



1020 Cordova St. East Vancouver BC V6A 4A3 Canada

Acme Analytical Laboratories (Vancouver) Ltd.

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Client: Geological Survey of Canada
Room 659 - 601 Booth St.
Ottawa ON K1A 0E8 Canada

Submitted By: Alexandre Zagorevski
Receiving Lab: Canada-Vancouver
Received: January 26, 2011
Report Date: February 09, 2011
Page: 1 of 3

CERTIFICATE OF ANALYSIS

VAN11000439.1

CLIENT JOB INFORMATION

Project: None Given
Shipment ID:
P.O. Number: MGM063852W
Number of Samples: 49

SAMPLE PREPARATION AND ANALYTICAL PROCEDURES

Table with 6 columns: Method Code, Number of Samples, Code Description, Test Wgt (g), Report Status, Lab. Contains two rows of sample preparation data.

SAMPLE DISPOSAL

RTRN-PLP Return
RTRN-RJT Return

ADDITIONAL COMMENTS

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

Invoice To: Geological Survey of Canada - Invoice Receipt
615 Booth St.,
Mailbox SS0-1-A 1st Floor
Ottawa ON K1A 0E9
Canada

CC:



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. Acme assumes the liabilities for actual cost of analysis only. ** asterisk indicates that an analytical result could not be provided due to unusually high levels of interference from other elements.



Acme Analytical Laboratories (Vancouver) Ltd.
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CERTIFICATE OF ANALYSIS

VAN11000439.1

Method	WGHT	4A-4B	4A-4B	4A-4B	4A-4B	4A-4B	4A-4B	4A-4B	4A-4B												
Analyte	Wgt	SiO2	Al2O3	Fe2O3	MgO	CaO	Na2O	K2O	TiO2	P2O5	MnO	Cr2O3	Ni	Sc	LOI	Sum	Ba	Be	Co	Cs	
Unit	kg	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	%	%	ppm	ppm	ppm	ppm	
MDL	0.01	0.01	0.01	0.04	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.002	20	1	-5.1	0.01	1	1	0.2	0.1	
ZE10-285	Rock	0.49	47.56	18.68	11.89	4.74	8.00	2.81	0.09	2.01	0.19	0.17	0.013	57	37	3.6	99.75	112	<1	29.4	0.1
ZE10-286	Rock	0.49	60.09	18.57	1.91	0.45	3.19	3.71	6.99	0.39	0.14	0.06	<0.002	<20	6	3.9	99.42	4106	1	0.9	2.0
ZE10-287	Rock	0.28	47.81	12.69	8.31	9.02	15.10	0.83	2.07	1.01	0.43	0.19	0.031	149	22	2.1	99.65	770	<1	26.9	8.2
ZE10-291	Rock	0.37	49.01	16.03	8.36	6.32	8.17	3.97	1.35	1.10	0.18	0.14	0.020	105	31	5.1	99.76	427	1	27.2	1.5
ZE10-292	Rock	0.34	50.54	16.16	10.04	7.94	5.78	3.59	0.78	1.10	0.16	0.15	0.020	113	33	3.4	99.68	956	<1	31.8	0.4
ZE10-293	Rock	0.34	48.26	16.44	9.39	5.98	6.49	4.01	0.54	1.21	0.23	0.15	0.024	71	44	7.0	99.76	393	<1	29.5	1.0
ZE10-294B	Rock	0.14	44.93	17.55	9.44	8.25	10.77	2.73	0.21	1.05	0.15	0.15	0.030	119	40	4.5	99.74	187	<1	36.7	0.7
ZE10-295	Rock	0.46	48.41	15.24	9.79	5.19	11.65	1.51	0.82	1.54	0.53	0.18	0.016	60	30	4.8	99.68	313	<1	26.4	0.4
ZE10-296	Rock	0.23	47.91	17.10	8.94	10.42	5.89	2.94	1.01	1.08	0.45	0.16	0.016	88	28	3.7	99.65	481	<1	29.2	1.8
ZE10-297	Rock	0.27	61.85	15.07	6.69	3.21	4.42	4.41	1.00	0.79	0.38	0.10	0.004	<20	15	1.9	99.80	506	1	11.7	0.4
ZE10-302	Rock	0.20	54.27	16.07	4.85	4.59	10.95	2.57	1.41	1.04	0.33	0.13	0.010	23	31	3.5	99.71	763	<1	18.2	0.6
ZE10-303	Rock	0.25	49.08	16.70	11.04	6.45	5.22	3.95	0.06	1.21	0.29	0.15	0.006	<20	32	5.6	99.76	84	<1	23.3	0.1
ZE10-306	Rock	0.23	56.26	17.97	6.16	2.83	6.66	3.75	3.04	1.03	0.40	0.11	0.011	35	25	1.4	99.61	1689	<1	18.3	1.4
ZE10-309	Rock	0.42	54.11	17.29	7.18	4.16	8.95	2.88	0.40	1.00	0.30	0.13	0.014	33	22	3.4	99.82	261	1	21.6	0.3
ZE10-310	Rock	0.32	51.24	18.01	7.94	6.00	6.96	4.24	1.61	0.97	0.39	0.17	0.022	47	25	2.0	99.59	1280	1	21.3	0.8
ZE10-318	Rock	0.44	69.97	15.07	2.52	0.78	0.93	5.30	4.24	0.49	0.10	0.03	<0.002	<20	5	0.4	99.82	1037	1	1.7	0.3
ZE10-320	Rock	0.35	56.88	16.48	4.31	0.49	6.18	4.00	5.81	0.42	0.17	0.19	<0.002	<20	7	4.8	99.76	1268	1	3.0	26.7
ZE10-324	Rock	0.14	66.81	15.22	4.83	1.34	1.67	5.70	1.53	0.50	0.20	0.08	<0.002	<20	17	2.0	99.87	772	<1	4.2	1.6
ZE10-332	Rock	0.17	49.57	16.66	8.55	5.91	8.28	4.04	1.33	0.92	0.44	0.15	0.024	64	25	3.8	99.69	739	<1	22.3	0.2
ZE10-337A	Rock	0.41	49.00	16.03	10.45	4.80	6.49	3.42	4.40	1.94	0.25	0.15	0.008	<20	25	2.7	99.63	1359	1	25.2	0.4
ZE10-337B	Rock	0.25	49.56	15.80	10.10	4.68	5.91	3.44	5.07	2.01	0.23	0.13	0.006	<20	26	2.7	99.62	1537	<1	23.1	0.2
ZE10-339	Rock	0.25	53.12	15.89	7.65	5.16	6.19	3.70	3.53	1.22	0.41	0.12	0.023	84	18	2.6	99.63	1269	1	20.9	0.5
ZE10-341A	Rock	0.40	50.91	16.26	9.70	4.02	5.61	4.26	4.08	1.72	0.30	0.13	0.024	<20	22	2.6	99.61	1363	1	21.2	0.1
ZE10-345	Rock	0.51	50.67	18.34	9.19	4.11	7.24	4.67	1.39	0.86	0.35	0.17	<0.002	<20	18	2.7	99.73	603	<1	18.9	1.7
ZE10-357	Rock	0.43	61.36	12.91	6.49	1.23	4.96	4.70	2.48	1.17	1.31	0.09	<0.002	<20	34	3.2	99.90	311	<1	3.8	0.3
ZE10-361	Rock	0.37	51.10	15.08	11.19	3.75	5.32	5.02	0.43	1.36	0.38	0.17	<0.002	<20	40	6.0	99.81	254	<1	18.7	0.3
ZE10-364	Rock	0.45	72.64	12.60	3.43	0.99	0.30	2.02	6.41	0.32	0.07	0.04	<0.002	<20	11	1.1	99.89	846	<1	1.4	0.3
ZE10-365	Rock	0.21	57.58	18.05	6.68	3.26	4.42	4.74	0.94	0.93	0.43	0.14	<0.002	<20	21	2.7	99.84	276	<1	7.0	0.4
ZE10-385	Rock	0.28	48.95	13.60	13.19	6.85	7.67	4.02	1.76	0.96	0.30	0.18	0.016	35	36	2.2	99.73	454	<1	34.3	0.4
ZE10-396	Rock	0.28	66.47	16.09	2.87	1.56	1.46	5.78	2.57	0.34	0.13	0.05	0.002	<20	5	2.4	99.71	1411	1	5.7	0.5

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Project: None Given
 Report Date: February 09, 2011

