



BUREAU MINERAL LABORATORIES
VERITAS Canada

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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: Dennis Arne
Receiving Lab: Canada-Whitehorse
Received: July 09, 2018
Report Date: August 09, 2018
Page: 1 of 7

CERTIFICATE OF ANALYSIS

WHI18000290.1

CLIENT JOB INFORMATION

Project: MacMillan Pass
Shipment ID: FWZ18-BV-008
P.O. Number
Number of Samples: 168

SAMPLE DISPOSAL

RTRN-PLP Return After 90 days
DISP-RJT-SOIL Immediate Disposal of Soil Reject

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: Jack Milton
Gilles Dessureau
Jill Moore
Maeve Murphy

SAMPLE PREPARATION AND ANALYTICAL PROCEDURES

Procedure Code	Number of Samples	Code Description	Test Wgt (g)	Report Status	Lab
SS230	164	Dry at 60C sieve 100g to -230 mesh			WHI
SLBHP	4	Sort, label and box pulps			WHI
AQ250	167	1:1:1 Aqua Regia digestion Ultratrace ICP-MS analysis	0.5	Completed	VAN
SHP01	168	Per sample shipping charges for branch shipments			VAN

ADDITIONAL COMMENTS


GEORGE ARCALA
Instrumentation Shift Supervisor

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



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Page:

2 of 7

Part:

1 of 2

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	Method Analyte Unit MDL	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250
		Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P
		ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	%	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%
		0.01	0.01	0.01	0.1	2	0.1	0.1	1	0.01	0.1	0.1	0.2	0.1	0.5	0.01	0.02	0.02	1	0.01	0.001
3199751	Soil	20.80	64.24	106.30	159.9	638	29.1	7.4	164	8.56	136.5	2.9	5.9	13.6	43.2	0.13	6.86	3.81	47	0.01	0.244
3199752	Soil	4.22	32.66	26.26	99.8	139	33.0	17.7	682	3.24	24.9	1.4	0.5	1.0	17.7	0.17	1.85	0.45	36	0.08	0.144
3199753	Soil	2.86	50.99	26.27	218.1	77	98.7	49.4	555	4.87	39.8	1.7	1.2	3.9	53.3	0.18	1.43	0.24	48	0.12	0.102
3199754	Soil	3.01	43.10	22.74	161.8	74	72.2	35.4	401	4.31	36.7	1.5	<0.2	3.2	45.0	0.10	1.30	0.26	36	0.09	0.102
3199755	Soil	3.15	49.09	38.72	176.6	58	80.1	33.9	443	5.66	52.4	1.8	2.0	7.2	84.1	0.09	1.42	0.28	40	0.09	0.099
3199756	Soil	2.84	31.87	18.19	56.2	153	17.4	5.1	130	2.24	21.5	1.2	0.9	0.4	13.6	0.03	1.07	0.21	22	0.05	0.091
3199757	Soil	3.90	33.61	17.29	69.6	120	21.7	12.9	437	3.82	40.3	1.6	1.1	1.2	15.2	0.03	2.40	0.22	21	0.05	0.152
3199758	Soil	11.66	91.93	64.34	305.5	697	146.0	72.0	1867	8.86	124.2	4.5	4.5	8.5	29.7	0.25	3.17	0.58	40	0.09	0.216
3199759	Soil	7.20	88.84	44.82	240.0	571	97.8	28.0	639	6.23	72.9	3.9	2.9	4.7	23.1	0.10	1.59	0.48	36	0.09	0.177
3199760	Rock Pulp	12.25	154.39	268.43	201.0	92	80.7	48.5	284	1.58	9.7	0.4	39.4	3.3	33.2	0.48	0.14	0.12	24	0.56	0.057
3199761	Soil	8.19	121.08	39.09	435.5	340	271.9	108.4	3571	6.68	65.1	4.7	1.6	8.6	18.5	1.03	1.93	0.40	36	0.03	0.188
3199762	Soil	3.40	15.35	26.73	14.5	2151	6.0	1.8	73	1.66	45.5	2.0	3.2	<0.1	36.9	0.06	2.12	0.23	30	0.04	0.292
3199763	Soil	15.35	9.25	27.48	23.8	620	6.9	2.0	79	2.36	49.8	1.1	2.4	0.1	19.8	0.02	7.79	0.28	46	0.02	0.106
3199764	Soil	9.90	8.62	39.04	14.8	569	3.9	0.5	19	0.97	29.4	7.2	4.8	<0.1	32.3	0.04	4.87	0.25	36	0.03	0.234
3199765	Soil	69.16	40.73	14.27	139.0	139	151.9	11.4	239	2.30	16.7	5.7	2.1	5.8	66.7	1.29	2.04	0.18	25	3.66	0.083
3199766	Soil	117.08	82.17	22.80	784.3	218	315.4	20.0	305	3.62	49.9	21.0	2.8	3.4	93.2	3.57	6.60	0.26	36	6.06	0.151
3199767	Soil	101.96	34.22	416.22	63.3	3599	11.6	1.6	51	3.11	97.2	3.1	5.4	10.0	70.0	0.29	41.95	0.41	123	0.02	0.137
3199768	Soil	269.61	471.36	166.21	1114.9	10977	169.4	8.0	587	7.82	194.2	59.8	4.1	8.8	417.4	13.51	96.33	0.41	575	0.61	1.999
3199769	Soil	160.04	430.35	951.44	2800.2	4922	491.3	15.5	448	3.21	68.4	38.5	2.2	3.5	178.9	33.00	27.57	0.20	411	0.53	0.221
3199770	Soil	6.70	59.18	44.50	131.3	314	40.6	14.9	647	4.55	34.6	2.7	3.5	2.3	17.0	0.43	2.04	0.56	58	0.08	0.267
3199771	Soil	3.33	34.98	22.80	119.9	92	34.4	13.4	331	3.16	17.8	1.4	2.7	0.4	13.7	0.36	1.34	0.29	60	0.11	0.099
3199772	Soil	2.75	43.03	17.56	146.7	110	49.0	22.6	594	2.91	17.0	1.8	0.9	4.5	17.8	0.57	1.34	0.27	51	0.19	0.128
3199773	Soil	3.62	59.06	27.10	168.7	227	58.2	27.2	621	3.52	63.8	2.2	3.1	4.0	16.2	0.31	1.86	0.37	52	0.15	0.185
3198711	Soil	97.03	26.11	130.08	70.1	2737	13.3	1.5	48	2.09	347.7	6.3	2.5	1.0	35.9	0.30	20.01	0.62	126	0.01	0.110
3198712	Soil	11.51	9.23	20.59	8.1	1325	2.8	0.9	34	0.45	9.8	1.0	1.2	<0.1	8.2	0.03	3.07	0.08	21	0.04	0.040
3198713	Soil	40.22	16.73	92.75	16.8	1568	4.1	0.7	19	1.73	48.4	2.6	5.6	1.1	44.8	0.06	15.26	0.43	55	0.01	0.076
3198714	Soil	19.62	121.18	51.62	195.8	1187	39.8	5.5	265	9.42	78.0	5.6	9.5	17.1	16.0	0.14	12.26	1.46	57	0.03	0.370
3198715	Soil	17.92	135.99	67.63	218.5	778	33.0	4.9	127	27.70	431.1	3.2	26.0	28.7	7.1	0.14	25.69	3.59	112	<0.01	0.786
3198716	Soil	19.85	93.44	49.31	213.5	674	39.9	5.6	108	18.51	460.8	4.0	8.1	14.6	8.4	0.08	9.33	1.01	121	<0.01	0.438
3198717	Soil	6.74	52.54	29.58	189.5	257	62.5	16.2	667	7.98	112.4	2.2	2.1	2.0	22.4	0.16	3.11	0.47	80	0.03	0.222



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Page: 2 of 7

Part: 2 of 2

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		La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Sc	Ti	S	Hg	Se	Te	Ga
		ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	%	ppb	ppm	ppm	ppm
		0.5	0.5	0.01	0.5	0.001	20	0.01	0.001	0.01	0.1	0.1	0.02	0.02	5	0.1	0.02	0.1
3199751	Soil	13.7	33.4	0.27	209.2	0.011	<20	1.40	0.017	0.06	0.1	3.0	0.20	0.10	113	11.5	0.66	4.9
3199752	Soil	14.2	26.8	0.29	137.0	0.028	<20	1.40	0.016	0.07	<0.1	1.5	0.26	0.05	58	1.2	0.10	4.1
3199753	Soil	24.3	37.7	0.66	169.7	0.038	<20	2.04	0.003	0.08	0.1	2.5	0.30	0.03	26	1.0	0.06	4.8
3199754	Soil	16.6	31.5	0.51	145.7	0.031	<20	1.73	0.006	0.07	0.1	1.9	0.18	0.03	25	1.0	0.04	4.0
3199755	Soil	17.6	40.5	0.76	246.2	0.030	<20	2.41	0.004	0.08	<0.1	2.6	0.29	0.03	28	1.3	0.08	4.8
3199756	Soil	7.9	16.1	0.19	60.4	0.014	<20	1.04	0.017	0.04	0.2	0.9	0.12	0.07	40	1.2	0.05	3.1
3199757	Soil	8.8	17.4	0.18	42.6	0.011	<20	0.96	0.016	0.04	<0.1	1.1	0.11	0.05	38	1.1	0.08	2.4
3199758	Soil	18.8	37.4	0.37	83.5	0.012	<20	1.91	0.011	0.07	0.2	4.2	0.23	0.10	119	2.2	0.20	3.7
3199759	Soil	14.5	34.6	0.42	68.1	0.008	<20	2.16	0.011	0.07	<0.1	3.3	0.22	0.10	128	1.8	0.14	3.9
3199760	Rock Pulp	26.9	33.6	0.46	62.0	0.076	<20	0.79	0.085	0.11	<0.1	3.1	0.08	0.04	22	<0.1	<0.02	2.8
3199761	Soil	15.4	30.4	0.38	79.6	0.020	<20	1.88	0.008	0.07	<0.1	3.4	0.20	0.06	60	2.1	0.14	4.0
3199762	Soil	8.9	11.7	0.04	83.6	<0.001	<20	0.68	0.016	0.06	<0.1	0.2	0.28	0.13	76	7.4	0.09	2.4
3199763	Soil	11.6	16.6	0.06	122.7	0.005	<20	0.39	0.001	0.06	<0.1	0.4	0.80	0.08	17	8.8	0.16	2.3
3199764	Soil	8.2	14.3	0.03	201.7	0.002	<20	0.38	0.002	0.04	<0.1	0.3	0.42	0.05	135	2.4	0.06	2.2
3199765	Soil	8.6	9.8	1.82	164.1	0.002	<20	0.36	0.003	0.04	0.2	3.8	0.75	<0.02	200	1.2	0.06	0.8
3199766	Soil	14.3	13.1	2.02	174.3	0.002	<20	0.45	0.004	0.05	0.3	3.5	0.91	<0.02	336	3.2	0.11	0.9
3199767	Soil	6.0	11.6	0.03	326.4	0.010	<20	0.22	0.004	0.19	<0.1	7.3	1.50	0.36	1051	31.0	0.27	1.9
3199768	Soil	13.8	94.7	0.06	850.6	0.021	<20	1.27	0.008	0.35	0.7	10.6	6.61	0.56	2415	53.6	1.46	6.8
3199769	Soil	14.2	36.3	0.17	181.9	0.010	<20	0.87	0.003	0.08	0.4	3.8	5.51	0.07	2704	23.5	0.31	1.3
3199770	Soil	16.6	43.3	0.74	126.5	0.016	<20	2.39	0.007	0.11	0.1	2.7	0.29	0.07	137	2.3	0.09	6.2
3199771	Soil	15.6	29.0	0.44	82.7	0.021	<20	1.63	0.005	0.06	0.2	1.2	0.19	0.05	43	1.1	0.02	4.6
3199772	Soil	23.3	27.9	0.52	126.8	0.050	<20	1.62	0.006	0.06	0.2	3.4	0.14	<0.02	33	0.9	0.05	4.4
3199773	Soil	18.8	29.4	0.52	103.7	0.037	<20	1.76	0.008	0.09	0.2	3.7	0.16	0.03	42	1.3	0.09	4.7
3198711	Soil	18.1	23.2	0.05	732.4	0.007	<20	0.61	0.009	0.12	1.3	1.4	1.43	0.22	348	22.7	0.44	5.5
3198712	Soil	2.8	5.3	0.02	89.9	0.013	<20	0.49	0.026	0.04	0.2	0.6	0.14	0.03	55	3.0	0.07	2.0
3198713	Soil	7.7	13.3	0.04	725.2	0.013	<20	0.53	0.015	0.11	0.4	1.1	1.33	0.17	554	13.1	0.31	4.0
3198714	Soil	12.9	66.6	0.38	94.8	0.012	<20	2.01	0.007	0.08	0.1	7.0	0.37	0.22	278	8.6	0.45	5.2
3198715	Soil	5.7	123.3	0.11	31.7	0.017	<20	1.70	0.003	0.03	<0.1	3.7	0.32	0.33	149	16.9	0.84	5.7
3198716	Soil	10.1	65.2	0.09	37.8	0.011	<20	1.25	0.002	0.05	<0.1	3.9	0.23	0.13	118	14.5	0.47	5.9
3198717	Soil	21.4	43.2	0.24	90.0	0.029	<20	1.73	0.004	0.09	0.2	2.6	0.27	0.10	43	1.8	0.19	6.4



