



ALS Canada Ltd.
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www.alsglobal.com/geochemistry

To: RUANCO ENTERPRISES LTD.
6410 HOLLY PARK DRIVE
DELTA BC V4K 4W6

Page: 1
Total # Pages: 2 (A - E)
Plus Appendix Pages
Finalized Date: 6-OCT-2019
Account: RUAENT

CERTIFICATE VA19214046

This report is for 14 Soil samples submitted to our lab in Vancouver, BC, Canada on 27-AUG-2019.

The following have access to data associated with this certificate:

GORDON RICHARDS

SAMPLE PREPARATION

ALS CODE	DESCRIPTION
WEI-21	Received Sample Weight
LOG-22	Sample login - Rcd w/o BarCode
DRY-23	Air Drying of Samples

ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	INSTRUMENT
ME-MS23	IONIC Leach - Complete PKG.	ICP-MS
pH-MS23	MS23 Leach pH	

This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

***** See Appendix Page for comments regarding this certificate *****

Signature:

Saa Traxler, General Manager, North Vancouver



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CERTIFICATE OF ANALYSIS VA19214046

Sample Description	Method Analyte Units LOD	WEI-21	ME-MS23	ME-MS23	ME-MS23	ME-MS23	ME-MS23	ME-MS23	ME-MS23	ME-MS23	ME-MS23	ME-MS23	ME-MS23	ME-MS23	ME-MS23	
		Recvd Wt. kg	Ag ppb	As ppb	Au ppb	Ba ppb	Be ppb	Bi ppb	Br ppm	Ca ppm	Cd ppb	Ce ppb	Co ppb	Cr ppb	Cs ppb	Cu ppb
		0.02	0.1	0.5	0.02	10	0.2	0.3	0.05	0.2	0.2	0.1	0.3	1	0.1	1
N1		0.54	6.5	78.2	0.05	5270	8.5	1.6	0.15	26.8	4.6	206	138.5	72	2.8	226
N2		0.52	25.9	2.1	0.42	13200	<0.2	<0.3	0.08	390	14.5	38.6	11.5	3	0.6	2340
N3		0.56	25.4	3.2	0.21	8540	0.2	<0.3	0.05	448	30.7	53.6	18.7	6	0.4	1585
N4		0.48	45.0	4.1	0.38	11700	0.2	<0.3	0.11	404	56.8	86.2	136.0	7	0.3	5420
N5		0.64	14.8	2.7	0.42	12150	1.3	<0.3	0.08	366	16.1	97.1	67.9	13	0.3	2500
N6		0.56	11.5	1.1	0.10	5890	3.2	0.3	0.08	405	55.2	53.9	67.5	5	0.3	893
N7		0.60	51.6	<0.5	0.85	12850	<0.2	<0.3	0.12	712	7.3	18.3	26.3	2	0.2	2900
N8		0.62	9.3	5.1	0.31	14400	0.3	<0.3	0.12	361	4.6	73.3	99.2	10	0.4	1140
N9		0.52	36.3	3.5	0.67	18750	0.6	<0.3	0.06	432	12.2	85.8	111.5	6	0.1	3290
N10		0.70	52.0	0.7	0.55	7850	<0.2	<0.3	0.15	601	9.4	48.8	167.5	4	0.2	4120
N11		0.76	47.2	2.2	0.68	23300	0.2	<0.3	0.11	516	10.8	59.9	271	4	0.1	4080
N12		0.40	11.3	9.3	0.03	4750	5.6	0.3	0.06	153.5	146.5	70.4	99.7	53	1.3	121
N13		0.40	22.3	25.5	0.11	7900	4.7	0.9	0.19	126.5	34.4	358	140.5	110	2.9	541
N14		0.42	32.8	31.4	0.11	9570	14.0	0.4	0.15	122.0	61.8	142.0	64.3	81	2.6	246