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CERTIFICATE OF ANALYSIS

VAN11000439.1

Method	Analyte	4A-4B																			
		Ga	Hf	Nb	Rb	Sn	Sr	Ta	Th	U	V	W	Zr	Y	La	Ce	Pr	Nd	Sm	Eu	Gd
Unit		ppm																			
MDL		0.5	0.1	0.1	0.1	1	0.5	0.1	0.2	0.1	8	0.5	0.1	0.1	0.1	0.1	0.02	0.3	0.05	0.02	0.05
ZE10-285	Rock	21.6	3.3	9.6	2.0	1	518.9	0.7	1.0	0.3	326	1.0	114.9	27.6	9.2	22.5	3.29	16.1	4.13	1.60	4.86
ZE10-286	Rock	18.7	2.6	6.3	157.2	<1	862.6	0.4	5.1	6.0	79	22.3	82.6	12.9	25.3	39.3	4.33	16.8	3.24	1.06	2.83
ZE10-287	Rock	13.9	2.7	9.7	36.1	<1	595.4	0.7	2.9	1.2	152	<0.5	109.5	22.9	20.0	37.9	4.75	19.3	3.99	1.75	3.97
ZE10-291	Rock	13.0	3.1	5.8	35.3	<1	337.9	0.5	3.2	1.4	188	0.8	114.0	23.3	11.3	23.6	3.09	13.7	3.43	0.99	3.80
ZE10-292	Rock	14.5	2.9	5.1	18.0	<1	336.0	0.4	3.0	1.2	217	<0.5	106.7	23.9	11.2	22.8	3.06	13.7	3.28	1.03	3.70
ZE10-293	Rock	14.3	2.3	4.7	11.6	<1	407.1	0.3	1.6	0.7	245	<0.5	85.9	28.8	9.4	20.8	2.85	13.5	3.54	1.13	4.14
ZE10-294B	Rock	14.5	1.9	2.0	3.8	<1	457.6	0.1	0.5	0.2	202	<0.5	72.6	23.0	6.0	14.9	2.22	10.4	2.91	1.08	3.48
ZE10-295	Rock	17.7	3.3	10.1	18.2	1	1048	0.6	2.8	1.0	276	<0.5	128.3	29.0	20.2	43.5	5.59	23.5	5.06	1.71	5.24
ZE10-296	Rock	14.5	2.3	7.0	19.6	<1	625.0	0.5	5.4	2.0	204	<0.5	82.5	18.9	22.3	40.3	4.74	19.6	3.80	1.43	3.71
ZE10-297	Rock	13.9	3.7	9.5	20.5	1	457.6	0.7	4.6	1.8	149	<0.5	149.5	22.9	21.5	42.9	5.25	21.1	4.07	1.30	3.96
ZE10-302	Rock	12.6	2.0	5.3	17.1	<1	769.6	0.3	1.5	0.9	221	0.6	75.6	23.6	12.2	25.6	3.40	15.1	3.60	1.33	3.99
ZE10-303	Rock	14.9	2.1	4.5	1.6	<1	528.6	0.3	1.8	0.7	270	<0.5	70.3	23.3	13.5	29.4	3.98	18.6	4.21	1.33	4.38
ZE10-306	Rock	17.9	4.1	9.0	54.9	2	855.4	0.6	3.4	1.5	178	<0.5	155.9	24.8	21.4	44.2	5.62	24.0	4.66	1.47	4.78
ZE10-309	Rock	20.9	3.5	8.4	8.3	<1	220.9	0.6	4.6	2.1	186	<0.5	159.1	21.4	18.7	41.8	4.65	19.4	4.23	1.27	4.06
ZE10-310	Rock	17.0	3.7	12.1	40.7	<1	745.9	0.7	8.0	3.3	222	<0.5	171.2	22.2	26.5	53.2	5.61	21.2	4.34	1.33	3.92
ZE10-318	Rock	14.0	8.2	17.4	56.3	1	147.4	1.4	16.0	6.9	29	<0.5	315.8	25.7	31.7	57.6	6.44	23.3	4.14	0.81	3.85
ZE10-320	Rock	12.1	2.8	4.3	152.2	<1	267.8	0.3	5.6	2.3	61	0.8	97.3	18.3	25.0	51.6	6.29	25.3	4.22	1.40	3.57
ZE10-324	Rock	14.4	2.9	3.2	26.9	1	163.0	0.2	3.3	1.6	31	<0.5	83.6	39.7	15.1	33.0	4.82	22.8	5.76	1.58	6.20
ZE10-332	Rock	14.3	2.1	6.7	16.9	<1	727.7	0.4	2.1	0.7	187	1.0	70.9	19.8	17.5	37.2	4.72	20.5	4.03	1.32	3.84
ZE10-337A	Rock	15.1	2.6	6.7	48.2	1	660.2	0.4	4.0	1.3	238	<0.5	84.0	19.0	15.3	32.8	4.58	21.8	4.80	1.46	4.26
ZE10-337B	Rock	14.0	2.4	6.1	57.9	1	638.2	0.4	3.4	1.1	237	0.9	81.5	18.4	14.2	30.7	4.30	18.2	4.46	1.31	4.17
ZE10-339	Rock	16.1	3.2	7.5	62.4	1	753.7	0.4	12.5	4.5	142	0.7	125.2	15.8	25.7	48.6	6.08	25.9	4.90	1.48	4.19
ZE10-341A	Rock	17.9	3.2	8.7	57.6	<1	557.9	0.5	5.2	1.8	243	<0.5	108.0	20.1	19.4	44.9	5.67	26.7	4.99	1.53	5.05
ZE10-345	Rock	16.9	1.3	2.0	18.6	<1	813.0	<0.1	0.4	0.3	249	<0.5	46.9	16.5	9.5	20.2	2.91	13.8	3.21	1.10	3.35
ZE10-357	Rock	7.1	0.7	0.4	20.8	<1	125.7	<0.1	0.3	0.2	237	0.6	20.0	33.8	5.0	11.9	2.17	12.8	3.65	1.50	5.16
ZE10-361	Rock	14.5	2.3	2.4	5.4	<1	224.2	0.1	1.1	0.8	312	<0.5	70.5	28.8	10.5	24.8	3.46	16.6	4.20	1.43	4.88
ZE10-364	Rock	11.5	4.0	2.9	28.5	<1	43.2	0.2	2.6	1.3	<8	<0.5	121.0	37.6	14.3	31.4	4.40	20.1	5.11	1.20	5.97
ZE10-365	Rock	14.8	2.9	2.7	8.9	1	367.8	0.2	2.0	1.1	48	<0.5	73.4	71.0	23.9	43.9	7.39	35.8	9.81	2.70	12.49
ZE10-385	Rock	13.5	1.8	2.5	20.6	<1	437.1	0.1	1.1	0.5	298	<0.5	54.5	17.5	7.6	17.0	2.41	11.7	3.03	0.97	3.36
ZE10-396	Rock	20.3	3.2	3.6	51.5	1	851.8	0.2	2.4	1.6	62	<0.5	106.9	9.5	12.3	24.5	3.28	14.1	2.66	0.78	2.15

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Project: None Given
 Report Date: February 09, 2011

