



BUREAU VERITAS MINERAL LABORATORIES
Canada

www.bureauveritas.com/um

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

Client: **Fireweed Zinc Ltd.**
Suite 1020, 800 Pender Street
Vancouver British Columbia V5C 2V6 Canada

Submitted By: Confirmation & Email Distribution List
Receiving Lab: Canada-Whitehorse
Received: July 15, 2019
Report Date: August 12, 2019
Page: 1 of 2

CERTIFICATE OF ANALYSIS

WHI19000200.1

CLIENT JOB INFORMATION

Project: MacMillan Pass
Shipment ID: FWZ19-BV-011
P.O. Number
Number of Samples: 30

SAMPLE DISPOSAL

RTRN-PLP Return After 90 days
RTRN-RJT Return After 60 days

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

Invoice To: Fireweed Zinc Ltd.
Suite 1020, 800 Pender Street
Vancouver British Columbia V5C 2V6
Canada

CC: Gilles Dessureau
Moir Cruickshanks

SAMPLE PREPARATION AND ANALYTICAL PROCEDURES

Procedure Code	Number of Samples	Code Description	Test Wgt (g)	Report Status	Lab
PRP70-500	29	Crush, split and pulverize 500g rock to 200 mesh			WHI
SLBHP	1	Sort, label and box pulps			WHI
CRUBW	29	Extra clean rock wash between samples in crusher			WHI
PULSW	29	Extra Wash with Silica between each sample			WHI
FA330	29	Fire assay fusion Au Pt Pd by ICP-ES	30	Completed	VAN
AQ270	30	1:1:1 Aqua Regia digestion ICP-ES/ICP-MS analysis	1	Completed	VAN
LF725	30	Li2B4O7/LiBO2 fusion, analysis by XRF		Completed	VAN
TC000	30	Total C/S Analysis by Leco	0.1	Completed	VAN
TC007	30	Graphite and Organic C by Leco After Ignition	0.1	Completed	VAN
TC006	30	Inorganic Carbon	0.2	Completed	VAN
TC009	30	Sulfide and Sulfate	0.1	Completed	VAN
SHP01	30	Per sample shipping charges for branch shipments			VAN

ADDITIONAL COMMENTS

V2O5 from LF725 is Qualitative Data only.