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Sample Description	Method Analyte Units LOD	ME-MS23	ME-MS23	ME-MS23	ME-MS23	ME-MS23	ME-MS23	ME-MS23	ME-MS23	ME-MS23	ME-MS23	ME-MS23	ME-MS23	ME-MS23	ME-MS23	
		Dy ppb	Er ppb	Eu ppb	Fe ppm	Ga ppb	Gd ppb	Ge ppb	Hf ppb	Hg ppb	Ho ppb	I ppm	In ppb	La ppb	Li ppb	Lu ppb
		0.1	0.1	0.1	0.1	0.5	0.1	0.1	0.05	0.1	0.1	0.01	0.1	0.1	0.2	0.1
N1		20.4	9.2	5.1	118.5	9.0	25.2	0.7	3.26	0.2	3.3	0.06	<0.1	95.1	8.4	0.9
N2		17.0	6.6	5.3	15.7	0.8	27.0	0.4	0.68	1.2	2.8	0.02	<0.1	26.9	8.2	0.7
N3		19.2	8.0	4.5	28.1	0.8	23.6	0.4	0.72	<0.1	3.2	0.05	<0.1	25.8	2.2	0.6
N4		39.9	17.9	8.7	32.6	1.4	50.4	0.4	1.12	2.4	6.8	0.03	<0.1	41.3	5.7	1.6
N5		39.8	19.9	6.9	47.7	1.5	36.5	0.3	0.89	0.3	7.3	0.03	<0.1	47.3	0.5	1.9
N6		50.1	28.7	6.2	91.7	2.1	36.4	0.4	0.35	<0.1	9.3	0.02	0.1	22.5	0.8	2.7
N7		16.9	6.5	4.0	9.6	<0.5	23.9	0.1	0.47	0.4	2.7	0.04	<0.1	12.4	4.3	0.7
N8		36.5	15.3	7.8	18.8	1.5	45.2	0.3	1.11	0.5	6.1	0.03	<0.1	29.5	0.6	1.3
N9		55.3	28.2	10.2	26.4	1.6	59.8	0.5	0.89	0.3	10.4	0.05	<0.1	42.6	0.5	2.5
N10		20.0	8.4	6.0	21.8	0.9	31.0	0.2	0.90	0.5	3.5	0.03	<0.1	22.3	3.0	0.7
N11		39.7	17.0	9.0	16.0	1.3	52.0	0.3	1.13	1.4	6.6	0.06	<0.1	32.5	11.6	1.8
N12		13.6	7.4	2.6	107.5	13.8	13.0	1.0	1.13	0.2	2.6	0.03	0.3	20.1	16.8	0.7
N13		64.2	27.3	16.8	112.5	13.8	73.7	1.9	3.10	0.8	10.8	0.06	0.3	165.5	15.9	2.3
N14		24.5	10.4	6.1	109.0	17.4	27.1	1.1	3.04	1.0	4.1	0.06	0.3	64.6	24.5	1.1

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Sample Description	Method Analyte Units LOD	ME-MS23	ME-MS23	ME-MS23	ME-MS23	ME-MS23	ME-MS23	ME-MS23	ME-MS23	ME-MS23	ME-MS23	ME-MS23	ME-MS23	ME-MS23	ME-MS23	
		Mg ppm	Mn ppm	Mo ppb	Nb ppb	Nd ppb	Ni ppb	Pb ppb	Pd ppb	Pr ppb	Pt ppb	Rb ppb	Re ppb	Sb ppb	Sc ppb	Se ppb
		0.01	0.01	0.5	0.1	0.1	1	0.1	0.05	0.1	0.1	0.1	0.1	0.5	1	2
N1		7.29	2.47	6.1	4.1	112.5	142	426	<0.05	27.9	<0.1	178.5	0.01	2.2	29	4
N2		53.6	0.28	4.3	<0.1	61.9	850	11.3	0.13	10.4	<0.1	45.0	0.01	0.9	11	10
N3		46.4	0.95	4.4	<0.1	44.0	769	33.3	0.22	8.9	<0.1	22.7	0.03	0.6	5	9
N4		70.2	5.91	8.1	<0.1	78.6	1840	119.5	0.29	14.7	0.1	24.1	0.02	2.6	10	12
N5		62.4	0.96	2.2	0.1	69.0	888	109.0	0.12	14.9	<0.1	16.8	0.01	1.1	28	6
N6		76.6	4.84	3.7	0.2	56.0	1600	298	<0.05	10.5	<0.1	30.9	0.02	1.3	57	6
N7		118.5	0.98	5.3	<0.1	33.1	1170	29.8	0.18	5.0	<0.1	11.4	0.04	0.6	7	5
N8		69.9	4.73	2.6	0.1	65.2	435	127.5	0.14	11.5	<0.1	19.7	<0.01	0.6	10	10
N9		98.8	6.18	5.9	<0.1	87.4	907	125.0	0.34	16.1	<0.1	7.6	0.03	1.6	20	9
N10		156.0	5.31	6.3	0.1	49.6	1040	44.9	0.10	8.5	<0.1	16.3	0.03	1.3	15	15
N11		133.5	9.73	9.2	<0.1	73.8	1380	119.5	0.13	12.4	<0.1	5.0	0.01	2.6	17	20
N12		22.0	29.7	2.6	3.1	36.1	144	185.0	<0.05	7.4	<0.1	47.0	<0.01	1.1	55	<2
N13		25.7	18.90	6.1	3.8	224	310	506	0.06	54.6	<0.1	104.0	0.01	2.7	111	<2
N14		8.66	12.25	3.0	2.7	83.6	221	256	<0.05	19.7	<0.1	330	<0.01	1.5	42	6