Page: 2 of 3 Part 3

CERTIFICATE OF ANALYSIS

VAN11000439.1

Method	Analyte	Unit	MDL	4A-4B Tb	4A-4B Dy	4A-4B Ho	4A-4B Er	4A-4B Tm	4A-4B Yb	4A-4B 2A Lu	Leco 2A TOT/C	Leco TOT/S	1DX Mo	1DX Cu	1DX Pb	1DX Zn	1DX Ni	1DX As	1DX Cd	1DX Sb	1DX Bi	1DX Ag	1DX Au
				ppm	%	%	ppm	ppb															
				0.01	0.05	0.02	0.03	0.01	0.05	0.01	0.02	0.02	0.1	0.1	0.1	1	0.1	0.5	0.1	0.1	0.1	0.1	0.5
ZE10-285	Rock			0.88	4.84	1.03	2.81	0.41	2.55	0.38	0.21	0.11	0.5	202.1	0.7	97	56.8	20.1	0.1	0.3	<0.1	0.6	<0.5
ZE10-286	Rock			0.43	2.29	0.47	1.35	0.22	1.51	0.25	0.61	0.14	3.5	4.8	3.0	5	1.0	0.7	0.2	<0.1	0.2	<0.1	0.5
ZE10-287	Rock			0.67	3.62	0.78	2.15	0.32	2.08	0.32	0.06	<0.02	0.1	1.2	2.4	29	74.0	0.9	<0.1	0.3	<0.1	<0.1	0.5
ZE10-291	Rock			0.67	3.79	0.82	2.44	0.38	2.48	0.38	0.65	<0.02	0.2	0.6	7.1	52	76.6	1.1	<0.1	0.4	<0.1	<0.1	<0.5
ZE10-292	Rock			0.67	3.75	0.83	2.36	0.38	2.35	0.36	0.03	<0.02	<0.1	22.1	0.7	59	81.9	0.7	<0.1	0.1	<0.1	<0.1	<0.5
ZE10-293	Rock			0.78	4.81	1.06	3.15	0.49	3.17	0.47	1.08	<0.02	<0.1	44.7	1.1	67	63.9	1.0	<0.1	0.2	<0.1	<0.1	<0.5
ZE10-294B	Rock			0.66	3.74	0.82	2.46	0.37	2.28	0.35	0.16	0.03	0.2	57.8	0.4	40	80.5	0.5	<0.1	0.2	<0.1	<0.1	<0.5
ZE10-295	Rock			0.88	5.12	1.03	2.92	0.46	2.86	0.43	0.54	0.03	0.2	17.5	0.7	72	54.9	<0.5	<0.1	<0.1	<0.1	<0.1	<0.5
ZE10-296	Rock			0.60	3.37	0.65	1.89	0.28	1.77	0.26	<0.02	<0.02	0.1	45.6	1.0	58	70.3	1.1	<0.1	<0.1	<0.1	<0.1	<0.5
ZE10-297	Rock			0.67	3.84	0.77	2.26	0.34	2.13	0.33	0.12	<0.02	0.3	7.6	0.9	60	5.1	0.7	<0.1	<0.1	<0.1	<0.1	0.6
ZE10-302	Rock			0.70	4.05	0.85	2.48	0.36	2.09	0.31	0.51	<0.02	0.3	9.7	1.4	43	11.4	4.4	0.2	<0.1	<0.1	<0.1	<0.5
ZE10-303	Rock			0.72	4.01	0.85	2.37	0.36	2.25	0.34	0.54	<0.02	0.1	45.2	0.8	92	8.5	1.3	<0.1	0.1	<0.1	<0.1	2.1
ZE10-306	Rock			0.78	4.32	0.85	2.56	0.40	2.45	0.38	0.04	<0.02	0.2	25.6	0.8	77	32.6	1.3	<0.1	<0.1	<0.1	<0.1	<0.5
ZE10-309	Rock			0.66	3.57	0.75	2.16	0.33	2.19	0.32	0.37	0.53	1.0	21.4	1.9	68	36.0	0.8	<0.1	<0.1	<0.1	<0.1	<0.5
ZE10-310	Rock			0.66	3.69	0.77	2.32	0.35	2.21	0.35	0.06	0.40	0.4	28.6	0.7	55	47.1	<0.5	<0.1	<0.1	<0.1	<0.1	0.7
ZE10-318	Rock			0.67	4.09	0.85	2.69	0.45	3.19	0.50	0.09	<0.02	0.2	7.7	7.7	28	1.0	0.6	<0.1	<0.1	<0.1	<0.1	<0.5
ZE10-320	Rock			0.55	2.90	0.59	1.89	0.31	2.02	0.32	1.15	<0.02	0.2	19.8	11.3	209	1.0	0.9	0.6	1.6	0.3	0.7	<0.5
ZE10-324	Rock			1.11	6.63	1.38	4.10	0.64	3.96	0.59	0.28	<0.02	0.4	2.9	1.6	30	0.8	0.9	<0.1	<0.1	<0.1	<0.1	0.7
ZE10-332	Rock			0.62	3.37	0.69	2.06	0.30	1.97	0.31	0.29	0.04	0.4	33.4	0.8	50	52.0	0.8	<0.1	<0.1	<0.1	<0.1	<0.5
ZE10-337A	Rock			0.69	3.59	0.67	1.91	0.30	1.77	0.27	0.39	0.08	0.2	52.7	2.1	55	14.0	0.9	0.1	<0.1	<0.1	<0.1	1.9
ZE10-337B	Rock			0.64	3.46	0.66	1.81	0.28	1.71	0.25	0.35	0.05	0.3	46.3	3.3	62	11.8	0.6	<0.1	<0.1	<0.1	<0.1	0.6
ZE10-339	Rock			0.59	2.94	0.53	1.41	0.21	1.34	0.19	0.21	0.07	0.5	37.6	7.1	68	69.5	1.9	<0.1	<0.1	<0.1	<0.1	<0.5
ZE10-341A	Rock			0.70	3.45	0.79	2.01	0.27	1.99	0.27	0.21	0.04	0.1	55.9	5.5	60	11.2	0.9	<0.1	<0.1	<0.1	<0.1	<0.5
ZE10-345	Rock			0.52	2.96	0.58	1.73	0.26	1.66	0.26	0.15	<0.02	0.2	20.8	2.0	67	9.0	1.8	<0.1	<0.1	<0.1	<0.1	<0.5
ZE10-357	Rock			0.85	5.26	1.14	3.16	0.45	2.62	0.40	0.52	<0.02	0.8	19.0	2.0	33	1.1	3.9	<0.1	0.2	<0.1	<0.1	<0.5
ZE10-361	Rock			0.86	5.22	1.09	3.23	0.51	3.26	0.50	0.87	<0.02	0.3	81.5	1.1	96	6.6	1.8	<0.1	<0.1	<0.1	<0.1	<0.5
ZE10-364	Rock			1.08	6.44	1.40	4.20	0.69	4.44	0.68	0.04	<0.02	0.2	1.4	0.6	37	0.5	<0.5	<0.1	<0.1	<0.1	<0.1	1.9
ZE10-365	Rock			2.16	13.16	2.79	8.28	1.28	7.97	1.18	0.02	<0.02	0.2	5.2	2.8	133	4.7	2.0	0.1	0.1	<0.1	<0.1	<0.5
ZE10-385	Rock			0.56	3.09	0.66	1.88	0.30	1.86	0.28	0.08	<0.02	0.3	47.2	2.3	81	22.0	1.7	<0.1	<0.1	<0.1	<0.1	1.1
ZE10-396	Rock			0.31	1.59	0.30	0.84	0.13	0.87	0.13	0.28	<0.02	<0.1	1.4	2.6	42	7.7	0.6	<0.1	0.1	<0.1	<0.1	<0.5

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



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Project: None Given

Report Date: February 09, 2011

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CERTIFICATE OF ANALYSIS

VAN11000439.1

Method	1DX	1DX	1DX	
Analyte	Hg	Tl	Se	
Unit	ppm	ppm	ppm	
MDL	0.01	0.1	0.5	
ZE10-285	Rock	0.02	<0.1	<0.5
ZE10-286	Rock	<0.01	<0.1	<0.5
ZE10-287	Rock	<0.01	<0.1	<0.5
ZE10-291	Rock	<0.01	<0.1	<0.5
ZE10-292	Rock	<0.01	<0.1	<0.5
ZE10-293	Rock	<0.01	<0.1	<0.5
ZE10-294B	Rock	<0.01	<0.1	<0.5
ZE10-295	Rock	<0.01	<0.1	<0.5
ZE10-296	Rock	<0.01	<0.1	<0.5
ZE10-297	Rock	<0.01	<0.1	<0.5
ZE10-302	Rock	<0.01	<0.1	<0.5
ZE10-303	Rock	<0.01	<0.1	<0.5
ZE10-306	Rock	<0.01	0.1	<0.5
ZE10-309	Rock	<0.01	<0.1	<0.5
ZE10-310	Rock	<0.01	0.2	<0.5
ZE10-318	Rock	<0.01	0.2	<0.5
ZE10-320	Rock	0.06	0.2	<0.5
ZE10-324	Rock	<0.01	0.1	<0.5
ZE10-332	Rock	<0.01	<0.1	<0.5
ZE10-337A	Rock	0.01	<0.1	<0.5
ZE10-337B	Rock	<0.01	<0.1	<0.5
ZE10-339	Rock	0.04	<0.1	<0.5
ZE10-341A	Rock	0.01	<0.1	<0.5
ZE10-345	Rock	<0.01	<0.1	<0.5
ZE10-357	Rock	<0.01	<0.1	<0.5
ZE10-361	Rock	<0.01	<0.1	<0.5
ZE10-364	Rock	<0.01	<0.1	<0.5
ZE10-365	Rock	<0.01	<0.1	<0.5
ZE10-385	Rock	<0.01	<0.1	<0.5
ZE10-396	Rock	<0.01	<0.1	<0.5