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3 of 7

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		Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P
		ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	%	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%
		0.01	0.01	0.01	0.1	2	0.1	0.1	1	0.01	0.1	0.1	0.1	0.1	0.5	0.01	0.02	0.02	1	0.01	0.001
3198718	Soil	2.75	29.97	14.14	151.7	118	55.6	26.5	583	3.96	21.6	1.6	2.0	1.5	12.6	0.20	1.50	0.23	49	0.08	0.096
3198719	Soil	3.56	49.73	27.25	135.8	210	62.0	10.9	173	6.76	37.9	2.2	1.4	10.4	47.2	0.11	1.69	0.30	35	0.01	0.122
3198720	Soil	4.57	49.63	30.68	176.2	265	61.3	14.3	228	8.30	43.5	2.5	1.3	9.8	40.9	0.12	2.30	0.28	40	0.01	0.148
3198721	Soil	2.18	17.09	18.21	26.1	127	7.9	2.7	95	1.03	10.5	0.7	1.0	0.6	8.2	0.06	0.88	0.13	12	0.07	0.062
3198722	Soil	13.66	71.54	78.88	104.7	1116	26.0	9.0	322	5.15	66.4	3.2	3.9	4.4	11.3	0.11	5.18	0.56	38	0.03	0.215
3198723	Soil	3.12	81.67	42.53	269.3	223	135.6	73.8	1478	6.49	57.1	2.9	1.6	5.7	8.9	0.20	1.28	0.33	47	0.04	0.241
3198724	Soil	4.71	62.11	49.26	220.8	223	87.0	44.6	831	4.54	40.3	2.5	1.7	1.2	24.4	0.15	1.75	0.47	41	0.04	0.208
3198725	Soil	2.64	47.36	38.53	251.9	124	120.8	114.6	2295	6.15	44.7	2.6	0.4	3.6	8.4	0.21	1.15	0.27	43	0.04	0.147
3198726	Soil	1.13	31.11	21.81	98.5	116	34.0	11.4	277	3.61	24.6	1.9	1.0	3.8	26.3	0.08	0.52	0.34	24	<0.01	0.093
3198727	Soil	1.51	57.22	34.35	186.0	93	88.5	31.5	535	4.50	26.7	2.8	1.6	5.1	43.5	0.12	0.66	0.50	34	0.03	0.108
3198728	Soil	I.S.	I.S.	I.S.	I.S.	I.S.	I.S.	I.S.	I.S.	I.S.	I.S.	I.S.	I.S.	I.S.	I.S.	I.S.	I.S.	I.S.	I.S.	I.S.	I.S.
3198729	Soil	2.74	63.72	38.56	86.3	331	40.2	19.9	406	3.77	39.4	2.2	2.1	1.9	11.7	0.06	1.19	0.53	27	0.03	0.150
3198730	Soil	3.39	73.74	37.54	178.9	288	72.7	39.0	676	5.32	37.0	2.7	6.4	1.7	37.9	0.21	1.47	0.74	39	0.03	0.245
3198731	Soil	5.45	26.31	68.90	54.3	244	9.2	2.8	100	2.36	36.6	1.5	1.6	1.0	18.3	0.07	2.18	0.48	27	0.01	0.098
3198732	Soil	9.19	22.24	58.25	49.2	276	10.8	3.5	108	2.73	60.3	1.0	3.3	1.3	21.5	0.07	2.92	0.33	23	<0.01	0.087
3198733	Soil	3.73	14.02	14.01	27.0	158	6.8	2.2	99	1.25	15.1	0.8	0.7	0.5	10.4	0.07	1.46	0.13	13	0.05	0.066
3198734	Soil	12.13	26.03	37.29	69.8	235	17.8	4.3	77	3.21	39.3	1.2	2.3	0.5	11.9	0.08	2.79	0.37	41	0.01	0.105
3198735	Soil	7.53	27.22	30.49	54.6	2288	13.5	2.1	44	1.89	20.6	2.3	7.3	0.1	20.1	0.19	1.91	0.34	23	0.04	0.127
3198736	Soil	3.88	69.27	50.44	171.4	513	68.1	23.7	497	5.22	54.6	2.0	1.5	4.4	49.5	0.10	2.51	0.53	35	0.04	0.204
3198737	Soil	3.31	144.66	53.39	421.8	125	275.5	167.2	2317	5.91	45.4	2.9	4.4	3.8	30.0	0.27	1.59	0.64	32	0.06	0.180
3198738	Soil	2.03	26.22	15.09	37.5	73	10.4	3.4	138	2.27	15.6	0.8	1.7	0.1	10.7	0.10	0.88	0.33	29	0.03	0.088
3198739	Soil	0.21	5.11	1.71	4.6	15	1.4	0.8	20	0.25	0.9	0.1	0.7	<0.1	6.4	0.02	0.10	0.06	5	0.04	0.034
3198740	Rock Pulp	11.46	168.02	248.79	195.7	98	76.8	48.1	243	1.57	9.3	0.4	39.4	3.4	29.7	0.50	0.17	0.19	22	0.51	0.055
3198741	Soil	4.49	17.93	20.99	35.8	437	14.5	4.6	76	1.61	20.2	0.9	<0.2	0.3	8.4	0.51	1.61	0.24	16	0.03	0.121
3198742	Soil	3.62	23.37	12.49	80.7	79	21.2	6.9	348	3.09	19.2	1.0	1.1	0.1	8.9	0.19	1.23	0.35	39	0.02	0.091
3198743	Soil	1.64	22.98	10.26	41.0	105	13.2	4.4	117	1.28	10.5	0.8	6.4	0.2	8.1	0.07	0.70	0.20	15	0.05	0.093
3198744	Soil	2.93	39.20	23.35	119.1	124	41.2	22.3	531	2.57	23.5	1.3	0.5	0.2	13.2	0.14	0.84	0.35	26	0.04	0.094
3198745	Soil	2.45	123.78	41.13	208.9	189	101.9	83.3	1264	4.48	29.8	2.2	0.9	7.0	41.9	0.14	0.79	0.54	29	0.06	0.129
3198746	Soil	3.95	160.01	60.05	441.0	413	269.5	188.1	2842	6.42	69.7	3.2	1.7	9.3	26.0	0.38	1.90	0.66	28	0.06	0.146
3198747	Soil	5.57	41.86	39.35	64.5	254	13.0	4.0	87	3.55	48.7	1.3	1.7	6.9	26.2	0.06	2.11	0.46	20	0.03	0.137



