



ALS Scandinavia AB

Hammarvagen 22

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An INAB accredited testing laboratory Reg. No. 173T. Accredited methods are listed in the Scope of Accreditation available on request.

To: GEOLOGICAL SURVEY OF NORWAY (NGU)
POSTBOKS 6315 TORGARDEN
NO-7491 TRONDHEIM
NORWAY

Page: 1
Total # Pages: 7 (A - E)
Plus Appendix Pages
Finalized Date: 27-DEC-2018
Account: ONUSEG

QC CERTIFICATE PI18302126

Project: Not provided

P.O. No.: 379500

This report is for 204 1/4 Core samples submitted to our lab in Pitea, Sweden on 28-NOV-2018.

The following have access to data associated with this certificate:

NOLWENN COINT

SVEN DAHLGREN

HENRIK SCHIELLERUP

SAMPLE PREPARATION

ALS CODE	DESCRIPTION
WEI-21	Received Sample Weight
LOG-22	Sample login - Rcd w/o BarCode
CRU-31	Fine crushing - 70% <2mm
SPL-22Y	Split Sample - Boyd Rotary Splitter
PUL-31	Pulverize split to 85% <75 um
LOG-24	Pulp Login - Rcd w/o Barcode
CRU-QC	Crushing QC Test
PUL-QC	Pulverizing QC Test

ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION
ME-MS61	48 element four acid ICP-MS
ME-MS81h	High grade REE by fusion/ICPMS ICP-MS

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 *****

Comments: Samples were received on 27-Nov-2018 and the SSF/Request on 28-Nov-2018.

Signature:

Andrey Tairov, Technical Manager, Ireland



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QC CERTIFICATE OF ANALYSIS PI18302126

Sample Description	Method Analyte Units LOD	ME-MS81h Ce ppm 3	ME-MS81h Dy ppm 0.3	ME-MS81h Er ppm 0.2	ME-MS81h Eu ppm 0.2	ME-MS81h Gd ppm 0.3	ME-MS81h Hf ppm 1	ME-MS81h Ho ppm 0.05	ME-MS81h La ppm 3	ME-MS81h Lu ppm 0.05	ME-MS81h Nb ppm 1	ME-MS81h Nd ppm 0.5	ME-MS81h Pr ppm 0.2	ME-MS81h Rb ppm 1	ME-MS81h Sm ppm 0.2	ME-MS81h Sn ppm 5
STANDARDS																
AMISO304		8060	138.0	34.3	149.0	351	26	18.20	3410	2.17	>5000	3820	994	10	577	23
AMISO304		8260	134.0	33.6	150.5	359	26	18.50	3360	2.02	>5000	3910	1015	11	570	24
AMISO304		8040	133.5	36.0	150.0	358	28	18.25	3410	2.01	>5000	3880	1015	11	597	24
AMISO304		8390	128.5	34.3	146.0	347	26	17.45	3370	2.14	>5000	3760	996	11	585	23
Target Range - Lower Bound		7520	122.5	31.4	139.5	319	25	16.70	3350	1.81	4830	3600	956	9	535	15
Upper Bound		8660	141.5	36.6	160.5	367	31	19.30	3870	2.19	>5000	4150	1100	13	615	36
EMOG-17																
EMOG-17																
EMOG-17																
Target Range - Lower Bound																
Upper Bound																
GRE-04		6320	94.2	26.9	94.3	217	22	13.65	2870	1.66	3720	2780	768	1	393	80
GRE-04		5820	90.2	26.4	93.4	217	22	13.05	2580	1.67	3680	2710	737	1	381	75
GRE-04		6160	92.4	26.6	94.8	217	22	13.45	2710	1.70	3680	2800	738	1	399	77
GRE-04		6510	89.6	26.7	96.8	222	24	12.90	2780	1.85	3790	2680	742	1	389	75
Target Range - Lower Bound		5700	89.5	26.4	93.3	216	18	12.50	2540	1.59	3300	2510	670	<1	363	59
Upper Bound		6560	103.5	30.8	108.0	249	23	14.50	2930	1.93	3800	2890	772	2	418	81
GRE-3		4350	88.8	27.2	74.7	178.5	19	13.25	2260	1.65	3620	1765	496	<1	270	43
GRE-3		4310	88.8	28.2	71.6	182.5	20	13.60	2250	1.68	3630	1820	497	1	277	43
GRE-3		4420	87.3	27.3	74.5	178.5	19	12.95	2250	1.83	3690	1820	515	1	282	47
Target Range - Lower Bound		4050	85.6	26.6	69.8	177.5	17	12.55	2070	1.63	3280	1705	462	<1	260	34
Upper Bound		4660	99.1	31.1	80.7	205	22	14.55	2380	1.99	3770	1965	532	3	299	56
MRGeo08																
MRGeo08																
Target Range - Lower Bound																
Upper Bound																
OGGeo08																
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QC CERTIFICATE OF ANALYSIS PI18302126

	Method Analyte Units LOD	ME-MS81h Ta ppm 0.5	ME-MS81h Tb ppm 0.05	ME-MS81h Th ppm 0.3	ME-MS81h Tm ppm 0.05	ME-MS81h U ppm 0.3	ME-MS81h W ppm 5	ME-MS81h Y ppm 3	ME-MS81h Yb ppm 0.2	ME-MS81h Zr ppm 10	ME-MS61 Ag ppm 0.01	ME-MS61 Al % 0.01	ME-MS61 As ppm 0.2	ME-MS61 Ba ppm 10	ME-MS61 Be ppm 0.05	ME-MS61 Bi ppm 0.01
Sample Description																
		STANDARDS														
AMISO304		12.6	37.1	439	3.52	23.8	11	389	17.0	1120						
AMISO304		12.1	35.7	449	3.58	23.9	5	400	15.9	1050						
AMISO304		12.2	35.7	437	3.65	23.2	7	402	17.1	1130						
AMISO304		12.2	35.4	435	3.50	22.3	12	396	16.7	1040						
Target Range - Lower Bound		11.6	32.5	406	3.21	22.0	<5	378	15.6	1030						
Upper Bound		14.4	37.5	468	3.80	26.0	15	442	18.4	1210						
EMOG-17											66.4	4.68	571	700	1.86	5.78
EMOG-17											66.7	4.76	575	700	1.77	5.76
EMOG-17											66.7	4.71	571	450	1.77	5.67
Target Range - Lower Bound											60.9	4.18	515	310	1.60	5.31
Upper Bound											74.5	5.13	629	440	2.06	6.51
GRE-04		130.0	24.2	136.0	2.84	128.5	9	302	14.6	980						
GRE-04		129.0	22.8	131.0	2.93	126.5	<5	301	13.9	1060						
GRE-04		128.5	23.6	135.0	2.76	126.5	<5	314	14.1	950						
GRE-04		128.5	23.3	138.0	3.09	129.5	9	313	14.3	1090						
Target Range - Lower Bound		113.0	22.7	123.5	2.75	116.0	<5	294	13.8	870						
Upper Bound		131.0	26.2	142.5	3.27	134.0	10	345	16.3	1020						
GRE-3		160.0	21.3	109.5	2.82	108.0	<5	298	14.6	950						
GRE-3		162.0	20.5	110.5	2.98	112.0	<5	313	14.2	950						
GRE-3		162.5	20.5	114.5	3.06	110.0	<5	301	15.2	960						
Target Range - Lower Bound		149.5	20.1	109.0	2.81	103.5	<5	295	14.2	890						
Upper Bound		173.5	23.2	126.0	3.35	120.0	13	346	16.8	1050						
MRGeo08											4.56	7.34	32.4	1120	3.43	0.64
MRGeo08											4.23	7.21	30.7	1080	3.22	0.65
Target Range - Lower Bound											4.00	6.64	29.5	920	2.98	0.60
Upper Bound											4.92	8.14	36.5	1270	3.76	0.76
OGGeo08											19.90	6.82	122.5	940	2.86	10.15
OGGeo08											19.55	6.78	118.5	880	2.88	10.80
OGGeo08											20.3	6.77	119.0	740	3.03	10.50
OGGeo08											19.75	6.71	120.0	910	2.90	10.35
Target Range - Lower Bound											18.15	6.07	106.0	700	2.59	9.44
Upper Bound											22.2	7.44	130.0	980	3.27	11.55

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Project: Not provided

QC CERTIFICATE OF ANALYSIS PI18302126

Sample Description	Method Analyte Units LOD	ME-MS61 Ca %	ME-MS61 Cd ppm	ME-MS61 Ce ppm	ME-MS61 Co ppm	ME-MS61 Cr ppm	ME-MS61 Cs ppm	ME-MS61 Cu ppm	ME-MS61 Fe %	ME-MS61 Ga ppm	ME-MS61 Ge ppm	ME-MS61 Hf ppm	ME-MS61 In ppm	ME-MS61 K %	ME-MS61 La ppm	ME-MS61 Li ppm
		0.01	0.02	0.01	0.1	1	0.05	0.2	0.01	0.05	0.05	0.1	0.005	0.01	0.5	0.2
STANDARDS																
AMIS0304																
AMIS0304																
AMIS0304																
AMIS0304																
Target Range - Lower Bound																
Upper Bound																
EMOG-17		1.96	19.70	48.8	767	55	7.28	8340	4.94	12.50	0.23	1.9	0.912	1.69	24.0	25.0
EMOG-17		2.01	19.60	49.5	762	55	7.18	8380	4.96	11.20	0.12	1.8	0.918	1.68	23.4	25.9
EMOG-17		1.87	20.1	51.9	766	55	7.03	8330	4.98	12.05	0.60	1.9	0.868	1.64	26.2	25.9
Target Range - Lower Bound		1.72	18.15	42.9	686	49	6.56	7750	4.42	10.75	0.07	1.6	0.823	1.49	20.7	23.9
Upper Bound		2.12	22.2	52.5	838	62	8.12	8910	5.42	13.25	0.29	2.2	1.015	1.85	26.4	29.7
GRE-04																
GRE-04																
GRE-04																
GRE-04																
Target Range - Lower Bound																
Upper Bound																
GRE-3																
GRE-3																
GRE-3																
Target Range - Lower Bound																
Upper Bound																
MRGeo08		2.78	2.35	74.0	20.6	93	12.35	617	3.95	18.25	0.12	3.1	0.163	3.08	33.2	35.3
MRGeo08		2.53	2.17	62.8	19.0	91	11.30	628	3.96	18.40	0.23	3.2	0.171	3.03	29.2	30.9
Target Range - Lower Bound		2.35	2.00	66.2	17.7	81	11.20	587	3.55	17.50	<0.05	2.8	0.155	2.79	31.1	29.5
Upper Bound		2.90	2.48	81.0	21.9	102	13.80	675	4.37	21.5	0.27	3.6	0.201	3.43	39.1	36.5
OGGeo08		2.23	19.90	70.7	97.4	82	11.05	8410	5.37	18.30	0.51	2.8	1.475	2.89	34.2	32.1
OGGeo08		2.23	19.50	65.5	97.0	83	10.80	8370	5.35	17.75	0.47	2.8	1.435	2.87	31.6	32.6
OGGeo08		2.23	17.65	68.0	93.8	80	10.90	8210	5.34	17.60	0.36	2.9	1.490	2.89	33.3	33.3
OGGeo08		2.20	18.70	62.7	96.6	82	10.55	8360	5.28	18.15	0.15	2.8	1.360	2.88	27.9	32.7
Target Range - Lower Bound		1.98	16.70	64.8	87.2	78	9.85	7800	4.81	16.05	0.25	2.5	1.320	2.59	31.0	29.7
Upper Bound		2.44	20.5	79.2	107.0	98	12.15	8980	5.91	19.75	0.49	3.3	1.620	3.19	39.0	36.7

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QC CERTIFICATE OF ANALYSIS PI18302126

