/2016	Core		McNeil
PUR1600408.asd	FSFR.2249 Int=4.5 sec	1918.26	0.0582	35.33	NULL	NULL	NULL	2254.63	0.18	23.958	2347.39	0.213	32.791	2347.39	0.213	1	NULL	NULL	6/13/2016	PUR1600408	M-90-01	253	253.1	2016	6/13/2016	Core		McNeil
PUR1600409.asd	FSFR.2249 Int=4.5 sec	1928.04	0.0859	46.665	2204.47	0.236	33.092	2252.1	0.109	28.521	2347.92	0.174	36.783	2347.92	0.174	1	2.748	2.748	6/13/2016	PUR1600409	M-90-01	255	255.1	2016	6/13/2016	Core		McNeil
PUR1600410.asd	FSFR.2249 Int=4.5 sec	1920.41	0.0407	42.618	2206.62	0.0427	31.996	2254.54	0.0325	26.678	2349.02	0.0331	37.002	2349.02	0.0331	1	1.048	1.048	6/13/2016	PUR1600410	M-90-01	257	257.1	2016	6/13/2016	Core		McNeil
PUR1600411.asd	FSFR.2249 Int=4.5 sec	1940.87	0.0777	45.99	NULL	NULL	NULL	2255.45	0.112	24.788	2352.36	0.114	33.787	2352.36	0.114	1	NULL	NULL	6/13/2016	PUR1600411	M-90-01	259	259.1	2016	6/13/2016	Core		McNeil
PUR1600412.asd	FSFR.2249 Int=4.5 sec	1915.48	0.0508	39.411	2206.8	0.168	31.764	NULL	NULL	NULL	2353.57	0.103	39.46	2353.57	0.103	1	3.3	3.3	6/13/2016	PUR1600412	M-90-01	261	261.1	2016	6/13/2016	Core		McNeil
PUR1600413.asd	FSFR.2249 Int=4.5 sec	1921.05	0.0618	46.478	2198.86	0.0659	33.721	2255.13	0.2	24.792	2350.69	0.216	37.94	2350.69	0.216	1	1.065	NULL	6/13/2016	PUR1600413	M-90-01	263	263.1	2016	6/13/2016	Core		McNeil
PUR1600414.asd	FSFR.2249 Int=4.5 sec	1923.87	0.0375	36.513	2207.44	0.111	32.471	2254.47	0.0585	26.28	2348.25	0.0817	40.581	2348.25	0.0817	1	2.955	2.955	6/13/2016	PUR1600414	M-90-01	265	265.1	2016	6/13/2016	Core		McNeil
PUR1600415.asd	FSFR.2249 Int=4.5 sec	1921.91	0.0619	39.461	2205.26	0.359	35.272	NULL	NULL	NULL	2345.37	0.221	36.892	2345.37	0.221	1	5.804	5.804	6/13/2016	PUR1600415	M-90-01	267	267.1	2016	6/13/2016	Core		McNeil
PUR1600416.asd	FSFR.2249 Int=4.5 sec	1919.76	0.0556	43.086	2218.48	0.0323	34.343	2255.61	0.0495	20.055	2342.65	0.0733	33.751	2342.65	0.0733	1	0.58	NULL	6/13/2016	PUR1600416	M-90-01	269	269.1	2016	6/13/2016	Core		McNeil
PUR1600417.asd	FSFR.2249 Int=4.5 sec	1919.84	0.275	40.26	2198.33	0.0503	26.319	2256.5	0.212	25.142	2350.04	0.38	41.847	2350.04	0.38	1	0.183	NULL	6/13/2016	PUR1600417	M-90-01	308	308.1	2016	6/13/2016	Core		McNeil
PUR1600418.asd	FSFR.2249 Int=4.5 sec	1921.6	0.0533	36.058	2205.96	0.253	34.063	NULL	NULL	NULL	2350.65	0.173	40.733	2350.65	0.173	1	4.755	4.755	6/13/2016	PUR1600418	M-90-01	305	305.1	2016	6/13/2016	Core		McNeil
PUR1600419.asd	FSFR.2249 Int=4.5 sec	1923.57	0.0242	38.617	2205.95	0.226	32.949	2252.77	0.0849	29.175	2346.95	0.165	38.455	2346.95	0.165	1	9.337	9.337	6/13/2016	PUR1600419	M-90-01	302	302.1	2016	6/13/2016	Core		McNeil
PUR1600420.asd	FSFR.2249 Int=4.5 sec	1916.14	0.153	34.25	2197.35	0.0215	26.12	2273.42	0.0482	27.244	2340.45	0.19	37.239	2340.45	0.19	1	0.14	NULL	6/13/2016	PUR1600420	M-90-01	299	299.1	2016	6/13/2016	Core		McNeil
PUR1600421.asd	FSFR.2249 Int=4.5 sec	1915.86	0.149	32.989	2207.21	0.291	35.487	NULL	NULL	NULL	2347.37	0.173	37.335	2347.37	0.173	1	1.95	1.95	6/13/2016	PUR1600421	M-90-01	293	293.1	2016	6/13/2016	Core		McNeil
PUR1600422.asd	FSFR.2249 Int=4.5 sec	1933.58	0.0669	46.262	2206.37	0.281	34.553	NULL	NULL	NULL	2348.59	0.188	36.571	2348.59	0.188	1	4.199	4.199	6/13/2016	PUR1600422	M-90-01	290	290.1	2016	6/13/2016	Core		McNeil
PUR1600423.asd	FSFR.2249 Int=4.5 sec	1915.23	0.152	34.64	2196.86	0.0188	27.938	2255.62	0.103	22.648	2345.31	0.14	33.451	2345.31	0.14	1	0.124	NULL	6/13/2016	PUR1600423	M-90-01	287	287.1	2016	6/13/2016	Core		McNeil
PUR1600427.asd	FSFR.2249 Int=4.5 sec	1926.82	0.0577	39.478	NULL	NULL	NULL	2258.97	0.185	26.135	2348.01	0.184	38.959	2348.01	0.184	1	NULL	NULL	6/13/2016	PUR1600427	M-90-01	284	284.1	2016	6/13/2016	Core		McNeil
PUR1600428.asd	FSFR.2249 Int=4.5 sec	1937.29	0.0243	37.463	2212.81	0.0314	32.658	2256.75	0.0362	22.769	2361.73	0.0305	37.779	2352.44	0.0292	1	1.295	NULL	6/13/2016	PUR1600428	M-90-01	281	281.1	2016	6/13/2016	Core		McNeil
PUR1600429.asd	FSFR.2249 Int=4.5 sec	1916.85	0.503	35.087	2201.98	0.0144	32.299	2255.45	0.00396	22.816	NULL	NULL	NULL	2356.89	0.0106	1	0.0286	NULL	6/13/2016	PUR1600429	M-90-01	278	278.1	2016	6/13/2016	Core		McNeil
PUR1600430.asd	FSFR.2249 Int=4.5 sec	1918.36	0.0454	39.069	2206.87	0.0857	32.595	NULL	NULL	NULL	2352.08	0.0507	36.158	2352.08	0.0507	1	1.885	1.885	6/13/2016	PUR1600430	M-90-01	275	275.1	2016	6/13/2016	Core		McNeil