SOFIA DEVOTA
XRF Manager

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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	Method	Analyte	Unit	MDL	WGHT	AQ270	AQ270	AQ270	AQ270	AQ270	AQ270	AQ270	AQ270	AQ270	AQ270	AQ270	AQ270	AQ270	AQ270	AQ270	AQ270			
					Wgt	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Th	Sr	Cd	Sb	Bi	V	Ca	P
					kg	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%
					0.01	0.5	0.5	0.5	5	0.5	0.5	0.5	5	0.01	5	5	0.5	0.5	5	0.5	0.5	0.5	10	0.01
3200698	Drill Core	5.14	20.7	42.8	59.4	38	1.5	65.7	5.7	153	2.18	32	2.0	3.9	33	<0.5	11.2	<0.5	83	0.38	0.082			
3200699	Drill Core	5.27	22.1	44.0	60.7	22	2.1	73.2	6.6	118	2.03	38	2.2	4.0	27	<0.5	13.9	<0.5	96	0.32	0.099			
3200700	Rock Pulp	0.05	2.6	229.1	18003.7	30343	33.4	26.8	19.0	1943	5.45	84	1.7	7.7	23	91.5	48.8	<0.5	16	5.32	0.059			
3200701	Drill Core	3.27	18.1	42.0	64.0	16	2.0	66.4	5.9	146	2.28	35	2.0	3.4	38	<0.5	12.9	<0.5	83	0.42	0.092			
3200702	Drill Core	3.20	19.7	39.3	56.8	17	2.0	69.3	5.9	151	2.28	36	2.0	3.4	39	<0.5	13.1	<0.5	91	0.42	0.101			
3200703	Drill Core	6.31	19.3	61.7	85.3	65	2.8	73.8	7.0	194	2.85	41	2.3	3.4	26	<0.5	16.5	<0.5	112	0.29	0.088			
3200704	Drill Core	6.02	17.0	61.7	85.5	78	3.6	70.3	7.1	165	2.56	49	2.0	3.4	20	<0.5	19.8	<0.5	119	0.19	0.087			
3200705	Drill Core	5.13	17.5	57.7	89.2	70	3.9	68.8	7.2	186	2.71	48	2.2	3.3	23	<0.5	20.3	<0.5	115	0.23	0.084			
3200706	Drill Core	5.87	15.2	55.9	82.4	27	3.4	57.9	6.2	226	2.60	51	2.1	3.7	53	<0.5	17.1	<0.5	104	0.64	0.088			
3200707	Drill Core	5.05	14.3	64.3	132.5	54	5.1	70.8	8.1	195	4.83	154	2.5	4.1	46	<0.5	25.9	<0.5	107	0.48	0.128			
3200708	Drill Core	5.73	13.8	53.5	75.7	36	3.0	66.5	5.8	166	2.28	51	2.1	3.3	37	<0.5	18.5	<0.5	121	0.47	0.095			
3200709	Drill Core	5.38	20.0	63.6	86.6	88	3.3	71.6	7.9	99	2.05	53	2.5	3.5	20	<0.5	21.6	<0.5	157	0.18	0.086			
3200710	Drill Core	5.23	15.7	63.7	187.4	118	3.1	69.0	9.6	120	2.50	58	2.7	4.0	43	0.5	24.6	<0.5	184	0.42	0.145			
3200711	Drill Core	6.31	17.7	176.2	38901.4	76671	57.3	66.0	27.4	393	4.38	83	3.3	3.2	137	425.0	100.8	<0.5	236	1.47	0.086			
3200712	Drill Core	3.10	36.0	247.7	5387.3	62670	20.0	105.5	81.2	117	7.86	192	4.0	2.7	29	270.0	105.0	<0.5	437	0.37	0.102			
3200713	Drill Core	3.92	44.3	184.8	3217.8	41090	13.8	122.1	77.3	69	10.71	282	5.2	1.9	33	213.1	108.1	<0.5	609	0.28	0.124			
3200714	Drill Core	4.16	30.7	139.8	1521.7	5983	7.0	107.9	43.1	219	9.18	195	4.2	3.2	64	31.5	73.7	<0.5	585	0.54	0.098			
3200715	Drill Core	3.88	19.5	57.9	164.1	210	1.6	96.3	9.9	246	2.99	65	2.6	4.0	72	0.6	26.3	<0.5	665	0.37	0.073			
3200716	Drill Core	3.59	16.0	85.3	192.5	499	2.2	69.0	7.4	969	5.16	74	2.2	3.5	618	2.3	24.4	<0.5	469	4.44	0.086			
3200717	Drill Core	5.39	15.8	88.9	83.2	63	1.9	75.5	7.5	276	2.62	52	2.7	3.5	113	<0.5	22.8	<0.5	475	0.90	0.072			
3200718	Drill Core	4.97	19.5	262.8	130.3	501	2.6	112.3	10.9	393	5.39	71	2.4	4.0	35	1.9	26.6	<0.5	230	0.19	0.071			
3200719	Drill Core	2.44	8.1	310.6	7165.8	112088	14.6	75.2	17.2	1406	7.17	81	2.1	2.0	83	561.3	33.2	<0.5	147	0.34	0.123			
3200720	Rock	0.98	1.0	99.6	3.7	53	<0.5	4.3	9.9	469	3.00	<5	1.0	2.7	131	<0.5	<0.5	<0.5	103	1.28	0.061			
3200721	Drill Core	1.30	3.3	95.1	111.3	1994	1.5	107.9	18.6	317	7.33	115	0.7	2.1	56	8.7	13.1	<0.5	80	0.13	0.054			
3200722	Drill Core	1.29	3.9	240.4	101.6	2445	1.4	111.4	19.8	242	6.56	104	1.0	2.4	50	11.3	13.0	<0.5	87	0.13	0.055			
3200723	Drill Core	6.40	3.9	61.0	77.6	144	1.8	100.3	15.6	115	4.92	77	0.7	3.8	20	<0.5	17.8	<0.5	47	0.07	0.032			
3200724	Drill Core	6.01	4.5	125.7	75.3	154	2.8	81.0	16.7	310	4.57	63	1.0	4.9	19	<0.5	17.8	<0.5	43	0.13	0.053			
3200725	Drill Core	4.53	3.7	51.3	59.9	499	1.4	76.0	17.4	1287	6.05	54	1.0	5.1	26	<0.5	13.1	<0.5	48	0.20	0.062			
3200726	Drill Core	6.73	3.9	59.7	42.0	153	1.4	63.1	13.1	389	2.86	50	0.9	5.5	34	<0.5	12.2	<0.5	40	0.31	0.052			
3200727	Drill Core	8.14	3.5	64.3	35.1	192	1.1	61.4	12.3	1083	4.38	39	1.0	5.6	51	<0.5	9.1	<0.5	45	0.58	0.046			



