

# LONGFORD

EXPLORATION

## Assessment Report

On the

## Logjam Property

Swift River, Watson Lake Mining District, Yukon, Canada

### Located Within:

NTS Sheet 105B04

### Centered at Approximately:

Latitude 60.02° North by Longitude 131.60° West

### Claims:

M2 1, 2, 6 YB93637, YB93638, YB94166

LJ 1 - 29 YC31822 - YC31850

### Work Conducted:

July 24, 2018

### Report Prepared For:

CMC Metals Ltd.

305 - 369 Terminal Avenue

Vancouver, BC V6A 4C4

### Report Submitted by:

Ryan Versloot, GIT

### Longford Exploration Services Ltd.

460 – 688 West Hastings Street

Vancouver, BC V6B 1P1

January 31, 2019



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# 1 Introduction

The Logjam property is located in south-central Yukon Territory, approximately 250 km from Whitehorse and 185 km from Watson Lake where a 20km long road leaves the Alaska Highway at Km 1176. The property consists of 32 claims (662 hectares) owned by CMC Metals Ltd. in the Watson Lake Mining District covering an area of the Cassiar Mountains 5 km west of Smart River (Table 1.1, Figure 1.1). The property is not currently subject to any option or earn-in agreements and CMC Metals Ltd. was the operator for the 2018 program.

The 2018 program was carried out on the L.J. 2, L.J. 18 and M2 1 claims on July 24, 2018. Although there is mention of summer and winter access roads to the property, the condition was unknown, therefore a helicopter was used to avoid delays and cover more ground during the one-day visit. The crew of two from Longford Exploration Services Ltd. departed and returned to Whitehorse on the same day. A total of 7 rock samples were collected from previously identified veins on the property. Secondary objectives were to assess access and camp conditions to assist with planning of future exploration programs.

Table 1.1 Claim summary for the Logjam project.

CLAIM NAME	CLAIM NUMBER	GRANT NUMBER	OWNER	EXPIRY DATE
M2	1, 2	YB93637, YB93638	CMC METALS LTD. - 100%	2022-04-20
M2	6	YB94166	CMC METALS LTD. - 100%	2021-08-22
L.J.	29-Jan	YC31822 - YC31850	CMC METALS LTD. - 100%	2021-07-26

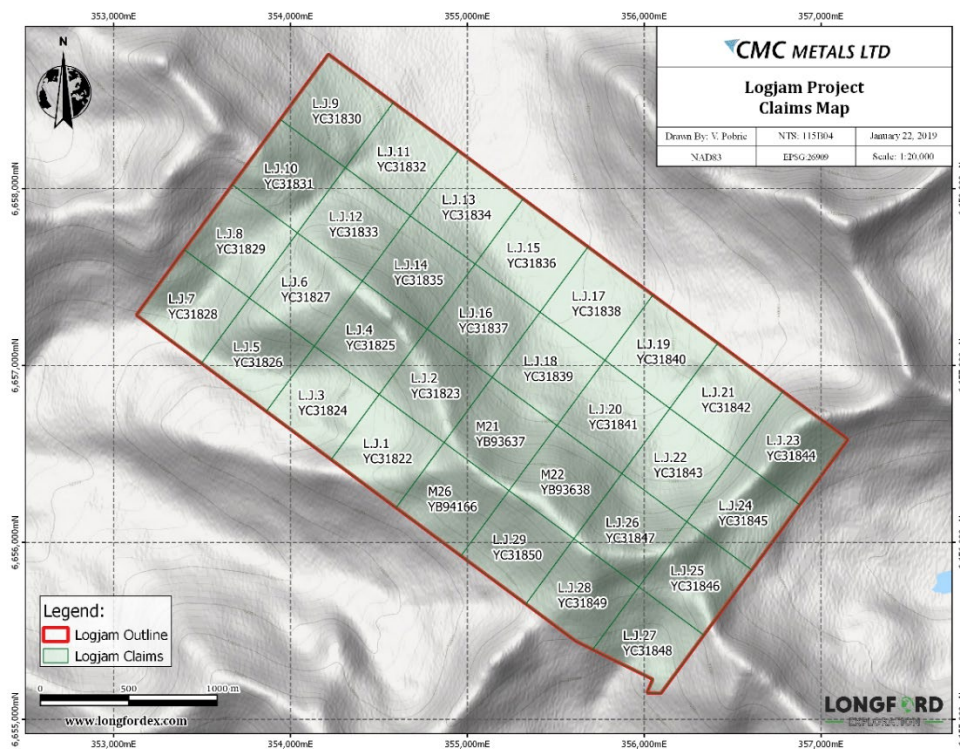


Figure 1.1 Logjam property claims map.