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Project: MacMillan Pass

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Page: 3 of 7

Part: 2 of 2

CERTIFICATE OF ANALYSIS

WHI18000290.1

	Method Analyte Unit MDL	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250
		La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Sc	Ti	S	Hg	Se	Te	Ga
		ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	%	ppb	ppm	ppm	ppm
		0.5	0.5	0.01	0.5	0.001	20	0.01	0.001	0.01	0.1	0.1	0.02	0.02	5	0.1	0.02	0.1
3198718	Soil	28.5	30.0	0.41	92.9	0.024	<20	1.72	0.006	0.07	0.1	2.2	0.21	0.04	21	0.9	0.03	4.3
3198719	Soil	41.5	32.8	0.21	51.6	0.005	<20	1.58	0.003	0.04	<0.1	4.2	0.18	0.02	33	1.8	0.06	4.2
3198720	Soil	35.5	30.5	0.20	49.5	0.007	<20	1.40	0.003	0.05	<0.1	4.4	0.21	0.02	10	1.4	0.06	4.1
3198721	Soil	6.5	7.7	0.08	30.9	0.015	<20	0.53	0.023	0.04	0.6	0.9	0.07	<0.02	10	0.5	<0.02	1.9
3198722	Soil	20.1	35.7	0.32	63.5	0.013	<20	1.40	0.008	0.08	0.1	3.5	0.23	0.10	138	3.6	0.17	4.0
3198723	Soil	25.1	41.8	0.48	47.4	0.010	<20	2.04	0.004	0.05	<0.1	4.5	0.14	0.03	26	1.2	0.06	4.5
3198724	Soil	21.1	34.8	0.51	57.9	0.007	<20	1.81	0.005	0.06	0.2	1.3	0.15	0.08	96	1.7	0.09	4.6
3198725	Soil	25.4	35.5	0.49	68.2	0.007	<20	1.90	0.003	0.04	<0.1	3.2	0.16	0.03	30	0.6	0.06	4.5
3198726	Soil	32.1	34.1	0.69	33.8	0.002	<20	1.88	0.002	0.03	<0.1	1.5	0.09	0.03	<5	0.4	0.07	4.3
3198727	Soil	35.3	45.1	0.86	50.5	0.002	<20	2.36	0.002	0.04	<0.1	1.8	0.13	0.04	18	0.4	0.08	5.2
3198728	Soil	I.S.	I.S.	I.S.	I.S.	I.S.	I.S.	I.S.	I.S.	I.S.	I.S.	I.S.	I.S.	I.S.	I.S.	I.S.	I.S.	I.S.
3198729	Soil	19.6	31.3	0.56	50.4	0.005	<20	1.62	0.004	0.07	<0.1	1.5	0.12	0.08	103	1.2	0.09	3.9
3198730	Soil	18.4	45.4	0.56	85.9	0.004	<20	2.01	0.004	0.06	<0.1	1.4	0.12	0.13	67	0.8	0.14	4.9
3198731	Soil	26.8	17.0	0.08	69.5	0.005	<20	0.63	0.004	0.08	<0.1	0.9	0.18	0.08	40	1.5	0.08	3.1
3198732	Soil	21.7	11.0	0.05	110.8	0.006	<20	0.45	0.003	0.14	<0.1	1.5	0.28	0.22	50	2.1	0.11	2.0
3198733	Soil	6.3	6.8	0.05	44.3	0.012	<20	0.40	0.022	0.05	<0.1	0.9	0.19	0.05	24	0.7	0.04	1.6
3198734	Soil	15.1	16.0	0.04	71.8	0.007	<20	0.60	0.002	0.06	0.1	0.8	0.24	0.09	55	2.0	0.14	3.7
3198735	Soil	4.8	9.8	0.05	81.8	0.004	<20	0.54	0.016	0.05	<0.1	0.5	0.19	0.10	199	5.7	0.08	2.3
3198736	Soil	16.2	32.1	0.45	68.1	0.011	<20	1.58	0.018	0.07	<0.1	2.7	0.16	0.13	69	1.8	0.17	4.1
3198737	Soil	25.8	34.8	0.61	94.5	0.007	<20	2.11	0.003	0.04	<0.1	1.9	0.12	0.08	62	1.5	0.15	4.3
3198738	Soil	8.2	15.7	0.10	55.4	0.012	<20	0.90	0.012	0.03	<0.1	0.4	0.08	0.05	37	0.6	0.07	4.3
3198739	Soil	1.3	1.7	0.02	13.0	0.008	<20	0.39	0.021	0.03	<0.1	0.1	<0.02	<0.02	17	<0.1	<0.02	1.4
3198740	Rock Pulp	28.1	28.7	0.45	59.9	0.072	<20	0.77	0.079	0.12	<0.1	2.7	0.08	0.04	16	<0.1	<0.02	2.7
3198741	Soil	5.9	16.1	0.05	117.3	0.005	<20	0.40	0.003	0.05	<0.1	0.6	0.05	0.11	111	0.9	0.06	1.6
3198742	Soil	13.7	22.8	0.14	69.7	0.012	<20	1.13	0.006	0.04	0.1	0.5	0.15	0.05	33	1.1	0.06	5.2
3198743	Soil	6.4	10.3	0.13	36.5	0.011	<20	0.71	0.013	0.04	<0.1	0.5	0.07	0.05	52	0.6	0.03	2.4
3198744	Soil	11.8	18.9	0.25	75.7	0.009	<20	1.06	0.010	0.05	0.1	0.6	0.13	0.07	57	0.5	0.06	4.0
3198745	Soil	31.5	32.1	0.79	84.6	0.007	<20	1.92	0.007	0.06	<0.1	2.4	0.11	0.05	41	0.7	0.10	4.8
3198746	Soil	29.6	34.4	0.68	124.6	0.004	<20	1.81	0.004	0.06	<0.1	2.4	0.13	0.04	48	1.0	0.19	4.0
3198747	Soil	25.0	12.0	0.06	67.5	0.008	<20	0.46	0.009	0.08	<0.1	2.2	0.34	0.08	23	1.9	0.11	1.8



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Report Date:

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Page:

4 of 7

Part:

1 of 2

CERTIFICATE OF ANALYSIS

WHI18000290.1

	Method Analyte Unit MDL	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250
		Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P
		ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	%	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%
		0.01	0.01	0.01	0.1	2	0.1	0.1	1	0.01	0.1	0.1	0.2	0.1	0.5	0.01	0.02	0.02	1	0.01	0.001
3198748	Soil	49.55	32.15	169.29	64.9	1109	10.2	2.7	52	4.79	92.5	0.9	1.2	8.4	21.1	0.10	22.72	0.64	19	<0.01	0.113
3198749	Soil	25.18	65.65	77.34	124.7	558	28.5	7.6	118	7.81	95.8	1.5	1.4	10.2	43.8	0.13	6.11	0.70	33	<0.01	0.208
3198750	Soil	4.51	36.94	16.26	61.0	272	16.8	4.7	120	2.82	42.3	1.4	1.3	2.3	19.5	0.10	1.57	0.33	22	0.05	0.133
3198751	Soil	9.15	47.14	68.16	96.8	501	30.1	7.8	96	4.81	55.6	1.3	0.7	7.4	20.7	0.09	2.87	0.62	23	0.01	0.163
3198752	Soil	1.18	28.60	7.70	37.9	94	12.3	5.8	158	1.29	8.5	0.8	1.1	0.5	10.4	0.08	0.53	0.19	20	0.10	0.094
3198753	Soil	3.28	91.92	28.21	108.9	541	43.3	9.4	186	2.91	20.3	2.6	0.4	2.4	18.7	0.10	0.90	0.64	34	0.11	0.135
3198754	Soil	3.61	127.91	35.29	254.9	358	136.5	117.0	1923	5.20	45.1	2.9	1.6	4.7	14.0	0.16	1.15	0.65	38	0.06	0.174
3198755	Soil	2.92	37.31	22.17	73.2	135	20.9	6.1	342	4.67	33.4	1.8	1.0	0.4	18.5	0.14	1.01	0.54	43	0.02	0.228
3198756	Soil	2.88	45.50	21.04	95.0	183	27.6	11.3	205	3.80	30.1	1.5	2.2	0.2	12.3	0.20	1.53	0.41	43	0.05	0.152
3198757	Soil	2.60	93.58	50.48	172.1	182	72.3	32.6	387	4.76	36.9	3.1	4.1	7.5	76.3	0.12	1.40	0.66	33	0.03	0.139
3198758	Soil	2.63	73.96	30.59	178.5	168	65.9	30.6	582	3.41	24.4	2.1	2.0	5.9	15.6	0.27	1.29	0.38	46	0.12	0.164
3199591	Soil	101.19	24.59	66.49	20.7	1875	5.1	1.2	50	2.63	65.9	6.0	1.2	5.1	25.8	0.15	32.24	0.52	208	0.01	0.065
3199592	Soil	48.18	11.89	50.82	21.1	1041	4.6	1.3	47	1.25	24.8	4.0	1.7	6.7	19.8	0.11	26.04	0.39	73	0.02	0.045
3199593	Soil	42.67	21.86	93.94	46.9	1236	10.0	1.9	78	1.98	43.3	3.4	2.8	1.0	31.5	0.13	13.34	0.47	108	0.01	0.067
3199594	Soil	11.80	117.47	45.24	205.7	341	30.3	9.3	238	5.72	63.7	3.7	3.8	20.9	55.9	0.17	5.98	1.00	42	0.02	0.187
3199595	Soil	22.49	111.32	52.70	301.4	633	52.6	25.8	356	7.13	128.5	2.8	8.5	14.3	53.9	0.25	5.84	0.85	57	0.03	0.247
3199596	Soil	5.65	74.22	22.08	152.9	189	34.6	12.9	448	3.89	27.0	2.3	2.1	9.2	20.6	0.42	2.03	0.45	50	0.07	0.125
3199597	Soil	3.45	54.34	14.60	324.4	107	115.0	40.6	479	4.75	25.1	2.1	1.9	5.3	177.8	0.33	1.24	0.25	51	0.41	0.120
3199598	Soil	3.25	67.14	14.72	243.4	66	123.2	52.7	522	4.82	41.0	1.8	6.8	5.0	65.1	0.33	2.84	0.26	54	0.25	0.124
3199599	Soil	2.57	89.38	22.94	353.1	92	157.0	77.5	628	5.72	34.2	3.5	1.4	6.1	30.7	0.18	1.02	0.25	71	0.26	0.104
3199600	Rock Pulp	0.64	24.88	1.99	20.2	24	16.0	5.6	263	1.40	0.8	0.4	0.7	2.9	30.2	0.04	0.05	0.03	21	0.60	0.061
3199601	Soil	7.02	121.18	26.69	300.2	431	115.2	33.8	442	9.20	73.8	4.1	14.6	6.3	56.6	0.31	3.06	0.37	59	0.05	0.212
3199602	Soil	2.16	44.51	16.59	253.4	344	92.8	32.8	253	7.25	58.2	3.6	0.8	11.7	32.9	0.22	0.95	0.28	54	0.13	0.154
3199603	Soil	2.62	44.03	16.03	133.2	150	51.3	25.8	704	4.71	28.4	1.5	1.2	0.3	12.3	0.25	1.16	0.29	66	0.06	0.155
3199604	Soil	5.61	155.56	32.20	454.2	438	249.4	116.1	1558	12.03	78.7	7.1	3.6	6.9	42.7	0.48	2.56	0.34	65	0.09	0.225
3199605	Soil	3.37	87.13	22.06	204.8	223	101.0	63.3	1238	6.62	50.9	2.1	2.9	3.0	13.9	0.17	1.30	0.34	55	0.04	0.119
3199606	Soil	3.51	74.65	23.93	226.1	296	106.5	62.3	1361	7.59	43.8	3.0	3.7	2.8	14.6	0.24	1.51	0.32	65	0.03	0.195
3199607	Soil	0.84	53.02	13.47	219.0	80	102.6	59.6	1026	4.52	25.1	2.5	0.5	12.5	46.1	0.13	0.16	0.34	27	0.20	0.085
3199608	Soil	4.45	157.86	50.78	426.6	594	194.5	98.3	2439	11.28	94.6	5.9	7.4	12.6	65.3	0.60	4.08	0.35	69	0.17	0.303
3199609	Soil	2.87	37.24	16.43	103.5	73	39.6	18.9	380	3.01	18.5	1.9	1.4	5.0	32.2	0.43	1.40	0.29	55	0.30	0.156