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	Method	Analyte	Unit	MDL	AQ270	AQ270	AQ270	AQ270	AQ270	AQ270	AQ270	AQ270	AQ270	AQ270	AQ270	AQ270	LF725	LF725	LF725	LF725	LF725			
					La	Cr	Mg	Ba	Ti	Al	Na	K	W	Hg	Sc	Tl	S	Ga	Se	SiO2	Al2O3	Fe2O3	CaO	MgO
					ppm	ppm	%	ppm	%	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	%	%	%	%	%
					0.5	0.5	0.01	5	0.001	0.01	0.01	0.01	0.01	0.5	0.05	0.5	0.5	0.05	5	2	0.01	0.01	0.01	0.01
3200698	Drill Core	8.0	16.2	0.14	2815	0.004	1.66	<0.01	0.18	<0.5	0.16	2.6	0.7	1.29	<5	4	76.09	7.30	3.29	0.59	0.44			
3200699	Drill Core	10.2	18.2	0.08	4725	0.004	2.02	<0.01	0.17	<0.5	0.22	2.7	0.9	1.10	<5	5	75.73	7.82	3.09	0.49	0.36			
3200700	Rock Pulp	26.1	14.9	2.92	146	0.019	1.06	0.02	0.73	0.8	0.99	3.2	26.2	5.01	<5	<2	43.26	8.54	8.22	7.32	5.28			
3200701	Drill Core	9.0	16.4	0.14	2574	0.006	2.16	<0.01	0.15	<0.5	0.18	3.5	0.9	1.23	<5	5	75.16	7.13	3.48	0.62	0.39			
3200702	Drill Core	8.1	17.2	0.12	2867	0.004	2.19	<0.01	0.16	<0.5	0.21	2.6	0.9	1.15	<5	5	74.53	7.32	3.48	0.63	0.39			
3200703	Drill Core	11.5	18.3	0.07	3116	0.004	2.17	<0.01	0.17	<0.5	0.23	3.8	1.2	1.54	<5	7	73.91	7.51	4.31	0.45	0.30			
3200704	Drill Core	11.5	19.5	0.03	2641	0.004	2.50	<0.01	0.16	<0.5	0.25	3.2	1.1	1.06	<5	7	73.96	7.48	3.88	0.29	0.22			
3200705	Drill Core	11.5	20.1	0.06	3018	0.003	2.76	<0.01	0.13	<0.5	0.33	3.1	1.3	0.97	<5	7	72.60	7.55	4.07	0.35	0.25			
3200706	Drill Core	11.1	20.8	0.25	4882	0.004	3.12	<0.01	0.12	<0.5	0.29	4.8	1.0	0.83	5	4	70.40	7.53	3.88	0.94	0.53			
3200707	Drill Core	9.7	22.0	0.13	1159	0.004	3.45	<0.01	0.14	<0.5	0.43	5.2	1.8	3.21	7	6	66.32	7.93	7.16	0.70	0.33			
3200708	Drill Core	12.5	26.0	0.15	>5000	0.003	3.05	<0.01	0.10	<0.5	0.25	5.9	1.0	0.59	6	3	73.27	6.89	3.39	0.70	0.34			
3200709	Drill Core	14.7	29.8	0.02	>5000	0.005	3.32	<0.01	0.10	<0.5	0.41	3.3	1.6	0.38	7	4	68.66	7.25	3.04	0.28	0.12			
3200710	Drill Core	16.6	36.9	0.08	>5000	0.004	4.17	<0.01	0.12	<0.5	0.47	3.3	1.8	0.34	9	3	68.22	8.54	3.59	0.61	0.20			
3200711	Drill Core	7.1	46.6	0.72	363	0.019	3.51	<0.01	0.13	<0.5	42.44	3.9	5.0	6.65	13	27	49.07	6.79	6.52	2.10	1.26			
3200712	Drill Core	6.9	84.4	0.09	293	0.050	4.11	<0.01	0.14	<0.5	32.56	4.2	8.8	9.13	17	10	46.47	7.54	11.21	0.52	0.17			
3200713	Drill Core	7.8	115.8	0.01	217	0.084	4.46	0.01	0.24	<0.5	16.92	4.2	8.9	11.65	20	9	42.99	8.16	15.66	0.40	0.04			
3200714	Drill Core	10.2	103.0	0.15	361	0.134	3.95	0.02	0.20	<0.5	3.92	5.6	5.8	7.96	14	7	55.05	7.07	13.60	0.76	0.27			
3200715	Drill Core	13.1	98.3	0.11	>5000	0.179	4.82	0.02	0.09	<0.5	0.69	4.2	1.7	0.22	13	5	68.55	8.55	4.28	0.53	0.19			
3200716	Drill Core	10.7	63.8	1.90	759	0.099	3.49	0.01	0.09	<0.5	0.62	8.3	1.2	2.72	11	7	51.81	6.43	7.84	6.48	3.27			
3200717	Drill Core	12.9	71.2	0.34	>5000	0.068	3.83	0.02	0.18	<0.5	0.37	6.6	1.3	0.38	13	4	71.25	6.97	3.96	1.35	0.59			
3200718	Drill Core	14.1	37.0	0.04	1928	0.006	4.03	<0.01	0.09	<0.5	0.42	5.8	1.1	1.40	12	5	63.66	8.08	7.94	0.29	0.12			
3200719	Drill Core	6.3	29.6	0.07	212	0.004	1.17	<0.01	0.02	<0.5	28.07	5.3	1.6	7.23	6	11	43.22	4.49	10.27	0.48	0.15			
3200720	Rock	7.6	5.8	0.89	233	0.204	2.46	0.35	0.36	0.6	0.06	4.7	<0.5	<0.05	6	<2	60.20	16.84	6.31	6.22	2.81			
3200721	Drill Core	7.9	19.0	0.04	244	0.007	1.59	<0.01	0.03	<0.5	0.58	4.6	<0.5	5.50	<5	<2	70.33	4.00	10.72	0.19	0.10			
3200722	Drill Core	10.4	20.9	0.05	347	0.006	1.83	<0.01	0.04	<0.5	0.78	4.1	<0.5	4.72	<5	2	71.70	4.99	9.81	0.20	0.12			
3200723	Drill Core	12.2	11.4	0.05	603	0.003	1.69	<0.01	0.14	<0.5	0.17	3.4	<0.5	3.30	<5	4	73.22	7.61	7.45	0.12	0.28			
3200724	Drill Core	13.4	12.0	0.05	587	0.004	1.18	<0.01	0.22	<0.5	0.10	3.2	0.6	3.24	<5	5	70.80	9.51	7.13	0.20	0.38			
3200725	Drill Core	16.7	11.4	0.04	1899	0.005	0.70	<0.01	0.27	<0.5	0.09	2.7	<0.5	2.12	<5	4	69.37	9.19	9.24	0.30	0.40			
3200726	Drill Core	14.9	12.1	0.09	1361	0.005	0.65	<0.01	0.28	<0.5	0.13	3.0	<0.5	2.13	<5	6	75.46	9.59	4.61	0.47	0.51			
3200727	Drill Core	15.9	12.0	0.18	1201	0.004	0.62	<0.01	0.29	<0.5	0.11	3.6	<0.5	2.04	<5	4	70.96	9.53	6.93	0.87	0.62			