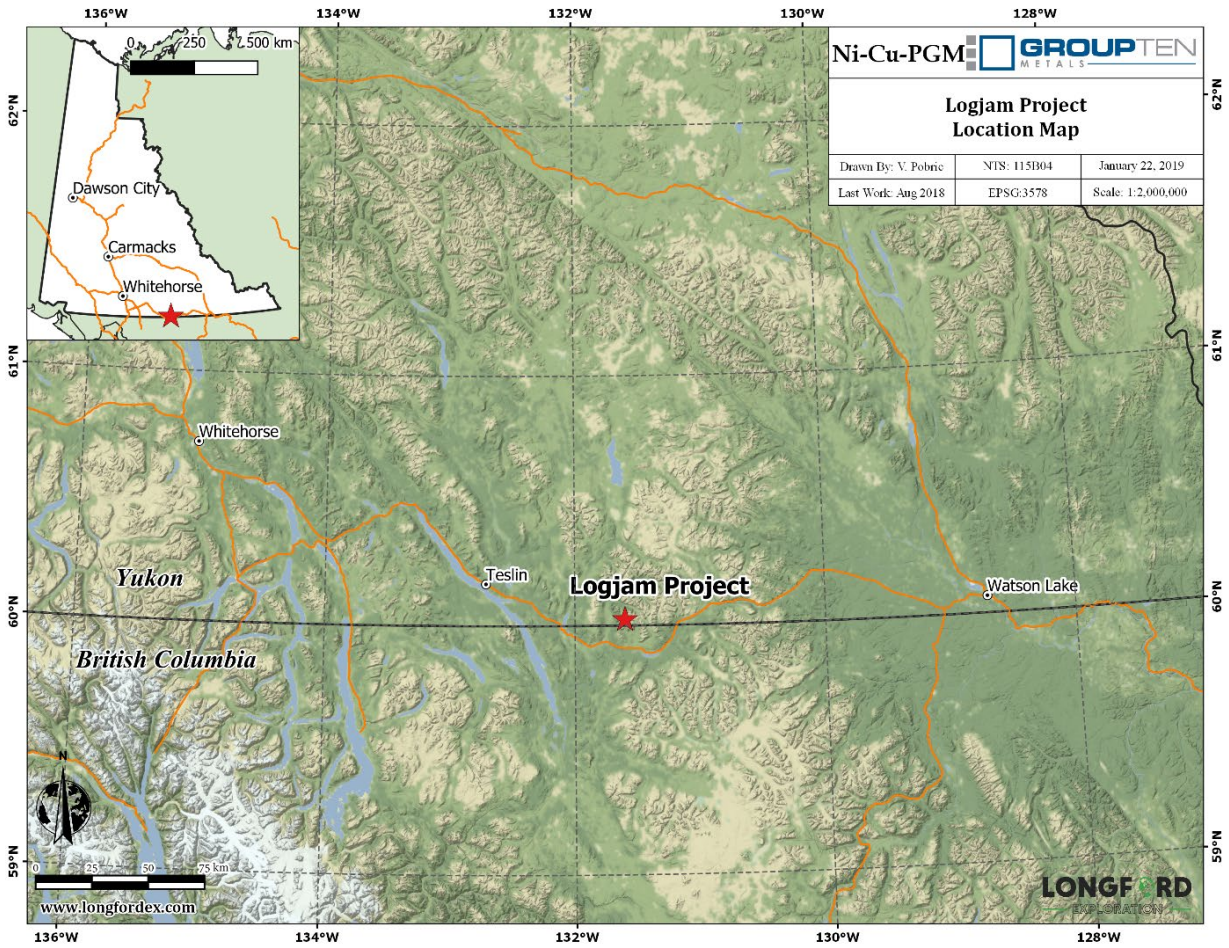


Figure 1.2 Logjam property location map.

## 2 Summary of Previous Investigations

The Logjam property was discovered in 1943 and then staked and explored in 1945 when 9 holes were drilled from the surface. Various owners and optionees explored and developed the property through to 1987 when the last record of work was filed with the mining recorder (Table 2.1).

Mineralization consists of no less than 8 polymetallic veins containing gold, silver, lead, zinc and to a lesser extent, bismuth, antimony and tungsten. The veins strike NE-SW, dip steeply NW and SE, range from a few centimeters up to 1m in width, and are exposed over 270 m of elevation on a steep NE facing cliff. The veins are hosted in metasediments and diorite, with the higher grades favouring the latter.

A total of approximately 701 m of underground development in two adits and 2971 m of drilling has taken place on the property. Historical drill core present on the property is scattered around its racks and is not salvageable.

A historical, non-43-101 compliant estimate of probable reserves from 1979 estimates 70,144 tonnes grading 392.2 g/t Ag, 3.02 g/t Au, and 69,854 tonnes of possible ore between the two adit levels.

*Table 2.1 Summary of historic exploration on the Logjam Property.*

<b>Year</b>	<b>Description of Work</b>
1944	Staked by Hudson Bay Mg & S. 9 holes drilled for 1256.7m. No records from this time.
1958 & 1961	Re-staked by W. Mckinnon and optioned to Kootenay Base Metals
1962	Optioned by Kootenay Base Metals who performed hand trenching.
1965-1967	Optioned by Logjam Silver Mines Ltd and later Pure Silver Mines Ltd. who began underground development including 698m of drifting, 794.6m of underground drilling, and a 24km access road.
1973-1977	Re-staked as the Barb claims by A.M.P. Exploration Ltd. and optioned, minor rehabilitation work takes place.
1980-1981	Under new option, access road built, camp installed, trenching, adit advanced 14.3m
1982-1988	Claims revert to A.M.P. Exploration Ltd. who carry out 318m of underground drilling, 17m of drifting and road building.
1992	Claims are transferred to 7188 Yukon Ltd. and allowed to lapse.
2002	13 claims in the M2 claim group staked by F. Andersen. No work recorded.
2006	CMC Metals Ltd. options 3 remaining M2 claims and stakes the surrounding 29 L.J. claims.