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CERTIFICATE OF ANALYSIS

VAN11000439.1

Method	WGHT	4A-4B	4A-4B	4A-4B	4A-4B	4A-4B	4A-4B	4A-4B	4A-4B	4A-4B											
Analyte	Wgt	SiO2	Al2O3	Fe2O3	MgO	CaO	Na2O	K2O	TiO2	P2O5	MnO	Cr2O3	Ni	Sc	LOI	Sum	Ba	Be	Co	Cs	
Unit	kg	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	%	%	ppm	ppm	ppm	ppm	
MDL	0.01	0.01	0.01	0.04	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.002	20	1	-5.1	0.01	1	1	0.2	0.1	
ZE10-406	Rock	0.19	52.54	18.28	9.39	4.50	2.08	4.87	2.14	0.85	0.27	0.13	<0.002	<20	20	4.6	99.70	993	2	21.0	5.0
ZE10-409	Rock	0.43	49.90	13.15	9.81	7.29	10.15	2.11	2.58	0.79	0.35	0.15	0.045	121	35	3.3	99.69	703	1	33.4	0.9
ZE10-417	Rock	0.21	51.37	15.38	9.82	0.40	4.96	0.14	10.82	0.83	0.46	0.09	0.005	27	22	5.4	99.63	2222	1	16.6	2.5
ZE10-424	Rock	0.33	37.45	11.11	8.67	4.83	11.79	0.32	7.55	0.45	0.38	0.22	0.014	45	21	16.9	99.63	1557	<1	37.0	2.3
ZE10-426	Rock	0.26	49.72	14.49	7.90	4.76	7.73	1.35	7.79	0.56	0.48	0.13	0.015	37	24	4.5	99.46	2232	2	23.4	5.1
ZE10-434	Rock	0.38	47.81	13.55	7.62	1.90	8.90	0.17	10.34	0.63	0.57	0.16	0.009	<20	25	7.7	99.34	3816	2	22.1	6.6
ZE10-440	Rock	0.71	51.01	17.83	9.65	4.10	6.40	5.21	0.94	0.82	0.28	0.19	0.008	26	19	3.3	99.69	891	1	21.5	0.3
ZE10-449	Rock	0.17	43.21	11.50	14.35	8.13	11.31	0.36	4.53	2.62	0.78	0.14	0.035	115	38	2.4	99.36	2429	3	48.7	0.4
ZE10-459	Rock	0.23	68.20	15.26	2.98	0.78	2.67	3.88	3.62	0.38	0.13	0.05	<0.002	<20	4	1.7	99.67	2069	1	4.2	2.1
ZE10-476	Rock	0.24	58.52	17.22	4.43	0.77	4.44	3.55	4.93	0.49	0.20	0.10	0.002	<20	7	5.1	99.70	1806	2	3.2	3.3
ZE10-481	Rock	0.38	50.11	17.38	8.95	4.21	4.16	3.43	4.87	0.85	0.43	0.16	<0.002	<20	20	5.1	99.64	1642	1	23.1	5.1
ZE10-483	Rock	0.22	43.96	16.54	13.79	5.53	4.99	3.00	3.65	1.02	0.28	0.17	0.008	27	31	6.8	99.74	501	<1	42.7	6.1
ZE10-493	Rock	0.21	69.75	12.26	6.18	1.36	1.71	5.19	0.16	0.58	0.15	0.08	<0.002	<20	18	2.5	99.94	111	<1	5.8	0.2
ZE10-508	Rock	0.30	79.55	10.78	1.95	0.97	0.24	5.41	0.13	0.18	0.04	0.02	<0.002	<20	7	0.7	99.97	84	<1	5.3	0.1
ZE10-510	Rock	0.26	72.98	12.85	3.74	2.21	1.33	3.79	0.76	0.33	0.06	0.04	<0.002	<20	16	1.8	99.87	442	<1	1.3	0.3
10JLO20-222	Rock	0.59	49.86	12.08	7.77	5.23	7.30	1.68	5.22	0.81	0.71	0.13	0.019	41	30	8.8	99.61	1772	1	25.4	0.8
MMI10-15-3	Rock	0.49	52.09	16.69	9.00	6.57	5.12	2.95	1.93	0.77	0.44	0.14	0.011	41	15	4.0	99.72	543	<1	24.8	0.7
MMI10-13-2	Rock	0.32	61.86	15.51	6.52	1.47	3.89	3.84	3.03	0.64	0.19	0.10	0.002	<20	19	2.7	99.73	1502	<1	11.4	0.9
MMI10-15-14	Rock	0.76	48.99	13.18	10.11	9.76	8.22	2.32	2.48	0.81	0.31	0.20	0.064	151	31	3.2	99.66	623	<1	39.9	0.6



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CERTIFICATE OF ANALYSIS

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Method	Analyte	4A-4B																			
		Ga	Hf	Nb	Rb	Sn	Sr	Ta	Th	U	V	W	Zr	Y	La	Ce	Pr	Nd	Sm	Eu	Gd
Unit		ppm																			
MDL		0.5	0.1	0.1	0.1	1	0.5	0.1	0.2	0.1	8	0.5	0.1	0.1	0.1	0.1	0.02	0.3	0.05	0.02	0.05
ZE10-406	Rock	21.9	2.5	5.3	73.2	2	430.8	0.3	3.0	1.4	255	0.9	94.7	21.9	15.1	34.9	4.54	19.4	4.39	0.80	3.95
ZE10-409	Rock	14.0	1.5	2.4	61.8	<1	422.0	0.2	1.1	0.7	241	<0.5	57.8	18.0	6.6	16.8	2.22	11.0	2.73	0.93	3.26
ZE10-417	Rock	16.7	2.1	15.3	249.8	1	488.1	1.0	3.8	1.3	269	1.1	81.0	15.2	18.9	39.4	4.49	17.9	3.61	1.07	3.17
ZE10-424	Rock	11.2	2.2	6.5	146.0	2	529.4	0.4	2.0	1.6	174	1.6	89.0	11.6	8.8	18.1	2.11	8.8	1.89	0.61	2.04
ZE10-426	Rock	13.2	1.6	8.0	144.2	<1	1243	0.5	2.9	1.4	193	0.9	68.2	14.8	11.7	24.0	2.74	12.3	2.61	0.86	2.74
ZE10-434	Rock	12.9	2.1	11.7	200.0	<1	1099	0.7	3.4	1.7	233	3.7	76.2	15.1	15.4	30.4	3.47	15.0	2.91	0.88	3.11
ZE10-440	Rock	18.5	1.9	2.6	14.0	<1	717.9	0.1	0.4	0.1	240	<0.5	62.3	16.8	8.7	22.0	2.75	12.6	3.23	1.09	3.15
ZE10-449	Rock	15.8	2.5	8.4	45.9	<1	772.1	0.5	0.6	0.3	536	<0.5	77.2	17.4	19.1	52.4	6.77	27.1	4.99	1.38	4.13
ZE10-459	Rock	18.3	3.2	7.3	87.3	<1	623.6	0.6	13.1	3.4	50	1.8	117.8	7.2	26.5	46.3	4.71	17.8	2.82	0.76	2.06
ZE10-476	Rock	19.1	3.7	5.8	107.2	1	393.4	0.3	6.0	2.5	115	2.3	140.1	21.3	23.0	45.9	5.43	22.5	4.45	1.34	4.13
ZE10-481	Rock	20.2	2.7	5.7	92.6	1	302.6	0.3	4.1	1.8	227	1.0	90.9	20.7	14.0	30.3	3.90	17.5	4.03	1.10	4.16
ZE10-483	Rock	17.0	1.0	1.9	86.2	1	195.7	0.1	1.3	0.8	405	0.9	32.5	14.9	8.2	18.1	2.43	11.1	2.83	0.95	3.09
ZE10-493	Rock	13.7	2.3	2.4	3.1	1	197.2	0.2	1.6	1.0	30	<0.5	79.5	30.0	5.0	13.1	1.92	9.7	2.89	0.84	3.82
ZE10-508	Rock	7.9	3.5	2.0	3.7	<1	76.9	0.2	3.1	1.1	19	0.8	116.2	19.8	4.0	8.4	1.18	4.8	1.40	0.45	1.88
ZE10-510	Rock	14.9	4.0	3.1	12.6	2	321.2	0.2	2.4	1.3	9	1.6	136.2	43.8	11.6	28.5	4.03	18.7	5.17	1.36	6.14
10JLO20-222	Rock	13.6	2.1	10.3	91.0	1	393.1	0.7	3.0	1.6	223	0.9	74.2	15.5	16.0	33.3	4.01	17.0	3.57	1.03	3.22
MMI10-15-3	Rock	16.2	1.6	3.2	31.4	<1	490.1	0.2	1.9	0.9	175	0.7	68.3	18.8	10.3	24.1	3.15	14.5	3.33	1.08	3.38
MMI10-13-2	Rock	13.5	2.4	4.4	88.6	<1	507.6	0.3	5.3	2.5	55	1.0	94.3	14.5	14.8	29.8	3.29	13.2	2.79	0.82	2.75
MMI10-15-14	Rock	14.5	1.8	3.6	37.5	<1	462.3	0.2	1.3	0.8	273	<0.5	62.3	16.7	7.7	17.9	2.43	11.0	2.85	0.90	3.20



