



Date Submitted: 05-Apr-16
Invoice No.: A16-02886
Invoice Date: 13-Apr-16
Your Reference:

Western Enviromental Services
2442 Petersen Dr.
Cheyenne WY 82009
United States

ATTN: Robert Van Risseghem

CERTIFICATE OF ANALYSIS

44 Vegetation samples were submitted for analysis.

The following analytical package(s) were requested:

Code 2G Unashed Vegetation ICP/MS

REPORT **A16-02886**

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Notes:

CERTIFIED BY:

A handwritten signature in black ink, appearing to be "Emmanuel Esemé". The signature is stylized with loops and is positioned above a horizontal line.

Emmanuel Esemé , Ph.D.
Quality Control

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Results

Activation Laboratories Ltd.

Report: A16-02886

Analyte Symbol	Ag	Al	As	Au	B	Ba	Be	Bi	Ca	Cd	Ce	Co	Cr	Cs	Cu	Dy	Er	Eu	Fe	Ga	Gd	Ge	Hf
Unit Symbol	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppm	ppb	ppb	ppb	ppb
Lower Limit	10	1000	10	0.2	1000	10	50	0.5	10000	10	1	2	20	2	10	0.5	1	1	1	4	4	1	3
Method Code	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS
A	30	3000	70	1.2	6000	9180	< 50	0.5	1620000	30	10	15	70	< 2	8330	< 0.5	< 1	< 1	52	< 4	< 4	4	< 3
B	40	3000	250	1.3	5000	22700	< 50	0.9	3650000	40	6	20	700	4	12500	< 0.5	< 1	< 1	78	6	< 4	< 1	< 3
C	30	20000	170	1.2	5000	15900	< 50	2.2	3480000	70	13	21	1310	4	13500	0.7	< 1	18	86	10	< 4	< 1	< 3
D	40	3000	170	1.7	66000	9060	< 50	12.1	3350000	40	8	8	530	< 2	3980	< 0.5	< 1	< 1	42	9	< 4	8	< 3
E	10	2000	150	1.1	52000	17900	< 50	0.7	4350000	10	5	13	540	< 2	2940	1.1	< 1	< 1	27	51	< 4	35	< 3
F	20	8000	110	1.8	8000	11000	< 50	< 0.5	4240000	50	14	551	890	8	10200	< 0.5	1	< 1	89	15	< 4	< 1	< 3
G	10	5000	270	1.7	9000	17000	< 50	2.1	3570000	50	8	16	1490	4	11600	< 0.5	< 1	< 1	73	4	< 4	4	< 3
H	50	4000	100	1.2	6000	27100	< 50	32.3	3850000	50	11	23	1150	12	9810	0.5	< 1	< 1	71	15	< 4	4	< 3
I	30	3000	150	0.9	36000	17000	< 50	1.0	4590000	40	6	12	1030	5	11000	< 0.5	< 1	< 1	85	8	< 4	7	< 3
J	20	2000	40	0.9	4000	8230	< 50	0.8	920000	20	5	15	550	< 2	4770	< 0.5	< 1	< 1	39	11	< 4	2	< 3
K	20	7000	320	0.9	8000	5890	< 50	< 0.5	5150000	170	11	44	6540	3	12300	0.9	< 1	< 1	92	4	< 4	8	< 3
L	10	6000	240	0.9	8000	5930	< 50	< 0.5	4960000	190	7	44	4800	5	12200	< 0.5	< 1	< 1	91	< 4	< 4	142	< 3
M	10	10000	200	1.2	12000	36400	< 50	0.7	7250000	60	17	39	1860	21	10300	0.9	< 1	1	95	16	< 4	16	9
AA	430	38000	380	5.9	41000	22400	< 50	1.7	18900000	60	67	89	250	12	7070	3.7	1	< 1	93	27	< 4	5	< 3
BB	40	8000	220	1.5	43000	18600	< 50	< 0.5	20900000	610	15	70	120	10	5450	< 0.5	< 1	< 1	46	7	< 4	2	< 3
CC	20	4000	210	1.4	33000	39700	< 50	0.9	32200000	410	7	176	60	4	3770	< 0.5	< 1	< 1	49	18	< 4	< 1	6
DD	40	20000	600	1.2	47000	21300	< 50	1.0	18500000	480	43	121	200	8	3820	2.4	1	1	46	4	< 4	< 1	6
EE	100	9000	270	2.2	36000	16200	< 50	4.9	16100000	530	17	31	100	10	6620	1.3	1	< 1	61	11	< 4	2	< 3
FF	40	5000	320	1.7	19000	30100	< 50	14.2	23300000	20	9	106	120	< 2	5010	0.7	< 1	< 1	54	< 4	< 4	11	< 3
GG	40	15000	290	2.0	33000	13200	< 50	4.4	11400000	210	26	47	100	6	3900	1.3	1	< 1	36	< 4	< 4	4	< 3
HH	40	28000	210	1.9	20000	14900	< 50	1.4	21200000	580	62	190	240	13	6200	2.9	2	< 1	98	8	< 4	< 1	< 3
II	90	273000	620	1.6	27000	34100	< 50	2.8	22400000	360	587	197	1300	59	10700	31.6	20	9	404	50	35	24	10
JJ	100	113000	650	1.9	26000	27200	< 50	1.8	24600000	80	220	194	610	19	3120	12.1	7	3	175	35	14	18	5
KK	50	74000	250	1.7	26000	13200	< 50	2.6	12300000	230	157	90	460	13	6800	6.0	3	2	115	28	9	2	< 3
LL	70	80000	360	3.5	24000	15200	< 50	1.2	15400000	590	153	243	720	73	7010	6.1	5	2	165	29	9	5	< 3
MM	30	33000	190	1.3	17000	10300	< 50	< 0.5	10300000	10	66	201	220	11	10900	4.6	2	< 1	112	< 4	< 4	2	< 3
NN	280	301000	680	1.9	40000	39800	< 50	3.3	29500000	210	659	2350	1600	42	5930	28.9	17	9	374	60	38	12	15
OO	60	47000	890	0.9	30000	38600	< 50	9.0	27300000	430	78	4220	220	14	4750	3.3	3	2	93	27	< 4	2	< 3
PP	40	30000	760	2.6	20000	37800	< 50	1.0	29200000	480	60	2860	180	11	6580	2.2	2	1	83	13	5	11	< 3
QQ	10	9000	310	0.8	19000	17400	< 50	2.8	11500000	20	20	665	80	12	6550	0.9	< 1	< 1	83	< 4	< 4	2	< 3
RR	40	61000	560	1.1	22000	27700	< 50	2.7	26600000	400	186	2290	430	25	6330	11.4	5	2	140	45	10	12	3
SS	30	93000	670	1.6	22000	44000	< 50	2.6	29300000	220	195	2850	330	20	3680	10.8	5	4	132	34	11	7	4
TT	440	103000	510	1.2	64000	56700	< 50	1.8	25900000	170	233	104	1000	14	1970	11.8	9	5	143	35	16	10	4