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Report Date: August 09, 2018

Page: 4 of 7

Part: 2 of 2

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		La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Sc	Ti	S	Hg	Se	Te	Ga
		ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	%	ppb	ppm	ppm	ppm
		0.5	0.5	0.01	0.5	0.001	20	0.01	0.001	0.01	0.1	0.1	0.02	0.02	5	0.1	0.02	0.1
3198748	Soil	8.7	8.8	0.03	99.0	0.013	<20	0.31	0.013	0.16	<0.1	1.4	0.81	0.29	447	8.8	0.27	2.6
3198749	Soil	18.9	19.7	0.07	101.3	0.004	<20	0.58	0.003	0.15	<0.1	2.8	0.72	0.27	115	7.1	0.26	2.3
3198750	Soil	11.2	12.5	0.13	54.9	0.014	<20	0.69	0.014	0.07	<0.1	2.3	0.40	0.07	51	1.2	0.07	2.4
3198751	Soil	18.9	12.7	0.07	84.1	0.008	<20	0.49	0.006	0.10	<0.1	2.5	0.35	0.17	96	3.6	0.15	2.1
3198752	Soil	7.4	11.5	0.18	36.2	0.022	<20	0.74	0.016	0.05	<0.1	1.1	0.08	0.02	26	0.5	0.02	2.6
3198753	Soil	17.9	29.2	0.55	99.2	0.023	<20	1.42	0.013	0.09	0.1	2.7	0.16	0.05	72	1.5	0.08	4.6
3198754	Soil	30.1	28.4	0.64	141.8	0.019	<20	1.76	0.006	0.07	0.2	2.6	0.15	0.03	44	1.2	0.10	4.4
3198755	Soil	19.3	37.3	0.30	59.2	0.006	<20	1.52	0.003	0.07	<0.1	0.6	0.14	0.09	47	1.2	0.07	5.8
3198756	Soil	12.5	26.8	0.20	52.6	0.010	<20	1.15	0.002	0.05	0.2	0.6	0.13	0.11	112	1.3	0.08	4.5
3198757	Soil	30.6	29.7	0.54	70.9	0.015	<20	1.77	0.010	0.08	0.1	3.0	0.12	0.05	41	1.0	0.13	4.9
3198758	Soil	31.1	30.9	0.57	89.5	0.055	<20	1.72	0.005	0.07	0.2	3.7	0.14	<0.02	24	1.0	0.06	5.1
3199591	Soil	15.3	17.9	0.07	591.8	0.022	<20	0.33	0.003	0.19	0.5	1.6	1.96	0.31	416	34.7	0.61	2.9
3199592	Soil	21.0	9.0	0.07	1054.9	0.022	<20	0.30	0.004	0.10	<0.1	1.4	0.71	0.15	218	9.1	0.32	1.8
3199593	Soil	17.6	16.2	0.09	429.0	0.015	<20	0.58	0.001	0.09	0.3	1.1	0.84	0.11	273	11.2	0.24	3.2
3199594	Soil	69.4	27.6	0.49	151.7	0.114	<20	1.53	0.003	0.07	<0.1	3.1	0.26	0.11	56	4.2	0.27	4.9
3199595	Soil	60.0	41.4	0.48	155.9	0.119	<20	1.77	0.005	0.09	0.1	3.3	0.35	0.12	66	3.5	0.20	4.9
3199596	Soil	29.0	29.5	0.49	115.8	0.089	<20	1.50	0.010	0.11	0.2	3.8	0.20	0.04	47	1.5	0.07	4.7
3199597	Soil	27.1	35.0	0.48	446.7	0.049	<20	2.73	0.007	0.13	0.2	3.4	0.29	0.04	36	1.3	0.06	5.5
3199598	Soil	23.1	32.7	0.50	185.6	0.058	<20	2.06	0.005	0.12	0.8	3.2	0.21	0.04	29	1.1	0.05	4.6
3199599	Soil	16.1	54.6	0.86	246.7	0.044	<20	2.77	0.003	0.31	<0.1	5.7	0.64	0.03	25	0.7	0.05	6.7
3199600	Rock Pulp	16.8	25.0	0.43	49.7	0.074	<20	0.73	0.073	0.11	<0.1	2.5	0.05	<0.02	8	<0.1	<0.02	2.6
3199601	Soil	23.9	36.9	0.49	127.1	0.045	<20	2.22	0.010	0.12	0.2	3.6	0.44	0.12	85	2.7	0.07	4.9
3199602	Soil	29.9	47.4	0.47	410.6	0.008	<20	1.70	0.004	0.10	<0.1	4.6	0.47	0.05	26	0.3	0.06	6.4
3199603	Soil	12.3	41.6	0.40	128.2	0.025	<20	2.27	0.003	0.11	0.1	1.3	0.36	0.11	86	1.1	0.06	6.0
3199604	Soil	18.7	37.9	0.45	720.1	0.018	<20	2.20	0.006	0.14	0.1	5.0	0.95	0.14	71	1.5	0.08	5.1
3199605	Soil	17.6	35.3	0.41	144.3	0.025	<20	1.84	0.004	0.08	0.3	2.9	0.37	0.07	71	1.3	0.08	4.7
3199606	Soil	21.6	38.1	0.40	255.6	0.018	<20	2.00	0.004	0.11	0.1	4.2	0.71	0.08	97	1.6	0.07	4.4
3199607	Soil	46.9	16.6	0.51	319.3	0.002	<20	1.14	0.002	0.07	<0.1	4.2	0.34	0.03	25	0.1	0.03	3.2
3199608	Soil	58.0	53.7	0.45	309.7	0.026	<20	2.46	0.021	0.11	0.1	6.4	1.01	0.20	84	2.1	0.11	5.8
3199609	Soil	29.5	28.6	0.48	106.4	0.059	<20	1.43	0.007	0.07	0.3	2.9	0.16	0.02	17	0.9	0.04	3.7



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MacMillan Pass

Report Date:

August 09, 2018

Page:

5 of 7

Part:

1 of 2

CERTIFICATE OF ANALYSIS

WHI18000290.1

	Method Analyte Unit MDL	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250
		Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P
		ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	%	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%
		0.01	0.01	0.01	0.1	2	0.1	0.1	1	0.01	0.1	0.1	0.2	0.1	0.5	0.01	0.02	0.02	1	0.01	0.001
3199610	Soil	3.68	94.08	37.00	165.2	212	125.3	51.6	606	5.66	49.1	3.3	3.0	4.2	207.3	0.16	2.75	0.71	57	0.18	0.230
3199611	Soil	6.22	143.83	124.14	139.9	698	40.0	11.1	222	14.10	186.1	4.8	1.6	20.1	87.2	0.16	5.40	1.03	70	0.05	0.555
3199612	Soil	2.60	105.50	25.22	230.5	155	169.4	97.9	923	5.60	39.8	2.2	1.8	3.2	259.0	0.26	1.96	0.31	51	0.29	0.188
3199613	Soil	4.03	120.95	49.15	506.6	199	260.8	79.2	459	15.28	61.9	1.8	0.7	14.7	44.4	0.13	4.66	0.79	42	0.10	0.242
3199614	Soil	4.61	97.83	36.32	683.2	354	236.8	107.5	1996	9.24	55.7	8.1	2.5	9.7	76.1	0.70	2.99	0.45	47	0.10	0.276
3199615	Soil	6.56	65.69	53.87	401.2	383	123.1	72.8	1802	8.48	76.8	4.3	3.1	6.8	28.2	0.22	2.54	0.67	45	0.06	0.262
3199616	Soil	3.19	23.68	22.94	79.9	132	23.1	7.0	232	2.90	25.0	1.3	0.5	0.1	21.0	0.10	1.37	0.29	40	0.03	0.125
3199617	Soil	2.67	31.00	20.25	113.8	73	40.5	12.6	277	4.66	29.9	1.4	1.2	0.4	30.0	0.18	1.07	0.32	56	0.07	0.125
3199618	Soil	3.10	58.86	42.54	189.8	188	72.0	34.3	498	4.99	47.4	2.8	1.7	8.2	73.3	0.23	1.29	0.42	48	0.11	0.132
3199619	Soil	6.20	139.05	60.28	393.7	248	197.2	109.0	1352	6.92	84.8	4.0	2.4	7.9	55.5	0.33	1.87	0.64	42	0.04	0.194
3199620	Soil	8.30	178.79	144.49	438.4	395	207.7	101.9	1465	11.32	80.2	4.3	3.9	14.9	71.1	0.42	4.19	0.89	53	0.02	0.219
3199621	Soil	5.57	101.11	55.39	228.5	388	100.9	54.5	1110	6.07	84.5	5.0	3.7	6.8	39.0	0.29	2.02	0.73	54	0.10	0.279
3199622	Soil	3.31	58.43	26.80	417.7	155	217.2	95.6	1214	4.75	49.3	3.0	2.0	4.4	12.2	0.58	1.84	0.35	38	0.07	0.115
3199623	Soil	2.93	67.48	26.85	303.1	185	179.3	134.4	2987	3.85	38.8	3.7	11.3	2.7	35.0	0.29	1.11	0.34	37	0.13	0.163
3199624	Soil	4.83	86.52	52.28	245.3	172	90.1	50.3	1135	4.98	45.2	2.7	3.0	2.8	25.2	0.33	1.43	0.65	52	0.09	0.247
3199625	Soil	4.00	212.16	34.67	339.2	346	159.1	110.3	1428	3.90	44.0	3.2	2.0	6.2	22.5	0.58	1.17	0.45	57	0.17	0.194
3199626	Soil	2.53	47.47	21.23	128.2	98	40.7	21.2	380	3.26	21.9	1.7	1.7	0.9	19.9	0.27	0.88	0.38	49	0.10	0.110
3199627	Soil	1.35	72.99	47.40	285.0	174	155.1	100.7	1450	4.16	33.2	1.7	1.9	9.2	40.9	0.25	0.66	0.40	31	0.14	0.088
3199628	Soil	2.73	83.68	44.90	313.1	151	181.0	88.9	2513	4.32	37.2	2.7	1.3	4.1	234.5	0.28	1.52	0.43	48	0.24	0.149
3199629	Soil	1.33	85.76	30.53	222.3	114	151.8	86.4	1248	4.70	24.3	2.5	1.2	7.4	169.9	0.10	0.88	0.37	33	0.24	0.102
3199630	Soil	4.47	91.78	79.65	302.1	141	124.6	39.4	622	9.40	38.3	2.8	2.0	6.7	269.7	0.26	2.85	0.60	39	0.25	0.255
3199631	Soil	3.83	67.20	50.02	122.7	207	39.5	16.5	552	5.98	35.2	2.1	1.4	0.4	119.0	0.23	1.76	0.54	47	0.10	0.240
3199632	Soil	2.46	34.83	22.33	73.1	141	22.2	5.1	101	2.74	17.7	1.3	0.8	<0.1	77.4	0.13	1.19	0.35	29	0.10	0.224
3199633	Soil	2.93	94.19	56.16	228.9	303	114.8	77.1	2063	5.81	36.8	2.8	5.5	3.4	126.6	0.23	1.58	0.60	38	0.44	0.184
3199634	Soil	1.96	101.67	57.70	340.6	258	246.8	139.9	1137	5.51	21.7	2.0	2.2	6.2	228.7	0.24	1.07	0.53	40	0.21	0.168
3199635	Soil	2.99	137.24	61.76	320.8	361	298.6	161.4	1798	5.26	48.6	3.5	3.1	3.5	90.0	0.26	2.61	0.72	47	0.15	0.184
3199636	Soil	2.93	165.90	121.61	224.5	535	134.7	103.9	1680	5.90	44.6	3.2	2.1	4.2	51.6	0.19	2.21	2.52	44	0.11	0.226
3199637	Soil	4.45	82.88	52.63	206.1	173	90.4	55.3	1481	6.58	44.0	2.3	1.7	5.8	55.1	0.22	1.80	0.64	50	0.10	0.259
3199638	Soil	6.57	272.08	903.81	520.8	655	176.0	44.4	318	9.66	49.1	5.3	3.0	6.9	48.1	0.25	1.35	4.16	38	0.03	0.208
3199639	Soil	7.87	111.15	32.23	256.8	267	95.5	41.0	670	8.76	72.6	3.3	2.3	2.8	20.9	0.20	1.87	0.53	46	0.04	0.230