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CERTIFICATE OF ANALYSIS

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Method	Analyte	Unit	MDL	4A-4B Tb	4A-4B Dy	4A-4B Ho	4A-4B Er	4A-4B Tm	4A-4B Yb	4A-4B Lu	2A Leco TOT/C	2A Leco TOT/S	1DX Mo	1DX Cu	1DX Pb	1DX Zn	1DX Ni	1DX As	1DX Cd	1DX Sb	1DX Bi	1DX Ag	1DX Au
				ppm	%	%	ppm	ppb															
				0.01	0.05	0.02	0.03	0.01	0.05	0.01	0.02	0.02	0.1	0.1	0.1	1	0.1	0.5	0.1	0.1	0.1	0.1	0.5
ZE10-406	Rock			0.67	3.77	0.77	2.33	0.36	2.25	0.36	0.31	0.31	1.6	50.0	19.0	114	1.9	2.7	0.4	0.8	0.2	0.1	0.5
ZE10-409	Rock			0.53	2.98	0.66	1.69	0.25	1.67	0.25	0.26	<0.02	0.1	68.3	1.5	50	56.7	1.2	<0.1	<0.1	<0.1	<0.1	<0.5
ZE10-417	Rock			0.49	2.76	0.55	1.79	0.24	1.73	0.26	0.98	0.03	<0.1	38.3	7.8	36	4.7	4.3	0.1	0.9	<0.1	<0.1	5.8
ZE10-424	Rock			0.34	1.85	0.46	1.30	0.21	1.34	0.20	4.61	<0.02	<0.1	34.6	2.4	40	31.7	1.5	0.2	0.9	<0.1	<0.1	2.2
ZE10-426	Rock			0.44	2.54	0.53	1.56	0.23	1.42	0.23	0.82	<0.02	0.4	52.5	3.7	40	19.8	3.7	<0.1	1.7	<0.1	<0.1	1.0
ZE10-434	Rock			0.45	2.63	0.48	1.40	0.23	1.57	0.23	1.79	0.14	3.4	100.4	12.6	76	21.9	10.3	0.2	6.3	<0.1	0.1	5.6
ZE10-440	Rock			0.51	2.97	0.64	1.80	0.27	1.78	0.27	0.24	0.04	0.3	55.5	1.5	76	17.2	1.3	<0.1	0.1	<0.1	<0.1	2.1
ZE10-449	Rock			0.63	3.52	0.64	1.85	0.27	1.56	0.23	0.12	0.04	<0.1	107.3	1.0	105	93.1	<0.5	0.1	<0.1	<0.1	<0.1	1.9
ZE10-459	Rock			0.28	1.38	0.23	0.64	0.10	0.65	0.10	0.23	<0.02	1.4	5.2	2.3	48	3.5	1.5	<0.1	<0.1	0.2	<0.1	<0.5
ZE10-476	Rock			0.64	3.63	0.74	2.10	0.35	2.39	0.37	0.93	<0.02	0.3	7.3	1.8	9	0.8	<0.5	<0.1	0.2	<0.1	<0.1	<0.5
ZE10-481	Rock			0.67	3.62	0.74	2.22	0.33	2.22	0.34	0.83	<0.02	<0.1	32.9	2.8	104	12.3	16.2	<0.1	0.3	<0.1	<0.1	<0.5
ZE10-483	Rock			0.49	2.63	0.54	1.53	0.23	1.44	0.21	1.07	<0.02	<0.1	62.8	2.7	95	25.9	1.9	<0.1	0.5	<0.1	<0.1	<0.5
ZE10-493	Rock			0.72	4.51	1.05	3.16	0.50	3.44	0.52	0.37	<0.02	0.1	8.8	1.7	80	2.0	1.3	<0.1	0.2	<0.1	<0.1	<0.5
ZE10-508	Rock			0.39	2.70	0.68	2.35	0.37	2.56	0.40	0.04	<0.02	<0.1	21.4	0.7	19	2.3	1.8	<0.1	<0.1	<0.1	<0.1	<0.5
ZE10-510	Rock			1.11	6.85	1.49	4.67	0.74	4.99	0.78	0.08	<0.02	0.5	3.1	2.2	38	0.7	1.4	<0.1	0.1	<0.1	<0.1	<0.5
10JLO20-222	Rock			0.50	2.71	0.56	1.57	0.24	1.51	0.24	2.50	0.11	1.6	58.4	15.0	76	37.5	20.3	0.2	0.1	<0.1	<0.1	<0.5
MMI10-15-3	Rock			0.54	3.11	0.65	1.83	0.28	1.83	0.28	0.27	<0.02	0.7	71.4	1.0	73	33.8	1.2	<0.1	<0.1	<0.1	<0.1	<0.5
MMI10-13-2	Rock			0.43	2.49	0.50	1.47	0.23	1.55	0.25	0.31	<0.02	0.1	3.1	2.3	18	1.3	7.7	<0.1	0.3	<0.1	<0.1	<0.5
MMI10-15-14	Rock			0.53	2.97	0.62	1.79	0.27	1.69	0.27	0.19	<0.02	0.2	60.1	1.0	43	111.6	2.5	<0.1	<0.1	<0.1	<0.1	3.3



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Project: None Given

Report Date: February 09, 2011

Page: 3 of 3 Part 4

CERTIFICATE OF ANALYSIS

VAN11000439.1

Method	1DX	1DX	1DX	
Analyte	Hg	Tl	Se	
Unit	ppm	ppm	ppm	
MDL	0.01	0.1	0.5	
ZE10-406	Rock	0.02	<0.1	1.0
ZE10-409	Rock	<0.01	<0.1	<0.5
ZE10-417	Rock	0.04	<0.1	<0.5
ZE10-424	Rock	0.01	<0.1	<0.5
ZE10-426	Rock	<0.01	0.1	<0.5
ZE10-434	Rock	0.03	0.1	<0.5
ZE10-440	Rock	<0.01	<0.1	<0.5
ZE10-449	Rock	<0.01	<0.1	<0.5
ZE10-459	Rock	<0.01	0.2	<0.5
ZE10-476	Rock	0.07	<0.1	<0.5
ZE10-481	Rock	<0.01	0.4	<0.5
ZE10-483	Rock	<0.01	0.2	<0.5
ZE10-493	Rock	<0.01	<0.1	<0.5
ZE10-508	Rock	<0.01	<0.1	<0.5
ZE10-510	Rock	<0.01	<0.1	<0.5
10JLO20-222	Rock	0.02	<0.1	<0.5
MMI10-15-3	Rock	<0.01	<0.1	<0.5
MMI10-13-2	Rock	<0.01	<0.1	<0.5
MMI10-15-14	Rock	<0.01	<0.1	<0.5



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QUALITY CONTROL REPORT

VAN11000439.1

Method	WGHT	4A-4B	4A-4B	4A-4B	4A-4B	4A-4B	4A-4B	4A-4B	4A-4B	4A-4B											
Analyte	Wgt	SiO2	Al2O3	Fe2O3	MgO	CaO	Na2O	K2O	TiO2	P2O5	MnO	Cr2O3	Ni	Sc	LOI	Sum	Ba	Be	Co	Cs	
Unit	kg	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	%	%	ppm	ppm	ppm	ppm	
MDL	0.01	0.01	0.01	0.04	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.002	20	1	-5.1	0.01	1	1	0.2	0.1	
ZE10-345	Rock	0.51	50.67	18.34	9.19	4.11	7.24	4.67	1.39	0.86	0.35	0.17	<0.002	<20	18	2.7	99.73	603	<1	18.9	1.7
ZE10-483	Rock	0.22	43.96	16.54	13.79	5.53	4.99	3.00	3.65	1.02	0.28	0.17	0.008	27	31	6.8	99.74	501	<1	42.7	6.1
Pulp Duplicates																					
ZE10-303	Rock	0.25	49.08	16.70	11.04	6.45	5.22	3.95	0.06	1.21	0.29	0.15	0.006	<20	32	5.6	99.76	84	<1	23.3	0.1
REP ZE10-303	QC																				
ZE10-310	Rock	0.32	51.24	18.01	7.94	6.00	6.96	4.24	1.61	0.97	0.39	0.17	0.022	47	25	2.0	99.59	1280	1	21.3	0.8
REP ZE10-310	QC		51.45	17.94	7.89	6.03	6.95	4.19	1.58	0.96	0.39	0.17	0.020	57	24	2.0	99.60	1264	1	21.1	0.8
ZE10-341A	Rock	0.40	50.91	16.26	9.70	4.02	5.61	4.26	4.08	1.72	0.30	0.13	0.024	<20	22	2.6	99.61	1363	1	21.2	0.1
REP ZE10-341A	QC																				
ZE10-357	Rock	0.43	61.36	12.91	6.49	1.23	4.96	4.70	2.48	1.17	1.31	0.09	<0.002	<20	34	3.2	99.90	311	<1	3.8	0.3
REP ZE10-357	QC		61.38	12.91	6.45	1.22	4.94	4.75	2.49	1.16	1.31	0.08	<0.002	<20	34	3.2	99.91	304	<1	3.9	0.3
ZE10-510	Rock	0.26	72.98	12.85	3.74	2.21	1.33	3.79	0.76	0.33	0.06	0.04	<0.002	<20	16	1.8	99.87	442	<1	1.3	0.3
REP ZE10-510	QC		72.95	12.89	3.71	2.22	1.34	3.79	0.76	0.32	0.06	0.04	<0.002	<20	16	1.8	99.88	427	<1	1.3	0.3
MMI10-13-2	Rock	0.32	61.86	15.51	6.52	1.47	3.89	3.84	3.03	0.64	0.19	0.10	0.002	<20	19	2.7	99.73	1502	<1	11.4	0.9
REP MMI10-13-2	QC																				
MMI10-15-14	Rock	0.76	48.99	13.18	10.11	9.76	8.22	2.32	2.48	0.81	0.31	0.20	0.064	151	31	3.2	99.66	623	<1	39.9	0.6
REP MMI10-15-14	QC																				
Core Reject Duplicates																					
ZE10-324	Rock	0.14	66.81	15.22	4.83	1.34	1.67	5.70	1.53	0.50	0.20	0.08	<0.002	<20	17	2.0	99.87	772	<1	4.2	1.6
DUP ZE10-324	QC		66.88	15.11	4.87	1.34	1.72	5.65	1.53	0.50	0.21	0.08	<0.002	<20	17	2.0	99.87	764	<1	3.7	1.6
Reference Materials																					
STD CSC	Standard																				
STD CSC	Standard																				
STD DS8	Standard																				
STD DS8	Standard																				
STD DS8	Standard																				
STD DS8	Standard																				
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Project: None Given
Report Date: February 09, 2011