## 3 Geological Setting

### 3.1 Regional Geology

The Logjam Property lies within the Dorsey range which constitutes the northern limit of the Cassiar Mountains and is within the southern Yukon-Tanana terrane. In general, the area is underlain by metamorphosed Paleozoic sedimentary rocks of the Dorsey Complex in the north, and Swift River Group near the project area, which are bounded by the contemporaneous siliciclastic and foliated plutonic rocks of the Big Salmon complex to the west. This contact is not exposed and inferred to be an east-side-down normal fault. Regionally this package of rocks is overlain by the carbonate-volcaniclastic Klinkit Group of Permian age. A series of Early Jurassic intrusions trend northwest across the region (Roots et al., 2004).

### 3.2 Property Geology

The Logjam property is comprised of three distinct rock units. The Swift River Group meta sediments are the oldest group and dominate the property. On the property this group is made up of shale, slate, phyllite, light grey limestone, grey siliceous limestone, massive quartzite and minor black limestone beds less than 1m thick. These sediments strike N-NW and dip steeply to the NE.

In the SE of the property, the sediments are cut by a 4 x 0.4 km, NW trending, SW dipping, medium grained hornblende diorite intrusive. The adjacent Logtung stock is dated to 186.6 +/- 5.8 Ma (Nelson and Friedman, 2004) and is likely younger than the diorite intrusive. The mineralized veins which are the focus of the Logjam property are found straddling the contact between the diorite intrusive and surrounding sediments, with the higher grades found where the vein is hosted in the diorite.

A succession of Lower to Middle Triassic black slate, limy metasandstone and pebble conglomerate is found in the NW of the property. This group is younger than the Klinkit Group sediments and is presumed to be part of the Jones Lake Formation (Roots et al. 2004).

A 1986 report on the property notes the presence of late mafic and felsic dykes with the felsic dykes carrying up to 10% pyrite. Both the felsic dykes and mineralized veins follow prominent jointing in the diorite and cleavage attitude in the sediments (Miller 1986).