Sample Description	Method Analyte Units LOD	ME-MS61 Mg %	ME-MS61 Mn ppm	ME-MS61 Mo ppm	ME-MS61 Na %	ME-MS61 Nb ppm	ME-MS61 Ni ppm	ME-MS61 P ppm	ME-MS61 Pb ppm	ME-MS61 Rb ppm	ME-MS61 Re ppm	ME-MS61 S %	ME-MS61 Sb ppm	ME-MS61 Sc ppm	ME-MS61 Se ppm	ME-MS61 Sn ppm
		0.01	5	0.05	0.01	0.1	0.2	10	0.5	0.1	0.002	0.01	0.05	0.1	1	0.2
STANDARDS																
AMIS0304																
AMIS0304																
AMIS0304																
AMIS0304																
Target Range - Lower Bound																
Upper Bound																
EMOG-17		0.98	753	1110	1.11	15.4	7580	790	7280	117.0	0.327	3.24	755	7.9	7	2.7
EMOG-17		1.02	740	1115	1.12	13.7	7740	830	7350	115.0	0.323	3.24	786	7.7	6	2.6
EMOG-17		0.93	747	1065	1.11	15.0	7440	840	7170	118.0	0.307	3.20	753	8.4	7	2.6
Target Range - Lower Bound		0.86	670	997	0.99	12.7	6820	700	6570	98.9	0.286	2.91	643	7.2	4	2.2
Upper Bound		1.08	830	1220	1.23	15.7	8330	880	8030	121.0	0.354	3.57	869	9.0	9	3.2
GRE-04																
GRE-04																
GRE-04																
GRE-04																
Target Range - Lower Bound																
Upper Bound																
GRE-3																
GRE-3																
GRE-3																
Target Range - Lower Bound																
Upper Bound																
MRGeo08		1.42	583	14.50	1.94	21.9	706	1050	1060	197.0	0.010	0.29	4.62	11.8	3	4.1
MRGeo08		1.25	558	14.55	2.01	20.6	675	1020	1050	174.5	0.010	0.30	4.43	11.3	1	3.9
Target Range - Lower Bound		1.17	497	13.65	1.76	19.0	622	930	971	173.5	0.005	0.27	3.89	11.1	<1	3.5
Upper Bound		1.45	619	16.75	2.18	23.4	760	1160	1185	212	0.013	0.35	5.39	13.7	4	4.7
OGGeo08		1.26	500	915	1.84	19.4	8840	850	7330	185.0	1.400	2.81	27.0	10.0	11	14.6
OGGeo08		1.26	494	886	1.81	17.6	8660	850	7230	198.5	1.330	2.80	25.0	9.6	12	13.3
OGGeo08		1.30	504	895	1.82	20.4	8800	850	7250	183.5	1.400	2.80	26.5	9.7	11	14.2
OGGeo08		1.25	512	923	1.80	18.2	8860	850	7230	173.0	1.415	2.81	25.1	10.0	11	13.4
Target Range - Lower Bound		1.11	447	841	1.62	15.4	8000	760	6520	164.5	1.285	2.51	22.8	9.2	8	12.5
Upper Bound		1.38	557	1030	2.00	19.0	9770	950	7970	201	1.575	3.09	31.0	11.4	14	15.7

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Sample Description	Method Analyte Units LOD	ME-MS61 Sr ppm 0.2	ME-MS61 Ta ppm 0.05	ME-MS61 Te ppm 0.05	ME-MS61 Th ppm 0.01	ME-MS61 Ti % 0.005	ME-MS61 Tl ppm 0.02	ME-MS61 U ppm 0.1	ME-MS61 V ppm 1	ME-MS61 W ppm 0.1	ME-MS61 Y ppm 0.1	ME-MS61 Zn ppm 2	ME-MS61 Zr ppm 0.5
STANDARDS													
AMISO304													
AMISO304													
AMISO304													
AMISO304													
Target Range - Lower Bound													
Upper Bound													
EMOG-17		207	0.94	1.28	10.70	0.321	2.12	3.4	73	4.0	15.2	7580	58.2
EMOG-17		226	0.98	1.40	10.70	0.321	2.06	3.5	75	4.1	15.9	7580	59.2
EMOG-17		199.5	0.93	1.27	12.50	0.318	2.10	3.6	73	3.8	16.7	7440	67.2
Target Range - Lower Bound		184.5	0.78	1.10	10.35	0.294	1.89	2.8	67	3.3	14.3	6800	55.6
Upper Bound		226	1.08	1.46	12.65	0.370	2.61	3.7	84	4.7	17.7	8320	76.4
GRE-04													
GRE-04													
GRE-04													
GRE-04													
Target Range - Lower Bound													
Upper Bound													
GRE-3													
GRE-3													
GRE-3													
Target Range - Lower Bound													
Upper Bound													
MRGeo08		328	1.52	<0.05	17.30	0.497	1.04	5.0	109	4.5	26.1	803	113.0
MRGeo08		289	1.52	<0.05	17.40	0.489	1.06	4.6	106	4.5	24.2	802	108.5
Target Range - Lower Bound		277	1.39	<0.05	17.90	0.443	0.89	4.9	97	4.1	23.8	722	92.2
Upper Bound		339	1.81	0.14	21.9	0.553	1.25	6.2	121	5.8	29.3	886	126.0
OGGeo08		250	1.34	0.19	17.40	0.396	1.74	5.1	84	4.7	22.9	7260	96.1
OGGeo08		249	1.21	0.16	17.25	0.399	1.71	4.9	82	4.3	22.5	7000	89.8
OGGeo08		248	1.35	0.17	17.60	0.396	1.73	5.0	83	4.5	22.9	7200	93.8
OGGeo08		248	1.25	0.15	17.20	0.397	1.67	4.8	84	4.3	21.7	7290	94.9
Target Range - Lower Bound		224	1.19	0.09	16.90	0.353	1.43	4.5	77	3.9	21.1	6500	78.6
Upper Bound		274	1.57	0.31	20.7	0.443	1.98	5.8	97	5.4	26.0	7950	107.5

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STANDARDS																
OREAS 920																
OREAS 920																
OREAS 920																
OREAS 920																
OREAS 920																
Target Range - Lower Bound																
Upper Bound																
REE-1		4100	886	721	25.2	449	493	222	1690	95.0	4180	1460	458	1080	393	491
REE-1		4000	879	746	24.3	450	494	221	1710	94.0	4040	1490	458	1050	390	510
REE-1		4070	871	723	24.2	452	490	214	1645	96.2	4050	1480	465	1040	391	535
Target Range - Lower Bound		3680	787	652	21.7	402	444	193.5	1540	85.9	3770	1355	404	973	354	458
Upper Bound		4240	907	750	25.3	464	514	223	1780	98.9	4330	1560	466	1120	408	538
BLANKS																
BLANK																
BLANK																
BLANK																
BLANK																
BLANK																
BLANK																
BLANK																
BLANK																
BLANK																
Target Range - Lower Bound																
Upper Bound																
BLANK		<3	<0.3	<0.2	<0.2	<0.3	<1	<0.05	<3	<0.05	<1	<0.5	<0.2	<1	<0.2	<5
BLANK		<3	<0.3	<0.2	<0.2	<0.3	<1	<0.05	<3	<0.05	<1	<0.5	<0.2	<1	<0.2	<5
BLANK		<3	<0.3	<0.2	<0.2	<0.3	<1	<0.05	<3	<0.05	<1	<0.5	<0.2	<1	<0.2	<5
BLANK		<3	<0.3	<0.2	<0.2	<0.3	<1	<0.05	<3	<0.05	<1	<0.5	<0.2	<1	<0.2	<5
BLANK		<3	<0.3	<0.2	<0.2	<0.3	<1	<0.05	<3	<0.05	<1	<0.5	<0.2	<1	<0.2	<5
BLANK		<3	<0.3	<0.2	<0.2	<0.3	<1	<0.05	<3	<0.05	<1	<0.5	<0.2	<1	<0.2	<5
BLANK		<3	<0.3	<0.2	<0.2	<0.3	<1	<0.05	<3	<0.05	<1	<0.5	<0.2	<1	<0.2	<5
Target Range - Lower Bound		<3	<0.3	<0.2	<0.2	<0.3	<1	<0.05	<3	<0.05	<1	<0.5	<0.2	<1	<0.2	<5
Upper Bound		6	0.6	0.4	0.4	0.6	2	0.10	6	0.10	2	1.0	0.4	2	0.4	10

Comments: Samples were received on 27-Nov-2018 and the SSF/Request on 28-Nov-2018.

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



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To: GEOLOGICAL SURVEY OF NORWAY (NGU)

POSTBOKS 6315 TORGARDEN

NO-7491 TRONDHEIM

NORWAY

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Plus Appendix Pages

Finalized Date: 27-DEC-2018

Account: ONUSEG

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Project: Not provided

QC CERTIFICATE OF ANALYSIS PI18302126

Sample Description	Method Analyte Units LOD	ME-MS81h Ta ppm 0.5	ME-MS81h Tb ppm 0.05	ME-MS81h Th ppm 0.3	ME-MS81h Tm ppm 0.05	ME-MS81h U ppm 0.3	ME-MS81h W ppm 5	ME-MS81h Y ppm 3	ME-MS81h Yb ppm 0.2	ME-MS81h Zr ppm 10	ME-MS61 Ag ppm 0.01	ME-MS61 Al % 0.01	ME-MS61 As ppm 0.2	ME-MS61 Ba ppm 10	ME-MS61 Be ppm 0.05	ME-MS61 Bi ppm 0.01
STANDARDS																
OREAS 920											0.09	7.62	4.7	530	2.62	0.93
OREAS 920											0.08	7.57	5.5	540	2.56	0.60
OREAS 920											0.09	7.51	5.2	560	2.73	0.68
OREAS 920											0.12	7.35	5.0	540	2.58	0.76
OREAS 920											0.10	7.61	5.1	570	2.60	0.75
OREAS 920											0.08	7.72	5.0	530	2.55	0.75
Target Range - Lower Bound											0.08	6.91	4.4	450	2.54	0.61
Upper Bound											0.13	8.47	5.8	640	3.22	0.77
REE-1		233	111.0	766	109.0	138.5	7	5620	707	20400						
REE-1		227	107.5	787	113.0	141.5	9	5680	718	19000						
REE-1		233	110.5	765	109.0	139.0	8	5560	706	19900						
Target Range - Lower Bound		214	98.7	668	98.5	127.0	<5	5090	630	17750						
Upper Bound		248	113.5	770	113.5	147.0	20	5870	726	20400						
BLANKS																
BLANK											0.01	<0.01	0.4	<10	<0.05	<0.01
BLANK											<0.01	<0.01	0.2	<10	<0.05	0.01
BLANK											0.01	<0.01	0.3	<10	<0.05	0.01
BLANK											<0.01	<0.01	<0.2	<10	<0.05	<0.01
BLANK											<0.01	<0.01	<0.2	<10	<0.05	<0.01
BLANK											<0.01	<0.01	<0.2	<10	<0.05	<0.01
BLANK											<0.01	<0.01	<0.2	<10	<0.05	0.01
BLANK											0.02	<0.01	<0.2	<10	<0.05	0.01
BLANK											<0.01	<0.01	<0.2	<10	<0.05	0.02
Target Range - Lower Bound											<0.01	<0.01	<0.2	<10	<0.05	<0.01
Upper Bound											0.02	0.02	0.4	20	0.10	0.02
BLANK		1.0	<0.05	<0.3	<0.05	<0.3	6	<3	<0.2	<10						
BLANK		<0.5	<0.05	<0.3	<0.05	<0.3	<5	<3	<0.2	<10						
BLANK		<0.5	<0.05	<0.3	<0.05	<0.3	<5	<3	<0.2	10						
BLANK		<0.5	<0.05	<0.3	<0.05	<0.3	<5	<3	<0.2	<10						
BLANK		<0.5	<0.05	<0.3	<0.05	<0.3	<5	<3	<0.2	10						
BLANK		0.7	<0.05	<0.3	<0.05	<0.3	<5	<3	<0.2	<10						
BLANK		0.9	<0.05	<0.3	<0.05	<0.3	8	<3	<0.2	<10						
Target Range - Lower Bound		<0.5	<0.05	<0.3	<0.05	<0.3	<5	<3	<0.2	<10						
Upper Bound		1.0	0.10	0.6	0.10	0.6	10	6	0.4	20						

Comments: Samples were received on 27-Nov-2018 and the SSF/Request on 28-Nov-2018.