Page: 1 of 3 Part 2

QUALITY CONTROL REPORT

VAN11000439.1

Method	Analyte	4A-4B																			
		Ga	Hf	Nb	Rb	Sn	Sr	Ta	Th	U	V	W	Zr	Y	La	Ce	Pr	Nd	Sm	Eu	Gd
Unit		ppm																			
MDL		0.5	0.1	0.1	0.1	1	0.5	0.1	0.2	0.1	8	0.5	0.1	0.1	0.1	0.02	0.3	0.05	0.02	0.05	
ZE10-345	Rock	16.9	1.3	2.0	18.6	<1	813.0	<0.1	0.4	0.3	249	<0.5	46.9	16.5	9.5	20.2	2.91	13.8	3.21	1.10	3.35
ZE10-483	Rock	17.0	1.0	1.9	86.2	1	195.7	0.1	1.3	0.8	405	0.9	32.5	14.9	8.2	18.1	2.43	11.1	2.83	0.95	3.09
Pulp Duplicates																					
ZE10-303	Rock	14.9	2.1	4.5	1.6	<1	528.6	0.3	1.8	0.7	270	<0.5	70.3	23.3	13.5	29.4	3.98	18.6	4.21	1.33	4.38
REP ZE10-303	QC																				
ZE10-310	Rock	17.0	3.7	12.1	40.7	<1	745.9	0.7	8.0	3.3	222	<0.5	171.2	22.2	26.5	53.2	5.61	21.2	4.34	1.33	3.92
REP ZE10-310	QC	17.0	4.4	11.8	41.2	1	754.9	0.7	8.0	3.5	225	1.7	180.7	21.8	26.5	52.5	5.62	21.9	4.26	1.33	4.03
ZE10-341A	Rock	17.9	3.2	8.7	57.6	<1	557.9	0.5	5.2	1.8	243	<0.5	108.0	20.1	19.4	44.9	5.67	26.7	4.99	1.53	5.05
REP ZE10-341A	QC																				
ZE10-357	Rock	7.1	0.7	0.4	20.8	<1	125.7	<0.1	0.3	0.2	237	0.6	20.0	33.8	5.0	11.9	2.17	12.8	3.65	1.50	5.16
REP ZE10-357	QC	7.1	0.7	0.4	20.5	<1	123.3	<0.1	0.3	0.2	228	<0.5	18.9	32.5	4.9	11.5	2.16	11.7	3.56	1.44	4.99
ZE10-510	Rock	14.9	4.0	3.1	12.6	2	321.2	0.2	2.4	1.3	9	1.6	136.2	43.8	11.6	28.5	4.03	18.7	5.17	1.36	6.14
REP ZE10-510	QC	14.4	4.3	3.1	12.5	2	320.5	0.2	2.5	1.3	9	<0.5	135.1	43.0	11.1	27.6	3.87	19.0	4.96	1.32	6.12
MMI10-13-2	Rock	13.5	2.4	4.4	88.6	<1	507.6	0.3	5.3	2.5	55	1.0	94.3	14.5	14.8	29.8	3.29	13.2	2.79	0.82	2.75
REP MMI10-13-2	QC																				
MMI10-15-14	Rock	14.5	1.8	3.6	37.5	<1	462.3	0.2	1.3	0.8	273	<0.5	62.3	16.7	7.7	17.9	2.43	11.0	2.85	0.90	3.20
REP MMI10-15-14	QC																				
Core Reject Duplicates																					
ZE10-324	Rock	14.4	2.9	3.2	26.9	1	163.0	0.2	3.3	1.6	31	<0.5	83.6	39.7	15.1	33.0	4.82	22.8	5.76	1.58	6.20
DUP ZE10-324	QC	14.7	3.2	3.1	27.0	<1	170.0	0.2	3.7	1.7	31	<0.5	85.9	39.9	15.6	33.6	4.86	23.3	5.78	1.61	6.34
Reference Materials																					
STD CSC	Standard																				
STD CSC	Standard																				
STD DS8	Standard																				
STD DS8	Standard																				
STD DS8	Standard																				
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QUALITY CONTROL REPORT

VAN11000439.1

Method	Analyte	Unit	MDL	4A-4B Tb	4A-4B Dy	4A-4B Ho	4A-4B Er	4A-4B Tm	4A-4B Yb	4A-4B Lu	2A Leco TOT/C	2A Leco TOT/S	1DX Mo	1DX Cu	1DX Pb	1DX Zn	1DX Ni	1DX As	1DX Cd	1DX Sb	1DX Bi	1DX Ag	1DX Au
				ppm	%	%	ppm	ppb															
				0.01	0.05	0.02	0.03	0.01	0.05	0.01	0.02	0.02	0.1	0.1	0.1	1	0.1	0.5	0.1	0.1	0.1	0.1	0.5
ZE10-345	Rock			0.52	2.96	0.58	1.73	0.26	1.66	0.26	0.15	<0.02	0.2	20.8	2.0	67	9.0	1.8	<0.1	<0.1	<0.1	<0.1	<0.5
ZE10-483	Rock			0.49	2.63	0.54	1.53	0.23	1.44	0.21	1.07	<0.02	<0.1	62.8	2.7	95	25.9	1.9	<0.1	0.5	<0.1	<0.1	<0.5
Pulp Duplicates																							
ZE10-303	Rock			0.72	4.01	0.85	2.37	0.36	2.25	0.34	0.54	<0.02	0.1	45.2	0.8	92	8.5	1.3	<0.1	0.1	<0.1	<0.1	2.1
REP ZE10-303	QC										0.55	<0.02											
ZE10-310	Rock			0.66	3.69	0.77	2.32	0.35	2.21	0.35	0.06	0.40	0.4	28.6	0.7	55	47.1	<0.5	<0.1	<0.1	<0.1	<0.1	0.7
REP ZE10-310	QC			0.67	3.64	0.81	2.21	0.35	2.17	0.35													
ZE10-341A	Rock			0.70	3.45	0.79	2.01	0.27	1.99	0.27	0.21	0.04	0.1	55.9	5.5	60	11.2	0.9	<0.1	<0.1	<0.1	<0.1	<0.5
REP ZE10-341A	QC												0.2	59.8	5.6	62	11.6	1.0	0.1	<0.1	<0.1	<0.1	<0.5
ZE10-357	Rock			0.85	5.26	1.14	3.16	0.45	2.62	0.40	0.52	<0.02	0.8	19.0	2.0	33	1.1	3.9	<0.1	0.2	<0.1	<0.1	<0.5
REP ZE10-357	QC			0.84	4.89	1.12	3.15	0.44	2.61	0.40													
ZE10-510	Rock			1.11	6.85	1.49	4.67	0.74	4.99	0.78	0.08	<0.02	0.5	3.1	2.2	38	0.7	1.4	<0.1	0.1	<0.1	<0.1	<0.5
REP ZE10-510	QC			1.10	6.75	1.51	4.64	0.74	4.81	0.75													
MMI10-13-2	Rock			0.43	2.49	0.50	1.47	0.23	1.55	0.25	0.31	<0.02	0.1	3.1	2.3	18	1.3	7.7	<0.1	0.3	<0.1	<0.1	<0.5
REP MMI10-13-2	QC										0.31	<0.02											
MMI10-15-14	Rock			0.53	2.97	0.62	1.79	0.27	1.69	0.27	0.19	<0.02	0.2	60.1	1.0	43	111.6	2.5	<0.1	<0.1	<0.1	<0.1	3.3
REP MMI10-15-14	QC												0.2	59.9	1.0	44	109.3	2.6	<0.1	<0.1	<0.1	<0.1	2.6
Core Reject Duplicates																							
ZE10-324	Rock			1.11	6.63	1.38	4.10	0.64	3.96	0.59	0.28	<0.02	0.4	2.9	1.6	30	0.8	0.9	<0.1	<0.1	<0.1	<0.1	0.7
DUP ZE10-324	QC			1.13	6.74	1.42	4.15	0.64	4.08	0.59	0.27	<0.02	0.4	2.7	1.6	33	1.0	0.8	<0.1	0.1	<0.1	<0.1	1.4
Reference Materials																							
STD CSC	Standard										2.92	4.15											
STD CSC	Standard										2.99	4.29											
STD DS8	Standard												11.0	105.7	120.0	308	35.3	25.3	2.2	4.6	6.2	1.8	81.4
STD DS8	Standard												12.6	105.8	126.1	312	35.1	24.8	2.2	5.5	6.4	1.7	86.9
STD DS8	Standard												14.1	112.6	128.7	334	38.3	28.6	2.5	4.3	6.7	1.4	84.2
STD DS8	Standard												13.0	108.9	116.0	319	37.3	25.6	2.3	4.5	5.9	1.5	101.0
STD DS8	Standard												13.4	114.4	126.4	327	38.3	26.4	2.5	4.4	6.6	1.7	114.4
STD DS8	Standard												13.1	112.0	122.9	320	40.9	27.3	2.3	4.4	6.3	1.7	119.0