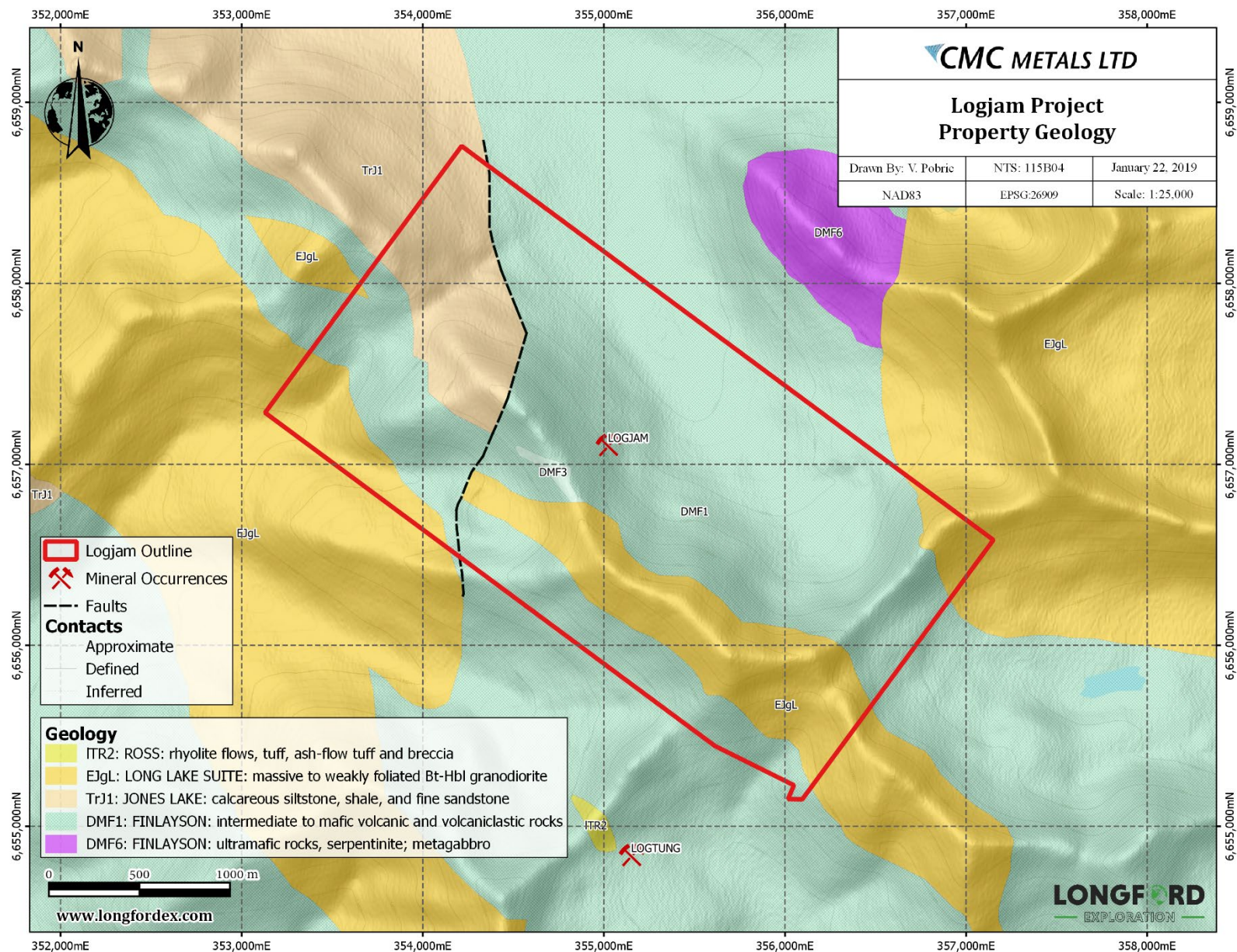


Figure 3.1 Logjam property geology.

## 4 2018 Site Visit

A one-day site visit was undertaken on July 24, 2018 to verify historic sampling with modern assay techniques and to assess the access and trailer camp conditions. A traverse was undertaken along the ridge where 5 samples were collected, and 2 samples were taken from the drift faces on the 5150 level. A summary of results is given below in Figure 4.4 and Table 4.1.

### 4.1 Geochemical Sampling

The traverse along the ridge crest took place entirely within diorite intrusive. The best results for Au came from the #5 and #6 veins on the crest of the ridge with values of 7.5 g/t and 3.7 g/t respectively (Figures 4.1 – 4.2). Ag values were over 1,000 g/t and over 10% Zn in sample 1319603 after a second re-assay.



Figure 4.1 Close up of sample 1319603 and #5 vein in situ.



Figure 4.2 Sample 1319604 from the #6 vein.

The face of the #4 vein drift has a distinct 30cm wide carbonate vein within metasediments (Figure 4.3). The hanging wall contains abundant sulphides with assay results showing elevated Zn (4173 ppm) and Pb (6350 ppm) values. The total mineralized width is approximately 2m. It is expected that grades will increase in this drift as it approaches the contact with the diorite.

The #6 vein drift ended in foliated, soft, friable metasediments with no obvious sulphides present. Weakly anomalous values for Zn, Pb and As suggest it is on the right track and it is expected that this vein will also see assay values increase as it approaches the contact with the diorite. In general, the underground workings are in great condition with almost no evidence of rockfall or slumping. The 5600 level was not investigated.



*Figure 4.3 #4 vein drift showing a distinct 30 cm wide quartz-carbonate vein.*

All sample locations were marked with GPS where possible, characteristics noted, and sealed in poly bags for delivery directly to Bureau Veritas Laboratories in Whitehorse. Samples were crushed to less than 2mm after which a 250g split was pulverized to below 75 $\mu$ m (PRP70-250) and a 0.5g split was analyzed for 33 elements by Aqua Regia ICP-ES (AQ300) as well as a 30g split analyzed for Au, Pt, Pd by Fire Assay ICP-ES (FA330). Samples over upper detection limit in Ag, Pb and Zn were analyzed by a modified by Aqua Regia ICP-ES (AQ374). Analytical certificates can be found in Appendix C.