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To: GEOLOGICAL SURVEY OF NORWAY (NGU)

POSTBOKS 6315 TORGARDEN

NO-7491 TRONDHEIM

NORWAY

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Finalized Date: 27-DEC-2018

Account: ONUSEG

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Project: Not provided

QC CERTIFICATE OF ANALYSIS PI18302126

Sample Description	Method Analyte Units LOD	ME-MS61 Ca %	ME-MS61 Cd ppm	ME-MS61 Ce ppm	ME-MS61 Co ppm	ME-MS61 Cr ppm	ME-MS61 Cs ppm	ME-MS61 Cu ppm	ME-MS61 Fe %	ME-MS61 Ga ppm	ME-MS61 Ge ppm	ME-MS61 Hf ppm	ME-MS61 In ppm	ME-MS61 K %	ME-MS61 La ppm	ME-MS61 Li ppm
		0.01	0.02	0.01	0.1	1	0.05	0.2	0.01	0.05	0.05	0.1	0.005	0.01	0.5	0.2
STANDARDS																
OREAS 920		0.49	0.04	93.3	15.5	83	8.38	106.0	4.14	21.0	0.15	4.4	0.080	2.85	44.9	27.5
OREAS 920		0.51	0.04	91.8	15.2	85	8.21	105.5	4.02	19.75	0.13	4.2	0.077	2.80	45.2	29.3
OREAS 920		0.50	0.04	95.8	14.9	81	8.53	112.0	3.94	20.1	0.08	4.5	0.086	2.81	44.3	28.2
OREAS 920		0.47	0.06	95.1	14.7	77	8.27	106.5	3.97	19.35	0.15	4.5	0.078	2.74	48.4	27.9
OREAS 920		0.51	0.08	93.5	15.3	81	8.73	108.5	4.10	20.7	0.08	4.6	0.083	2.86	45.6	30.0
OREAS 920		0.50	0.06	93.2	15.3	84	8.22	110.0	4.05	20.9	0.15	4.5	0.083	2.90	42.1	29.1
Target Range - Lower Bound		0.44	0.04	84.6	13.9	70	7.72	104.0	3.72	18.65	0.06	4.0	0.070	2.59	41.0	26.0
Upper Bound		0.56	0.12	103.5	17.3	88	9.54	120.0	4.56	22.9	0.28	5.2	0.098	3.19	51.2	32.2
REE-1																
REE-1																
REE-1																
Target Range - Lower Bound																
Upper Bound																
BLANKS																
BLANK		<0.01	<0.02	0.01	<0.1	<1	<0.05	0.2	<0.01	<0.05	<0.05	<0.1	<0.005	<0.01	<0.5	<0.2
BLANK		<0.01	<0.02	0.02	<0.1	1	<0.05	0.2	<0.01	<0.05	<0.05	<0.1	<0.005	<0.01	<0.5	<0.2
BLANK		<0.01	<0.02	0.01	<0.1	1	<0.05	<0.2	<0.01	<0.05	<0.05	<0.1	<0.005	<0.01	<0.5	<0.2
BLANK		<0.01	<0.02	0.01	<0.1	1	<0.05	<0.2	<0.01	<0.05	<0.05	<0.1	<0.005	<0.01	<0.5	<0.2
BLANK		<0.01	0.02	<0.01	<0.1	1	<0.05	0.2	<0.01	<0.05	0.07	<0.1	<0.005	<0.01	<0.5	<0.2
BLANK		<0.01	<0.02	0.01	<0.1	1	<0.05	0.2	<0.01	<0.05	0.06	<0.1	<0.005	<0.01	<0.5	<0.2
BLANK		<0.01	<0.02	0.01	<0.1	1	<0.05	<0.2	<0.01	<0.05	<0.05	<0.1	<0.005	<0.01	<0.5	<0.2
BLANK		<0.01	<0.02	<0.01	0.1	1	<0.05	<0.2	<0.01	<0.05	<0.05	<0.1	<0.005	<0.01	<0.5	<0.2
BLANK		<0.01	<0.02	0.02	<0.1	<1	<0.05	<0.2	<0.01	<0.05	0.05	<0.1	<0.005	<0.01	<0.5	0.2
Target Range - Lower Bound		<0.01	<0.02	<0.01	<0.1	<1	<0.05	<0.2	<0.01	<0.05	<0.05	<0.1	<0.005	<0.01	<0.5	<0.2
Upper Bound		0.02	0.04	0.02	0.2	2	0.10	0.4	0.02	0.10	0.10	0.2	0.010	0.02	1.0	0.4
BLANK																
BLANK																
BLANK																
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BLANK																
BLANK																
BLANK																
Target Range - Lower Bound																
Upper Bound																

Comments: Samples were received on 27-Nov-2018 and the SSF/Request on 28-Nov-2018.

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NO-7491 TRONDHEIM

NORWAY

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Finalized Date: 27-DEC-2018

Account: ONUSEG

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Project: Not provided

QC CERTIFICATE OF ANALYSIS PI18302126

Sample Description	Method Analyte Units LOD	ME-MS61 Mg %	ME-MS61 Mn ppm	ME-MS61 Mo ppm	ME-MS61 Na %	ME-MS61 Nb ppm	ME-MS61 Ni ppm	ME-MS61 P ppm	ME-MS61 Pb ppm	ME-MS61 Rb ppm	ME-MS61 Re ppm	ME-MS61 S %	ME-MS61 Sb ppm	ME-MS61 Sc ppm	ME-MS61 Se ppm	ME-MS61 Sn ppm
		0.01	5	0.05	0.01	0.1	0.2	10	0.5	0.1	0.002	0.01	0.05	0.1	1	0.2
STANDARDS																
OREAS 920		1.32	584	0.42	0.64	15.7	40.7	750	24.3	173.5	0.004	0.03	1.53	13.6	1	5.1
OREAS 920		1.35	605	0.44	0.64	18.5	41.2	740	23.2	177.5	0.003	0.04	1.45	13.1	1	4.6
OREAS 920		1.29	602	0.47	0.62	18.0	40.5	690	22.6	177.5	0.003	0.04	1.45	13.3	<1	4.7
OREAS 920		1.27	594	0.47	0.60	18.1	39.2	690	25.2	173.0	<0.002	0.03	1.50	13.2	1	5.0
OREAS 920		1.33	588	0.52	0.64	18.7	42.4	750	24.0	183.0	<0.002	0.04	1.53	13.4	<1	5.1
OREAS 920		1.35	600	0.43	0.63	16.2	40.3	740	24.0	180.0	<0.002	0.04	1.44	14.1	2	4.7
Target Range - Lower Bound		1.23	535	0.34	0.56	15.6	37.4		20.7	158.5	<0.002	<0.01	1.22	12.8	<1	4.3
Upper Bound		1.53	665	0.58	0.71	19.2	46.2		26.4	193.5	0.004	0.05	1.76	15.8	2	5.7
REE-1																
REE-1																
REE-1																
Target Range - Lower Bound																
Upper Bound																
BLANKS																
BLANK		<0.01	<5	0.05	<0.01	<0.1	0.4	<10	<0.5	<0.1	0.002	<0.01	0.06	<0.1	1	<0.2
BLANK		<0.01	<5	<0.05	<0.01	<0.1	0.3	<10	<0.5	<0.1	0.002	<0.01	0.05	<0.1	1	<0.2
BLANK		<0.01	<5	<0.05	<0.01	0.1	<0.2	10	<0.5	<0.1	<0.002	<0.01	0.09	<0.1	1	<0.2
BLANK		<0.01	<5	<0.05	<0.01	0.1	<0.2	<10	<0.5	<0.1	0.002	<0.01	<0.05	<0.1	<1	<0.2
BLANK		<0.01	<5	<0.05	<0.01	0.1	0.2	<10	<0.5	<0.1	<0.002	<0.01	<0.05	<0.1	1	<0.2
BLANK		<0.01	<5	0.05	<0.01	0.1	<0.2	<10	<0.5	<0.1	<0.002	<0.01	<0.05	<0.1	1	<0.2
BLANK		<0.01	<5	<0.05	<0.01	<0.1	<0.2	<10	<0.5	<0.1	<0.002	<0.01	<0.05	<0.1	1	<0.2
BLANK		<0.01	<5	<0.05	<0.01	<0.1	<0.2	<10	<0.5	0.1	<0.002	<0.01	<0.05	<0.1	1	<0.2
BLANK		<0.01	<5	<0.05	<0.01	<0.1	<0.2	<10	<0.5	0.1	<0.002	<0.01	0.05	<0.1	1	<0.2
Target Range - Lower Bound		<0.01	<5	<0.05	<0.01	<0.1	<0.2	<10	<0.5	<0.1	<0.002	<0.01	<0.05	<0.1	<1	<0.2
Upper Bound		0.02	10	0.10	0.02	0.2	0.4	20	1.0	0.2	0.004	0.02	0.10	0.2	2	0.4
BLANK																
BLANK																
BLANK																
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BLANK																
BLANK																
BLANK																
Target Range - Lower Bound																
Upper Bound																

Comments: Samples were received on 27-Nov-2018 and the SSF/Request on 28-Nov-2018.

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NORWAY

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Finalized Date: 27-DEC-2018

Account: ONUSEG

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Project: Not provided

QC CERTIFICATE OF ANALYSIS PI18302126

Sample Description	Method Analyte Units LOD	ME-MS61 Sr ppm 0.2	ME-MS61 Ta ppm 0.05	ME-MS61 Te ppm 0.05	ME-MS61 Th ppm 0.01	ME-MS61 Ti % 0.005	ME-MS61 Tl ppm 0.02	ME-MS61 U ppm 0.1	ME-MS61 V ppm 1	ME-MS61 W ppm 0.1	ME-MS61 Y ppm 0.1	ME-MS61 Zn ppm 2	ME-MS61 Zr ppm 0.5
STANDARDS													
OREAS 920		80.7	1.37	<0.05	18.45	0.467	0.90	3.7	97	3.1	32.0	122	155.5
OREAS 920		83.1	1.23	<0.05	19.45	0.477	0.85	3.8	96	3.0	32.3	116	147.5
OREAS 920		82.2	1.36	<0.05	18.85	0.470	0.87	3.9	96	3.1	30.8	118	142.0
OREAS 920		78.5	1.38	<0.05	18.65	0.462	0.87	3.9	91	3.0	31.8	114	155.0
OREAS 920		82.0	1.41	<0.05	19.00	0.480	0.96	3.9	95	3.4	33.0	114	162.0
OREAS 920		80.7	1.32	<0.05	20.3	0.480	0.87	3.9	94	3.1	32.2	116	160.5
Target Range - Lower Bound		73.6	1.08	<0.05	17.35	0.434	0.76	3.3	86	2.5	29.8	102	128.0
Upper Bound		90.4	1.43	0.10	21.2	0.542	1.08	4.2	108	3.7	36.6	130	174.0
REE-1													
REE-1													
REE-1													
Target Range - Lower Bound													
Upper Bound													
BLANKS													
BLANK		0.2	<0.05	<0.05	<0.01	<0.005	<0.02	<0.1	<1	<0.1	<0.1	<2	<0.5
BLANK		<0.2	<0.05	<0.05	<0.01	<0.005	<0.02	<0.1	<1	<0.1	<0.1	<2	<0.5
BLANK		<0.2	<0.05	<0.05	<0.01	<0.005	<0.02	<0.1	<1	<0.1	<0.1	<2	<0.5
BLANK		0.2	<0.05	<0.05	<0.01	<0.005	<0.02	<0.1	<1	<0.1	<0.1	<2	<0.5
BLANK		0.2	<0.05	<0.05	0.01	<0.005	<0.02	<0.1	<1	<0.1	<0.1	<2	<0.5
BLANK		<0.2	<0.05	<0.05	<0.01	<0.005	<0.02	<0.1	<1	<0.1	<0.1	<2	<0.5
BLANK		<0.2	<0.05	<0.05	0.01	<0.005	<0.02	<0.1	<1	<0.1	<0.1	<2	<0.5
BLANK		<0.2	<0.05	<0.05	0.01	<0.005	<0.02	<0.1	<1	<0.1	<0.1	<2	<0.5
BLANK		<0.2	<0.05	<0.05	0.01	<0.005	<0.02	0.1	<1	<0.1	<0.1	<2	<0.5
Target Range - Lower Bound		<0.2	<0.05	<0.05	<0.01	<0.005	<0.02	<0.1	<1	<0.1	<0.1	<2	<0.5
Upper Bound		0.4	0.10	0.10	0.02	0.010	0.04	0.2	2	0.2	0.2	4	1.0
BLANK													
BLANK													
BLANK													
BLANK													
BLANK													
BLANK													
BLANK													
Target Range - Lower Bound													
Upper Bound													

Comments: Samples were received on 27-Nov-2018 and the SSF/Request on 28-Nov-2018.