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Page: 1 of 3 Part 4

QUALITY CONTROL REPORT

VAN11000439.1

Method	1DX	1DX	1DX	
Analyte	Hg	Tl	Se	
Unit	ppm	ppm	ppm	
MDL	0.01	0.1	0.5	
ZE10-345	Rock	<0.01	<0.1	<0.5
ZE10-483	Rock	<0.01	0.2	<0.5
Pulp Duplicates				
ZE10-303	Rock	<0.01	<0.1	<0.5
REP ZE10-303	QC			
ZE10-310	Rock	<0.01	0.2	<0.5
REP ZE10-310	QC			
ZE10-341A	Rock	0.01	<0.1	<0.5
REP ZE10-341A	QC	0.02	<0.1	<0.5
ZE10-357	Rock	<0.01	<0.1	<0.5
REP ZE10-357	QC			
ZE10-510	Rock	<0.01	<0.1	<0.5
REP ZE10-510	QC			
MMI10-13-2	Rock	<0.01	<0.1	<0.5
REP MMI10-13-2	QC			
MMI10-15-14	Rock	<0.01	<0.1	<0.5
REP MMI10-15-14	QC	<0.01	<0.1	<0.5
Core Reject Duplicates				
ZE10-324	Rock	<0.01	0.1	<0.5
DUP ZE10-324	QC	0.02	0.1	<0.5
Reference Materials				
STD CSC	Standard			
STD CSC	Standard			
STD DS8	Standard	0.15	4.8	5.6
STD DS8	Standard	0.17	4.9	5.0
STD DS8	Standard	0.17	5.6	5.5
STD DS8	Standard	0.17	5.0	5.7
STD DS8	Standard	0.20	5.8	5.4
STD DS8	Standard	0.17	5.6	4.9



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Page: 2 of 3 Part 1

QUALITY CONTROL REPORT

VAN11000439.1

	WGHT	4A-4B	4A-4B	4A-4B	4A-4B	4A-4B	4A-4B	4A-4B	4A-4B	4A-4B	4A-4B										
	Wgt	SiO2	Al2O3	Fe2O3	MgO	CaO	Na2O	K2O	TiO2	P2O5	MnO	Cr2O3	Ni	Sc	LOI	Sum	Ba	Be	Co	Cs	
	kg	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	%	%	ppm	ppm	ppm	ppm	
	0.01	0.01	0.01	0.04	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.002	20	1	-5.1	0.01	1	1	0.2	0.1	
STD DS8	Standard																				
STD DS8	Standard																				
STD OREAS45PA	Standard																				
STD OREAS45PA	Standard																				
STD OREAS45PA	Standard																				
STD OREAS45PA	Standard																				
STD OREAS76A	Standard																				
STD OREAS76A	Standard																				
STD SO-18	Standard	58.19	14.11	7.55	3.35	6.33	3.70	2.14	0.69	0.83	0.39	0.550	46	24	1.9	99.75	510	<1	26.6	6.9	
STD SO-18	Standard	58.04	14.14	7.62	3.39	6.33	3.71	2.15	0.70	0.83	0.40	0.558	46	25	1.9	99.76	480	<1	26.1	6.5	
STD SO-18	Standard	58.21	13.98	7.60	3.37	6.34	3.71	2.17	0.70	0.84	0.40	0.556	47	26	1.9	99.77	484	<1	24.2	6.4	
STD SO-18	Standard	58.08	13.86	7.65	3.37	6.30	3.81	2.24	0.71	0.87	0.40	0.568	44	26	1.9	99.77	466	<1	23.4	6.3	
STD SO-18	Standard	58.01	14.10	7.63	3.37	6.37	3.69	2.16	0.70	0.84	0.40	0.556	84	25	1.9	99.74	517	1	26.3	7.1	
STD SO-18	Standard	57.86	14.16	7.66	3.39	6.39	3.69	2.16	0.70	0.84	0.40	0.560	50	26	1.9	99.73	502	2	26.5	6.9	
STD SO-18	Standard	57.78	14.16	7.72	3.37	6.39	3.73	2.16	0.70	0.85	0.40	0.556	80	25	1.9	99.72	536	2	25.5	7.0	
STD SO-18	Standard	58.01	14.16	7.60	3.36	6.37	3.70	2.13	0.70	0.83	0.40	0.548	51	25	1.9	99.72	525	<1	27.2	7.1	
STD CSC Expected																					
STD OREAS76A Expected																					
STD OREAS45PA Expected																					
STD DS8 Expected																					
STD SO-18 Expected		58.47	14.23	7.67	3.35	6.42	3.71	2.17	0.69	0.83	0.39	0.55	44	25			514		26.2	7.1	
BLK	Blank																				
BLK	Blank																				
BLK	Blank																				
BLK	Blank																				
BLK	Blank																				
BLK	Blank																				
BLK	Blank																				
BLK	Blank	<0.01	<0.01	<0.04	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.002	<20	<1	0.0	<0.01	<1	<1	<0.2	<0.1	
BLK	Blank	<0.01	<0.01	<0.04	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.002	<20	<1	0.0	<0.01	<1	<1	<0.2	<0.1	

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QUALITY CONTROL REPORT

VAN11000439.1

		4A-4B																				
		Ga	Hf	Nb	Rb	Sn	Sr	Ta	Th	U	V	W	Zr	Y	La	Ce	Pr	Nd	Sm	Eu	Gd	
		ppm																				
		0.5	0.1	0.1	0.1	1	0.5	0.1	0.2	0.1	8	0.5	0.1	0.1	0.1	0.1	0.02	0.3	0.05	0.02	0.05	
STD DS8	Standard																					
STD DS8	Standard																					
STD OREAS45PA	Standard																					
STD OREAS45PA	Standard																					
STD OREAS45PA	Standard																					
STD OREAS45PA	Standard																					
STD OREAS76A	Standard																					
STD OREAS76A	Standard																					
STD SO-18	Standard	17.0	9.4	20.0	28.5	15	415.6	7.2	10.5	16.5	211	14.5	279.9	31.2	12.1	27.6	3.35	13.4	2.84	0.85	2.90	
STD SO-18	Standard	16.5	8.8	19.5	27.4	15	388.9	6.9	9.8	15.8	203	13.8	270.5	30.0	11.4	26.1	3.21	13.1	2.73	0.82	2.74	
STD SO-18	Standard	15.9	9.2	18.8	26.5	14	392.3	7.2	9.8	15.6	180	14.2	263.6	30.1	11.7	25.6	3.21	13.3	2.73	0.84	2.83	
STD SO-18	Standard	16.2	8.8	18.4	26.4	14	381.2	7.0	9.5	15.1	174	13.9	258.5	29.5	11.4	24.8	3.13	12.9	2.69	0.83	2.73	
STD SO-18	Standard	17.6	9.3	20.6	28.7	15	411.0	7.1	10.4	16.5	208	14.3	292.3	32.3	12.2	28.0	3.45	13.9	2.93	0.86	3.01	
STD SO-18	Standard	17.1	9.6	20.7	28.3	14	408.9	6.9	10.5	16.5	207	14.5	288.0	31.4	12.3	28.1	3.39	13.8	2.82	0.84	2.97	
STD SO-18	Standard	17.6	9.5	20.6	26.8	15	395.1	6.3	10.6	16.0	204	13.6	279.0	31.4	12.1	26.8	3.29	13.9	2.80	0.83	2.95	
STD SO-18	Standard	17.6	9.4	20.9	29.2	15	419.8	6.8	10.2	16.9	219	14.5	294.1	31.6	11.7	27.2	3.31	13.4	2.76	0.84	2.86	
STD CSC Expected																						
STD OREAS76A Expected																						
STD OREAS45PA Expected																						
STD DS8 Expected																						
STD SO-18 Expected		17.6	9.8	21.3	28.7	15	407.4	7.4	9.9	16.4	200	14.8	280	31	12.3	27.1	3.45	14	3	0.89	2.93	
BLK	Blank																					
BLK	Blank																					
BLK	Blank																					
BLK	Blank																					
BLK	Blank																					
BLK	Blank																					
BLK	Blank	<0.5	<0.1	<0.1	<0.1	<1	<0.5	<0.1	<0.2	<0.1	<8	<0.5	0.9	<0.1	<0.1	<0.1	<0.02	<0.3	<0.05	<0.02	<0.05	
BLK	Blank	<0.5	<0.1	<0.1	<0.1	<1	<0.5	<0.1	<0.2	<0.1	<8	<0.5	<0.1	<0.1	<0.1	<0.1	<0.02	<0.3	<0.05	<0.02	<0.05	