PUR1600431.asd	FSFR.2249 Int=4.5 sec	1923.3	0.0732	46.527	2205.33	0.288	34.048	NULL	NULL	NULL	2346.44	0.174	36.566	2346.44	0.174	1	3.932	3.932	6/13/2016	PUR1600431	M-90-01	311	311.1	2016	6/13/2016	Core		McNeil
PUR1600432.asd	FSFR.2249 Int=4.5 sec	1920.14	0.279	39.271	2202.11	0.00972	23.032	2257.01	0.0851	24.251	2352.75	0.0818	34.502	2352.75	0.0818	1	0.0349	NULL	6/13/2016	PUR1600432	M-90-01	314	314.1	2016	6/13/2016	Core		McNeil
PUR1600433.asd	FSFR.2249 Int=4.5 sec	1944.99	0.141	42.434	2206.45	0.0828	31.094	2238.34	0.0278	26.638	2350.72	0.0333	32.063	2350.72	0.0333	1	0.588	0.588	6/13/2016	PUR1600433	M-90-01	323	323.1	2016	6/13/2016	Core		McNeil
PUR1600434.asd	FSFR.2249 Int=4.5 sec	1951.52	0.0526	47.892	2205.48	0.0644	36.495	2256.64	0.136	25.584	2349.54	0.151	39.247	2349.54	0.151	1	1.224	1.224	6/13/2016	PUR1600434	M-90-01	326	326.1	2016	6/13/2016	Core		McNeil
PUR1600435.asd	FSFR.2249 Int=4.5 sec	1926.34	0.0612	44.679	2205.4	0.144	33.188	2237.59	0.053	25.757	2349.38	0.086	33.221	2349.38	0.086	1	2.348	2.348	6/13/2016	PUR1600435	M-90-01	329	329.1	2016	6/13/2016	Core		McNeil
PUR1600436.asd	FSFR.2249 Int=4.5 sec	1914.12	0.213	34.299	2199.64	0.04	32.079	2257.08	0.079	23.889	2352.11	0.109	33.73	2352.11	0.109	1	0.188	0.188	6/13/2016	PUR1600436	M-90-01	332	332.1	2016	6/13/2016	Core		McNeil
PUR1600437.asd	FSFR.2249 Int=4.5 sec	1922.09	0.0531	40.255	2206.85	0.119	34.331	2258.67	0.109	22.926	2352.29	0.129	35.841	2352.29	0.129	1	2.243	2.243	6/13/2016	PUR1600437	M-90-01	335	335.1	2016	6/13/2016	Core		McNeil
PUR1600438.asd	FSFR.2249 Int=4.5 sec	1916.59	0.121	31.039	2201.2	0.00998	31.717	2255.87	0.0403	21.856	2349.15	0.0262	28.978	2349.15	0.0262	1	0.0828	NULL	6/13/2016	PUR1600438	M-90-01	338	338.1	2016	6/13/2016	Core		McNeil
PUR1600439.asd	FSFR.2249 Int=4.5 sec	1917.5	0.384	34.722	2206.13	0.0451	31.247	2256.22	0.066	22.188	2345.71	0.099	34.596	2345.71	0.099	1	0.118	0.118	6/13/2016	PUR1600439	M-90-01	347	347.1	2016	6/13/2016	Core		McNeil
PUR1600440.asd	FSFR.2249 Int=4.5 sec	1919.34	0.191	36.041	2200.38	0.0258	26.149	2257.57	0.0981	25.484	2346.44	0.114	38.777	2346.44	0.114	1	0.135	0.135	6/13/2016	PUR1600440	M-90-01	350	350.1	2016	6/13/2016	Core		McNeil
PUR1600441.asd	FSFR.2249 Int=4.5 sec	1957.15	0.00715	25.344	2203.44	0.108	31.123	2254.14	0.0639	24.992	2351.19	0.101	39.333	2351.19	0.101	1	15.15	15.15	6/13/2016	PUR1600441	M-90-01	353	353.1	2016	6/13/2016	Core		McNeil
PUR1600442.asd	FSFR.2249 Int=4.5 sec	1910.31	0.104	32.822	2205.02	0.14	31.73	NULL	NULL	NULL	2348.62	0.0593	37.369	2348.62	0.0593	1	1.346	1.346	6/13/2016	PUR1600442	M-90-01	356.1	356.2	2016	6/13/2016	Core		McNeil
PUR1600443.asd	FSFR.2249 Int=4.5 sec	1917.68	0.124	34.968	2206.79	0.242	34.506	NULL	NULL	NULL	2348.15	0.128	38.309	2348.15	0.128	1	1.947	1.947	6/13/2016	PUR1600443	M-90-01	362	362.1	2016	6/13/2016	Core		McNeil
PUR1600444.asd	FSFR.2249 Int=4.5 sec	1918.81	0.033	41.474	2207.9	0.201	34.798	NULL	NULL	NULL	2351.77	0.114	37.618	2351.77	0.114	1	6.096	6.096	6/13/2016	PUR1600444	M-90-01	359	359.1	2016	6/13/2016	Core		McNeil
PUR1600445.asd	FSFR.2249 Int=4.5 sec	1929.12	0.0287	33.423	2201.09	0.11	30.404	2249.43	0.048	27.774	2346.09	0.0753	37.184	2346.09	0.0753	1	3.836	3.836	6/13/2016	PUR1600445	M-90-01	371	371.1	2016	6/13/2016	Core		McNeil
PUR1600446.asd	FSFR.2249 Int=4.5 sec	1913.19	0.0264	42.511	2209.19	0.0428	31.444	2256.36	0.0463	21.711	2353.53	0.0533	35.489	2353.53	0.0533	1	1.622	1.622	6/13/2016	PUR1600446	M-90-01	374	374.1	2016	6/13/2016	Core		McNeil
PUR1600450.asd	FSFR.2249 Int=4.5 sec	1917.5	0.562	34	2208.04	0.0397	33.292	2257.17	0.0383	20.884	2347.52	0.0384	33.953	2347.52	0.0384	1	0.0706	NULL	6/13/2016	PUR1600450	M-90-01	377	377.1	2016	6/13/2016	Core		McNeil
PUR1600451.asd	FSFR.2249 Int=4.5 sec	1919.13	0.143	32.187	2207.79	0.118	34.147	NULL	NULL	NULL	2348.02	0.0605	33.643	2348.02	0.0605	1	0.823	0.823	6/13/2016	PUR1600451	M-90-01	380	380.1	2016	6/13/2016	Core		McNeil
PUR1600452.asd	FSFR.2249 Int=4.5 sec	1917.14	0.185	31.991	2206.87	0.0391	33.165	2258.22	0.0666	21.905	2350.75	0.0854	38.604	2350.75	0.0854	1	0.212	0.212	6/13/2016	PUR1600452	M-90-01	383	383.1	2016	6/13/2016	Core		McNeil