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Method	LF725	LF725	LF725	LF725	LF725	LF725	LF725	LF725	LF725	LF725	LF725	LF725	TC000	TC000	TC005	TC005	TC006	TC008	TC008
Analyte	K2O	MnO	TiO2	P2O5	Cr2O3	Ba	Cu	Pb	Zn	LOI	SUM_T	V2O5	TOT/C	TOT/S	C/ORG	C/GRA	CO2	S/S-	SO4
Unit	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
MDL	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	-5.11	0.01	0.01	0.02	0.02	0.02	0.02	0.08	0.05	0.05
3200698 Drill Core	1.20	0.05	0.36	0.18	<0.01	3.60	<0.01	<0.01	<0.01	5.71	99.27	0.11	2.79	2.02	2.11	0.54	0.52	1.74	0.83
3200699 Drill Core	1.18	0.05	0.39	0.22	0.01	4.32	<0.01	<0.01	<0.01	5.52	99.73	0.13	2.65	1.93	1.91	0.67	0.25	1.70	0.68
3200700 Rock Pulp	4.13	0.26	0.28	0.13	<0.01	0.07	0.02	1.79	3.05	14.32	97.76	0.01	3.25	4.79	0.42	<0.02	10.38	2.47	6.97
3200701 Drill Core	0.95	0.05	0.33	0.21	<0.01	4.65	<0.01	<0.01	<0.01	5.59	99.11	0.10	2.55	2.25	1.92	0.54	0.33	1.99	0.75
3200702 Drill Core	0.99	0.04	0.35	0.25	<0.01	4.68	<0.01	<0.01	<0.01	5.59	98.83	0.11	2.59	2.13	1.83	0.65	0.41	1.89	0.73
3200703 Drill Core	0.97	0.05	0.38	0.22	<0.01	4.72	<0.01	0.01	<0.01	5.96	99.36	0.14	2.48	2.52	1.69	0.67	0.41	2.25	0.80
3200704 Drill Core	0.91	0.04	0.39	0.18	0.01	5.43	<0.01	<0.01	<0.01	5.54	98.98	0.14	2.52	2.27	1.74	0.71	0.25	2.06	0.65
3200705 Drill Core	0.77	0.05	0.37	0.18	<0.01	6.25	<0.01	0.01	<0.01	5.93	99.12	0.13	2.57	2.30	1.70	0.78	0.34	2.03	0.81
3200706 Drill Core	0.66	0.05	0.37	0.18	<0.01	6.86	<0.01	<0.01	<0.01	5.84	98.07	0.10	2.49	2.36	1.53	0.69	1.01	2.01	1.02
3200707 Drill Core	0.62	0.04	0.40	0.28	0.02	7.68	<0.01	0.01	<0.01	7.25	99.65	0.10	2.47	4.98	1.80	0.53	0.52	4.63	1.05
3200708 Drill Core	0.48	0.04	0.35	0.22	<0.01	6.78	<0.01	<0.01	<0.01	5.47	98.74	0.10	2.34	2.03	1.57	0.62	0.54	1.69	1.04
3200709 Drill Core	0.43	0.04	0.39	0.19	0.02	10.29	<0.01	<0.01	<0.01	5.61	97.54	0.12	2.39	2.53	1.84	0.54	<0.08	1.69	2.51
3200710 Drill Core	0.42	0.04	0.46	0.32	<0.01	9.52	0.01	0.02	<0.01	5.62	98.74	0.12	2.59	2.22	1.97	0.55	0.26	2.00	0.66
3200711 Drill Core	0.28	0.07	0.42	0.20	0.02	7.93	0.01	3.93	7.66	9.70	99.12	0.11	3.16	8.67	2.33	0.11	2.63	4.91	11.27
3200712 Drill Core	0.25	0.04	0.55	0.24	0.02	9.03	0.02	0.56	6.14	12.56	97.94	0.14	4.39	11.53	3.50	0.81	0.30	8.68	8.54
3200713 Drill Core	0.34	0.03	0.62	0.29	0.02	10.40	0.01	0.36	4.05	14.07	99.73	0.16	4.43	13.50	3.71	0.72	<0.08	11.43	6.20
3200714 Drill Core	0.25	0.06	0.47	0.22	0.02	8.77	<0.01	0.17	0.59	10.43	98.95	0.13	3.31	10.25	2.76	0.40	0.55	9.54	2.12
3200715 Drill Core	0.11	0.05	0.40	0.17	<0.01	10.96	<0.01	<0.01	0.02	4.38	99.53	0.13	2.23	2.14	1.79	0.31	0.49	1.87	0.83
3200716 Drill Core	0.12	0.15	0.35	0.21	<0.01	8.27	<0.01	0.02	0.05	9.42	95.42	0.11	4.05	4.82	1.62	0.20	8.19	3.60	3.66
3200717 Drill Core	0.23	0.06	0.35	0.16	0.01	8.66	<0.01	<0.01	<0.01	4.87	99.53	0.11	2.24	2.08	1.56	0.29	1.42	1.68	1.22
3200718 Drill Core	0.27	0.07	0.42	0.16	0.01	9.17	0.02	0.02	0.05	7.44	98.81	0.13	2.27	3.61	1.68	0.35	0.88	3.06	1.66
3200719 Drill Core	0.08	0.19	0.21	0.30	<0.01	9.79	0.03	0.70	11.17	10.71	95.80	0.06	1.86	9.52	1.09	0.11	2.39	1.47	24.15
3200720 Rock	1.50	0.14	0.52	0.14	<0.01	0.06	<0.01	<0.01	<0.01	0.84	98.91	0.03	<0.02	<0.02	<0.02	<0.02	<0.08	<0.05	0.13
3200721 Drill Core	0.11	0.06	0.21	0.12	<0.01	4.01	<0.01	0.01	0.20	6.96	97.54	0.04	0.86	6.38	0.44	0.27	0.54	5.41	2.91
3200722 Drill Core	0.12	0.05	0.30	0.13	<0.01	3.94	0.02	<0.01	0.24	6.69	98.84	0.04	0.95	5.52	0.42	0.42	0.39	4.70	2.46
3200723 Drill Core	1.08	0.03	0.41	0.07	<0.01	3.29	<0.01	0.01	0.01	5.06	99.05	0.05	0.70	3.89	0.46	0.20	0.12	3.49	1.20
3200724 Drill Core	1.85	0.07	0.54	0.13	<0.01	2.52	0.02	<0.01	0.01	5.46	98.98	0.06	1.00	3.66	0.67	0.21	0.44	3.38	0.83
3200725 Drill Core	2.19	0.18	0.51	0.16	<0.01	1.23	<0.01	<0.01	0.05	6.56	99.59	0.06	1.77	2.11	0.89	0.14	2.72	1.91	0.59
3200726 Drill Core	2.43	0.07	0.54	0.13	0.01	1.06	<0.01	<0.01	0.01	4.64	99.70	0.06	1.19	2.18	0.86	0.12	0.77	1.95	0.67
3200727 Drill Core	2.45	0.16	0.53	0.12	<0.01	0.94	<0.01	<0.01	0.02	5.63	98.92	0.06	1.62	2.07	0.87	0.10	2.36	1.67	1.19