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QUALITY CONTROL REPORT

VAN11000439.1

		4A-4B	2A Leco	2A Leco	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX								
		Tb	Dy	Ho	Er	Tm	Yb	Lu	TOT/C	TOT/S	Mo	Cu	Pb	Zn	Ni	As	Cd	Sb	Bi	Ag	Au	
		ppm	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppb							
		0.01	0.05	0.02	0.03	0.01	0.05	0.01	0.02	0.02	0.1	0.1	0.1	1	0.1	0.5	0.1	0.1	0.1	0.1	0.1	0.5
STD DS8	Standard										12.8	119.9	126.3	316	40.6	23.9	2.3	4.1	6.2	1.7	109.0	
STD DS8	Standard										12.8	115.4	115.9	318	39.0	26.1	2.4	4.1	5.6	2.1	82.4	
STD OREAS45PA	Standard										0.8	607.8	21.2	125	296.6	4.5	<0.1	0.1	0.2	0.3	48.6	
STD OREAS45PA	Standard										0.7	567.3	19.3	120	278.6	4.8	0.1	<0.1	0.2	0.3	46.5	
STD OREAS45PA	Standard										1.0	595.5	20.1	143	287.7	4.6	<0.1	0.1	0.2	0.3	48.5	
STD OREAS45PA	Standard										0.9	548.7	16.2	120	268.9	4.0	<0.1	0.1	0.2	0.3	44.1	
STD OREAS76A	Standard								0.18	17.77												
STD OREAS76A	Standard								0.17	17.58												
STD SO-18	Standard	0.50	2.92	0.61	1.78	0.27	1.74	0.27														
STD SO-18	Standard	0.47	2.81	0.58	1.70	0.26	1.66	0.26														
STD SO-18	Standard	0.48	2.81	0.58	1.74	0.27	1.71	0.26														
STD SO-18	Standard	0.48	2.75	0.58	1.71	0.26	1.66	0.25														
STD SO-18	Standard	0.50	2.87	0.64	1.83	0.27	1.81	0.28														
STD SO-18	Standard	0.50	2.91	0.62	1.84	0.27	1.77	0.28														
STD SO-18	Standard	0.50	2.75	0.63	1.76	0.27	1.70	0.26														
STD SO-18	Standard	0.49	2.94	0.61	1.76	0.27	1.75	0.27														
STD CSC Expected									2.94	4.25												
STD OREAS76A Expected									0.16	18												
STD OREAS45PA Expected											0.9	600	19	119	281	4.2	0.09	0.13	0.18	0.3	43	
STD DS8 Expected											13.44	110	123	312	38.1	26	2.38	4.8	6.67	1.69	107	
STD SO-18 Expected		0.53	3	0.62	1.84	0.27	1.79	0.27														
BLK	Blank								<0.02	<0.02												
BLK	Blank								<0.02	<0.02												
BLK	Blank										<0.1	<0.1	<0.1	<1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5
BLK	Blank										<0.1	<0.1	<0.1	<1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5
BLK	Blank										<0.1	<0.1	<0.1	<1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5
BLK	Blank										<0.1	<0.1	<0.1	<1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5
BLK	Blank	<0.01	<0.05	<0.02	<0.03	<0.01	<0.05	<0.01														
BLK	Blank	<0.01	<0.05	<0.02	<0.03	<0.01	<0.05	<0.01														

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QUALITY CONTROL REPORT

VAN11000439.1

		1DX Hg ppm 0.01	1DX TI ppm 0.1	1DX Se ppm 0.5
STD DS8	Standard	0.19	5.8	5.3
STD DS8	Standard	0.18	5.0	4.7
STD OREAS45PA	Standard	0.03	0.2	0.6
STD OREAS45PA	Standard	0.02	<0.1	0.6
STD OREAS45PA	Standard	0.04	<0.1	<0.5
STD OREAS45PA	Standard	0.03	<0.1	<0.5
STD OREAS76A	Standard			
STD OREAS76A	Standard			
STD SO-18	Standard			
STD SO-18	Standard			
STD SO-18	Standard			
STD SO-18	Standard			
STD SO-18	Standard			
STD SO-18	Standard			
STD SO-18	Standard			
STD SO-18	Standard			
STD CSC Expected				
STD OREAS76A Expected				
STD OREAS45PA Expected		0.03	0.07	0.54
STD DS8 Expected		0.192	5.4	5.23
STD SO-18 Expected				
BLK	Blank			
BLK	Blank			
BLK	Blank	<0.01	<0.1	<0.5
BLK	Blank	<0.01	<0.1	<0.5
BLK	Blank	<0.01	<0.1	<0.5
BLK	Blank	<0.01	<0.1	<0.5
BLK	Blank			
BLK	Blank			



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QUALITY CONTROL REPORT

VAN11000439.1

		WGHT	4A-4B	4A-4B	4A-4B	4A-4B	4A-4B	4A-4B	4A-4B	4A-4B	4A-4B										
		Wgt	SiO2	Al2O3	Fe2O3	MgO	CaO	Na2O	K2O	TiO2	P2O5	MnO	Cr2O3	Ni	Sc	LOI	Sum	Ba	Be	Co	Cs
		kg	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	%	%	ppm	ppm	ppm	ppm
		0.01	0.01	0.01	0.04	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.002	20	1	-5.1	0.01	1	1	0.2	0.1
BLK	Blank		<0.01	<0.01	<0.04	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.002	<20	<1	0.0	<0.01	9	<1	<0.2	<0.1
Prep Wash																					
G1	Prep Blank	<0.01	67.10	16.06	3.62	1.13	3.44	3.62	3.66	0.38	0.17	0.10	<0.002	<20	6	0.5	99.77	1028	2	3.7	4.2
G1	Prep Blank	<0.01	67.40	15.71	3.79	1.14	3.40	3.53	3.66	0.39	0.17	0.10	0.003	<20	6	0.5	99.77	1040	2	3.8	4.3



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QUALITY CONTROL REPORT

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		4A-4B																			
		Ga	Hf	Nb	Rb	Sn	Sr	Ta	Th	U	V	W	Zr	Y	La	Ce	Pr	Nd	Sm	Eu	Gd
		ppm																			
BLK	Blank	<0.5	<0.1	<0.1	<0.1	<1	<0.5	<0.1	<0.2	<0.1	<8	<0.5	<0.1	<0.1	<0.1	<0.1	<0.02	<0.3	<0.05	<0.02	<0.05
Prep Wash																					
G1	Prep Blank	17.5	3.4	19.5	121.3	1	722.6	1.4	7.7	3.2	47	<0.5	122.4	14.9	26.0	50.9	5.80	21.3	3.55	1.02	2.89
G1	Prep Blank	19.0	3.9	21.7	122.2	1	727.4	1.5	8.9	3.3	48	<0.5	128.2	16.0	27.2	53.1	6.03	22.8	3.86	1.08	3.14



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		4A-4B Tb ppm 0.01	4A-4B Dy ppm 0.05	4A-4B Ho ppm 0.02	4A-4B Er ppm 0.03	4A-4B Tm ppm 0.01	4A-4B Yb ppm 0.05	4A-4B Lu ppm 0.01	2A Leco TOT/C % 0.02	2A Leco TOT/S % 0.02	1DX Mo ppm 0.1	1DX Cu ppm 0.1	1DX Pb ppm 0.1	1DX Zn ppm 1	1DX Ni ppm 0.1	1DX As ppm 0.5	1DX Cd ppm 0.1	1DX Sb ppm 0.1	1DX Bi ppm 0.1	1DX Ag ppm 0.1	1DX Au ppb 0.5
BLK	Blank	<0.01	<0.05	<0.02	<0.03	<0.01	<0.05	<0.01													
Prep Wash																					
G1	Prep Blank	0.45	2.41	0.50	1.41	0.25	1.59	0.26	<0.02	<0.02	0.1	1.5	3.0	49	3.3	<0.5	<0.1	<0.1	0.1	<0.1	<0.5
G1	Prep Blank	0.47	2.57	0.54	1.60	0.26	1.76	0.29	0.03	<0.02	0.2	2.0	3.2	61	3.4	<0.5	<0.1	0.2	<0.1	<0.1	<0.5



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QUALITY CONTROL REPORT

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		1DX Hg ppm 0.01	1DX TI ppm 0.1	1DX Se ppm 0.5
BLK	Blank			
Prep Wash				
G1	Prep Blank	0.01	0.4	<0.5
G1	Prep Blank	<0.01	0.4	<0.5