PUR1600453.asd	FSFR.2249 Int=4.5 sec	1914.6	0.0523	34.133	2205.27	0.196	33.955	2238.64	0.0862	25.372	2350.8	0.116	37.192	2350.8	0.116	1	3.751	3.751	6/13/2016	PUR1600453	M-90-01	385.6	385.7	2016	6/13/2016	Core		McNeil
PUR1600454.asd	FSFR.2249 Int=4.5 sec	1936.37	0.0142	42.028	2208.82	0.0357	35.581	2243.93	0.0276	23.941	2348.95	0.0206	36.1	2348.95	0.0206	1	2.514	NULL	6/13/2016	PUR1600454	M-90-01	391.4	391.5	2016	6/13/2016	Core		McNeil
PUR1600455.asd	FSFR.2249 Int=4.5 sec	1929.01	0.0304	40.494	2205.87	0.0616	30.883	2253.91	0.0496	20.281	2344.28	0.0706	34.291	2344.28	0.0706	1	2.025	2.025	6/13/2016	PUR1600455	M-90-01	394.4	394.5	2016	6/13/2016	Core		McNeil
PUR1600456.asd	FSFR.2249 Int=4.5 sec	1917.47	0.106	33.664	2205.43	0.11	33.063	NULL	NULL	NULL	2351.76	0.0611	36.431	2351.76	0.0611	1	1.031	1.031	6/13/2016	PUR1600456	M-90-01	397.4	397.5	2016	6/13/2016	Core		McNeil
PUR1600457.asd	FSFR.2249 Int=4.5 sec	1917.31	0.295	34.247	2204.09	0.103	31.432	2251.7	0.0324	29.868	2350.04	0.047	39.878	2350.04	0.047	1	0.351	0.351	6/13/2016	PUR1600457	M-90-01	400.4	400.5	2016	6/13/2016	Core		McNeil
PUR1600458.asd	FSFR.2249 Int=4.5 sec	1920.83	0.0517	44.187	2205.78	0.145	32.889	2253.4	0.0825	27.246	2350.07	0.124	38.48	2350.07	0.124	1	2.804	2.804	6/13/2016	PUR1600458	M-90-01	403.4	403.5	2016	6/13/2016	Core		McNeil
PUR1600459.asd	FSFR.2249 Int=4.5 sec	1917.98	0.117	32.686	2202.96	0.192	30.562	2253.84	0.0736	27.623	2347.49	0.13	37.8	2347.49	0.13	1	1.638	1.638	6/13/2016	PUR1600459	M-90-01	406.4	406.5	2016	6/13/2016	Core		McNeil
PUR1600460.asd	FSFR.2249 Int=4.5 sec	1919.99	0.117	35.487	2207.08	0.063	34.76	2257.46	0.203	25.408	2345.68	0.208	38.631	2345.68	0.208	1	0.54	0.54	6/13/2016	PUR1600460	M-90-01	409.4	409.5	2016	6/13/2016	Core		McNeil
PUR1600461.asd	FSFR.2249 Int=4.5 sec	1916.13	0.0503	39.632	2205.62	0.221	33.472	NULL	NULL	NULL	2346.63	0.12	34.699	2346.63	0.12	1	4.387	4.387	6/13/2016	PUR1600461	M-90-01	411.9	412	2016	6/13/2016	Core		McNeil
PUR1600462.asd	FSFR.2249 Int=4.5 sec	1929.54	0.0409	43.653	2205	0.155	35.097	NULL	NULL	NULL	2344.8	0.0765	34.959	2344.8	0.0765	1	3.784	3.784	6/13/2016	PUR1600462	M-90-01	418.1	418.2	2016	6/13/2016	Core		McNeil
PUR1600463.asd	FSFR.2249 Int=4.5 sec	1952.72	0.0663	49.266	2217.8	0.0516	34.034	2258.17	0.112	25.019	2347.66	0.147	38.88	2347.66	0.147	1	0.779	0.779	6/13/2016	PUR1600463	M-90-01	421.1	421.2	2016	6/13/2016	Core		McNeil
PUR1600464.asd	FSFR.2249 Int=4.5 sec	1918.44	0.228	35.283	2209.77	0.0244	31.147	2257.2	0.0431	23.629	2350.85	0.0412	35.357	2350.85	0.0412	1	0.107	0.107	6/13/2016	PUR1600464	M-90-01	424.1	424.2	2016	6/13/2016	Core		McNeil
PUR1600465.asd	FSFR.2249 Int=4.5 sec	1917.38	0.0691	35.441	2205.24	0.153	32.057	2237.49	0.0551	26.971	2349.06	0.0827	37.103	2349.06	0.0827	1	2.211	2.211	6/13/2016	PUR1600465	M-90-01	427.1	427.2	2016	6/13/2016	Core		McNeil
PUR1600466.asd	FSFR.2249 Int=4.5 sec	1920.27	0.12	41.678	2207.32	0.0451	35.803	2257.49	0.082	23.814	2350.75	0.0781	39.483	2350.75	0.0781	1	0.377	0.377	6/13/2016	PUR1600466	M-90-01	430.1	430.2	2016	6/13/2016	Core		McNeil
PUR1600467.asd	FSFR.2249 Int=4.5 sec	1929.67	0.131	48.443	2209.18	0.0459	34.608	2258.09	0.113	25.842	2350.56	0.125	40.026	2350.56	0.125	1	0.349	0.349	6/13/2016	PUR1600467	M-90-01	433.1	433.2	2016	6/13/2016	Core		McNeil
PUR1600468.asd	FSFR.2249 Int=4.5 sec	1937.71	0.0619	45.028	2200.99	0.147	31.244	NULL	NULL	NULL	2343.21	0.0629	33.821	2343.21	0.0629	1	2.383	2.383	6/13/2016	PUR1600468	M-90-01	443.5	443.6	2016	6/13/2016	Core		McNeil
PUR1600469.asd	FSFR.2249 Int=4.5 sec	1913.7	0.0644	33.22	2201.07	0.119	30.729	2235.42	0.0466	22.626	2352.25	0.0606	31.775	2352.25	0.0606	1	1.855	1.855	6/13/2016	PUR1600469	M-90-01	446.5	446.6	2016	6/13/2016	Core		McNeil
PUR1600473.asd	FSFR.2249 Int=4.5 sec	1914.84	0.0581	33.919	2200.45	0.21	31.028	2253.06	0.0728	29.69	2347.54	0.131	36.234	2347.54	0.131	1	3.615	3.615	6/13/2016	PUR1600473	M-90-01	449.5	449.6	2016	6/13/2016	Core		McNeil
PUR1600474.asd	FSFR.2249 Int=4.5 sec	1942.46	0.0469	44.063	2200.35	0.0716	30.305	2257.63	0.0934	24.244	2347.89	0.0969	38.684	2347.89	0.0969	1	1.527	1.527	6/13/2016	PUR1600474	M-90-01	452.5	452.6	2016	6/13/2016	Core		McNeil