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Page: 5 of 7

Part: 2 of 2

CERTIFICATE OF ANALYSIS

WHI18000290.1

	Method Analyte Unit MDL	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250
		La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Sc	Ti	S	Hg	Se	Te	Ga
		ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	%	ppb	ppm	ppm	ppm
		0.5	0.5	0.01	0.5	0.001	20	0.01	0.001	0.01	0.1	0.1	0.02	0.02	5	0.1	0.02	0.1
3199610	Soil	22.4	47.2	0.69	193.9	0.041	<20	2.30	0.008	0.14	0.2	3.6	0.37	0.08	51	1.7	0.11	6.3
3199611	Soil	34.8	80.8	0.30	109.7	0.041	<20	2.27	0.030	0.09	0.3	6.1	0.45	0.51	60	3.5	0.20	5.9
3199612	Soil	29.1	31.8	0.43	416.8	0.045	<20	2.23	0.010	0.09	0.3	3.1	0.47	0.07	47	1.4	0.07	4.5
3199613	Soil	26.3	39.5	0.14	2217.9	0.001	<20	1.62	0.002	0.06	<0.1	2.9	0.22	0.05	146	0.5	0.15	6.1
3199614	Soil	61.4	37.8	0.42	283.6	0.024	<20	2.43	0.007	0.08	0.2	5.7	0.26	0.05	126	1.8	0.11	4.8
3199615	Soil	43.9	32.7	0.32	104.2	0.028	<20	1.66	0.011	0.08	0.1	4.0	0.23	0.06	66	1.6	0.16	5.6
3199616	Soil	11.2	23.0	0.15	81.2	0.021	<20	1.02	0.009	0.05	<0.1	0.7	0.15	0.10	55	0.6	0.07	4.3
3199617	Soil	14.7	39.1	0.44	96.9	0.027	<20	1.88	0.005	0.07	<0.1	1.2	0.18	0.05	38	0.8	0.05	5.8
3199618	Soil	21.2	44.6	0.76	175.8	0.048	<20	2.43	0.004	0.11	0.2	3.6	0.30	0.03	55	1.2	0.09	5.7
3199619	Soil	27.9	35.5	0.54	126.4	0.017	<20	1.94	0.006	0.06	0.2	3.0	0.15	0.07	59	1.6	0.19	4.1
3199620	Soil	18.6	46.3	0.46	160.6	0.019	<20	2.33	0.004	0.05	<0.1	3.5	0.16	0.21	106	3.7	0.31	4.8
3199621	Soil	27.2	43.0	0.55	133.5	0.024	<20	1.96	0.007	0.09	0.2	4.3	0.23	0.09	90	2.5	0.18	5.2
3199622	Soil	24.7	27.4	0.50	101.5	0.026	<20	1.78	0.003	0.06	<0.1	2.9	0.11	0.02	37	0.5	0.10	3.9
3199623	Soil	22.3	26.4	0.44	216.8	0.020	<20	1.50	0.007	0.06	0.1	2.7	0.15	0.03	56	0.6	0.06	3.9
3199624	Soil	24.9	39.4	0.54	109.1	0.027	<20	1.83	0.009	0.10	0.1	3.0	0.22	0.06	58	1.7	0.12	5.4
3199625	Soil	24.4	31.9	0.56	139.0	0.050	<20	1.91	0.005	0.10	0.2	5.1	0.24	0.03	62	1.0	0.08	5.1
3199626	Soil	20.1	27.5	0.44	103.9	0.037	<20	1.68	0.008	0.07	0.2	1.9	0.16	0.03	28	0.8	0.06	5.3
3199627	Soil	41.2	36.3	0.76	233.9	0.005	<20	2.16	0.005	0.08	<0.1	3.2	0.11	<0.02	27	0.1	0.07	5.5
3199628	Soil	57.8	36.4	0.66	345.0	0.024	<20	2.49	0.010	0.07	0.1	3.6	0.14	0.02	60	1.0	0.08	5.3
3199629	Soil	60.4	39.7	0.89	184.8	0.006	<20	2.46	0.018	0.07	<0.1	2.5	0.10	0.08	30	0.3	0.06	5.2
3199630	Soil	59.6	40.0	0.59	370.1	0.019	<20	2.91	0.027	0.11	<0.1	2.4	0.15	0.14	53	1.3	0.09	4.7
3199631	Soil	20.0	36.4	0.29	143.5	0.009	<20	2.00	0.005	0.05	0.1	0.8	0.17	0.12	93	2.1	0.09	5.8
3199632	Soil	9.6	19.5	0.09	121.3	0.002	<20	0.97	0.008	0.06	0.1	0.4	0.08	0.15	84	0.8	0.04	3.7
3199633	Soil	43.9	31.9	0.37	317.2	0.013	<20	3.06	0.027	0.06	0.2	2.5	0.20	0.08	75	1.6	0.14	4.6
3199634	Soil	45.4	45.0	0.82	409.6	0.004	<20	3.20	0.009	0.08	<0.1	2.8	0.14	0.03	57	0.6	0.07	5.8
3199635	Soil	51.5	33.7	0.53	358.6	0.023	<20	2.28	0.005	0.07	0.2	3.2	0.17	0.05	76	1.5	0.11	5.0
3199636	Soil	48.7	30.1	0.62	148.5	0.021	<20	1.98	0.008	0.08	0.2	3.1	0.12	0.05	61	1.6	0.42	4.7
3199637	Soil	31.5	36.0	0.52	116.5	0.030	<20	1.83	0.010	0.08	0.2	3.1	0.17	0.07	30	1.3	0.11	5.1
3199638	Soil	18.4	34.0	0.40	57.9	0.006	<20	1.73	0.002	0.04	<0.1	4.9	0.10	0.05	102	2.3	0.30	4.6
3199639	Soil	13.5	33.5	0.33	70.6	0.017	<20	1.76	0.003	0.05	0.2	2.3	0.17	0.09	67	2.0	0.15	4.1



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Page:

6 of 7

Part:

1 of 2

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WHI18000290.1

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		Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P
		ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	%	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%
		0.01	0.01	0.01	0.1	2	0.1	0.1	1	0.01	0.1	0.1	0.2	0.1	0.5	0.01	0.02	0.02	1	0.01	0.001
3199640	Rock Pulp	12.34	169.09	261.37	199.1	95	78.7	49.0	254	1.55	9.2	0.4	33.0	3.3	32.5	0.52	0.14	0.18	22	0.52	0.057
3199641	Soil	7.25	82.75	30.17	221.0	418	84.8	32.7	600	7.82	74.8	3.3	3.7	7.6	22.5	0.13	2.43	0.63	49	0.06	0.239
3199642	Soil	4.93	64.65	26.63	146.7	83	68.4	43.4	577	4.89	51.4	3.0	2.3	3.8	26.1	0.20	1.60	0.39	42	0.09	0.196
3199643	Soil	6.77	31.72	29.09	93.7	342	59.2	127.1	1525	3.39	21.8	2.5	3.4	7.0	35.3	0.11	0.94	0.35	38	0.02	0.118
3199644	Soil	7.45	37.70	49.78	37.5	169	8.2	1.5	54	4.61	16.4	1.0	1.5	7.1	27.0	0.02	1.13	0.48	26	<0.01	0.060
3199645	Soil	11.48	23.96	63.27	47.5	473	20.6	3.2	48	1.99	25.0	1.1	2.9	11.7	37.1	0.04	0.96	0.94	23	<0.01	0.043
3199646	Soil	21.96	83.93	127.12	111.7	1012	39.5	4.7	216	8.47	132.5	3.8	3.7	11.2	542.5	0.10	4.51	1.72	41	0.09	0.397
3199647	Soil	22.38	112.30	107.39	129.3	1292	34.5	7.4	191	15.13	258.9	4.2	13.7	11.2	29.0	0.10	8.72	2.29	68	0.02	0.429
3199648	Soil	28.34	99.08	120.32	123.5	874	25.1	3.8	57	11.20	174.9	2.8	4.2	11.5	28.7	0.13	3.45	2.35	40	<0.01	0.242
3199649	Soil	24.25	55.44	109.10	50.4	586	10.3	2.0	96	3.85	216.1	1.7	13.2	3.3	31.1	0.10	6.73	2.21	21	0.03	0.142
3199650	Soil	14.99	78.65	190.76	150.8	1308	20.6	4.1	71	8.89	105.8	1.5	22.5	7.9	35.5	0.10	12.35	5.70	36	0.02	0.236
3199651	Soil	5.58	60.06	28.68	198.2	304	75.6	33.8	996	9.25	80.3	3.0	1.5	7.7	20.9	0.16	2.15	0.47	44	0.03	0.202
3199652	Soil	12.77	30.82	213.86	44.8	410	14.6	3.4	102	5.89	82.2	1.8	4.8	8.9	26.8	0.06	4.90	1.07	29	0.01	0.125
3199653	Soil	12.54	84.77	148.54	235.4	586	118.5	47.4	683	11.20	179.7	2.9	4.4	9.8	19.5	0.41	4.61	1.54	57	0.04	0.160
3199654	Soil	4.61	31.52	23.04	89.0	108	32.2	10.5	311	5.11	49.0	1.7	0.6	1.9	29.3	0.13	0.84	0.59	48	0.02	0.155
3199655	Soil	2.51	24.17	9.35	42.5	145	13.0	3.2	128	2.42	23.4	1.1	0.7	0.9	12.2	0.08	0.63	0.22	28	0.04	0.135
3199656	Soil	4.14	34.46	16.94	95.2	124	31.3	13.6	677	4.76	25.2	2.0	2.0	0.3	38.6	0.26	1.64	0.38	50	0.05	0.175
3199657	Soil	5.41	19.62	24.52	39.1	141	11.4	2.0	96	2.95	33.1	0.7	1.7	0.1	6.8	0.08	2.35	0.51	18	0.03	0.101
3199658	Soil	5.28	33.79	22.64	77.1	126	18.8	4.1	248	3.64	19.3	1.9	1.1	0.1	17.3	0.15	1.48	0.56	46	0.03	0.169
3199659	Soil	4.73	57.00	36.52	166.3	62	89.8	23.9	410	5.29	48.0	2.5	1.2	6.9	16.7	0.23	1.36	0.41	32	0.11	0.066
3199660	Soil	4.42	58.26	23.28	153.7	53	95.7	18.9	358	5.01	39.8	2.0	1.2	7.3	12.8	0.35	0.77	0.36	26	0.09	0.056
3199661	Soil	2.06	14.70	5.93	34.6	40	10.6	3.6	182	1.37	7.5	0.5	0.8	<0.1	8.7	0.18	0.66	0.17	15	0.06	0.065
3199662	Soil	3.28	17.13	20.32	50.4	188	14.5	3.6	112	2.14	18.7	1.0	1.6	0.3	20.3	0.11	1.31	0.38	45	0.07	0.086
3199663	Soil	9.60	12.45	82.84	20.5	4056	5.2	1.1	43	1.98	81.0	1.4	4.1	0.2	26.2	0.09	11.96	0.44	52	0.02	0.488
3199664	Soil	1.55	6.99	7.56	11.1	403	2.1	0.5	22	0.72	48.6	1.7	1.7	<0.1	35.6	0.12	0.41	0.15	21	0.04	0.126
3199665	Soil	7.91	4.75	11.81	10.1	152	2.6	0.5	15	0.43	9.5	0.6	0.6	<0.1	9.4	0.02	1.62	0.18	21	<0.01	0.033
3199666	Soil	75.24	41.39	48.20	837.2	253	135.8	13.0	351	2.98	21.8	4.7	0.8	8.5	147.2	7.05	14.49	0.20	75	7.57	0.042
3199667	Soil	68.29	43.63	47.75	455.8	511	150.0	10.3	320	2.59	23.5	4.1	1.1	5.9	153.7	4.66	9.68	0.15	25	7.71	0.065
3199668	Soil	9.93	43.00	111.41	273.9	1241	41.3	5.6	106	3.84	28.6	1.2	12.3	13.2	79.4	0.21	7.29	1.23	40	0.15	0.147
3199669	Soil	2.91	55.17	20.87	175.6	190	70.2	31.3	776	3.10	19.8	2.2	2.7	6.6	20.1	0.47	1.47	0.31	52	0.19	0.133



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Project: MacMillan Pass

Report Date: August 09, 2018

Page: 6 of 7

Part: 2 of 2

CERTIFICATE OF ANALYSIS

WHI18000290.1

	Method Analyte Unit MDL	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250
		La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Sc	Ti	S	Hg	Se	Te
		ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	%	ppb	ppm	ppm
		0.5	0.5	0.01	0.5	0.001	20	0.01	0.001	0.01	0.1	0.1	0.02	0.02	5	0.1	0.02
3199640	Rock Pulp	28.6	32.2	0.46	58.4	0.079	<20	0.78	0.083	0.11	<0.1	3.1	0.07	0.04	14	<0.1	<0.02
3199641	Soil	19.9	45.6	0.50	69.6	0.018	<20	1.83	0.007	0.07	0.1	4.0	0.24	0.16	60	2.6	0.21
3199642	Soil	23.0	28.0	0.39	55.8	0.022	<20	1.32	0.003	0.05	0.1	2.7	0.10	0.03	31	1.6	0.11
3199643	Soil	36.9	29.9	0.10	61.4	0.004	<20	0.90	0.003	0.08	<0.1	4.6	0.12	0.04	76	0.4	0.14
3199644	Soil	19.9	30.4	0.32	46.4	0.001	<20	1.21	<0.001	0.06	<0.1	1.5	0.12	0.02	56	1.7	0.07
3199645	Soil	39.7	17.7	0.06	48.3	0.002	<20	0.69	0.002	0.08	<0.1	3.0	0.14	<0.02	111	1.3	0.29
3199646	Soil	32.7	35.3	0.29	142.0	0.008	<20	1.97	0.007	0.08	<0.1	4.1	0.27	0.12	166	4.9	0.54
3199647	Soil	17.6	67.1	0.16	67.2	0.018	<20	1.49	0.004	0.07	0.1	3.6	0.29	0.17	270	12.5	0.66
3199648	Soil	22.0	29.4	0.08	69.1	0.004	<20	1.09	0.002	0.08	<0.1	2.4	0.25	0.05	312	8.4	0.56
3199649	Soil	14.3	18.3	0.09	71.3	0.008	<20	0.82	0.013	0.06	<0.1	2.4	0.18	0.07	126	4.2	0.45
3199650	Soil	28.0	35.7	0.13	88.7	0.009	<20	1.10	0.005	0.09	<0.1	2.5	0.26	0.11	251	14.9	1.03
3199651	Soil	23.4	35.9	0.24	64.6	0.016	<20	1.19	0.003	0.06	<0.1	3.7	0.22	0.06	58	1.3	0.15
3199652	Soil	28.5	22.0	0.25	105.3	0.002	<20	1.09	0.005	0.07	<0.1	2.5	0.29	0.05	57	3.5	0.25
3199653	Soil	43.9	33.6	0.31	114.9	0.007	<20	1.92	0.006	0.05	<0.1	4.4	0.22	0.05	63	3.4	0.51
3199654	Soil	31.9	31.2	0.26	93.8	0.006	<20	1.46	0.002	0.06	<0.1	1.7	0.14	0.06	16	1.1	0.13
3199655	Soil	16.6	32.4	0.26	58.8	0.009	<20	1.34	0.009	0.06	0.1	1.2	0.14	0.06	81	1.1	0.05
3199656	Soil	12.5	30.0	0.14	71.6	0.014	<20	1.25	0.006	0.05	0.1	1.1	0.15	0.13	87	1.7	0.09
3199657	Soil	5.3	15.2	0.14	49.0	0.008	<20	0.84	0.017	0.05	<0.1	0.4	0.10	0.06	55	1.5	0.16
3199658	Soil	13.1	27.2	0.14	106.9	0.005	<20	1.26	0.007	0.06	<0.1	0.5	0.19	0.10	49	1.4	0.07
3199659	Soil	24.3	32.5	0.58	103.3	0.008	<20	1.79	0.002	0.08	<0.1	3.0	0.16	0.02	25	1.2	0.06
3199660	Soil	24.9	30.5	0.57	104.9	0.002	<20	1.68	0.001	0.08	<0.1	2.6	0.11	<0.02	14	0.7	0.10
3199661	Soil	5.1	8.8	0.05	36.0	0.010	<20	0.69	0.019	0.04	<0.1	0.4	0.09	0.04	15	0.8	0.05
3199662	Soil	13.0	20.6	0.24	84.7	0.021	<20	0.97	0.009	0.06	0.1	1.0	0.17	0.03	35	1.4	0.07
3199663	Soil	24.5	18.8	0.04	183.2	0.006	<20	0.40	0.004	0.09	<0.1	1.6	0.29	0.13	212	25.7	0.40
3199664	Soil	9.9	17.6	0.03	47.6	0.003	<20	0.53	0.009	0.03	<0.1	0.6	0.15	<0.02	46	1.1	0.03
3199665	Soil	7.5	3.9	<0.01	69.9	0.003	<20	0.19	0.004	0.04	<0.1	0.3	0.21	0.03	19	0.8	0.05
3199666	Soil	5.2	6.8	3.27	88.2	0.001	<20	0.16	0.002	0.04	<0.1	3.9	0.71	0.06	337	1.7	0.04
3199667	Soil	6.9	7.1	3.77	81.5	0.002	<20	0.13	0.003	0.04	0.1	3.2	0.81	0.02	312	2.7	0.07
3199668	Soil	45.7	20.1	0.35	125.4	0.007	<20	0.95	<0.001	0.07	<0.1	3.8	0.29	0.03	183	4.2	0.31
3199669	Soil	25.5	30.2	0.54	124.8	0.064	<20	1.71	0.007	0.09	0.2	4.1	0.17	0.02	37	0.9	0.05