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Report Date: August 12, 2019

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	Method	WGHT	AQ270	AQ270	AQ270	AQ270	AQ270	AQ270	AQ270	AQ270	AQ270	AQ270	AQ270	AQ270	AQ270	AQ270	AQ270	AQ270	AQ270	AQ270	AQ270
	Analyte	Wgt	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Th	Sr	Cd	Sb	Bi	V	Ca	P
	Unit	kg	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%
	MDL	0.01	0.5	0.5	0.5	5	0.5	0.5	0.5	5	0.01	5	0.5	0.5	5	0.5	0.5	0.5	10	0.01	0.001
3200713	Drill Core	3.92	44.3	184.8	3217.8	41090	13.8	122.1	77.3	69	10.71	282	5.2	1.9	33	213.1	108.1	<0.5	609	0.28	0.124
Pulp Duplicates																					
3200698	Drill Core	5.14	20.7	42.8	59.4	38	1.5	65.7	5.7	153	2.18	32	2.0	3.9	33	<0.5	11.2	<0.5	83	0.38	0.082
REP 3200698	QC																				
3200704	Drill Core	6.02	17.0	61.7	85.5	78	3.6	70.3	7.1	165	2.56	49	2.0	3.4	20	<0.5	19.8	<0.5	119	0.19	0.087
REP 3200704	QC																				
3200717	Drill Core	5.39	15.8	88.9	83.2	63	1.9	75.5	7.5	276	2.62	52	2.7	3.5	113	<0.5	22.8	<0.5	475	0.90	0.072
REP 3200717	QC																				
3200721	Drill Core	1.30	3.3	95.1	111.3	1994	1.5	107.9	18.6	317	7.33	115	0.7	2.1	56	8.7	13.1	<0.5	80	0.13	0.054
REP 3200721	QC																				
3200722	Drill Core	1.29	3.9	240.4	101.6	2445	1.4	111.4	19.8	242	6.56	104	1.0	2.4	50	11.3	13.0	<0.5	87	0.13	0.055
REP 3200722	QC		3.9	240.0	101.7	2462	1.5	110.6	20.1	245	6.64	106	0.9	2.5	50	11.3	13.4	<0.5	91	0.13	0.050
3200727	Drill Core	8.14	3.5	64.3	35.1	192	1.1	61.4	12.3	1083	4.38	39	1.0	5.6	51	<0.5	9.1	<0.5	45	0.58	0.046
REP 3200727	QC																				
Core Reject Duplicates																					
3200720	Rock	0.98	1.0	99.6	3.7	53	<0.5	4.3	9.9	469	3.00	<5	1.0	2.7	131	<0.5	<0.5	<0.5	103	1.28	0.061
DUP 3200720	QC		1.1	100.9	2.8	44	<0.5	4.0	9.2	455	3.02	<5	0.9	2.7	119	<0.5	<0.5	<0.5	104	1.29	0.063
Reference Materials																					
STD COO1	Standard																				
STD COO1	Standard																				
STD GGC-10	Standard																				
STD GGC-10	Standard																				
STD GS311-1	Standard																				
STD GS910-4	Standard																				
STD OREAS133B(D)	Standard																				
STD OREAS605	Standard		4.8	47738.7	875.5	2168	>1000	1554.5	95.9	93	3.71	1726	0.9	2.6	52	14.5	306.9	19.3	<10	0.17	0.009
STD OREAS72B	Standard																				
STD OREAS927-AR	Standard		1.1	10945.6	217.8	725	4.1	30.6	30.0	1114	8.09	12	1.6	13.3	13	1.0	1.3	72.6	40	0.32	0.055
STD RTS-3A	Standard																				