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NO-7491 TRONDHEIM

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Account: ONUSEG

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Project: Not provided

QC CERTIFICATE OF ANALYSIS PI18302126

Sample Description	Method Analyte Units LOD	ME-MS81h Ce ppm 3	ME-MS81h Dy ppm 0.3	ME-MS81h Er ppm 0.2	ME-MS81h Eu ppm 0.2	ME-MS81h Gd ppm 0.3	ME-MS81h Hf ppm 1	ME-MS81h Ho ppm 0.05	ME-MS81h La ppm 3	ME-MS81h Lu ppm 0.05	ME-MS81h Nb ppm 1	ME-MS81h Nd ppm 0.5	ME-MS81h Pr ppm 0.2	ME-MS81h Rb ppm 1	ME-MS81h Sm ppm 0.2	ME-MS81h Sn ppm 5
DUPLICATES																
191903 DUP Target Range - Lower Bound Upper Bound																
191904 DUP Target Range - Lower Bound Upper Bound		5880 5990 5720 6150	16.9 17.5 16.3 18.1	3.6 3.5 3.2 3.9	39.1 38.8 37.4 40.5	77.9 78.1 75.0 81.0	1 1 <1 2	1.84 1.86 1.74 1.96	3480 3590 3410 3660	0.34 0.38 0.30 0.42	188 169 171 186	1800 1870 1770 1900	590 597 573 614	<1 <1 <1 2	192.5 194.5 186.5 200	<5 <5 <5 10
191917 DUP Target Range - Lower Bound Upper Bound																
191918 DUP Target Range - Lower Bound Upper Bound		1750 1745 1685 1810	17.7 17.9 16.9 18.7	6.2 6.3 5.8 6.7	14.9 15.3 14.4 15.8	34.0 34.8 32.9 35.9	1 1 <1 2	2.85 2.92 2.73 3.04	827 844 803 868	0.63 0.63 0.56 0.70	617 574 574 617	674 684 655 703	198.5 201 192.5 207	12 12 11 13	72.4 72.9 69.9 75.4	<5 <5 <5 10
191928 DUP Target Range - Lower Bound Upper Bound																
191938 DUP Target Range - Lower Bound Upper Bound		1780 1750 1700 1830	6.9 6.9 6.4 7.4	2.2 2.2 1.9 2.5	10.1 10.3 9.6 10.8	22.0 21.4 20.6 22.8	<1 1 <1 2	1.00 0.90 0.87 1.03	1010 988 961 1035	0.25 0.26 0.20 0.31	221 227 215 233	521 529 506 544	170.5 170.0 164.0 176.5	1 2 <1 2	49.4 49.3 47.4 51.3	<5 <5 <5 10
FEN198260 DUP Target Range - Lower Bound Upper Bound		3650 3770 3580 3840	51.7 48.9 48.2 52.4	19.3 18.5 18.0 19.8	42.8 43.1 41.2 44.7	104.5 101.5 99.1 107.0	2 1 <1 2	8.31 8.46 8.04 8.73	1870 1870 1800 1940	1.91 1.87 1.77 2.01	559 576 547 588	1345 1415 1330 1430	403 411 393 421	<1 1 <1 2	188.5 198.5 186.5 200	<5 <5 <5 10
191953 DUP Target Range - Lower Bound Upper Bound																

Comments: Samples were received on 27-Nov-2018 and the SSF/Request on 28-Nov-2018.

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To: GEOLOGICAL SURVEY OF NORWAY (NGU)

POSTBOKS 6315 TORGARDEN

NO-7491 TRONDHEIM

NORWAY

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Finalized Date: 27-DEC-2018

Account: ONUSEG

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Project: Not provided

QC CERTIFICATE OF ANALYSIS PI18302126

Sample Description	Method Analyte Units LOD	ME-MS81h Ta ppm 0.5	ME-MS81h Tb ppm 0.05	ME-MS81h Th ppm 0.3	ME-MS81h Tm ppm 0.05	ME-MS81h U ppm 0.3	ME-MS81h W ppm 5	ME-MS81h Y ppm 3	ME-MS81h Yb ppm 0.2	ME-MS81h Zr ppm 10	ME-MS61 Ag ppm 0.01	ME-MS61 Al % 0.01	ME-MS61 As ppm 0.2	ME-MS61 Ba ppm 10	ME-MS61 Be ppm 0.05	ME-MS61 Bi ppm 0.01
DUPLICATES																
191903											0.98	0.23	13.2	710	1.22	1.21
DUP											0.82	0.23	12.4	460	1.27	1.11
Target Range - Lower Bound											0.85	0.21	12.0	530	1.13	1.09
Upper Bound											0.96	0.25	13.6	640	1.36	1.23
191904		1.7	5.94	290	0.34	3.4	7	47	2.4	50						
DUP		1.3	5.77	285	0.35	3.2	7	48	2.1	50						
Target Range - Lower Bound		0.9	5.60	277	0.28	2.9	<5	43	2.0	40						
Upper Bound		2.1	6.11	298	0.41	3.7	10	52	2.5	60						
191917											0.36	0.44	3.5	5480	0.62	0.15
DUP											0.37	0.43	3.4	3910	0.61	0.14
Target Range - Lower Bound											0.34	0.40	3.1	4330	0.53	0.13
Upper Bound											0.39	0.47	3.8	5060	0.70	0.16
191918		12.4	3.97	73.4	0.71	4.1	8	66	4.3	100						
DUP		10.9	4.07	74.1	0.74	4.2	10	66	4.4	90						
Target Range - Lower Bound		10.7	3.83	70.9	0.65	3.7	<5	61	4.0	80						
Upper Bound		12.6	4.21	76.6	0.80	4.6	10	71	4.7	110						
191928											0.08	0.14	1.3	7010	0.33	0.30
DUP											0.04	0.14	1.2	7040	0.29	0.27
Target Range - Lower Bound											0.05	0.12	1.0	6490	0.24	0.26
Upper Bound											0.07	0.16	1.5	7560	0.38	0.31
191938		1.2	2.26	56.8	0.27	0.8	<5	24	1.4	30						
DUP		1.2	2.31	57.2	0.28	0.8	<5	23	1.7	30						
Target Range - Lower Bound		0.7	2.16	54.7	0.22	0.5	<5	20	1.3	20						
Upper Bound		1.7	2.41	59.3	0.33	1.1	10	27	1.8	40						
FEN198260		3.3	12.05	628	2.42	15.0	<5	213	13.3	60						
DUP		3.3	11.60	606	2.25	14.6	<5	217	13.3	60						
Target Range - Lower Bound		2.7	11.35	595	2.20	14.0	<5	204	12.6	50						
Upper Bound		3.9	12.30	639	2.47	15.6	10	226	14.0	70						
191953											0.66	0.51	1.9	5420	0.67	0.16
DUP											0.59	0.52	1.4	5020	0.65	0.16
Target Range - Lower Bound											0.58	0.48	1.4	4820	0.58	0.14
Upper Bound											0.67	0.55	1.9	5620	0.74	0.18

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POSTBOKS 6315 TORGARDEN

NO-7491 TRONDHEIM

NORWAY

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Finalized Date: 27-DEC-2018

Account: ONUSEG

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Project: Not provided

QC CERTIFICATE OF ANALYSIS PI18302126

Sample Description	Method Analyte Units LOD	ME-MS61 Ca %	ME-MS61 Cd ppm	ME-MS61 Ce ppm	ME-MS61 Co ppm	ME-MS61 Cr ppm	ME-MS61 Cs ppm	ME-MS61 Cu ppm	ME-MS61 Fe %	ME-MS61 Ga ppm	ME-MS61 Ge ppm	ME-MS61 Hf ppm	ME-MS61 In ppm	ME-MS61 K %	ME-MS61 La ppm	ME-MS61 Li ppm
		0.01	0.02	0.01	0.1	1	0.05	0.2	0.01	0.05	0.05	0.1	0.005	0.01	0.5	0.2
DUPLICATES																
191903		26.2	0.67	>500	16.9	7	0.14	2.1	4.16	9.85	1.37	0.4	0.202	0.01	960	3.0
DUP		26.3	0.58	>500	16.0	5	0.14	2.1	4.22	9.61	1.35	0.5	0.188	0.01	970	2.7
Target Range - Lower Bound		24.9	0.57	475	15.5	5	0.08	1.8	3.97	9.19	1.24	0.3	0.180	<0.01	916	2.5
Upper Bound		27.6	0.68	>500	17.4	7	0.20	2.4	4.41	10.25	1.48	0.6	0.210	0.02	1015	3.2
191904																
DUP																
Target Range - Lower Bound																
Upper Bound																
191917		18.00	0.68	>500	4.6	2	0.47	0.9	7.46	15.50	2.11	0.7	0.349	0.04	1590	4.1
DUP		17.95	0.76	>500	4.8	2	0.48	1.0	7.42	14.85	1.87	0.6	0.347	0.04	1570	4.0
Target Range - Lower Bound		17.05	0.66	475	4.4	<1	0.40	0.7	7.06	14.35	1.84	0.5	0.326	0.03	1500	3.6
Upper Bound		18.90	0.78	>500	5.0	3	0.55	1.2	7.82	16.00	2.14	0.8	0.370	0.05	1660	4.5
191918																
DUP																
Target Range - Lower Bound																
Upper Bound																
191928		18.95	1.14	>500	4.5	5	0.10	2.4	6.00	10.35	1.33	0.3	0.307	0.01	940	3.3
DUP		18.95	1.05	>500	4.4	4	0.11	2.0	6.01	10.25	1.32	0.3	0.301	0.01	930	3.2
Target Range - Lower Bound		18.00	1.02	475	4.1	3	<0.05	1.9	5.69	9.74	1.21	0.2	0.284	<0.01	888	2.9
Upper Bound		19.90	1.17	>500	4.8	6	0.16	2.5	6.32	10.85	1.44	0.4	0.324	0.02	982	3.6
191938																
DUP																
Target Range - Lower Bound																
Upper Bound																
FEN198260																
DUP																
Target Range - Lower Bound																
Upper Bound																
191953		18.30	1.22	>500	9.6	8	0.95	0.8	7.62	12.20	0.52	1.0	0.417	0.09	1440	6.2
DUP		18.80	1.15	>500	9.6	7	0.93	0.6	8.01	11.50	0.46	1.0	0.422	0.09	1450	6.1
Target Range - Lower Bound		17.60	1.11	475	9.0	6	0.84	0.5	7.41	11.20	0.42	0.9	0.394	0.08	1370	5.6
Upper Bound		19.50	1.26	>500	10.2	9	1.04	0.9	8.22	12.50	0.56	1.2	0.445	0.10	1520	6.7

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POSTBOKS 6315 TORGARDEN

NO-7491 TRONDHEIM

NORWAY

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Finalized Date: 27-DEC-2018

Account: ONUSEG

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Project: Not provided

QC CERTIFICATE OF ANALYSIS PI18302126

Sample Description	Method Analyte Units LOD	ME-MS61 Mg %	ME-MS61 Mn ppm	ME-MS61 Mo ppm	ME-MS61 Na %	ME-MS61 Nb ppm	ME-MS61 Ni ppm	ME-MS61 P ppm	ME-MS61 Pb ppm	ME-MS61 Rb ppm	ME-MS61 Re ppm	ME-MS61 S %	ME-MS61 Sb ppm	ME-MS61 Sc ppm	ME-MS61 Se ppm	ME-MS61 Sn ppm
		0.01	5	0.05	0.01	0.1	0.2	10	0.5	0.1	0.002	0.01	0.05	0.1	1	0.2
DUPLICATES																
191903		2.54	3700	42.9	0.23	45.8	2.3	>10000	42.8	0.6	0.012	1.00	0.20	22.1	<1	6.0
DUP		2.55	3710	41.2	0.21	39.1	1.8	>10000	39.8	0.6	0.006	0.99	0.18	21.6	<1	5.8
Target Range - Lower Bound		2.41	3510	39.9	0.20	40.2	1.7	9490	38.7	0.5	0.007	0.94	0.13	20.7	<1	5.4
Upper Bound		2.68	3900	44.2	0.24	44.7	2.4	>10000	43.9	0.7	0.011	1.05	0.25	23.0	2	6.4
191904																
DUP																
Target Range - Lower Bound																
Upper Bound																
191917		6.96	10300	153.5	0.23	197.5	1.2	6380	10.5	2.1	0.006	0.34	0.23	17.2	1	1.0
DUP		6.89	10200	150.5	0.23	235	1.3	6070	10.1	2.1	0.003	0.31	0.20	17.1	1	1.1
Target Range - Lower Bound		6.57	9730	144.5	0.21	205	1.0	5900	9.3	1.9	<0.002	0.30	0.15	16.2	<1	0.8
Upper Bound		7.28	10750	159.5	0.25	227	1.5	6550	11.3	2.3	0.007	0.35	0.28	18.1	2	1.3
191918																
DUP																
Target Range - Lower Bound																
Upper Bound																
191928		8.85	9760	165.0	0.10	490	1.2	800	11.5	0.7	0.003	0.34	0.11	18.9	2	0.8
DUP		8.83	9830	168.0	0.10	>500	1.2	770	10.5	0.7	0.003	0.34	0.08	18.9	2	0.8
Target Range - Lower Bound		8.39	9300	158.0	0.09	470	0.9	740	10.0	0.6	<0.002	0.31	<0.05	17.9	<1	0.6
Upper Bound		9.29	10300	175.0	0.12	>500	1.5	830	12.1	0.8	0.004	0.37	0.10	19.9	3	1.0
191938																
DUP																
Target Range - Lower Bound																
Upper Bound																
FEN198260																
DUP																
Target Range - Lower Bound																
Upper Bound																
191953		7.57	10200	59.4	0.12	383	3.9	3560	13.7	4.0	0.008	0.41	0.27	15.8	1	1.4
DUP		7.73	10400	60.3	0.13	388	3.4	3600	14.1	4.1	0.005	0.42	0.25	15.6	1	1.3
Target Range - Lower Bound		7.26	9780	56.8	0.11	366	3.3	3390	12.7	3.7	0.004	0.38	0.19	14.8	<1	1.1
Upper Bound		8.04	10800	62.9	0.14	405	4.0	3770	15.1	4.4	0.009	0.45	0.33	16.6	2	1.6

Comments: Samples were received on 27-Nov-2018 and the SSF/Request on 28-Nov-2018.