Sample	Sample Name	w1900_H2O	hqd1900_H2O	w1900_H2O	w2200_AlOH	hqd2200_AlOH	w2200_AlOH	w2250_Fe(	hqd2250_F	w2250_FeOH	w2350_MgOH	hqd2350_MgOH	w2350_MgOH	w2330_Carb	hqd2330_Carb	w2330_Carb	Crystallinity index	sericite crystallinity	Date_Taken	SampleID	Hole_ID	Depth_From	Depth_To	Year	Date	Type	StationID	Property
PUR1600475.asd	FSFR.2249 Int=4.5 sec	1923.42	0.44	38.12	2204.4	0.0216	30.475	2258.59	0.0275	22.712	2347.48	0.037	34.612	2347.48	0.037	1	0.049	NULL	6/13/2016	PUR1600475	M-90-01	459.5	459.6	2016	6/13/2016	Core		McNeil
PUR1600476.asd	FSFR.2249 Int=4.5 sec	1916.24	0.0401	36.633	2208.4	0.0657	35.185	2256.73	0.0592	26.209	2349.36	0.0671	35.532	2349.36	0.0671	1	1.637	1.637	6/13/2016	PUR1600476	M-90-01	456.5	456.6	2016	6/13/2016	Core		McNeil
PUR1600477.asd	FSFR.2249 Int=4.5 sec	1917.85	0.18	34.659	2207.03	0.264	34.394	NULL	NULL	NULL	2351.76	0.153	37.917	2351.76	0.153	1	1.466	1.466	6/13/2016	PUR1600477	M-90-01	462.1	462.2	2016	6/13/2016	Core		McNeil
PUR1600478.asd	FSFR.2249 Int=4.5 sec	1915.88	0.0954	34.972	2200.37	0.164	30.067	NULL	NULL	NULL	2350.24	0.0742	33.581	2350.24	0.0742	1	1.716	1.716	6/13/2016	PUR1600478	M-90-01	468.4	468.5	2016	6/13/2016	Core		McNeil
PUR1600479.asd	FSFR.2249 Int=4.5 sec	1916.23	0.0638	41.716	2210.49	0.123	35.367	2256.95	0.11	24.511	2347.17	0.137	38.593	2347.17	0.137	1	1.933	1.933	6/13/2016	PUR1600479	M-90-01	471.4	471.5	2016	6/13/2016	Core		McNeil
PUR1600480.asd	FSFR.2249 Int=4.5 sec	1910.93	0.0517	36.963	2198.3	0.215	30.419	2253.51	0.075	25.81	2349.41	0.156	37.599	2349.41	0.156	1	4.153	4.153	6/13/2016	PUR1600480	M-90-01	474.4	474.5	2016	6/13/2016	Core		McNeil
PUR1600481.asd	FSFR.2249 Int=4.5 sec	1919.82	0.0857	39.121	2200.24	0.243	31.604	2238.02	0.0793	21.402	2345.11	0.121	35.984	2345.11	0.121	1	2.835	2.835	6/13/2016	PUR1600481	M-90-01	477.4	477.5	2016	6/13/2016	Core		McNeil
PUR1600482.asd	FSFR.2249 Int=4.5 sec	1917.11	0.161	32.34	2201.91	0.104	29.886	2256.35	0.0292	28.215	2347.26	0.0476	32.548	2347.26	0.0476	1	0.644	0.644	6/13/2016	PUR1600482	M-90-01	480.4	480.5	2016	6/13/2016	Core		McNeil
PUR1600483.asd	FSFR.2249 Int=4.5 sec	1920.12	0.0427	27.303	2199.57	0.206	31.17	NULL	NULL	NULL	2347.34	0.132	30.423	2347.34	0.132	1	4.816	4.816	6/13/2016	PUR1600483	M-90-01	483.4	483.5	2016	6/13/2016	Core		McNeil
PUR1600484.asd	FSFR.2249 Int=4.5 sec	1916.47	0.0715	32.799	2200.81	0.135	30.895	NULL	NULL	NULL	2351.71	0.0613	35.701	2351.71	0.0613	1	1.888	1.888	6/13/2016	PUR1600484	M-90-01	486.4	486.5	2016	6/13/2016	Core		McNeil
PUR1600485.asd	FSFR.2249 Int=4.5 sec	NULL	NULL	NULL	2200.81	0.327	32.454	NULL	NULL	NULL	2348.69	0.215	35.634	2348.69	0.215	1	NULL	NULL	6/13/2016	PUR1600485	M-90-01	489.4	489.5	2016	6/13/2016	Core		McNeil
PUR1600486.asd	FSFR.2249 Int=4.5 sec	1927.39	0.0974	43.073	NULL	NULL	NULL	2254	0.173	24.586	2349.62	0.177	35.252	2349.62	0.177	1	NULL	NULL	6/13/2016	PUR1600486	M-90-01	496.5	496.6	2016	6/13/2016	Core		McNeil
PUR1600487.asd	FSFR.2249 Int=4.5 sec	1937.44	0.105	49.414	2228.21	0.0608	31.035	2256.37	0.189	26.069	2349.71	0.254	41.486	2349.71	0.254	1	0.578	0.578	6/13/2016	PUR1600487	M-90-01	499.5	499.6	2016	6/13/2016	Core		McNeil
PUR1600488.asd	FSFR.2249 Int=4.5 sec	1930.58	0.0464	35.907	2200.86	0.0664	31.914	2258.3	0.0535	20.831	2359.83	0.107	36.304	2356.39	0.108	1	1.432	1.432	6/13/2016	PUR1600488	M-90-01	502.5	502.6	2016	6/13/2016	Core		McNeil
PUR1600489.asd	FSFR.2249 Int=4.5 sec	1931.39	0.146	45.786	2203.95	0.016	35.413	2254.87	0.114	21.803	2348.67	0.161	36.115	2348.67	0.161	1	0.11	NULL	6/13/2016	PUR1600489	M-90-01	505.5	505.6	2016	6/13/2016	Core		McNeil
PUR1600490.asd	FSFR.2249 Int=4.5 sec	1913.42	0.109	33.589	2207.59	0.268	34.754	NULL	NULL	NULL	2348.76	0.158	34.743	2348.76	0.158	1	2.454	2.454	6/13/2016	PUR1600490	M-90-01	508.5	508.6	2016	6/13/2016	Core		McNeil
PUR1600491.asd	FSFR.2249 Int=4.5 sec	1920.02	0.0915	37.129	2216.12	0.0209	34.465	2255.71	0.0622	25.164	2348.59	0.0615	36.566	2348.59	0.0615	1	0.228	NULL	6/13/2016	PUR1600491	M-90-01	511.5	511.6	2016	6/13/2016	Core		McNeil
PUR1600492.asd	FSFR.2249 Int=4.5 sec	1922.18	0.112	32.833	2202.83	0.368	33.164	2254.8	0.185	28.097	2346.1	0.28	35.643	2346.1	0.28	1	3.272	3.272	6/13/2016	PUR1600492	M-90-01	514.5	514.6	2016	6/13/2016	Core		McNeil