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	Method Analyte Unit MDL	AQ270	AQ270	AQ270	AQ270	AQ270	AQ270	AQ270	AQ270	AQ270	AQ270	AQ270	AQ270	AQ270	AQ270	AQ270	LF725	LF725	LF725	LF725	LF725
		La	Cr	Mg	Ba	Ti	Al	Na	K	W	Hg	Sc	Ti	S	Ga	Se	SiO2	Al2O3	Fe2O3	CaO	MgO
		ppm	ppm	%	ppm	%	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	%	%	%	%	%
		0.5	0.5	0.01	5	0.001	0.01	0.01	0.01	0.5	0.05	0.5	0.5	0.05	5	2	0.01	0.01	0.01	0.01	0.01
3200713	Drill Core	7.8	115.8	0.01	217	0.084	4.46	0.01	0.24	<0.5	16.92	4.2	8.9	11.65	20	9	42.99	8.16	15.66	0.40	0.04
Pulp Duplicates																					
3200698	Drill Core	8.0	16.2	0.14	2815	0.004	1.66	<0.01	0.18	<0.5	0.16	2.6	0.7	1.29	<5	4	76.09	7.30	3.29	0.59	0.44
REP 3200698	QC																76.17	7.30	3.31	0.58	0.45
3200704	Drill Core	11.5	19.5	0.03	2641	0.004	2.50	<0.01	0.16	<0.5	0.25	3.2	1.1	1.06	<5	7	73.96	7.48	3.88	0.29	0.22
REP 3200704	QC																74.01	7.50	3.88	0.29	0.23
3200717	Drill Core	12.9	71.2	0.34	>5000	0.068	3.83	0.02	0.18	<0.5	0.37	6.6	1.3	0.38	13	4	71.25	6.97	3.96	1.35	0.59
REP 3200717	QC																				
3200721	Drill Core	7.9	19.0	0.04	244	0.007	1.59	<0.01	0.03	<0.5	0.58	4.6	<0.5	5.50	<5	<2	70.33	4.00	10.72	0.19	0.10
REP 3200721	QC																				
3200722	Drill Core	10.4	20.9	0.05	347	0.006	1.83	<0.01	0.04	<0.5	0.78	4.1	<0.5	4.72	<5	2	71.70	4.99	9.81	0.20	0.12
REP 3200722	QC	11.2	20.3	0.05	322	0.006	1.84	<0.01	0.03	<0.5	0.75	3.7	<0.5	4.73	<5	<2					
3200727	Drill Core	15.9	12.0	0.18	1201	0.004	0.62	<0.01	0.29	<0.5	0.11	3.6	<0.5	2.04	<5	4	70.96	9.53	6.93	0.87	0.62
REP 3200727	QC																				
Core Reject Duplicates																					
3200720	Rock	7.6	5.8	0.89	233	0.204	2.46	0.35	0.36	0.6	0.06	4.7	<0.5	<0.05	6	<2	60.20	16.84	6.31	6.22	2.81
DUP 3200720	QC	7.5	5.6	0.89	236	0.202	2.43	0.34	0.35	0.6	<0.05	5.0	<0.5	<0.05	6	<2	60.61	16.90	6.37	6.26	2.85
Reference Materials																					
STD COO1	Standard																				
STD COO1	Standard																				
STD GGC-10	Standard																				
STD GGC-10	Standard																				
STD GS311-1	Standard																				
STD GS910-4	Standard																				
STD OREAS133B(D)	Standard																34.83	7.19	11.60	5.28	3.87
STD OREAS605	Standard	7.9	27.9	0.03	219	0.011	0.82	0.03	0.16	6.8	1.53	0.9	16.5	8.03	7	80					
STD OREAS72B	Standard																51.35	8.97	10.02	3.97	16.07
STD OREAS927-AR	Standard	28.0	41.7	1.99	53	0.097	3.51	<0.01	0.30	4.8	0.09	4.9	<0.5	1.82	10	14					
STD RTS-3A	Standard																				