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POSTBOKS 6315 TORGARDEN
NO-7491 TRONDHEIM
NORWAY

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Finalized Date: 27-DEC-2018
Account: ONUSEG

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Project: Not provided

QC CERTIFICATE OF ANALYSIS PI18302126

Sample Description	Method Analyte Units LOD	ME-MS61 Sr ppm 0.2	ME-MS61 Ta ppm 0.05	ME-MS61 Te ppm 0.05	ME-MS61 Th ppm 0.01	ME-MS61 Ti % 0.005	ME-MS61 Tl ppm 0.02	ME-MS61 U ppm 0.1	ME-MS61 V ppm 1	ME-MS61 W ppm 0.1	ME-MS61 Y ppm 0.1	ME-MS61 Zn ppm 2	ME-MS61 Zr ppm 0.5
DUPLICATES													
191903		4870	0.47	0.12	185.0	0.073	0.07	121.5	19	7.1	287	199	4.5
DUP		4850	0.55	0.10	177.5	0.067	0.05	113.0	19	6.7	282	203	3.3
Target Range - Lower Bound		4620	0.43	<0.05	172.0	0.062	0.04	111.5	17	6.3	270	189	3.1
Upper Bound		5100	0.59	0.17	190.5	0.079	0.08	123.0	21	7.5	299	213	4.7
191904													
DUP													
Target Range - Lower Bound													
Upper Bound													
191917		3400	1.77	0.06	85.2	0.015	0.10	6.3	13	1.5	67.3	210	57.2
DUP		3340	2.27	0.10	83.4	0.016	0.09	6.6	13	1.4	67.9	204	58.1
Target Range - Lower Bound		3200	1.87	<0.05	80.1	0.010	0.07	6.0	11	1.2	64.1	195	52.8
Upper Bound		3540	2.17	0.10	88.5	0.021	0.12	6.9	15	1.7	71.1	219	62.5
191918													
DUP													
Target Range - Lower Bound													
Upper Bound													
191928		3990	2.03	0.08	61.9	0.015	0.03	1.7	11	1.1	21.3	297	23.3
DUP		3970	2.10	0.06	60.3	0.015	0.03	1.6	12	1.2	21.2	294	23.2
Target Range - Lower Bound		3780	1.91	<0.05	58.0	0.009	<0.02	1.5	10	1.0	20.1	279	21.0
Upper Bound		4180	2.22	0.10	64.2	0.021	0.04	1.8	13	1.3	22.4	312	25.5
191938													
DUP													
Target Range - Lower Bound													
Upper Bound													
FEN198260													
DUP													
Target Range - Lower Bound													
Upper Bound													
191953		3020	2.49	0.11	74.1	0.036	0.16	4.0	13	1.5	28.4	237	65.7
DUP		3180	1.99	0.11	70.2	0.035	0.13	3.3	14	1.5	27.9	237	65.7
Target Range - Lower Bound		2940	2.08	<0.05	68.5	0.029	0.11	3.4	12	1.3	26.6	223	60.3
Upper Bound		3260	2.40	0.17	75.8	0.042	0.18	3.9	15	1.7	29.7	251	71.1

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Project: Not provided

QC CERTIFICATE OF ANALYSIS PI18302126

Sample Description	Method Analyte Units LOD	ME-MS81h Ce ppm 3	ME-MS81h Dy ppm 0.3	ME-MS81h Er ppm 0.2	ME-MS81h Eu ppm 0.2	ME-MS81h Gd ppm 0.3	ME-MS81h Hf ppm 1	ME-MS81h Ho ppm 0.05	ME-MS81h La ppm 3	ME-MS81h Lu ppm 0.05	ME-MS81h Nb ppm 1	ME-MS81h Nd ppm 0.5	ME-MS81h Pr ppm 0.2	ME-MS81h Rb ppm 1	ME-MS81h Sm ppm 0.2	ME-MS81h Sn ppm 5
191968 DUP Target Range - Lower Bound Upper Bound		DUPLICATES														
191972 DUP Target Range - Lower Bound Upper Bound		411 405 391 425	6.6 7.1 6.3 7.4	2.3 2.2 2.0 2.5	4.9 5.0 4.6 5.3	13.3 12.9 12.3 13.9	<1 <1 <1 2	1.10 1.09 1.01 1.18	221 219 209 231	0.26 0.25 0.20 0.31	58 56 54 60	159.0 157.0 152.0 164.0	45.3 43.9 42.8 46.4	1 1 <1 2	22.3 22.0 21.2 23.1	<5 <5 <5 10
191987 DUP Target Range - Lower Bound Upper Bound		4750 4610 4510 4850	5.4 4.9 4.7 5.6	1.3 1.5 1.2 1.6	10.9 10.7 10.2 11.4	17.9 16.6 16.3 18.2	1 1 <1 2	0.69 0.67 0.61 0.75	3040 2940 2880 3100	0.18 0.14 0.10 0.22	865 848 826 887	1235 1205 1175 1265	443 437 424 456	17 17 15 19	70.9 69.6 67.6 72.9	<5 <5 <5 10
191988 DUP Target Range - Lower Bound Upper Bound																
198507 DUP Target Range - Lower Bound Upper Bound		4700 4750 4560 4890	9.8 9.5 9.0 10.3	2.4 2.7 2.3 2.8	12.2 12.4 11.7 12.9	25.9 24.2 23.9 26.2	1 1 <1 2	1.34 1.42 1.28 1.48	3070 3210 3030 3250	0.23 0.24 0.18 0.29	458 463 443 478	1265 1270 1225 1310	438 457 432 463	2 2 <1 3	78.3 79.4 75.9 81.8	<5 <5 <5 10
198521 DUP Target Range - Lower Bound Upper Bound		8200 7690 7660 8230	8.1 8.2 7.6 8.7	2.5 2.6 2.3 2.8	17.8 18.2 17.2 18.8	31.1 33.2 30.7 33.6	2 2 <1 3	1.13 1.07 1.01 1.19	5350 5200 5090 5460	0.40 0.40 0.34 0.46	620 598 587 631	2060 1995 1955 2100	770 695 707 758	<1 <1 <1 2	123.0 118.5 116.5 125.0	5 5 <5 10
198522 DUP Target Range - Lower Bound Upper Bound																
198537 DUP Target Range - Lower Bound Upper Bound																

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Project: Not provided

QC CERTIFICATE OF ANALYSIS PI18302126

Sample Description	Method Analyte Units LOD	ME-MS81h Ta ppm 0.5	ME-MS81h Tb ppm 0.05	ME-MS81h Th ppm 0.3	ME-MS81h Tm ppm 0.05	ME-MS81h U ppm 0.3	ME-MS81h W ppm 5	ME-MS81h Y ppm 3	ME-MS81h Yb ppm 0.2	ME-MS81h Zr ppm 10	ME-MS61 Ag ppm 0.01	ME-MS61 Al % 0.01	ME-MS61 As ppm 0.2	ME-MS61 Ba ppm 10	ME-MS61 Be ppm 0.05	ME-MS61 Bi ppm 0.01
DUPLICATES																
191968											1.12	0.18	4.6	1110	2.00	0.92
DUP											1.09	0.18	4.6	1290	1.98	0.86
Target Range - Lower Bound											1.04	0.16	4.2	1100	1.84	0.84
Upper Bound											1.17	0.20	5.0	1300	2.14	0.94
191972		<0.5	1.53	40.4	0.31	1.0	<5	27	1.6	50						
DUP		<0.5	1.59	41.5	0.27	1.0	<5	25	1.7	40						
Target Range - Lower Bound		<0.5	1.46	39.2	0.23	0.7	<5	22	1.4	30						
Upper Bound		1.0	1.66	42.7	0.35	1.3	10	30	1.9	60						
191987		6.9	2.45	45.0	0.16	4.3	<5	17	0.8	60						
DUP		7.0	2.42	46.0	0.16	4.2	<5	17	0.8	60						
Target Range - Lower Bound		6.2	2.30	43.6	0.10	3.8	<5	13	0.6	50						
Upper Bound		7.7	2.57	47.4	0.22	4.7	10	21	1.0	70						
191988											0.56	0.54	1.0	3440	0.57	0.41
DUP											0.55	0.55	1.1	3410	0.57	0.41
Target Range - Lower Bound											0.52	0.51	0.8	3160	0.49	0.38
Upper Bound											0.59	0.58	1.3	3690	0.65	0.44
198507		5.5	3.65	140.5	0.26	4.1	<5	29	1.7	40						
DUP		5.3	3.64	140.0	0.28	4.1	<5	29	1.8	40						
Target Range - Lower Bound		4.7	3.47	135.0	0.21	3.7	<5	25	1.5	30						
Upper Bound		6.1	3.82	145.5	0.33	4.5	10	33	2.0	50						
198521		5.6	4.20	157.5	0.35	6.5	<5	27	2.6	110						
DUP		5.7	4.28	160.5	0.35	6.7	<5	26	2.4	100						
Target Range - Lower Bound		5.0	4.04	153.0	0.29	6.1	<5	23	2.2	90						
Upper Bound		6.3	4.44	165.0	0.41	7.1	10	30	2.8	120						
198522											1.27	0.14	3.3	2760	0.36	0.57
DUP											1.41	0.14	4.0	2740	0.30	0.55
Target Range - Lower Bound											1.26	0.12	3.3	2530	0.26	0.52
Upper Bound											1.42	0.16	4.0	2970	0.40	0.60
198537											0.86	0.40	8.5	4090	0.43	0.32
DUP											0.88	0.42	9.0	4340	0.36	0.32
Target Range - Lower Bound											0.82	0.38	8.1	3890	0.33	0.29
Upper Bound											0.92	0.44	9.4	4540	0.46	0.35

Comments: Samples were received on 27-Nov-2018 and the SSF/Request on 28-Nov-2018.