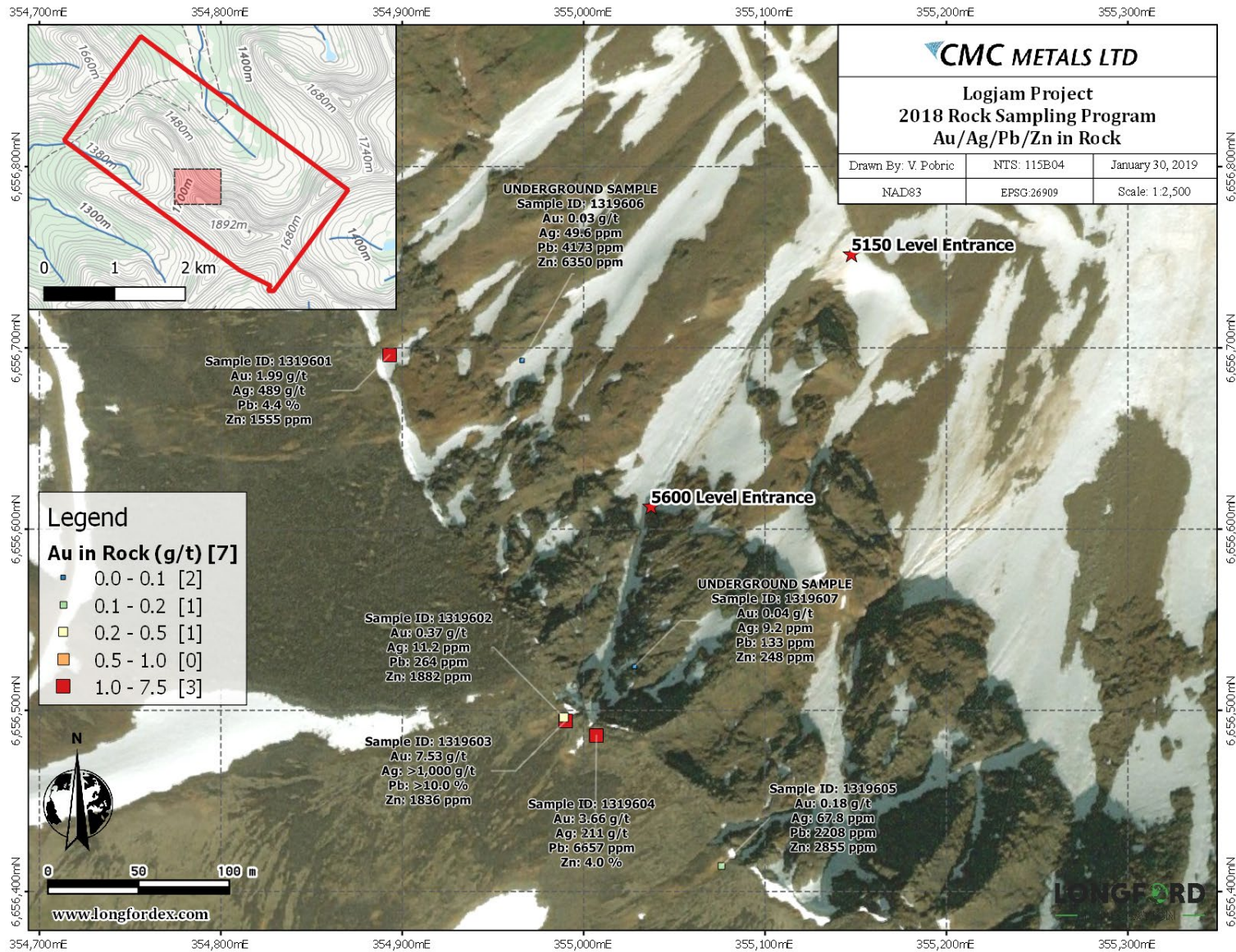


Figure 4.4 Map of 2018 sample locations. Underground locations projected to surface are approximate.

Table 4.1 Summary of samples collected during 2018 site visit.

Sample_ID	mE_Zone_9	mN_Zone_9	Lithology	Colour	Sulphide	Amt_Per	Description	Au_PPb	Pb_PPM	Zn_PPM	Ag_PPM
1319601	354893	6656696	Vein	Yellow-grey	Galena + Aresnopyrite	70	1st trench, vein 4?, silicified and brecciated vein, strongly weathered to yellow and orange	1993	>10000	1555	>100.0
1319602	354989	6656496	Granodiorite	Grey	Py + Sph	10	Granodiorite wall rock near vein with disseminated sulphides and qtz-carb alteration	374	264	1882	11.2
1319603	354990	6656494	Vein	Grey-yellow	Galena	75	15cm core of vein, carbonate with abundant galena, strongly weathered to yellow (vein 5?)	7528	>10000	1836	>100.0
1319604	355007	6656486	Vein	Grey-yellow	Py + sphalerite	10	Strongly oxidized carbonate vein with pyrite and sphalerite (vein 6?)	3664	6657	>10000	>100.0
1319605	355076	6656414	Vein	Orange-grey	Galena + sphalerite	15	Strongly oxidized vein material, fine breccia, manganese on fractures (vein 7 or 8?)	181	2208	2855	67.8
1319606	354966	6656693	Metased	Grey	Gal, sph, py, cpy	35	End of #4 drift, sample from hanging wall of 30cm wide carbonate vein in metaseds with abundant sulphides, 2m total mineralized width	32	4173	6350	49.6
1319607	355028	6656524	Metased	Grey	no obvious		End of #6 drift, foliated, soft and friable face with no obvious sulphides	44	133	248	9.2

## 4.2 Access and Infrastructure

A 13km road connects the camp area of the adjacent Logtung Project to the Alaska Highway. From there, a bulldozed trail hugs the south facing slope before passing crossing the crest onto the Logjam Property (Figure 4.5). The access road to Logtung was driven by the Author later in the season and was found to be in good shape. The trail over the ridge crest was not inspected, however it should be passable by ATV at a minimum, and by 4x4 pickup truck with minimal work. This road has not been passable during previous winter programs.

The winter road which follows the Smart River before turning east towards the Logjam Property is completely overgrown and is not usable in its current state.



*Figure 4.5 Trail leading from the Logtung camp site over and onto the Logjam Property.*

The trailer camp currently on site was installed in the 1980's and appears to have avoided general vandalism and theft. It has however been exposed to the elements and has deteriorated into a state of disrepair (Figure 4.6). The camp is not likely salvageable without great effort. Besides some lumber and empty fuel drums, the rest of the site is relatively tidy.