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	Method Analyte Unit MDL	LF725	LF725	LF725	LF725	LF725	LF725	LF725	LF725	LF725	LF725	LF725	LF725	TC000	TC000	TC005	TC005	TC006	TC008	TC008
		K2O	MnO	TiO2	P2O5	Cr2O3	Ba	Cu	Pb	Zn	LOI	SUM_T	V2O5	TOT/C	TOT/S	C/ORG	C/GRA	CO2	S/S-	SO4
		%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
		0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	-5.11	0.01	0.01	0.02	0.02	0.02	0.02	0.08	0.05	0.05
3200713	Drill Core	0.34	0.03	0.62	0.29	0.02	10.40	0.01	0.36	4.05	14.07	99.73	0.16	4.43	13.50	3.71	0.72	<0.08	11.43	6.20
Pulp Duplicates																				
3200698	Drill Core	1.20	0.05	0.36	0.18	<0.01	3.60	<0.01	<0.01	<0.01	5.71	99.27	0.11	2.79	2.02	2.11	0.54	0.52	1.74	0.83
REP 3200698	QC	1.21	0.04	0.36	0.17	0.01	3.62	<0.01	<0.01	<0.01	5.71	99.38	0.12				0.61			
3200704	Drill Core	0.91	0.04	0.39	0.18	0.01	5.43	<0.01	<0.01	<0.01	5.54	98.98	0.14	2.52	2.27	1.74	0.71	0.25	2.06	0.65
REP 3200704	QC	0.90	0.04	0.39	0.18	0.01	5.43	<0.01	<0.01	<0.01	5.54	99.07	0.14							
3200717	Drill Core	0.23	0.06	0.35	0.16	0.01	8.66	<0.01	<0.01	<0.01	4.87	99.53	0.11	2.24	2.08	1.56	0.29	1.42	1.68	1.22
REP 3200717	QC													2.28	2.21					
3200721	Drill Core	0.11	0.06	0.21	0.12	<0.01	4.01	<0.01	0.01	0.20	6.96	97.54	0.04	0.86	6.38	0.44	0.27	0.54	5.41	2.91
REP 3200721	QC																			2.91
3200722	Drill Core	0.12	0.05	0.30	0.13	<0.01	3.94	0.02	<0.01	0.24	6.69	98.84	0.04	0.95	5.52	0.42	0.42	0.39	4.70	2.46
REP 3200722	QC																			
3200727	Drill Core	2.45	0.16	0.53	0.12	<0.01	0.94	<0.01	<0.01	0.02	5.63	98.92	0.06	1.62	2.07	0.87	0.10	2.36	1.67	1.19
REP 3200727	QC																	2.38		
Core Reject Duplicates																				
3200720	Rock	1.50	0.14	0.52	0.14	<0.01	0.06	<0.01	<0.01	<0.01	0.84	98.91	0.03	<0.02	<0.02	<0.02	<0.02	<0.08	<0.05	0.13
DUP 3200720	QC	1.52	0.14	0.53	0.14	<0.01	0.07	<0.01	<0.01	<0.01	0.84	99.63	0.03	<0.02	<0.02	<0.02	<0.02	<0.08	<0.05	0.16
Reference Materials																				
STD COO1	Standard																	2.31		
STD COO1	Standard																	2.35		
STD GGC-10	Standard																	5.25		
STD GGC-10	Standard																	4.61		
STD GS311-1	Standard													0.97	2.27					
STD GS910-4	Standard													2.64	8.41					
STD OREAS133B(D)	Standard	3.49	0.16	0.22	0.12	<0.01	0.07	0.06	5.07	11.36	13.03	99.77	<0.01							
STD OREAS605	Standard																			
STD OREAS72B	Standard	1.32	0.15	0.36	0.06	0.15	0.03	0.02	<0.01	<0.01	5.12	98.94	0.01							
STD OREAS927-AR	Standard																			
STD RTS-3A	Standard																			3.63



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		WGHT	AQ270	AQ270	AQ270	AQ270	AQ270	AQ270	AQ270	AQ270	AQ270	AQ270	AQ270	AQ270	AQ270	AQ270	AQ270	AQ270	AQ270	AQ270	AQ270
		Wgt	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Th	Sr	Cd	Sb	Bi	V	Ca	P
		kg	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%
		0.01	0.5	0.5	0.5	5	0.5	0.5	0.5	5	0.01	5	0.5	0.5	5	0.5	0.5	0.5	10	0.01	0.001
STD RTS-3A	Standard																				
STD SY-4(D)	Standard																				
STD GS311-1 Expected																					
STD GS910-4 Expected																					
STD RTS-3A Expected																					
STD OREAS605 Expected			4.75	49800	856	2170	984	1568	96	86	3.75	1674	0.92		49	13.6	307	19	7.8	0.182	0.0105
STD OREAS927-AR Expected			1.06	10715	212	726	4.9	30.9	29.4	1110	8.15	13.5	1.7	12.5	13.1	1.1	1.3	66	34	0.3	0.054
STD GGC-10 Expected																					
STD COO1 Expected																					
STD SY-4(D) Expected																					
STD OREAS72B Expected																					
STD OREAS133B(D) Expected																					
BLK	Blank																				
BLK	Blank																				
BLK	Blank		<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<5	<0.01	<5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<10	<0.01	0.002
BLK	Blank																				
BLK	Blank																				
SI BLK	Blank																				
Prep Wash																					
ROCK-WHI	Prep Blank		1.0	2.3	1.4	27	<0.5	1.1	3.5	552	1.94	<5	<0.5	3.3	26	<0.5	<0.5	<0.5	25	0.64	0.038
ROCK-WHI	Prep Blank		2.5	2.3	1.1	29	<0.5	1.0	3.7	574	1.92	<5	<0.5	2.9	25	<0.5	<0.5	<0.5	25	0.63	0.049