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



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To: GEOLOGICAL SURVEY OF NORWAY (NGU)

POSTBOKS 6315 TORGARDEN

NO-7491 TRONDHEIM

NORWAY

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Finalized Date: 27-DEC-2018

Account: ONUSEG

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Project: Not provided

QC CERTIFICATE OF ANALYSIS PI18302126

Sample Description	Method Analyte Units LOD	ME-MS61 Ca %	ME-MS61 Cd ppm	ME-MS61 Ce ppm	ME-MS61 Co ppm	ME-MS61 Cr ppm	ME-MS61 Cs ppm	ME-MS61 Cu ppm	ME-MS61 Fe %	ME-MS61 Ga ppm	ME-MS61 Ge ppm	ME-MS61 Hf ppm	ME-MS61 In ppm	ME-MS61 K %	ME-MS61 La ppm	ME-MS61 Li ppm
		0.01	0.02	0.01	0.1	1	0.05	0.2	0.01	0.05	0.05	0.1	0.005	0.01	0.5	0.2
DUPLICATES																
191968		18.05	8.85	>500	15.4	6	1.62	1.5	10.35	7.83	0.38	0.9	0.449	0.11	720	28.8
DUP		18.25	8.74	>500	15.3	6	1.63	1.4	10.65	7.42	0.37	0.7	0.421	0.11	720	28.0
Target Range - Lower Bound		17.25	8.34	475	14.5	5	1.49	1.2	9.97	7.19	0.31	0.7	0.408	0.09	684	26.8
Upper Bound		19.05	9.25	>500	16.2	7	1.76	1.7	11.05	8.06	0.44	0.9	0.462	0.13	757	30.0
191972																
DUP																
Target Range - Lower Bound																
Upper Bound																
191987																
DUP																
Target Range - Lower Bound																
Upper Bound																
191988		18.70	3.17	>500	9.9	16	2.93	10.2	8.27	22.0	0.89	0.6	0.692	0.28	3650	39.1
DUP		18.45	3.16	>500	9.3	12	2.84	9.5	8.25	21.7	0.88	0.5	0.707	0.28	3700	38.4
Target Range - Lower Bound		17.65	2.99	475	9.0	12	2.69	9.3	7.84	20.7	0.79	0.4	0.660	0.26	3490	36.6
Upper Bound		19.50	3.34	>500	10.2	16	3.08	10.4	8.68	23.0	0.98	0.7	0.739	0.30	3860	40.9
198507																
DUP																
Target Range - Lower Bound																
Upper Bound																
198521																
DUP																
Target Range - Lower Bound																
Upper Bound																
198522		18.80	1.50	>500	13.8	10	<0.05	1.8	7.11	5.37	0.71	0.6	0.590	<0.01	1770	2.0
DUP		18.80	1.64	>500	13.6	9	<0.05	2.0	7.48	5.84	0.83	0.5	0.610	<0.01	1820	2.4
Target Range - Lower Bound		17.85	1.47	475	12.9	8	<0.05	1.6	6.92	5.27	0.68	0.4	0.565	<0.01	1705	1.9
Upper Bound		19.75	1.67	>500	14.5	11	0.10	2.2	7.67	5.94	0.86	0.7	0.635	0.02	1885	2.5
198537		17.35	0.60	>500	11.0	15	0.18	2.8	8.34	14.70	1.77	0.8	0.479	0.02	4570	9.5
DUP		18.25	0.61	>500	10.7	16	0.17	2.6	8.73	14.25	1.86	0.8	0.450	0.02	4770	9.1
Target Range - Lower Bound		16.90	0.55	475	10.2	14	0.12	2.4	8.10	13.70	1.67	0.7	0.436	<0.01	4440	8.6
Upper Bound		18.70	0.66	>500	11.5	17	0.23	3.0	8.97	15.25	1.96	0.9	0.493	0.03	4900	10.0

Comments: Samples were received on 27-Nov-2018 and the SSF/Request on 28-Nov-2018.

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



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To: GEOLOGICAL SURVEY OF NORWAY (NGU)

POSTBOKS 6315 TORGARDEN

NO-7491 TRONDHEIM

NORWAY

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Finalized Date: 27-DEC-2018

Account: ONUSEG

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Project: Not provided

QC CERTIFICATE OF ANALYSIS PI18302126

Sample Description	Method Analyte Units LOD	ME-MS61 Mg %	ME-MS61 Mn ppm	ME-MS61 Mo ppm	ME-MS61 Na %	ME-MS61 Nb ppm	ME-MS61 Ni ppm	ME-MS61 P ppm	ME-MS61 Pb ppm	ME-MS61 Rb ppm	ME-MS61 Re ppm	ME-MS61 S %	ME-MS61 Sb ppm	ME-MS61 Sc ppm	ME-MS61 Se ppm	ME-MS61 Sn ppm
		0.01	5	0.05	0.01	0.1	0.2	10	0.5	0.1	0.002	0.01	0.05	0.1	1	0.2
DUPLICATES																
191968		6.02	8830	168.5	0.03	275	2.1	>10000	112.0	8.3	0.006	0.80	0.35	29.6	1	1.4
DUP		6.01	8920	168.5	0.03	305	2.2	>10000	108.0	8.1	0.004	0.80	0.39	29.0	1	1.4
Target Range - Lower Bound		5.70	8430	160.0	0.02	275	1.8	9490	104.0	7.7	0.003	0.75	0.29	27.7	<1	1.1
Upper Bound		6.33	9320	177.0	0.04	305	2.5	>10000	116.0	8.7	0.007	0.85	0.45	30.9	2	1.7
191972																
DUP																
Target Range - Lower Bound																
Upper Bound																
191987																
DUP																
Target Range - Lower Bound																
Upper Bound																
191988		7.31	12200	108.0	0.01	>500	13.1	2290	5.4	20.7	0.007	0.36	0.08	12.8	<1	1.5
DUP		7.32	12000	107.5	0.01	>500	12.5	2290	5.1	20.3	0.006	0.34	0.08	12.5	1	1.5
Target Range - Lower Bound		6.94	11500	102.5	<0.01	475	12.0	2170	4.5	19.4	0.004	0.32	<0.05	11.9	<1	1.2
Upper Bound		7.69	12700	113.0	0.02	>500	13.6	2410	6.0	21.6	0.009	0.38	0.10	13.4	2	1.8
198507																
DUP																
Target Range - Lower Bound																
Upper Bound																
198521																
DUP																
Target Range - Lower Bound																
Upper Bound																
198522		7.42	10800	200	<0.01	>500	7.2	4370	16.0	0.2	0.005	0.66	<0.05	16.4	1	2.6
DUP		7.53	11000	200	<0.01	>500	7.2	4460	15.3	0.2	0.006	0.70	<0.05	17.1	2	2.6
Target Range - Lower Bound		7.09	10350	190.0	<0.01	475	6.6	4180	14.4	<0.1	0.003	0.64	<0.05	15.8	<1	2.3
Upper Bound		7.86	11450	210	0.02	>500	7.8	4650	16.9	0.3	0.008	0.72	0.10	17.7	2	2.9
198537		7.19	11400	74.3	0.01	418	15.6	780	15.2	1.0	0.004	0.50	0.12	16.1	1	2.5
DUP		7.50	11900	74.4	0.01	447	14.8	800	16.4	1.1	0.007	0.52	0.10	15.5	2	2.5
Target Range - Lower Bound		6.97	11050	70.6	<0.01	411	14.2	740	14.5	0.9	0.003	0.47	<0.05	14.9	<1	2.2
Upper Bound		7.72	12250	78.1	0.02	454	16.2	840	17.1	1.2	0.008	0.55	0.17	16.7	2	2.8

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NO-7491 TRONDHEIM

NORWAY

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Finalized Date: 27-DEC-2018

Account: ONUSEG

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Project: Not provided

QC CERTIFICATE OF ANALYSIS PI18302126

Sample Description	Method Analyte Units LOD	ME-MS61 Sr ppm 0.2	ME-MS61 Ta ppm 0.05	ME-MS61 Te ppm 0.05	ME-MS61 Th ppm 0.01	ME-MS61 Ti % 0.005	ME-MS61 Tl ppm 0.02	ME-MS61 U ppm 0.1	ME-MS61 V ppm 1	ME-MS61 W ppm 0.1	ME-MS61 Y ppm 0.1	ME-MS61 Zn ppm 2	ME-MS61 Zr ppm 0.5
DUPLICATES													
191968		4580	1.03	0.09	219	0.013	0.20	4.4	19	2.0	102.5	2180	52.7
DUP		4660	1.48	0.09	225	0.013	0.23	4.4	20	2.1	101.5	2190	57.0
Target Range - Lower Bound		4390	1.14	<0.05	211	0.007	0.18	4.1	18	1.8	96.8	2070	50.2
Upper Bound		4850	1.37	0.10	233	0.019	0.25	4.7	21	2.3	107.0	2300	59.5
191972													
DUP													
Target Range - Lower Bound													
Upper Bound													
191987													
DUP													
Target Range - Lower Bound													
Upper Bound													
191988		1775	7.80	0.21	66.7	0.033	0.47	4.5	14	2.2	14.5	958	23.7
DUP		1780	7.35	0.20	65.4	0.032	0.41	4.3	14	2.1	14.2	958	23.6
Target Range - Lower Bound		1690	7.15	0.14	62.7	0.026	0.39	4.1	12	1.9	13.5	908	21.4
Upper Bound		1865	8.00	0.27	69.4	0.039	0.49	4.7	16	2.4	15.2	1010	25.9
198507													
DUP													
Target Range - Lower Bound													
Upper Bound													
198521													
DUP													
Target Range - Lower Bound													
Upper Bound													
198522		2780	3.27	0.22	55.9	0.012	0.05	4.9	13	1.2	18.7	253	44.1
DUP		2880	3.53	0.22	56.3	0.013	0.04	4.9	14	1.2	19.7	278	49.3
Target Range - Lower Bound		2690	3.18	0.16	53.3	0.007	<0.02	4.6	12	1.0	18.1	250	42.7
Upper Bound		2970	3.62	0.28	58.9	0.018	0.07	5.2	15	1.4	20.3	281	50.7
198537		1710	5.10	0.23	105.0	0.026	0.04	3.9	12	1.1	24.9	109	50.9
DUP		1790	4.89	0.21	104.5	0.027	0.03	3.9	12	1.1	24.5	112	56.0
Target Range - Lower Bound		1660	4.70	0.16	99.5	0.020	<0.02	3.6	10	0.9	23.4	103	48.9
Upper Bound		1840	5.29	0.28	110.0	0.033	0.04	4.2	14	1.3	26.0	118	58.0

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NO-7491 TRONDHEIM

NORWAY

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Project: Not provided

QC CERTIFICATE OF ANALYSIS PI18302126

Sample Description	Method Analyte Units LOD	ME-MS81h Ce ppm 3	ME-MS81h Dy ppm 0.3	ME-MS81h Er ppm 0.2	ME-MS81h Eu ppm 0.2	ME-MS81h Gd ppm 0.3	ME-MS81h Hf ppm 1	ME-MS81h Ho ppm 0.05	ME-MS81h La ppm 3	ME-MS81h Lu ppm 0.05	ME-MS81h Nb ppm 1	ME-MS81h Nd ppm 0.5	ME-MS81h Pr ppm 0.2	ME-MS81h Rb ppm 1	ME-MS81h Sm ppm 0.2	ME-MS81h Sn ppm 5
DUPLICATES																
198541		8040	13.5	2.6	28.6	60.2	<1	1.51	5070	0.18	333	2360	762	5	176.5	<5
DUP		8250	14.1	2.9	29.4	58.1	<1	1.53	5290	0.18	342	2460	811	5	183.5	<5
Target Range - Lower Bound		7860	13.0	2.5	27.8	56.8	<1	1.42	5000	0.12	325	2330	759	4	173.5	<5
Upper Bound		8430	14.6	3.0	30.2	61.5	2	1.62	5360	0.24	350	2490	814	6	186.5	10
198556		7180	10.6	3.6	20.6	36.1	1	1.58	4820	0.38	447	1885	687	2	127.5	<5
DUP		7330	10.8	3.4	21.4	35.6	1	1.53	4890	0.35	450	1935	711	2	134.5	<5
Target Range - Lower Bound		7000	10.0	3.2	20.1	34.3	<1	1.45	4680	0.30	432	1845	674	<1	126.0	<5
Upper Bound		7510	11.4	3.8	21.9	37.4	2	1.66	5030	0.43	465	1975	724	3	136.0	10
198557																
DUP																
Target Range - Lower Bound																
Upper Bound																
198570																
DUP																
Target Range - Lower Bound																
Upper Bound																
198575		6760	10.7	3.1	19.0	32.5	<1	1.54	4160	0.18	392	1700	637	2	102.5	<5
DUP		6620	11.4	3.3	20.1	31.5	<1	1.62	4190	0.16	407	1660	619	2	102.0	<5
Target Range - Lower Bound		6450	10.4	2.9	18.7	30.6	<1	1.47	4030	0.11	385	1620	606	<1	98.5	<5
Upper Bound		6930	11.7	3.5	20.4	33.4	2	1.69	4320	0.23	414	1740	650	3	106.0	10
198590		4810	14.9	3.0	20.7	44.6	1	1.70	2900	0.24	793	1375	474	1	105.0	5
DUP		5130	15.0	3.0	21.4	46.6	1	1.75	3060	0.23	686	1460	507	2	109.5	<5
Target Range - Lower Bound		4790	14.1	2.7	20.1	43.7	<1	1.61	2870	0.18	713	1365	473	<1	103.5	<5
Upper Bound		5150	15.8	3.3	22.0	47.5	2	1.84	3090	0.29	766	1470	508	2	111.0	10
198591																
DUP																
Target Range - Lower Bound																
Upper Bound																
198600																
DUP																
Target Range - Lower Bound																
Upper Bound																