PUR1600496.asd	FSFR.2249 Int=4.5 sec	1914.74	0.0673	46.922	2204.1	0.219	33.44	2255.02	0.155	24.134	2350.53	0.196	37.405	2350.53	0.196	1	3.251	3.251	6/13/2016	PUR1600496	M-90-01	521	521.1	2016	6/13/2016	Core		McNeil
PUR1600497.asd	FSFR.2249 Int=4.5 sec	1941.31	0.0983	42.601	2217.57	0.0417	30.232	2258.05	0.0398	24.167	2355.4	0.0338	30.917	2355.4	0.0338	1	0.425	0.425	6/13/2016	PUR1600497	M-90-01	524	524.1	2016	6/13/2016	Core		McNeil
PUR1600498.asd	FSFR.2249 Int=4.5 sec	1915.85	0.117	39.662	2203.38	0.253	33.863	2251.78	0.135	28.516	2347.8	0.176	35.491	2347.8	0.176	1	2.161	2.161	6/13/2016	PUR1600498	M-90-01	527	527.1	2016	6/13/2016	Core		McNeil
PUR1600499.asd	FSFR.2249 Int=4.5 sec	1917.57	0.0891	38.348	2203.91	0.303	34.858	NULL	NULL	NULL	2347.5	0.197	37.332	2347.5	0.197	1	3.401	3.401	6/13/2016	PUR1600499	M-90-01	530	530.1	2016	6/13/2016	Core		McNeil
PUR1600500.asd	FSFR.2249 Int=4.5 sec	1924.96	0.0314	39.259	2212.04	0.0459	33.27	2253.37	0.047	24.837	2347.14	0.0577	31.599	2347.14	0.0577	1	1.464	NULL	6/13/2016	PUR1600500	M-90-01	536	536.1	2016	6/13/2016	Core		McNeil
PUR1600501.asd	FSFR.2249 Int=4.5 sec	1916.9	0.224	36.14	2201.5	0.0059	30.874	2260.29	0.0129	27.485	2325.47	0.113	38.086	2325.47	0.113	1	0.0263	NULL	6/13/2016	PUR1600501	M-90-01	539	539.1	2016	6/13/2016	Core		McNeil
PUR1600502.asd	FSFR.2249 Int=4.5 sec	1917.97	0.233	37.245	2202	0.0231	28.493	2261.99	0.0513	27.588	2334.95	0.166	40.478	2334.95	0.166	1	0.0991	NULL	6/13/2016	PUR1600502	M-90-01	545.4	545.5	2016	6/13/2016	Core		McNeil
PUR1600503.asd	FSFR.2249 Int=4.5 sec	1914.1	0.0744	28.531	NULL	NULL	NULL	2259.04	0.136	27.464	2344.83	0.203	43.818	2344.83	0.203	1	NULL	NULL	6/13/2016	PUR1600503	M-90-01	548.4	548.5	2016	6/13/2016	Core		McNeil
PUR1600504.asd	FSFR.2249 Int=4.5 sec	1918.86	0.0299	41.203	2197.6	0.00877	25.319	2257.62	0.0314	24.266	2346.07	0.146	42.371	2346.07	0.146	1	0.293	NULL	6/13/2016	PUR1600504	M-90-01	551.4	551.5	2016	6/13/2016	Core		McNeil
PUR1600505.asd	FSFR.2249 Int=4.5 sec	1918.61	0.186	40.546	2226.77	0.00435	16.421	2273.87	0.0659	27.827	2339.54	0.151	39.687	2339.54	0.151	1	0.0233	NULL	6/13/2016	PUR1600505	M-90-01	554.4	554.5	2016	6/13/2016	Core		McNeil
PUR1600506.asd	FSFR.2249 Int=4.5 sec	1912.22	0.177	33.684	2208.41	0.00225	31.35	2255.08	0.0391	27.652	2337.41	0.12	36.83	2337.41	0.12	1	0.0127	NULL	6/13/2016	PUR1600506	M-90-01	557.4	557.5	2016	6/13/2016	Core		McNeil
PUR1600507.asd	FSFR.2249 Int=4.5 sec	1910.31	0.205	31.446	2200.79	0.00663	26.061	2257.38	0.0289	27.318	2333.42	0.132	39.903	2333.42	0.132	1	0.0324	NULL	6/13/2016	PUR1600507	M-90-01	560.4	560.5	2016	6/13/2016	Core		McNeil
PUR1600508.asd	FSFR.2249 Int=4.5 sec	1924.79	0.0616	46.341	2198.19	0.0178	26.275	2259.61	0.0292	24.626	2349.49	0.16	43.038	2349.49	0.16	1	0.289	NULL	6/13/2016	PUR1600508	M-90-01	563.4	563.5	2016	6/13/2016	Core		McNeil
PUR1600509.asd	FSFR.2249 Int=4.5 sec	1927.15	0.0425	40.308	2202.73	0.0131	29.194	2258.45	0.022	24.828	2332.56	0.127	44.212	2332.56	0.127	1	0.309	NULL	6/13/2016	PUR1600509	M-90-01	570.9	571	2016	6/13/2016	Core		McNeil
PUR1600510.asd	FSFR.2249 Int=4.5 sec	1922.04	0.166	42.832	2199.99	0.00955	27.778	2267.9	0.0432	29.287	2339.43	0.0734	43.807	2339.43	0.0734	1	0.0575	NULL	6/13/2016	PUR1600510	M-90-01	572.1	572.2	2016	6/13/2016	Core		McNeil
PUR1600511.asd	FSFR.2249 Int=4.5 sec	1923.69	0.0472	42.227	2203.73	0.0492	34.047	2240.44	0.0447	21.523	2332.69	0.048	35.482	2332.69	0.048	1	1.043	NULL	6/13/2016	PUR1600511	M-90-01	138	138.1	2016	6/13/2016	Core		McNeil
PUR1600512.asd	FSFR.2249 Int=4.5 sec	1919.02	0.031	39.688	2206.91	0.0531	32.505	2253.01	0.031	24.457	2353.16	0.034	30.225	2353.16	0.034	1	1.716	1.716	6/13/2016	PUR1600512	M-90-01	141	141.1	2016	6/13/2016	Core		McNeil
PUR1600513.asd	FSFR.2249 Int=4.5 sec	1911.14	0.0623	31.284	2206.33	0.0993	31.597	2238.23	0.0392	27.332	2350.67	0.0562	37.514	2350.67	0.0562	1	1.593	1.593	6/13/2016	PUR1600513	M-90-01	151	151.1	2016	6/13/2016	Core		McNeil
PUR1600514.asd	FSFR.2249 Int=4.5 sec	1908.49	0.102	35.351	2207.87	0.113	31.129	2253.65	0.0636	26.508	2350.75	0.111	39.337	2350.75	0.111	1	1.104	1.104	6/13/2016	PUR1600514	M-90-01	154.2	154.3	2016	6/13/2016	Core		McNeil
PUR1600515.asd	FSFR.2249 Int=4.5 sec	1916.29	0.295	35.044	2206.37	0.0956	32.556	2253.99	0.0399	29.865	2355.41	0.0278	39.413	2355.41	0.0278	1	0.323	0.323	6/13/2016	PUR1600515	M-90-01	157	157.1	2016	6/13/2016	Core		McNeil