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QUALITY CONTROL REPORT

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		AQ270	AQ270	AQ270	AQ270	AQ270	AQ270	AQ270	AQ270	AQ270	AQ270	AQ270	AQ270	AQ270	AQ270	AQ270	LF725	LF725	LF725	LF725	LF725
		La	Cr	Mg	Ba	Ti	Al	Na	K	W	Hg	Sc	Tl	S	Ga	Se	SiO2	Al2O3	Fe2O3	CaO	MgO
		ppm	ppm	%	ppm	%	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	%	%	%	%	%
		0.5	0.5	0.01	5	0.001	0.01	0.01	0.01	0.5	0.05	0.5	0.5	0.05	5	2	0.01	0.01	0.01	0.01	0.01
STD RTS-3A	Standard																				
STD SY-4(D)	Standard																49.88	20.68	6.19	7.94	0.54
STD GS311-1 Expected																					
STD GS910-4 Expected																					
STD RTS-3A Expected																					
STD OREAS605 Expected		7.5	27.5	0.0289	160	0.01	0.73	0.0328	0.134	7.1	1.7	1.05	15.9	7.86	6.7	79					
STD OREAS927-AR Expected		26.9	41.7	1.94	51.4	0.085	3.25	0.011	0.27	4.9	0.12	4.74	1.77		9.09	15.5					
STD GGC-10 Expected																					
STD COO1 Expected																					
STD SY-4(D) Expected																	49.9	20.69	6.21	8.05	0.54
STD OREAS72B Expected																	51.16	8.97	9.724	3.96	15.933
STD OREAS133B(D) Expected																	33.83	6.91	11.67	5.4	3.73
BLK	Blank																				
BLK	Blank																				
BLK	Blank	<0.5	<0.5	<0.01	<5	<0.001	<0.01	<0.01	<0.01	<0.5	<0.05	<0.5	<0.5	<0.05	<5	<2					
BLK	Blank																				
BLK	Blank																				
SI BLK	Blank																98.94	0.30	0.02	0.02	0.02
Prep Wash																					
ROCK-WHI	Prep Blank	6.8	2.4	0.45	70	0.107	1.03	0.12	0.11	<0.5	<0.05	3.6	<0.5	0.06	<5	<2	70.92	14.15	3.30	2.42	0.87
ROCK-WHI	Prep Blank	7.4	2.5	0.47	69	0.109	1.05	0.12	0.12	<0.5	<0.05	4.7	<0.5	<0.05	<5	<2	70.63	13.91	3.25	2.22	0.88



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Project:

MacMillan Pass

Report Date:

August 12, 2019

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Part:

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QUALITY CONTROL REPORT

WHI19000200.1

		LF725	LF725	LF725	LF725	LF725	LF725	LF725	LF725	LF725	LF725	LF725	LF725	TC000	TC000	TC005	TC005	TC006	TC008	TC008	
		K2O	MnO	TiO2	P2O5	Cr2O3	Ba	Cu	Pb	Zn	LOI	SUM_T	V2O5	TOT/C	TOT/S	C/ORG	C/GRA	CO2	S/S-	SO4	
		%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	
		0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	-5.11	0.01	0.01	0.02	0.02	0.02	0.02	0.08	0.05	0.05	
STD RTS-3A	Standard	3.45																			
STD SY-4(D)	Standard	1.67	0.11	0.29	0.14	<0.01	0.05	<0.01	<0.01	0.01	4.56	99.20	<0.01								
STD GS311-1 Expected														1.02	2.35						
STD GS910-4 Expected														2.65	8.27						
STD RTS-3A Expected		3.3																			
STD OREAS605 Expected																					
STD OREAS927-AR Expected																					
STD GGC-10 Expected																			4.79		
STD COO1 Expected																			2.37		
STD SY-4(D) Expected		1.66	0.108	0.287	0.131		0.0345				4.56										
STD OREAS72B Expected		1.313	0.13	0.355	0.061	0.142	0.0335	0.0193			5.12										
STD OREAS133B(D) Expected								0.08	0.032	5.06	11.35										
BLK	Blank														<0.02	<0.02					
BLK	Blank	<0.05																			
BLK	Blank																				
BLK	Blank																		<0.02		
BLK	Blank																		<0.08		
SI BLK	Blank	<0.01	0.03	<0.01	<0.01	<0.01	0.02	<0.01	<0.01	<0.01	0.00	99.35	<0.01								
Prep Wash																					
ROCK-WHI	Prep Blank	2.05	0.10	0.35	0.09	<0.01	0.08	<0.01	<0.01	<0.01	0.81	99.72	<0.01	0.07	<0.02	0.05	<0.02	<0.08	<0.05	0.19	
ROCK-WHI	Prep Blank	2.02	0.11	0.36	0.09	<0.01	0.09	<0.01	<0.01	<0.01	0.77	99.00	<0.01	0.08	<0.02	<0.02	<0.02	0.20	<0.05	0.17	