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Page: 7 of 7

Part: 1 of 2

CERTIFICATE OF ANALYSIS

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	Method Analyte Unit MDL	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250
		Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P
		ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	%	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%
		0.01	0.01	0.01	0.1	2	0.1	0.1	1	0.01	0.1	0.1	0.2	0.1	0.5	0.01	0.02	0.02	1	0.01	0.001
3199670	Soil	2.77	47.46	21.97	155.4	145	51.1	24.4	506	2.82	18.2	2.2	2.2	7.0	28.6	0.49	1.50	0.30	49	0.25	0.123
3199671	Soil	2.40	41.37	18.76	143.9	134	47.1	23.1	523	2.48	16.8	1.8	5.7	5.0	17.6	0.44	1.17	0.25	41	0.16	0.099
3199672	Soil	2.71	35.37	17.55	115.0	101	38.8	11.8	345	3.04	22.8	1.5	5.5	0.5	10.3	0.19	1.19	0.29	46	0.05	0.079
3199673	Soil	2.91	28.22	29.44	98.1	176	36.6	13.8	615	4.45	30.0	1.6	<0.2	0.1	11.9	0.19	1.41	0.31	36	0.02	0.223
3199701	Soil	31.59	43.38	219.72	61.9	395	13.4	2.7	40	6.26	299.9	1.6	13.4	1.4	21.5	0.10	5.56	3.49	23	0.02	0.149
3199702	Soil	9.43	38.82	31.99	69.5	199	13.9	3.5	127	4.18	29.2	1.2	2.2	0.2	16.4	0.20	2.47	0.90	34	0.02	0.166
3199703	Soil	12.04	45.82	46.86	140.2	327	29.8	7.3	161	5.38	48.9	1.5	3.5	3.3	36.0	0.26	5.62	1.02	39	0.03	0.115
3199704	Soil	21.98	7.62	32.80	3.5	787	1.2	0.3	6	1.35	30.5	1.5	2.2	0.8	18.2	0.05	19.05	0.26	18	<0.01	0.069
3199705	Soil	5.34	55.16	34.73	55.9	3244	5.8	1.7	133	1.39	49.0	7.8	6.9	0.1	113.2	0.19	2.64	0.57	59	0.05	0.306
3199706	Soil	104.88	20.27	73.39	6.1	1332	1.2	0.2	11	0.96	65.9	9.4	2.6	3.8	11.4	0.15	35.25	0.65	44	<0.01	0.038
3199707	Soil	60.73	62.13	24.96	787.4	126	148.9	11.9	217	3.41	34.7	4.0	1.0	0.4	4.4	1.48	11.79	0.36	122	0.02	0.129
3199708	Soil	32.39	71.09	185.35	187.2	1482	24.3	3.9	57	5.43	102.5	6.2	0.4	1.2	209.3	0.64	11.85	0.15	203	0.04	0.324
3199709	Soil	32.38	124.06	153.03	337.7	2497	43.3	10.2	156	5.67	77.2	3.5	5.0	9.3	75.6	0.98	21.65	0.73	95	0.03	0.191
3199710	Soil	2.38	45.12	21.30	71.4	180	23.0	7.5	156	1.94	17.1	1.3	1.2	0.7	12.4	0.11	1.27	0.46	30	0.07	0.121
3199711	Soil	3.35	43.48	28.11	153.5	115	44.1	21.0	461	3.54	25.3	2.0	1.1	2.2	19.8	0.27	1.25	0.48	69	0.12	0.135
3199712	Soil	2.34	49.33	16.40	156.0	92	49.6	26.7	411	2.63	17.7	1.8	1.5	5.4	25.4	0.39	1.21	0.29	51	0.24	0.118
3199713	Soil	2.58	44.94	22.93	150.9	135	46.3	24.7	401	2.74	23.4	2.0	1.3	2.6	17.8	0.50	1.09	0.31	57	0.19	0.117
3199714	Soil	3.19	54.58	20.75	201.4	175	76.6	41.2	713	3.17	27.4	2.3	3.0	3.3	17.7	0.66	1.65	0.31	53	0.17	0.107



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Page: 7 of 7

Part: 2 of 2

CERTIFICATE OF ANALYSIS

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	Method Analyte Unit MDL	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250
		La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Sc	Ti	S	Hg	Se	Te	Ga
		ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	%	ppb	ppm	ppm	ppm
		0.5	0.5	0.01	0.5	0.001	20	0.01	0.001	0.01	0.1	0.1	0.02	0.02	5	0.1	0.02	0.1
3199670	Soil	25.2	26.0	0.48	164.7	0.066	<20	1.37	0.005	0.08	0.2	4.0	0.14	<0.02	28	0.6	0.04	4.0
3199671	Soil	22.8	21.4	0.37	119.0	0.054	<20	1.20	0.008	0.06	0.2	3.2	0.12	<0.02	35	0.4	0.06	3.4
3199672	Soil	16.6	23.8	0.24	72.3	0.019	<20	1.18	0.005	0.05	0.1	1.2	0.14	0.05	42	1.0	0.03	4.0
3199673	Soil	11.5	32.6	0.21	67.7	0.003	<20	1.22	0.003	0.07	<0.1	0.4	0.14	0.17	121	1.6	0.06	3.8
3199701	Soil	12.7	21.9	0.03	95.5	0.006	<20	0.50	0.007	0.08	0.2	0.9	0.17	0.11	173	11.7	0.51	3.7
3199702	Soil	9.0	21.2	0.07	76.0	0.004	<20	0.98	0.004	0.07	<0.1	0.6	0.15	0.11	61	2.6	0.15	4.6
3199703	Soil	14.2	23.8	0.26	113.3	0.015	<20	1.13	0.002	0.08	0.1	2.1	0.25	0.06	56	5.5	0.22	3.6
3199704	Soil	5.6	2.2	<0.01	219.7	0.004	<20	0.12	0.005	0.21	<0.1	0.6	0.59	0.43	147	6.1	0.04	0.5
3199705	Soil	30.7	34.3	0.08	138.1	0.002	<20	0.73	0.007	0.08	<0.1	0.5	0.62	0.08	521	9.5	0.29	2.7
3199706	Soil	8.6	5.0	0.01	224.9	0.008	<20	0.22	0.002	0.10	<0.1	1.3	0.79	0.12	404	15.9	0.51	1.5
3199707	Soil	6.8	14.0	0.07	76.7	0.002	<20	0.37	0.001	0.05	<0.1	0.8	0.85	<0.02	62	5.4	0.14	1.2
3199708	Soil	9.1	39.2	0.04	759.7	0.004	<20	0.52	0.005	0.21	<0.1	3.6	1.54	0.45	371	11.0	0.17	1.8
3199709	Soil	7.2	18.0	0.12	139.5	0.018	<20	0.81	0.021	0.09	<0.1	3.8	0.82	0.13	154	14.0	0.24	2.9
3199710	Soil	11.2	19.8	0.30	70.6	0.019	<20	1.10	0.026	0.06	0.2	1.4	0.15	0.07	73	1.2	0.05	3.7
3199711	Soil	29.1	36.6	0.54	103.7	0.047	<20	1.75	0.007	0.08	0.1	2.9	0.19	0.03	24	0.9	0.06	6.6
3199712	Soil	27.9	24.8	0.40	143.1	0.064	<20	1.24	0.005	0.07	0.2	3.3	0.11	<0.02	23	0.3	0.04	3.9
3199713	Soil	25.0	31.9	0.48	148.2	0.047	<20	1.74	0.008	0.07	0.2	3.0	0.17	0.02	31	0.6	0.05	5.0
3199714	Soil	26.3	27.6	0.44	128.7	0.046	<20	1.44	0.006	0.07	0.2	3.2	0.17	0.03	42	0.8	0.06	4.2



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Report Date: August 09, 2018

Page: 1 of 2

Part: 1 of 2

QUALITY CONTROL REPORT

WHI18000290.1

Method Analyte Unit MDL		AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250
		Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P
		ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	%	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%
		0.01	0.01	0.01	0.1	2	0.1	0.1	1	0.01	0.1	0.1	0.2	0.1	0.5	0.01	0.02	0.02	1	0.01	0.001
Pulp Duplicates																					
3199754	Soil	3.01	43.10	22.74	161.8	74	72.2	35.4	401	4.31	36.7	1.5	<0.2	3.2	45.0	0.10	1.30	0.26	36	0.09	0.102
REP 3199754	QC	2.80	41.86	22.37	151.9	75	68.6	33.0	389	4.09	34.5	1.5	0.4	3.1	41.2	0.14	1.27	0.24	36	0.10	0.095
3198727	Soil	1.51	57.22	34.35	186.0	93	88.5	31.5	535	4.50	26.7	2.8	1.6	5.1	43.5	0.12	0.66	0.50	34	0.03	0.108
REP 3198727	QC	1.46	54.20	33.75	173.2	91	86.3	29.7	530	4.35	25.1	2.7	1.2	4.8	41.2	0.14	0.60	0.47	33	0.03	0.102
3199595	Soil	22.49	111.32	52.70	301.4	633	52.6	25.8	356	7.13	128.5	2.8	8.5	14.3	53.9	0.25	5.84	0.85	57	0.03	0.247
REP 3199595	QC	22.15	109.17	53.48	293.2	632	51.0	25.1	345	7.13	126.0	2.8	6.0	14.2	55.9	0.25	5.72	0.82	57	0.03	0.252
3199631	Soil	3.83	67.20	50.02	122.7	207	39.5	16.5	552	5.98	35.2	2.1	1.4	0.4	119.0	0.23	1.76	0.54	47	0.10	0.240
REP 3199631	QC	3.77	62.04	47.60	127.4	193	39.0	16.7	537	5.89	31.8	2.0	1.4	0.3	113.2	0.20	1.72	0.53	47	0.10	0.246
3199667	Soil	68.29	43.63	47.75	455.8	511	150.0	10.3	320	2.59	23.5	4.1	1.1	5.9	153.7	4.66	9.68	0.15	25	7.71	0.065
REP 3199667	QC	68.35	43.83	47.24	466.5	486	148.1	10.4	316	2.58	23.5	4.3	2.3	5.9	159.7	4.77	10.14	0.15	25	7.73	0.062
3199712	Soil	2.34	49.33	16.40	156.0	92	49.6	26.7	411	2.63	17.7	1.8	1.5	5.4	25.4	0.39	1.21	0.29	51	0.24	0.118
REP 3199712	QC	2.47	48.85	16.54	160.5	97	51.5	28.0	412	2.62	17.9	1.9	12.3	5.5	24.9	0.41	1.25	0.25	51	0.24	0.118
Reference Materials																					
STD DS11	Standard	13.33	143.48	130.94	337.5	1524	75.0	13.2	1034	3.07	42.3	2.3	68.1	7.1	63.0	2.24	6.83	11.04	49	1.05	0.071
STD DS11	Standard	13.41	142.80	137.27	326.1	1872	75.3	13.0	994	3.01	40.6	2.5	45.8	7.8	69.6	2.42	7.07	12.60	47	1.06	0.070
STD DS11	Standard	14.09	164.87	138.52	343.7	1636	78.2	14.0	1020	3.22	44.5	2.8	163.0	8.5	64.7	2.53	6.83	13.32	49	1.06	0.076
STD DS11	Standard	13.98	156.77	132.27	352.2	1777	80.2	15.0	1042	3.12	44.4	2.6	58.0	7.8	69.1	2.43	6.40	12.84	49	1.03	0.084
STD DS11	Standard	12.74	155.70	129.02	331.0	1618	72.2	13.2	982	2.95	41.7	2.9	58.9	8.4	60.9	2.42	6.28	12.74	46	1.00	0.071
STD DS11	Standard	14.17	157.45	136.13	340.3	1613	74.6	14.6	1033	3.12	46.3	2.8	81.0	8.4	67.0	2.56	6.79	13.92	54	1.06	0.076
STD OREAS45EA	Standard	1.54	708.70	12.70	29.2	218	403.4	49.0	392	20.67	10.3	1.6	50.8	9.2	3.4	0.03	0.37	0.23	300	0.03	0.029
STD OREAS45EA	Standard	1.71	737.96	16.44	33.0	295	395.2	53.9	446	23.39	11.7	2.1	58.0	11.7	4.5	<0.01	0.44	0.30	312	0.04	0.031
STD OREAS45EA	Standard	1.47	695.49	14.23	32.0	228	373.2	50.7	406	22.58	9.6	2.0	57.3	10.9	3.8	0.03	0.30	0.28	311	0.03	0.032
STD OREAS45EA	Standard	1.52	694.02	15.00	34.8	236	387.5	54.5	438	24.33	11.2	2.0	51.7	11.2	4.4	0.01	0.24	0.30	327	0.03	0.036
STD OREAS45EA	Standard	1.73	734.58	16.30	36.1	253	421.6	61.2	466	24.98	12.5	2.3	61.8	12.6	4.5	0.03	0.39	0.36	327	0.03	0.035
STD OREAS45EA	Standard	1.55	721.94	15.39	34.6	240	406.7	57.8	423	21.92	12.6	2.0	60.5	11.3	4.1	0.02	0.32	0.31	315	0.03	0.036
STD OREAS45EA Expected		1.6	709	14.3	31.4	260	381	52	400	22.65	11.4	1.73	53	10.7	4.05	0.03	0.32	0.26	303	0.036	0.029
STD DS11 Expected		13.9	149	138	345	1710	77.7	14.2	1055	3.1	42.8	2.59	79	7.65	67.3	2.37	7.2	12.2	50	1.063	0.0701
BLK	Blank	<0.01	<0.01	<0.01	0.3	<2	<0.1	<0.1	<1	<0.01	<0.1	<0.1	<0.2	<0.1	<0.5	<0.01	<0.02	<0.02	<1	<0.01	<0.001