PUR1600519.asd	FSFR.2249 Int=4.5 sec	1915.01	0.0331	32.428	2204.73	0.156	31.329	2237.08	0.0514	19.871	2351.26	0.0712	33.783	2351.26	0.0712	1	4.719	4.719	6/13/2016	PUR1600519	M-90-01	160	160.1	2016	6/13/2016	Core		McNeil
PUR1600520.asd	FSFR.2249 Int=4.5 sec	1935.16	0.0172	37.109	2208.15	0.0611	32.922	2252.54	0.0247	25.06	2351.86	0.0357	26.811	2351.86	0.0357	1	3.562	NULL	6/13/2016	PUR1600520	M-90-01	163	163.1	2016	6/13/2016	Core		McNeil
PUR1600521.asd	FSFR.2249 Int=4.5 sec	1905.58	0.0352	42.056	2204.82	0.219	32.141	2251.53	0.0885	28.271	2349.69	0.172	40.371	2349.69	0.172	1	6.231	6.231	6/13/2016	PUR1600521	M-90-01	166	166.1	2016	6/13/2016	Core		McNeil
PUR1600522.asd	FSFR.2249 Int=4.5 sec	1937.94	0.0402	33.28	2208.44	0.0348	27.923	2237.68	0.0304	22.609	2322.67	0.0256	27.539	2322.6	0.0253	1	0.865	NULL	6/13/2016	PUR1600522	M-90-01	169	169.1	2016	6/13/2016	Core		McNeil
PUR1600523.asd	FSFR.2249 Int=4.5 sec	1911.44	0.16	32.312	2198.31	0.0219	34.295	2254.3	0.0523	22.085	2346.09	0.0869	35.022	2346.09	0.0869	1	0.137	NULL	6/13/2016	PUR1600523	M-90-01	172	172.1	2016	6/13/2016	Core		McNeil
PUR1600524.asd	FSFR.2249 Int=4.5 sec	1907.01	0.048	29.833	2205.22	0.127	31.105	2235.53	0.0495	21.748	2353.71	0.0657	38.066	2353.71	0.0657	1	2.641	NULL	6/13/2016	PUR1600524	M-90-01	175	175.1	2016	6/13/2016	Core		McNeil
PUR1600525.asd	FSFR.2249 Int=4.5 sec	1923.03	0.391	37.476	2204.99	0.101	30.855	NULL	NULL	NULL	2352.98	0.0334	38.468	2352.98	0.0334	1	0.259	NULL	6/13/2016	PUR1600525	M-90-01	188	188.1	2016	6/13/2016	Core		McNeil
PUR1600526.asd	FSFR.2249 Int=4.5 sec	1933.04	0.0452	35.812	2213.07	0.0586	32.398	2251.67	0.0418	26.481	2348.15	0.0439	36.896	2348.15	0.0439	1	1.297	1.297	6/13/2016	PUR1600526	M-90-01	190	190.1	2016	6/13/2016	Core		McNeil
PUR1600527.asd	FSFR.2249 Int=4.5 sec	1921.93	0.14	38.479	2196.21	0.00917	30.73	2260.36	0.00903	23.58	2349.09	0.0142	28.181	2349.09	0.0142	1	0.0653	0.0653	6/13/2016	PUR1600527	M-90-01	193	193.1	2016	6/13/2016	Core		McNeil
PUR1600528.asd	FSFR.2249 Int=4.5 sec	1930.08	0.0583	44.565	2207.71	0.0326	32.119	2254.01	0.0119	24.048	2351.67	0.0241	29.865	2351.67	0.0241	1	0.56	0.56	6/13/2016	PUR1600528	M-90-01	196	196.1	2016	6/13/2016	Core		McNeil
PUR1600529.asd	FSFR.2249 Int=4.5 sec	1918.83	0.255	35.424	2206.51	0.154	31.831	2252.61	0.054	28.772	2350.2	0.0917	37.055	2350.2	0.0917	1	0.604	0.604	6/13/2016	PUR1600529	M-90-01	199	199.1	2016	6/13/2016	Core		McNeil
PUR1600530.asd	FSFR.2249 Int=4.5 sec	1912.18	0.0576	28.992	2205.8	0.12	32.087	NULL	NULL	NULL	2351.49	0.0719	34.81	2351.49	0.0719	1	2.092	2.092	6/13/2016	PUR1600530	M-90-01	202	202.1	2016	6/13/2016	Core		McNeil
PUR1600531.asd	FSFR.2249 Int=4.5 sec	1915.77	0.158	36.889	2202.49	0.0565	31.518	2257.53	0.0554	21.991	2351.47	0.0858	38.551	2351.47	0.0858	1	0.358	0.358	6/13/2016	PUR1600531	M-90-01	206	206.1	2016	6/13/2016	Core		McNeil
PUR1600532.asd	FSFR.2249 Int=4.5 sec	1923.8	0.0381	33.794	2204.08	0.085	30.647	2241.24	0.0403	22.822	2347.24	0.0602	34.715	2347.24	0.0602	1	2.229	2.229	6/13/2016	PUR1600532	M-90-01	209	209.1	2016	6/13/2016	Core		McNeil
PUR1600533.asd	FSFR.2249 Int=4.5 sec	1929.64	0.14	47.613	2203.81	0.028	35.142	2257.03	0.14	26.166	2349.21	0.212	39.7	2349.21	0.212	1	0.2	NULL	6/13/2016	PUR1600533	M-90-01	212	212.1	2016	6/13/2016	Core		McNeil
PUR1600534.asd	FSFR.2249 Int=4.5 sec	1927.87	0.0593	42.069	2209.12	0.018	27.106	2259.74	0.0198	23.016	2354.19	0.0176	39.288	2311.66	0.0212	1	0.304	0.304	6/13/2016	PUR1600534	M-90-01	215	215.1	2016	6/13/2016	Core		McNeil
PUR1600535.asd	FSFR.2249 Int=4.5 sec	1926.36	0.029	36.465	2202.5	0.0633	29.813	2262.64	0.0295	32.958	2343.18	0.0741	35.469	2343.18	0.0741	1	2.18	2.18	6/13/2016	PUR1600535	M-90-01	224	224.1	2016	6/13/2016	Core		McNeil
PUR1600536.asd	FSFR.2249 Int=4.5 sec	1913.24	0.0437	39.496	2206.33	0.15	31.586	2237.85	0.0579	22.847	2349.87	0.071	38.018	2349.87	0.071	1	3.423	3.423	6/13/2016	PUR1600536	M-90-01	227	227.1	2016	6/13/2016	Core		McNeil
PUR1600537.asd	FSFR.2249 Int=4.5 sec	1939.45	0.083	40.775	2206.86	0.0994	32.646	2253.96	0.0494	29.059	NULL	NULL	NULL	NULL	NULL	1	1.197	1.197	6/13/2016	PUR1600537	M-90-01	230	230.1	2016	6/13/2016	Core		McNeil