*Figure 4.6 The old trailer camp on the Logjam Property.*

## 5 Conclusions and Recommendations

A one-day site was carried out on the Logjam Property in order to assess the mineralization with modern assay techniques and inspect the state of the camp and underground workings. Assays confirmed the presence of polymetallic veins containing high amounts of gold, silver, lead and zinc. The underground workings are in good condition though they have not yet reached the zones where the highest assay values are expected.

The SW slope of the property is subdued enough to allow for drilling, however the drilling depths required to intersect the extensions of the veins at the 5150 level make this an expensive proposition. Rehabilitation of the underground workings ahead of an underground drill program will be the most efficient way to advance the property. This should be followed by further drifting and bulk sampling of the #4 and #6 veins. The 5600 level adit is not easily accessible on the steep cliff face. A third adit has been proposed at the 4600 level.

A further 1.2 km of the diorite intrusive to the SE of the #8 vein has not had any veins previously mapped. Geologic mapping of the steep NE facing slope, where possible, may lead to the discovery of new veins for future follow up. A program of tightly spaced contour soil samples on the SW slope may help identify veins that are not accessible on the cliff face.



## 6 References

Logjam Yukon Minfile 105 B38. Yukon Geological Survey.

<http://data.geology.gov.yk.ca/Occurrence/12624>

Miller, D. C., 1986. Geological, Geochemical, Diamond Drilling and underground Excavation Report on the Barb and Log Claims. Assessment Report 092160.

Nelson, J. and Friedman, R., 2004. Superimposed Quesnel (late Paleozoic-Jurassic) and Yukon-Tanana (Devonian- Mississippian) arc assemblages, Cassiar Mountains, northern British Columbia: Field, U-Pb and igneous petrochemical evidence. Canadian Journal of Earth Sciences, vol. 41, p. 1201-1235.

Roots, C., Nelson, J., Mihalynuk, M., Harms, T., de Keijzer, M. and Simard, R.-L., 2004. Bedrock Geology, Dorsey Lake (NTS 105B/4), southern Yukon (1:50,000 scale). Yukon Geological Survey, Open File 2004-2; Geological Survey of Canada, Open File 4630.

APPENDIX A: Statement of Expenditures

DATE: July 24, 2018



SEND TO:  
 CMC Metals LTD  
 #605 - 369 Terminal Avenue  
 Vancouver, BC  
 Canada V6A 4C4  
 604-692-0117

Longford Exploration Services Ltd.  
 #460-688 West Hastings Street  
 Vancouver, BC  
 Canada V6B 1P1  
 778-809-7009

Logjam 2018

Personnel		Days	Rate	Line Total
Geologist - Versloot		1	\$ 500.00	\$ 500.00
Field Assistant - Martinolich		1	\$ 300.00	\$ 300.00
	total man days	2	Cat. Total	\$ 800.00
Food and Lodging		Units	Rate	Line Total
Food and Groceries		2	\$ 55.00	\$ 110.00
Whitehorse Hotel		2	\$ 200.00	\$ 400.00
			Cat. Total	\$ 510.00
Transportation		Units/Days	Unit Price	Line Total
Truck	1 ton with safety and recovery gear	1	\$ 140.00	\$ 140.00
Fuel	per km for truck, km	330	\$ 0.55	\$ 181.50
Heli	Jet Ranger from Whitehorse	3.7	\$ 975.00	\$ 3,607.50
Jet Fuel	110L/hour	407	\$ 1.55	\$ 630.85
			Cat. Total	\$ 4,559.85
Equipment Rentals		Units	Unit Price	Line Total
Electronics Kit	Radios, Sat phones, GPS, per man day	2	\$ 20.00	\$ 40.00
Portable XRF with Stand	Per Day	1	\$ 175.00	\$ 175.00
			Cat. Total	\$ 215.00
Consumable		Units	Unit Price	Line Total
Sample Bags		2	\$ 5.00	\$ 10.00
Flagging Tape		2	\$ 5.00	\$ 10.00
Office Consumables		2	\$ 3.00	\$ 6.00
			Cat. Total	\$ 26.00
Analytical		Units	Unit Price	Line Total
Analysis - Rock	PRP70-250, FA330, AQ300	7	\$ 34.25	\$ 239.75
			Cat. Total	\$ 239.75
Post Field		Units	Unit Price	Line Total
Assessment Report prep and work filing		1	\$ 2,500.00	\$ 2,500.00
			Cat. Total	\$ 2,500.00
Estimated Sub Total				\$ 8,850.60
Management 15%				\$ 1,327.59
SUB TOTAL				\$ 10,178.19
GST 5 %				\$ 508.91
Total				\$ 10,687.10

## Statement of Qualifications

I, Ryan Versloot, with a business address at #460-688 West Hastings Street, Vancouver, British Columbia, hereby certify that:

- I am registered as a Geoscientist-In-Training with the Engineers and Geoscientists of BC (#171768).
- I graduated from the University of Waterloo in 2007 with a Bachelor of Environmental Studies, Honours Geography, and attended the University of British Columbia from 2011 to 2014 to pursue geology coursework.
- From 2005 to present, I have been actively engaged in mineral exploration work across Canada, as well as Alaska, Chile, West Africa and Australia.
- I supervised the 2018 work discussed in this report.
- I have no direct or indirect interest in the Logjam Property.