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Report Date:

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Page:

1 of 2

Part:

2 of 2

QUALITY CONTROL REPORT

WHI18000290.1

	Method Analyte Unit MDL	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250
		La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Sc	Tl	S	Hg	Se	Te	Ga
		ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	%	ppb	ppm	ppm	ppm
		0.5	0.5	0.01	0.5	0.001	20	0.01	0.001	0.01	0.1	0.1	0.02	0.02	5	0.1	0.02	0.1
Pulp Duplicates																		
3199754	Soil	16.6	31.5	0.51	145.7	0.031	<20	1.73	0.006	0.07	0.1	1.9	0.18	0.03	25	1.0	0.04	4.0
REP 3199754	QC	16.7	29.6	0.50	139.5	0.031	<20	1.68	0.006	0.07	0.1	1.9	0.22	0.03	20	0.9	0.05	3.9
3198727	Soil	35.3	45.1	0.86	50.5	0.002	<20	2.36	0.002	0.04	<0.1	1.8	0.13	0.04	18	0.4	0.08	5.2
REP 3198727	QC	33.3	42.8	0.83	47.2	0.002	<20	2.22	0.002	0.04	<0.1	1.9	0.12	0.04	<5	0.4	0.05	5.1
3199595	Soil	60.0	41.4	0.48	155.9	0.119	<20	1.77	0.005	0.09	0.1	3.3	0.35	0.12	66	3.5	0.20	4.9
REP 3199595	QC	60.3	40.2	0.49	163.7	0.120	<20	1.81	0.006	0.09	0.1	3.3	0.36	0.11	65	3.8	0.25	4.9
3199631	Soil	20.0	36.4	0.29	143.5	0.009	<20	2.00	0.005	0.05	0.1	0.8	0.17	0.12	93	2.1	0.09	5.8
REP 3199631	QC	20.4	37.0	0.29	132.6	0.009	<20	1.96	0.005	0.05	0.1	0.8	0.16	0.12	114	2.0	0.08	5.7
3199667	Soil	6.9	7.1	3.77	81.5	0.002	<20	0.13	0.003	0.04	0.1	3.2	0.81	0.02	312	2.7	0.07	0.3
REP 3199667	QC	6.9	6.9	3.77	79.4	0.002	<20	0.13	0.003	0.04	0.1	3.0	0.81	0.02	309	2.8	0.11	0.4
3199712	Soil	27.9	24.8	0.40	143.1	0.064	<20	1.24	0.005	0.07	0.2	3.3	0.11	<0.02	23	0.3	0.04	3.9
REP 3199712	QC	28.0	25.5	0.40	140.7	0.065	<20	1.24	0.006	0.07	0.2	3.2	0.11	<0.02	21	0.4	0.04	3.6
Reference Materials																		
STD DS11	Standard	16.6	54.6	0.83	390.9	0.094	<20	1.12	0.073	0.40	2.4	3.2	4.62	0.28	234	1.9	4.27	4.8
STD DS11	Standard	19.3	57.5	0.84	387.3	0.098	<20	1.10	0.073	0.41	2.4	3.3	4.85	0.27	252	2.2	4.70	5.0
STD DS11	Standard	20.0	58.8	0.84	420.2	0.098	<20	1.13	0.071	0.41	3.0	3.3	4.97	0.28	259	2.4	4.65	4.9
STD DS11	Standard	19.8	58.8	0.84	405.3	0.101	<20	1.13	0.073	0.40	2.3	3.3	4.79	0.28	253	1.9	4.57	5.2
STD DS11	Standard	19.9	56.5	0.80	412.0	0.093	<20	1.05	0.071	0.39	2.6	2.9	4.78	0.29	243	2.0	4.46	4.7
STD DS11	Standard	21.3	59.5	0.85	377.8	0.097	<20	1.20	0.070	0.40	2.5	3.3	5.11	0.29	241	2.4	4.75	5.0
STD OREAS45EA	Standard	6.1	777.0	0.10	127.4	0.096	<20	3.31	0.017	0.05	<0.1	78.2	0.07	0.03	14	1.2	0.12	11.8
STD OREAS45EA	Standard	7.6	834.9	0.11	156.2	0.106	<20	3.48	0.014	0.05	<0.1	82.8	0.07	0.04	12	1.0	0.09	13.5
STD OREAS45EA	Standard	7.3	793.3	0.11	140.5	0.106	<20	3.28	0.020	0.06	<0.1	75.4	0.06	0.03	10	0.7	0.07	12.6
STD OREAS45EA	Standard	7.9	858.8	0.12	146.0	0.115	<20	3.17	0.021	0.05	<0.1	77.9	0.06	0.03	15	0.8	0.09	13.2
STD OREAS45EA	Standard	8.8	954.5	0.11	159.3	0.119	<20	3.52	0.023	0.06	<0.1	86.6	0.07	0.04	10	1.3	0.12	14.2
STD OREAS45EA	Standard	7.9	876.2	0.11	152.1	0.109	<20	3.54	0.031	0.06	<0.1	77.9	0.07	0.04	15	1.1	0.11	13.0
STD OREAS45EA Expected		7.06	849	0.095	148	0.0984		3.32	0.02	0.053		78	0.072	0.036	10	0.78	0.1	12.4
STD DS11 Expected		18.6	61.5	0.85	417	0.0976		1.129	0.0694	0.4	2.9	3.1	4.9	0.2835	260	2.2	4.56	4.7
BLK	Blank	<0.5	<0.5	<0.01	<0.5	<0.001	<20	<0.01	<0.001	<0.01	<0.1	<0.1	<0.02	<0.02	<5	<0.1	<0.02	0.1



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Page:

2 of 2

Part:

1 of 2

QUALITY CONTROL REPORT

WHI18000290.1

		AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250
		Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P
		ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	%	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%
		0.01	0.01	0.01	0.1	2	0.1	0.1	1	0.01	0.1	0.1	0.2	0.1	0.5	0.01	0.02	0.02	1	0.01	0.001
BLK	Blank	<0.01	<0.01	0.04	<0.1	<2	<0.1	<0.1	<1	<0.01	0.2	<0.1	<0.2	<0.1	<0.5	<0.01	<0.02	<0.02	<1	<0.01	<0.001
BLK	Blank	<0.01	<0.01	<0.01	<0.1	<2	<0.1	<0.1	<1	<0.01	<0.1	<0.1	<0.2	<0.1	<0.5	<0.01	<0.02	<0.02	<1	<0.01	<0.001
BLK	Blank	<0.01	<0.01	<0.01	<0.1	<2	0.2	<0.1	2	<0.01	<0.1	<0.1	<0.2	<0.1	<0.5	<0.01	<0.02	<0.02	<1	<0.01	<0.001
BLK	Blank	0.01	<0.01	0.02	0.2	<2	<0.1	<0.1	<1	<0.01	<0.1	<0.1	<0.2	<0.1	<0.5	<0.01	<0.02	<0.02	<1	<0.01	0.003
BLK	Blank	<0.01	<0.01	0.01	<0.1	<2	<0.1	<0.1	<1	<0.01	<0.1	<0.1	<0.2	<0.1	<0.5	<0.01	<0.02	<0.02	<1	<0.01	0.002



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Page:

2 of 2

Part:

2 of 2

QUALITY CONTROL REPORT

WHI18000290.1

		AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250
		La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Sc	Ti	S	Hg	Se	Te	Ga
		ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	%	ppb	ppm	ppm	ppm
		0.5	0.5	0.01	0.5	0.001	20	0.01	0.001	0.01	0.1	0.1	0.02	0.02	5	0.1	0.02	0.1
BLK	Blank	<0.5	<0.5	<0.01	<0.5	<0.001	<20	<0.01	<0.001	<0.01	<0.1	<0.1	<0.02	<0.02	<5	<0.1	<0.02	<0.1
BLK	Blank	<0.5	<0.5	<0.01	<0.5	<0.001	<20	<0.01	<0.001	<0.01	<0.1	<0.1	<0.02	<0.02	<5	<0.1	<0.02	<0.1
BLK	Blank	<0.5	<0.5	<0.01	<0.5	<0.001	<20	<0.01	<0.001	<0.01	<0.1	<0.1	<0.02	<0.02	<5	<0.1	<0.02	<0.1
BLK	Blank	<0.5	<0.5	<0.01	<0.5	<0.001	<20	<0.01	<0.001	<0.01	<0.1	<0.1	<0.02	<0.02	<5	<0.1	<0.02	<0.1
BLK	Blank	<0.5	<0.5	<0.01	<0.5	<0.001	<20	<0.01	<0.001	<0.01	<0.1	<0.1	<0.02	<0.02	<5	<0.1	<0.02	<0.1