PUR1600538.asd	FSFR.2249 Int=4.5 sec	1914.3	0.0214	27.688	2207.43	0.136	31.504	2237.11	0.0422	27.368	2347.81	0.0821	30.728	2347.81	0.0821	1	6.37	6.37	6/13/2016	PUR1600538	M-90-01	233	233.1	2016	6/13/2016	Core		McNeil
PUR1600542.asd	FSFR.2249 Int=4.5 sec	1939.75	0.0425	46.538	2204.32	0.0869	32.246	NULL	NULL	NULL	2351.69	0.0416	32.852	2351.69	0.0416	1	2.042	2.042	6/13/2016	PUR1600542	M-90-01	236	236.1	2016	6/13/2016	Core		McNeil
PUR1600543.asd	FSFR.2249 Int=4.5 sec	1917.07	0.331	34.471	2191.55	0.00394	27.353	2258.03	0.0242	23.871	2351.71	0.00908	36.873	2351.71	0.00908	1	0.0119	NULL	6/13/2016	PUR1600543	M-90-01	240	240.1	2016	6/13/2016	Core		McNeil
PUR1600544.asd	FSFR.2249 Int=4.5 sec	1934.98	0.0281	45.014	2228.15	0.0189	34.3	2253.55	0.0552	24.563	2338.72	0.0623	39.798	2338.72	0.0623	1	0.672	NULL	6/13/2016	PUR1600544	M-90-01	242	242.1	2016	6/13/2016	Core		McNeil

Appendix VIIII

Drillhole	Sample (ft)	Sample (m)	MagSus1	MagSus2	MagSus3	MagSus4	MagSus5	MagSus_Ave	MagSus_StDev	Dry surface Weight	Weight in air	Weight in Water	Specific Gravity (g/cm3)
M90-01	255.9	78	0.183	0.283	0.23	0.196	0.22	0.22	0.04		868.6	547	2.701
M90-01	343.2	104.6	0.101	0.103	0.101	0.097	0.098	0.1	0		1499.4	941.5	2.688
M90-01	376	114.6	0.597	0.557	0.615	0.594	0.604	0.59	0.02		908.2	574.5	2.722
M90-01	420.6	128.2	0.149	0.162	0.155	0.123	0.117	0.14	0.02		1112.5	710	2.764
M90-01	459.6	140.1	0.125	0.15	0.161	0.138	0.167	0.15	0.02		1223.1	774.2	2.725
M90-01	516.1	157.3	0.073	0.091	0.09	0.118	0.105	0.1	0.02		865.2	544	2.694
M90-01	563.3	171.7	1.292	1.114	1.321	1.315	1.116	1.23	0.11		1500	957	2.762
M90-01	622.7	189.8	1.014	0.717	0.963	0.115	0.844	0.73	0.36		670.8	424.6	2.725
M90-01	688	209.7	0.312	0.303	0.301	0.21	0.306	0.29	0.04		875.1	557.5	2.755
M90-01	746.7	227.6	0.21	0.202	0.205	0.15	0.168	0.19	0.03		895.8	569	2.741
M90-01	826.1	251.8	0.121	0.125	0.136	0.126	0.126	0.13	0.01		1050	663.7	2.718
M90-01	882.2	268.9	0.101	0.089	0.081	0.086	0.108	0.09	0.01		815.3	511	2.679
M90-01	905.8	276.1	0.22	0.186	0.19	0.223	0.214	0.21	0.02		1186.4	751.8	2.73
M90-01	924.9	281.9	0.112	0.128	0.118	0.126	0.128	0.12	0.01		1081.4	680	2.694
M90-01	997.7	304.1	0.181	0.193	0.181	0.164	0.178	0.18	0.01		1055.6	672.5	2.755
M90-01	1065.9	324.9	0.15	0.136	0.151	0.134	0.13	0.14	0.01		978.9	616.8	2.703
M90-01	1146	349.3	0.213	0.224	0.211	0.212	0.219	0.22	0.01		1128.5	720	2.763
M90-01	1187	361.8	0.102	0.099	0.102	0.101	0.111	0.1	0		1029.3	645.5	2.682
M90-01	1333.3	406.4	0.143	0.149	0.165	0.127	0.139	0.14	0.01		719.2	456	2.733
M90-01	1345.8	410.2	0.51	0.484	0.455	0.549	0.511	0.5	0.03		1786.1	1143	2.777
M90-01	1387.8	423	0.163	0.136	0.13	0.14	0.131	0.14	0.01		912.6	575.1	2.704
M90-01	1419.9	432.8	0.092	0.099	0.088	0.092	0.097	0.09	0		946.6	591	2.662
M90-01	1468.5	447.6	0.09	0.075	0.097	0.09	0.094	0.09	0.01		834.2	521.5	2.668
M90-01	1516.1	462.1	0.107	0.095	0.105	0.105	0.114	0.11	0.01		1178.2	741	2.695
M90-01	1589.9	484.6	0.205	0.211	0.202	0.222	0.197	0.21	0.01		1487.4	954.2	2.79
M90-01	1650.9	503.2	0.069	0.116	0.096	0.094	0.057	0.09	0.02		250.7	158.6	2.722
M90-01	1657.2	505.1	0.074	0.064	0.092	0.064	0.061	0.07	0.01		428.8	270.5	2.709
M90-01	1670.3	509.1	0.187	0.213	0.205	0.2	0.157	0.19	0.02		1126	711.2	2.715
M90-01	1807.7	551	1.163	0.983	0.98	0.882	0.883	0.98	0.11		511	343.5	3.051
M90-01	1826.4	556.7	1.044	0.667	1.016	1.129	0.596	0.89	0.24		494.1	334.8	3.102
M90-01	1842.8	561.7	0.673	0.667	0.438	0.648	0.558	0.6	0.1		377.8	244.4	2.832
M90-01	1855.3	565.5	0.985	0.976	0.122	0.98	0.687	0.75	0.37		466.1	312.8	3.04
M89-08	2849.4	868.5	0.58	0.632	0.758	0.667	0.653	0.66	0.06		485.3	307.2	2.725
M89-08	2901.9	884.5	0.605	0.566	0.549	0.688	0.486	0.58	0.07		681.3	434.5	2.761
M89-08	2973.8	906.4	1.36	0.754	0.8	0.881	0.766	0.91	0.26		361.5	232	2.792
M89-08	3054.8	931.1	0.388	0.307	0.213	0.252	0.312	0.29	0.07		720.4	456	2.725
M89-08	3132.2	954.7	0.15	0.14	0.151	0.154	0.133	0.15	0.01		401	261.3	2.87
M89-08	3261.5	994.1	2.629	2.932	2.846	2.935	2.768	2.82	0.13		341	219.5	2.807
M89-08	3285.1	1001.3	2.895	3.1	2.9	3.039	2.951	2.98	0.09		245.2	156.3	2.758

Drillhole	Sample (ft)	Sample (m)	MagSus1	MagSus2	MagSus3	MagSus4	MagSus5	MagSus_Ave	MagSus_StDev	Dry surface Weight	Weight in air	Weight in Water	Specific Gravity (g/cm3)