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Finalized Date: 27-DEC-2018

Account: ONUSE

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Project: Not provided

QC CERTIFICATE OF ANALYSIS PI18302126

Sample Description	Method Analyte Units LOD	ME-MS81h Ta ppm 0.5	ME-MS81h Tb ppm 0.05	ME-MS81h Th ppm 0.3	ME-MS81h Tm ppm 0.05	ME-MS81h U ppm 0.3	ME-MS81h W ppm 5	ME-MS81h Y ppm 3	ME-MS81h Yb ppm 0.2	ME-MS81h Zr ppm 10	ME-MS61 Ag ppm 0.01	ME-MS61 Al % 0.01	ME-MS61 As ppm 0.2	ME-MS61 Ba ppm 10	ME-MS61 Be ppm 0.05	ME-MS61 Bi ppm 0.01
DUPLICATES																
198541		3.2	6.73	287	0.25	2.2	<5	28	1.7	40						
DUP		3.3	6.81	295	0.27	2.5	<5	29	1.4	40						
Target Range - Lower Bound		2.6	6.48	281	0.20	2.0	<5	25	1.3	30						
Upper Bound		3.9	7.06	301	0.32	2.7	10	32	1.8	50						
198556		4.7	4.41	123.5	0.46	3.7	<5	37	2.9	110						
DUP		4.8	4.64	122.5	0.43	3.7	<5	38	2.8	110						
Target Range - Lower Bound		4.1	4.32	118.5	0.38	3.3	<5	33	2.6	100						
Upper Bound		5.4	4.73	127.5	0.51	4.1	10	42	3.1	120						
198557											0.87	0.35	6.2	2030	0.77	0.97
DUP											0.77	0.37	6.2	2120	0.69	0.92
Target Range - Lower Bound											0.77	0.33	5.7	1910	0.64	0.89
Upper Bound											0.87	0.39	6.7	2240	0.82	1.00
198570											0.42	0.41	3.9	3290	0.75	0.31
DUP											0.56	0.41	4.5	2930	0.77	0.30
Target Range - Lower Bound											0.46	0.38	3.8	2870	0.67	0.28
Upper Bound											0.52	0.44	4.6	3350	0.85	0.33
198575		4.6	2.57	164.0	0.29	2.6	<5	36	1.4	<10						
DUP		4.9	2.77	167.5	0.32	2.6	<5	37	1.7	<10						
Target Range - Lower Bound		4.1	2.53	159.5	0.24	2.2	<5	32	1.3	<10						
Upper Bound		5.4	2.81	172.0	0.37	3.0	10	41	1.8	20						
198590		10.6	4.40	189.5	0.28	8.8	<5	32	1.5	20						
DUP		9.6	4.51	189.5	0.29	8.9	<5	32	1.5	30						
Target Range - Lower Bound		9.2	4.25	182.5	0.23	8.2	<5	28	1.2	<10						
Upper Bound		11.0	4.66	196.5	0.34	9.5	10	36	1.8	40						
198591											0.44	0.27	1.4	330	0.60	0.20
DUP											0.36	0.27	1.1	330	0.64	0.20
Target Range - Lower Bound											0.37	0.25	1.0	300	0.54	0.18
Upper Bound											0.43	0.29	1.5	360	0.70	0.22
198600											2.56	0.58	0.9	1380	4.50	3.42
DUP											2.63	0.57	1.3	1450	4.33	3.46
Target Range - Lower Bound											2.46	0.54	0.8	1300	4.14	3.26
Upper Bound											2.73	0.61	1.4	1530	4.69	3.62

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To: GEOLOGICAL SURVEY OF NORWAY (NGU)

POSTBOKS 6315 TORGARDEN

NO-7491 TRONDHEIM

NORWAY

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Finalized Date: 27-DEC-2018

Account: ONUSEG

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Project: Not provided

QC CERTIFICATE OF ANALYSIS PI18302126

Sample Description	Method Analyte Units LOD	ME-MS61 Ca %	ME-MS61 Cd ppm	ME-MS61 Ce ppm	ME-MS61 Co ppm	ME-MS61 Cr ppm	ME-MS61 Cs ppm	ME-MS61 Cu ppm	ME-MS61 Fe %	ME-MS61 Ga ppm	ME-MS61 Ge ppm	ME-MS61 Hf ppm	ME-MS61 In ppm	ME-MS61 K %	ME-MS61 La ppm	ME-MS61 Li ppm
		0.01	0.02	0.01	0.1	1	0.05	0.2	0.01	0.05	0.05	0.1	0.005	0.01	0.5	0.2
198541 DUP Target Range - Lower Bound Upper Bound		DUPLICATES														
198556 DUP Target Range - Lower Bound Upper Bound																
198557 DUP Target Range - Lower Bound Upper Bound		17.45 18.20 16.90 18.75	4.54 4.68 4.36 4.86	>500 >500 475 >500	9.3 10.0 9.1 10.2	15 15 13 17	0.17 0.19 0.12 0.24	14.8 14.7 14.0 15.5	7.83 8.14 7.58 8.39	8.34 8.65 8.02 8.97	1.01 1.04 0.92 1.13	0.4 0.6 0.4 0.6	0.616 0.618 0.581 0.653	0.04 0.04 0.03 0.05	2400 2440 2300 2540	6.7 6.9 6.3 7.3
198570 DUP Target Range - Lower Bound Upper Bound		17.95 17.85 17.00 18.80	2.53 2.58 2.41 2.70	>500 >500 475 >500	8.7 8.5 8.1 9.1	12 13 11 14	0.63 0.59 0.53 0.69	8.8 9.1 8.4 9.5	7.96 7.98 7.56 8.38	21.7 21.8 20.6 22.9	2.63 2.55 2.41 2.77	0.2 0.2 <0.1 0.3	0.524 0.540 0.500 0.564	0.04 0.04 0.03 0.05	2530 2520 2400 2650	12.0 12.5 11.4 13.1
198575 DUP Target Range - Lower Bound Upper Bound																
198590 DUP Target Range - Lower Bound Upper Bound																
198591 DUP Target Range - Lower Bound Upper Bound		18.55 18.70 17.70 19.55	0.63 0.62 0.57 0.68	>500 >500 475 >500	8.4 8.6 8.0 9.0	10 11 9 12	0.18 0.17 0.12 0.23	2.9 3.0 2.6 3.3	7.88 7.85 7.46 8.27	21.0 20.6 19.70 21.9	1.17 1.14 1.05 1.26	0.3 0.3 0.2 0.4	0.417 0.402 0.384 0.435	0.02 0.02 <0.01 0.03	3260 3340 3130 3470	5.0 5.1 4.6 5.5
198600 DUP Target Range - Lower Bound Upper Bound		14.55 14.85 13.95 15.45	15.20 15.50 14.55 16.15	>500 >500 475 >500	10.2 10.3 9.6 10.9	18 19 17 20	0.28 0.27 0.21 0.34	7.6 7.4 7.0 8.0	9.26 9.29 8.80 9.75	26.9 26.4 25.3 28.0	1.60 1.64 1.49 1.75	0.7 0.7 0.6 0.8	0.820 0.799 0.764 0.855	0.03 0.04 0.02 0.05	3580 3580 3400 3760	8.4 8.6 7.9 9.1

Comments: Samples were received on 27-Nov-2018 and the SSF/Request on 28-Nov-2018.

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NO-7491 TRONDHEIM

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Project: Not provided

QC CERTIFICATE OF ANALYSIS PI18302126

Sample Description	Method Analyte Units LOD	ME-MS61 Mg %	ME-MS61 Mn ppm	ME-MS61 Mo ppm	ME-MS61 Na %	ME-MS61 Nb ppm	ME-MS61 Ni ppm	ME-MS61 P ppm	ME-MS61 Pb ppm	ME-MS61 Rb ppm	ME-MS61 Re ppm	ME-MS61 S %	ME-MS61 Sb ppm	ME-MS61 Sc ppm	ME-MS61 Se ppm	ME-MS61 Sn ppm
		0.01	5	0.05	0.01	0.1	0.2	10	0.5	0.1	0.002	0.01	0.05	0.1	1	0.2
198541 DUP Target Range - Lower Bound Upper Bound		DUPLICATES														
198556 DUP Target Range - Lower Bound Upper Bound																
198557 DUP Target Range - Lower Bound Upper Bound		7.19 7.27 6.86 7.60	10300 10400 9830 10850	43.9 45.2 42.3 46.8	0.21 0.21 0.19 0.23	285 287 272 300	10.0 11.2 9.9 11.3	3740 3740 3540 3940	22.7 22.8 21.1 24.4	2.1 2.1 1.9 2.3	0.005 <0.002 <0.002 0.004	0.26 0.28 0.25 0.29	0.13 0.12 0.07 0.18	40.1 40.4 38.1 42.4	1 1 <1 2	2.4 2.3 2.0 2.7
198570 DUP Target Range - Lower Bound Upper Bound		5.85 5.94 5.59 6.20	10900 10900 10350 11450	57.6 57.9 54.8 60.7	0.17 0.17 0.15 0.19	294 275 270 299	12.5 11.7 11.3 12.9	8920 9110 8550 9480	20.2 18.4 17.8 20.8	3.8 3.7 3.5 4.0	0.003 0.003 <0.002 0.004	0.38 0.37 0.35 0.40	0.20 0.21 0.14 0.27	19.1 19.1 18.0 20.2	1 1 <1 2	1.4 1.5 1.2 1.7
198575 DUP Target Range - Lower Bound Upper Bound																
198590 DUP Target Range - Lower Bound Upper Bound																
198591 DUP Target Range - Lower Bound Upper Bound		7.29 7.40 6.97 7.72	10600 10700 10100 11200	58.8 58.8 55.8 61.8	0.07 0.07 0.06 0.08	>500 >500 475 >500	9.1 9.2 8.5 9.8	1460 1510 1400 1570	19.5 19.3 17.9 20.9	1.3 1.3 1.1 1.5	0.005 0.003 <0.002 0.006	0.29 0.29 0.27 0.31	0.18 0.18 0.12 0.24	13.9 13.7 13.0 14.6	1 1 <1 2	2.3 2.2 1.9 2.6
198600 DUP Target Range - Lower Bound Upper Bound		5.78 5.93 5.55 6.16	10500 10700 10050 11150	84.0 85.6 80.5 89.1	0.07 0.07 0.06 0.08	286 283 270 299	15.8 17.0 15.4 17.4	960 960 900 1020	810 807 768 849	1.6 1.7 1.5 1.8	0.004 0.004 <0.002 0.006	0.56 0.57 0.53 0.60	0.21 0.21 0.14 0.28	20.3 20.7 19.4 21.6	2 1 <1 2	2.0 1.9 1.7 2.2

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Project: Not provided

QC CERTIFICATE OF ANALYSIS PI18302126

Sample Description	Method Analyte Units LOD	ME-MS61 Sr ppm 0.2	ME-MS61 Ta ppm 0.05	ME-MS61 Te ppm 0.05	ME-MS61 Th ppm 0.01	ME-MS61 Ti % 0.005	ME-MS61 Tl ppm 0.02	ME-MS61 U ppm 0.1	ME-MS61 V ppm 1	ME-MS61 W ppm 0.1	ME-MS61 Y ppm 0.1	ME-MS61 Zn ppm 2	ME-MS61 Zr ppm 0.5
198541 DUP Target Range - Lower Bound Upper Bound		DUPLICATES											
198556 DUP Target Range - Lower Bound Upper Bound													
198557 DUP Target Range - Lower Bound Upper Bound		1605 1590 1515 1680	3.21 3.04 2.92 3.33	0.13 0.13 0.07 0.19	97.6 98.3 93.0 103.0	0.122 0.126 0.113 0.135	0.12 0.12 0.09 0.15	2.1 2.1 1.9 2.3	47 48 44 51	2.8 2.8 2.5 3.1	30.7 31.4 29.4 32.7	1190 1200 1135 1255	39.8 40.8 36.8 43.8
198570 DUP Target Range - Lower Bound Upper Bound		2110 2110 2000 2220	2.71 2.64 2.49 2.86	0.15 0.16 0.10 0.21	323 322 306 339	0.033 0.033 0.026 0.040	0.06 0.07 0.04 0.09	3.3 3.3 3.0 3.6	15 15 13 17	4.7 5.0 4.4 5.3	46.0 46.4 43.8 48.6	585 593 558 620	6.2 6.3 5.3 7.2
198575 DUP Target Range - Lower Bound Upper Bound													
198590 DUP Target Range - Lower Bound Upper Bound													
198591 DUP Target Range - Lower Bound Upper Bound		2280 2300 2180 2400	4.65 4.65 4.37 4.93	0.20 0.10 0.09 0.21	214 221 207 228	0.010 0.011 <0.005 0.016	0.06 0.07 0.04 0.09	3.1 3.1 2.8 3.4	11 11 9 13	1.8 1.8 1.6 2.0	22.5 22.4 21.2 23.7	105 107 99 113	14.4 14.2 12.7 15.9
198600 DUP Target Range - Lower Bound Upper Bound		2010 2040 1925 2130	4.74 4.42 4.30 4.86	0.18 0.17 0.12 0.23	362 350 338 374	0.038 0.038 0.031 0.045	0.06 0.07 0.04 0.09	4.2 4.5 4.0 4.7	21 21 19 23	2.5 2.5 2.2 2.8	34.1 33.9 32.2 35.8	3940 4000 3770 4170	35.3 32.7 31.0 37.1