Ryan Versloot, GIT

## APPENDIX B: Rock Sample and Geopoint Descriptions

Sample_ID	Waypoint_No	mE_NAD83	mN_NAD83	Elevation_m	Colour	Alteration	Magnetism	Sulphide_Other	Amt_Per	Struct	Azi	Dip	Description
	18	354808	6656893	1682									Survey marker, Post #1 of Y72108 aka Barb 7
1319601		354893	6656696		Yellow-grey	Qtz-carb		Galena + Aresnopyrite	70				1st trench, vein 4?, silicified and brecciated vein, strongly weathered to yellow and orange
	19	354978	6656529	1790									Survey marker, Post #1 of Y72106 aka Barb 6
1319602		354989	6656496		Grey	Qtz-carb	weak	Py + Sph	10				Granodiorite wall rock near vein with disseminated sulphides and Qtz-carb alteration
1319603		354990	6656494	1794	Grey-yellow	Qtz-carb		Galena	75	vein	24	72	15cm core of vein, carbonate with abundant galena, strongly weathered to yellow (vein 5?)
1319604		355007	6656486	1794	Grey-yellow	Qtz-carb		Py + sphalerite	10				Strongly oxidized carbonate vein with pyrite and sphalerite (vein 6?)
1319605		355076	6656414	1811	Orange-grey	Qtz-carb		Galena + sphalerite	15				Strongly oxidized vein material, fine breccia, manganese on fractures (vein 7 or 8?)
1319606		354966	6656693		Grey	Qtz-carb		Gal, sph, py, cpy	35				End of #4 drift, sample from hanging wall of 30cm wide carbonate vein in metaseds with abundant sulphides, 2m total mineralized width
1319607		355028	6656524		Grey	Qtz-carb		no obvious					End of #6 drift, foliated, soft and friable face with no obvious sulphides

## APPENDIX C: Analytical Certificates

See attached PDF.



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**Client:** Longford Exploration Services Ltd.  
460-688 West Hastings St.  
Vancouver British Columbia V6B 1P1 Canada

Submitted By: James Rogers  
Receiving Lab: Canada-Whitehorse  
Received: August 06, 2018  
Report Date: January 29, 2019  
Page: 1 of 2

# CERTIFICATE OF ANALYSIS

WHI18000576.2

## CLIENT JOB INFORMATION

Project: 2018-Logjam  
Shipment ID:  
P.O. Number  
Number of Samples: 7

## SAMPLE DISPOSAL

PICKUP-PLP Client to Pickup Pulps  
PICKUP-RJT Client to Pickup Rejects

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

Invoice To: Longford Exploration Services Ltd.  
460-688 West Hastings St.  
Vancouver British Columbia V6B 1P1  
Canada

CC:

## SAMPLE PREPARATION AND ANALYTICAL PROCEDURES

Procedure Code	Number of Samples	Code Description	Test Wgt (g)	Report Status	Lab
PRP70-250	7	Crush, split and pulverize 250 g rock to 200 mesh			WHI
FA330	7	Fire assay fusion Au Pt Pd by ICP-ES	30	Completed	VAN
EN002	7	Environmental disposal charge-Fire assay lead waste			VAN
AQ300	7	1:1:1 Aqua Regia digestion ICP-ES analysis	0.5	Completed	VAN
SHP01	7	Per sample shipping charges for branch shipments			VAN
AQ374	3	1:1:1 Aqua Regia digestion ICP-ES analysis	0.4	Completed	VAN

## ADDITIONAL COMMENTS

Version 2 : AQ374-Pb Zn Ag included.



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



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Bureau Veritas Commodities Canada Ltd.

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Vancouver British Columbia V6B 1P1 Canada

Project: 2018-Logjam  
Report Date: January 29, 2019

Page: 2 of 2

Part: 1 of 2

# CERTIFICATE OF ANALYSIS

WHI18000576.2

Method	WGHT	FA330	FA330	FA330	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300
Analyte	Wgt	Au	Pt	Pd	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Th	Sr	Cd	Sb	Bi	V	
Unit	kg	ppb	ppb	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
MDL	0.01	2	3	2	1	1	3	1	0.3	1	1	2	0.01	2	2	1	0.5	3	3	1	
1319601	Rock	1.23	1993	4	2	<1	331	>10000	1555	>100	11	9	46	8.73	>10000	<2	15	35.5	1636	87	20
1319602	Rock	0.87	374	<3	6	2	193	264	1882	11.2	29	21	153	5.44	8038	<2	42	85.0	73	<3	112
1319603	Rock	1.16	7528	<3	4	<1	6673	>10000	1836	>100	7	1	45	6.14	>10000	<2	3	209.9	>2000	<3	4
1319604	Rock	1.63	3664	<3	8	4	1882	6657	>10000	>100	24	21	500	17.40	>10000	<2	17	992.4	393	<3	67
1319605	Rock	1.06	181	<3	3	2	201	2208	2855	67.8	17	8	370	6.47	5747	<2	116	57.6	184	<3	142
1319606	Rock	3.88	32	3	5	1	414	4173	6350	49.6	34	16	1571	8.96	691	<2	142	165.3	24	78	70
1319607	Rock	3.23	44	<3	3	2	112	133	248	9.2	35	28	324	5.02	2517	3	73	4.9	84	<3	112