M89-08	3308.1	1008.3	0.562	0.256	0.26	0.26	0.255	0.32	0.14		469.9	299.5	2.758
M89-08	3329.7	1014.9	1.484	1.69	1.354	1.54	1.678	1.55	0.14		149.5	96.8	2.837
M89-08	3337.9	1017.4	1.439	1.888	1.327	1.402	1.471	1.51	0.22		175.9	112.8	2.788
M89-08	3401.9	1036.9	0.399	0.34	0.434	0.447	0.353	0.39	0.05		534.4	342.2	2.78
M89-08	3451.8	1052.1	1.776	1.582	1.398	1.781	1.536	1.61	0.16		592.5	376.2	2.739
M89-08	3487.5	1063	1.101	1.162	0.93	1.025	0.939	1.03	0.1		240.8	152	2.712
M89-08	3503.9	1068	1.472	1.792	1.17	1.613	1.45	1.5	0.23		466.1	295.8	2.737
M89-08	3526.2	1074.8	2.202	1.64	2.252	1.161	2	1.85	0.45		205	131.2	2.778
M89-08	3540	1079	0.197	0.17	0.22	0.211	0.189	0.2	0.02		213.3	134	2.69

Appendix X

Exploration Work type	Comment	Days	Rate	Subtotal*	Totals
Mapping and Prospecting					
Teck Resources Ltd. *	**Field Days (actual days)**	**Days**	**Rate**	**Subtotal***	
Senior Geolgoist/Tom Danielson	May 24 - June 3	11	$750.00	$8,250.00	
Geologist/Lara Loughrey	May 24 - June 2	10	$525.00	$5,250.00	
Geologist/Kirsti Medig	May 25 - May 30	6	$525.00	$3,150.00	
Field Technician/Sara Wigelsworth	May 30 - June 2	4	$450.00	$1,800.00	
Re-logging, Physical Properties, pXRF, ASD					
Regional Chief Geoscientist/Lucas Marshall	June 8	1	$863.00	$863.00	
Snr Project Geophysicist/Brendan Howe	June 11 - June 13	3	$675.00	$2,025.00	
Project Geolgoist/Lucy Hollis	June 8	1	$600.00	$600.00	
Geologist/Lara Loughrey	June 8, June 11 - June 12	3	$525.00	$1,575.00	
Geologist/Kirsti Medig	June 8, June 11 - June 15	6	$525.00	$3,150.00	
Field Technician/Sara Wigelsworth	June 11 - June 15	5	$450.00	$2,250.00	
Field Technician/Steve Berg	June 11 - June 15	5	$450.00	$2,250.00	
***** Note: Day rates are approximate for Teck personnel***					**$31,163.00**
Office	**Personnel**	**Days**	**Rate**	**Subtotal***	
Supervision/Field Preparation/Field Planning	Principal Geologist	1	$863.00	$863	
Technical Supervision	Regional Chief Geoscientist	1	$863.00	$863	
Review of existing data and literature	Senior Geologist	2	$750.00	$1,500	
Technical Support and Field Logistics	Field Technician	2	$450.00	$900	
Safety Oversight and Training	Health and Safety Co-ordinator	1	$550.00	$550	
Interpretation and Reporting	Principal Geologist/Paul MacRobbie	1	$863.00	$863	
Interpretation and Reporting	Regional Chief Geoscientist/Lucas Marshall	1	$863.00	$863	
Interpretation and Reporting	Senior Geologist/Tom Danielson	4	$750.00	$3,000	
Interpretation and Reporting	Senior Project Geophysicist/Brendan Howe	4	$675.00	$2,700	
Interpretation and Reporting	Project Geologist/Lucy Hollis	4	$600.00	$2,400	
Interpretation and Reporting	Geologist/Lara Loughrey	6	$525.00	$3,150	
Interpretation and Reporting	Geologist/Kirsti Medig	4	$525.00	$2,100	
Interpretation and Reporting	Geochemist/Liz Stock	4	$525.00	$2,100	
GIS and Database Management	GIS Analyst I/Field Technician	2	$450.00	$900	
***** Note: Day rates are approximate for Teck personnel***					**$22,752**
Analytical	**Rates per day**			**Subtotal**	
Laboratory	Total costs for sample prep and lithogeochemical analysis	69	$55.00	$3,795	
Shipping Costs	Total costs for shipping samples	1	$58.84	$59	
Portable pXRF and ASD Machines	Total rental cost for portable XRF	1	$1,750.00	$1,750	
					$5,604
Transportation				**Subtotal**	
Commercial Airfare	Total flight cost for program - travel Vancouver to Cranbrook	1	$1,102.88	$1,103	
Vehicles - Fuel and Maintainance	Total costs for fuel and vehicle upkeep for program	1	$2,151.75	$2,152	
Taxi, Parking and Travel Costs	Taxis, Parking-associated costs etc.	1	$43.00	$43	
					$3,298
Accommodation & Food	**Rates per day**			**Subtotal**	
Crew Accommodation (Motel - Days Inn)	Total costs for accommodation for duration of program	42.0	$95.60	$4,015	
Meals	Total costs for meals for duration of program	1.00	$1,004.59	$1,005	
Groceries	Total costs for groceries for duration of program	1.00	$516.51	$517	
					$5,536
Equipment				**Subtotal**	
Satelite Phone Rental	Rental of hand-held sat phone	3	$250	$750	
Field Supplies	Geology supplies (Deakin), bear deterrent, sampling supplies, safety glov	1	$1,760	$1,760	
First Aid Supplies	First Aid Gear: days @ 23.35 (Level 3 FA kit)	13	$23	$304	
					$2,814
TOTAL Expenditures					**$65,562.48**