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Sample Description	Method Analyte Units LOD	ME-MS23	ME-MS23	ME-MS23	ME-MS23	ME-MS23	ME-MS23	ME-MS23	ME-MS23	ME-MS23	ME-MS23	ME-MS23	ME-MS23	ME-MS23	ME-MS23	
		Sm ppb	Sn ppb	Sr ppb	Ta ppb	Tb ppb	Te ppb	Th ppb	Ti ppb	Tl ppb	Tm ppb	U ppb	V ppb	W ppb	Y ppb	Yb ppb
		0.1	0.2	1	0.05	0.1	0.5	0.02	5	0.05	0.1	0.05	0.2	0.1	0.1	
N1		24.4	0.7	210	0.29	3.3	<0.5	79.6	748	0.21	1.1	9.43	79.9	1.2	90.9	6.9
N2		20.2	<0.2	1680	<0.05	3.3	<0.5	13.05	9	0.15	0.7	19.40	2.1	<0.1	101.0	4.0
N3		14.5	<0.2	2050	<0.05	3.4	<0.5	4.76	7	0.09	0.8	64.4	1.1	<0.1	97.4	4.3
N4		30.9	0.2	1980	<0.05	6.6	<0.5	18.35	10	0.15	1.9	38.5	2.1	<0.1	219	10.7
N5		21.8	<0.2	1870	<0.05	5.8	<0.5	12.90	24	0.06	2.3	49.7	3.3	0.1	208	12.7
N6		19.2	<0.2	2030	<0.05	7.0	<0.5	8.99	51	<0.05	3.2	56.9	5.0	<0.1	304	18.5
N7		14.3	<0.2	3030	<0.05	3.0	<0.5	6.85	<5	<0.05	0.7	52.8	0.4	<0.1	91.8	4.4
N8		25.7	<0.2	1595	<0.05	6.3	<0.5	17.30	32	0.05	1.6	83.4	4.6	<0.1	178.0	8.7
N9		35.2	0.2	2630	<0.05	8.8	<0.5	11.50	7	0.07	3.1	147.0	1.7	<0.1	334	17.4
N10		18.4	0.4	2660	<0.05	3.7	<0.5	6.95	<5	0.07	0.9	50.6	2.2	0.1	115.0	4.7
N11		31.7	<0.2	3120	<0.05	6.9	<0.5	22.0	5	0.11	1.7	29.8	2.5	0.1	218	10.3
N12		10.3	0.7	552	0.21	2.2	<0.5	25.9	1030	0.24	0.8	22.0	82.5	0.2	72.9	5.3
N13		59.4	1.0	442	0.25	10.6	<0.5	75.7	970	0.62	3.1	26.1	94.8	0.3	292	18.8
N14		21.8	1.1	422	0.25	3.9	<0.5	43.2	987	0.42	1.3	16.75	111.0	0.4	119.0	6.6



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Sample Description	Method Analyte Units LOD	ME-MS23	ME-MS23	pH-MS23
		Zn ppb 10	Zr ppb 0.1	Final pH Unity 0.1
N1		130	101.5	8.4
N2		40	27.1	8.6
N3		50	21.6	8.0
N4		160	52.0	8.2
N5		70	33.5	7.6
N6		170	11.8	6.7
N7		30	19.9	8.2
N8		50	41.3	8.1
N9		90	36.0	7.8
N10		20	25.6	8.1
N11		60	44.1	8.2
N12		550	50.9	6.8
N13		520	108.0	7.5
N14		1980	90.4	7.4



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CERTIFICATE COMMENTS

Applies to Method:	<p style="text-align: center;">LABORATORY ADDRESSES</p> <p>Processed at ALS Vancouver located at 2103 Dollarton Hwy, North Vancouver, BC, Canada.</p> <table><tr><td>DRY-23</td><td>LOG-22</td><td>ME-MS23</td><td>pH-MS23</td></tr><tr><td>WEI-21</td><td></td><td></td><td></td></tr></table>	DRY-23	LOG-22	ME-MS23	pH-MS23	WEI-21			
DRY-23	LOG-22	ME-MS23	pH-MS23						
WEI-21									