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Project: 2018-Logjam  
Report Date: January 29, 2019

Page: 2 of 2

Part: 2 of 2

# CERTIFICATE OF ANALYSIS

WHI18000576.2

Method	Analyte	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ374	AQ374	AQ374
		Ca	P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	S	Hg	Tl	Ga	Sc	Pb	Zn	Ag
Unit		%	%	ppm	ppm	%	ppm	%	ppm	%	%	ppm	%	ppm	ppm	ppm	ppm	ppm	%	%	gm/t
MDL		0.01	0.001	1	1	0.01	1	0.001	20	0.01	0.01	0.01	2	0.05	1	5	5	5	0.01	0.01	2
1319601	Rock	0.01	0.017	1	17	0.01	10	0.002	<20	0.17	<0.01	0.05	<2	4.10	<1	<5	6	<5	4.36	0.16	489
1319602	Rock	0.66	0.162	5	40	1.42	26	0.085	<20	1.75	0.06	0.33	<2	2.86	<1	<5	9	7			
1319603	Rock	<0.01	0.006	3	7	<0.01	8	<0.001	<20	0.06	<0.01	0.03	<2	6.19	<1	6	6	<5	>10	0.20	>1000
1319604	Rock	0.68	0.071	4	43	1.09	7	0.004	<20	1.56	<0.01	0.06	59	>10	2	<5	24	8	0.67	4.05	211
1319605	Rock	0.36	0.116	7	120	1.73	13	0.084	<20	2.02	<0.01	0.17	<2	0.16	<1	<5	9	11			
1319606	Rock	5.08	0.096	5	69	1.28	21	0.002	<20	1.25	<0.01	0.23	<2	6.98	<1	<5	7	15			
1319607	Rock	2.27	0.242	5	42	1.19	33	0.105	<20	1.29	0.09	0.13	<2	2.59	<1	<5	<5	9			





Bureau Veritas Commodities Canada Ltd.

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PHONE (604) 253-3158

**Client: Longford Exploration Services Ltd.**  
460-688 West Hastings St.  
Vancouver British Columbia V6B 1P1 Canada

Project: 2018-Logjam  
Report Date: January 29, 2019

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# QUALITY CONTROL REPORT

WHI18000576.2

Method	WGHT	FA330	FA330	FA330	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300
Analyte	Wgt	Au	Pt	Pd	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Th	Sr	Cd	Sb	Bi	V	
Unit	kg	ppb	ppb	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
MDL	0.01	2	3	2	1	1	3	1	0.3	1	1	2	0.01	2	2	1	0.5	3	3	1	
Pulp Duplicates																					
1319601	Rock	1.23	1993	4	2	<1	331	>10000	1555	>100	11	9	46	8.73	>10000	<2	15	35.5	1636	87	20
REP 1319601	QC					<1	327	>10000	1540	>100	10	9	48	8.67	>10000	<2	15	35.2	1616	85	19
1319604	Rock	1.63	3664	<3	8	4	1882	6657	>10000	>100	24	21	500	17.40	>10000	<2	17	992.4	393	<3	67
REP 1319604	QC																				
Reference Materials																					
STD DS11	Standard					13	143	119	333	1.6	74	12	1001	3.01	40	6	62	2.2	9	10	46
STD GC-7	Standard																				
STD OREAS133B	Standard																				
STD OREAS45EA	Standard					1	600	12	29	<0.3	324	44	360	18.84	9	9	3	<0.5	<3	<3	260
STD PD05	Standard		523	443	630																
STD PD05	Standard		520	442	613																
STD PG04	Standard		974	902	1212																
STD PG04	Standard		1024	905	1221																
STD OREAS45EA Expected						1.6	709	14.3	31.4	0.26	381	52	400	22.65	11	10.7	4.05				303
STD DS11 Expected						13.9	156	138	345	1.71	81.9	14.2	1055	3.2082	42.8	7.65	67.3	2.37	7.2	12.2	50
STD PD05 Expected			519	430	596																
STD PG04 Expected			1004	903	1196																
STD GC-7 Expected																					
STD OREAS133B Expected																					
BLK	Blank					<1	<1	<3	<1	<0.3	<1	<1	<2	<0.01	<2	<2	<1	<0.5	<3	<3	<1
BLK	Blank		2	<3	7																
BLK	Blank		2	<3	3																
BLK	Blank		6	<3	4																
BLK	Blank		3	<3	5																
BLK	Blank																				
Prep Wash																					
ROCK-WHI	Prep Blank		3	<3	2	<1	4	<3	34	<0.3	<1	3	491	1.66	<2	<2	30	<0.5	<3	<3	19