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Project: Not provided

QC CERTIFICATE OF ANALYSIS PI18302126

Sample Description	Method Analyte Units LOD	ME-MS81h Ce ppm 3	ME-MS81h Dy ppm 0.3	ME-MS81h Er ppm 0.2	ME-MS81h Eu ppm 0.2	ME-MS81h Gd ppm 0.3	ME-MS81h Hf ppm 1	ME-MS81h Ho ppm 0.05	ME-MS81h La ppm 3	ME-MS81h Lu ppm 0.05	ME-MS81h Nb ppm 1	ME-MS81h Nd ppm 0.5	ME-MS81h Pr ppm 0.2	ME-MS81h Rb ppm 1	ME-MS81h Sm ppm 0.2	ME-MS81h Sn ppm 5
199346 DUP Target Range - Lower Bound Upper Bound		DUPLICATES														
199457 DUP Target Range - Lower Bound Upper Bound		453 439 427 465	5.5 5.3 4.9 5.9	2.0 1.8 1.6 2.2	4.6 4.6 4.2 5.0	9.9 10.3 9.4 10.8	1 <1 <1 2	0.82 0.78 0.72 0.88	245 244 233 256	0.28 0.29 0.23 0.34	735 722 702 755	154.5 150.0 146.5 158.0	46.4 44.3 43.6 47.1	27 24 24 27	20.3 18.7 18.6 20.4	<5 <5 <5 10
191951 191951 PREP DUP		PREP DUPLICATES														
198501 198501 PREP DUP		7390 7630	8.1 7.4	2.5 2.5	15.0 15.5	25.1 22.3	2 2	1.16 1.06	4900 4830	0.32 0.39	585 568	1935 1940	694 681	3 3	108.0 111.5	<5 <5
198551 198551 PREP DUP		4310 4520	7.4 7.7	2.4 2.6	14.1 14.9	25.8 26.9	<1 <1	1.05 1.08	2870 2890	0.23 0.21	1110 1140	1150 1145	395 398	2 2	86.3 86.1	<5 <5

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Project: Not provided

QC CERTIFICATE OF ANALYSIS PI18302126

Sample Description	Method Analyte Units LOD	ME-MS81h Ta ppm 0.5	ME-MS81h Tb ppm 0.05	ME-MS81h Th ppm 0.3	ME-MS81h Tm ppm 0.05	ME-MS81h U ppm 0.3	ME-MS81h W ppm 5	ME-MS81h Y ppm 3	ME-MS81h Yb ppm 0.2	ME-MS81h Zr ppm 10	ME-MS61 Ag ppm 0.01	ME-MS61 Al % 0.01	ME-MS61 As ppm 0.2	ME-MS61 Ba ppm 10	ME-MS61 Be ppm 0.05	ME-MS61 Bi ppm 0.01
DUPLICATES																
199346											3.80	0.42	46.7	150	0.91	11.10
DUP											3.70	0.43	45.7	650	0.90	10.85
Target Range - Lower Bound											3.55	0.39	43.7	360	0.81	10.40
Upper Bound											3.95	0.46	48.7	440	1.00	11.55
199457		8.5	1.30	26.3	0.28	38.7	8	19	1.7	20						
DUP		7.9	1.27	26.6	0.29	35.7	8	18	1.7	10						
Target Range - Lower Bound		7.4	1.19	25.2	0.23	35.6	<5	15	1.4	<10						
Upper Bound		9.0	1.38	27.7	0.34	38.8	10	22	2.0	20						
PREP DUPLICATES																
191951		0.8	9.05	243	0.40	2.3	<5	53	2.3	50	0.76	0.13	3.3	2150	0.55	0.34
191951 PREP DUP		1.3	6.40	235	0.45	2.2	9	54	2.3	40	0.92	0.11	2.9	280	0.48	0.47
198501		6.9	4.01	129.5	0.24	4.7	5	26	2.1	130	0.51	0.65	1.0	1410	0.81	0.38
198501 PREP DUP		6.6	2.37	128.5	0.32	4.8	8	26	2.3	130	0.64	0.60	0.5	1380	0.95	0.33
198551		7.7	2.98	88.5	0.30	6.3	<5	25	1.7	10	1.51	0.36	2.3	650	0.45	0.59
198551 PREP DUP		7.1	2.30	87.1	0.38	5.2	9	25	1.8	10	0.98	0.38	0.4	650	0.51	0.58

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Sample Description	Method Analyte Units LOD	ME-MS61 Ca %	ME-MS61 Cd ppm	ME-MS61 Ce ppm	ME-MS61 Co ppm	ME-MS61 Cr ppm	ME-MS61 Cs ppm	ME-MS61 Cu ppm	ME-MS61 Fe %	ME-MS61 Ga ppm	ME-MS61 Ge ppm	ME-MS61 Hf ppm	ME-MS61 In ppm	ME-MS61 K %	ME-MS61 La ppm	ME-MS61 Li ppm
		0.01	0.02	0.01	0.1	1	0.05	0.2	0.01	0.05	0.05	0.1	0.005	0.01	0.5	0.2
DUPLICATES																
199346		17.15	1.12	>500	24.0	19	0.44	6.7	11.00	14.35	1.85	0.3	0.335	0.01	870	8.6
DUP		17.60	1.23	>500	24.5	18	0.44	6.2	11.35	14.45	1.78	0.3	0.331	0.01	860	8.4
Target Range - Lower Bound		16.50	1.10	475	22.9	17	0.37	6.0	10.60	13.65	1.67	0.2	0.311	<0.01	821	7.9
Upper Bound		18.25	1.25	>500	25.6	20	0.51	6.9	11.75	15.15	1.96	0.4	0.355	0.02	909	9.1
199457																
DUP																
Target Range - Lower Bound																
Upper Bound																
PREP DUPLICATES																
191951		13.40	4.00	>500	15.8	5	0.22	2.6	7.30	34.8	1.80	0.6	0.495	0.02	5820	2.6
191951 PREP DUP		17.70	3.84	>500	16.8	5	0.22	3.2	7.91	34.2	2.07	0.6	0.545	0.01	6010	2.8
198501		23.0	4.40	>500	9.9	16	0.34	7.4	5.82	25.0	1.01	1.4	0.481	0.06	4430	5.8
198501 PREP DUP		22.7	3.84	>500	10.5	18	0.34	7.5	5.89	26.0	1.40	1.3	0.472	0.05	4220	6.4
198551		16.80	2.79	>500	12.6	11	0.27	4.5	7.91	8.62	0.91	0.3	0.572	0.02	2460	7.8
198551 PREP DUP		18.10	2.42	>500	10.8	13	0.28	4.5	8.39	16.40	0.87	0.3	0.537	0.02	2540	7.3

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		0.01	5	0.05	0.01	0.1	0.2	10	0.5	0.1	0.002	0.01	0.05	0.1	1	0.2
DUPLICATES																
199346		5.05	12300	139.0	0.07	102.5	16.0	5010	125.5	1.1	0.005	1.22	0.34	21.6	1	4.8
DUP		5.14	12450	137.5	0.06	100.0	15.5	4880	121.5	1.1	0.004	1.24	0.34	21.6	1	4.7
Target Range - Lower Bound		4.83	11750	131.5	0.05	96.1	14.8	4690	117.0	0.9	<0.002	1.16	0.26	20.4	<1	4.3
Upper Bound		5.36	13000	145.0	0.08	106.5	16.7	5200	130.0	1.3	0.007	1.30	0.42	22.8	2	5.2
199457																
DUP																
Target Range - Lower Bound																
Upper Bound																
PREP DUPLICATES																
191951		6.04	8760	98.9	0.03	110.0	13.0	3140	20.6	0.9	0.011	0.99	0.17	16.4	<1	0.8
191951 PREP DUP		7.24	9830	102.5	0.05	118.5	15.3	3420	25.7	0.9	0.008	1.05	0.19	17.0	1	0.9
198501		4.25	7160	81.7	0.14	260	14.8	4210	13.4	3.1	0.006	0.44	0.11	12.9	<1	1.7
198501 PREP DUP		4.26	7010	81.5	0.17	349	16.0	4060	12.6	3.0	0.004	0.45	0.12	12.9	1	1.7
198551		6.86	10100	345	0.17	>500	12.2	3030	13.0	1.7	0.008	0.23	0.18	19.3	1	2.0
198551 PREP DUP		6.90	10800	363	0.19	>500	13.0	3550	12.4	1.6	0.006	0.25	0.18	19.0	1	2.0

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QC CERTIFICATE OF ANALYSIS PI18302126

Sample Description	Method Analyte Units LOD	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61	ME-MS61
		Sr	Ta	Te	Th	Ti	Tl	U	V	W	Y	Zn	Zr
		ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm
		0.2	0.05	0.05	0.01	0.005	0.02	0.1	1	0.1	0.1	2	0.5
DUPLICATES													
199346		1650	0.44	0.20	348	0.046	0.10	5.5	45	1.4	27.3	649	21.4
DUP		1660	0.45	0.17	343	0.046	0.10	5.4	47	1.4	27.6	658	21.0
Target Range - Lower Bound		1570	0.37	0.13	328	0.039	0.07	5.1	43	1.2	26.0	619	19.1
Upper Bound		1740	0.52	0.24	363	0.053	0.13	5.8	49	1.6	28.9	688	23.3
199457													
DUP													
Target Range - Lower Bound													
Upper Bound													
PREP DUPLICATES													
191951		2540	0.71	0.13	263	0.011	0.04	2.4	14	1.2	50.0	822	31.2
191951 PREP DUP		2830	0.80	0.21	252	0.012	0.06	2.3	17	1.2	52.4	949	36.8
198501		1875	1.45	0.18	120.0	0.030	0.07	5.1	10	1.7	24.0	1320	105.0
198501 PREP DUP		1770	2.64	0.25	131.5	0.029	0.07	4.7	12	1.8	25.7	1140	115.5
198551		2130	7.22	0.32	92.2	0.016	0.08	6.4	13	2.2	24.9	569	18.1
198551 PREP DUP		2150	5.58	0.28	89.2	0.016	0.06	5.8	14	2.2	24.6	609	16.5

Comments: Samples were received on 27-Nov-2018 and the SSF/Request on 28-Nov-2018.

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



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Page: Appendix 1
Total # Appendix Pages: 1
Finalized Date: 27-DEC-2018
Account: ONUSEG

An INAB accredited testing laboratory Reg. No. 173T. Accredited methods are listed in the Scope of Accreditation available on request.

Project: Not provided

QC CERTIFICATE OF ANALYSIS PI18302126

CERTIFICATE COMMENTS

ANALYTICAL COMMENTS

Applies to Method: REE's may not be totally soluble in this method.
ME-MS61

ACCREDITATION COMMENTS

Applies to Method: The methods immediately below this line are ISO 17025:2005 Accredited. INAB Registration No: 173T
ME-MS61



LABORATORY ADDRESSES

Applies to Method:	Processed at ALS Pitea located at Hammarvagen 22, SE-943 36, Ojebyn, Sweden.			
	CRU-31	CRU-QC	LOG-22	LOG-24
	PUL-31	PUL-QC	SPL-22Y	WEI-21
Applies to Method:	Processed at ALS Loughrea located at Dublin Road, Loughrea, Co. Galway, Ireland.			
	ME-MS61	ME-MS81h		