Analyte Symbol	Ag	Al	As	Au	B	Ba	Be	Bi	Ca	Cd	Ce	Co	Cr	Cs	Cu	Dy	Er	Eu	Fe	Ga	Gd	Ge	Hf
Unit Symbol	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppm	ppb	ppb	ppb	ppb
Lower Limit	10	1000	10	0.2	1000	10	50	0.5	10000	10	1	2	20	2	10	0.5	1	1	1	4	4	1	3
Method Code	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS
UU	200	16000	370	1.6	75000	52600	< 50	1.2	2800000 0	140	30	92	110	3	1850	1.3	< 1	1	41	< 4	< 4	4	< 3
VV	800	58000	970	1.3	43000	51600	< 50	1.1	2590000 0	180	113	91	180	9	4210	5.7	3	2	130	57	6	14	< 3
WW	120	14000	350	2.3	55000	38900	< 50	12.5	1830000 0	10	30	96	460	5	5980	1.6	2	1	72	43	< 4	14	< 3
XX	80	7000	370	1.2	70000	40900	< 50	< 0.5	2290000 0	100	24	56	60	5	1790	1.0	< 1	< 1	31	12	< 4	2	< 3
YY	30	4000	250	2.0	32000	26500	< 50	3.2	2050000 0	10	7	78	70	4	5150	< 0.5	< 1	< 1	32	< 4	< 4	< 1	< 3
ZZ	30	4000	150	0.8	33000	28300	< 50	1.7	2450000 0	180	5	132	40	< 2	2260	< 0.5	< 1	< 1	46	8	< 4	4	< 3
V	40	4000	260	3.0	62000	27800	< 50	1.4	2690000 0	380	6	70	40	8	3520	0.5	< 1	< 1	45	90	< 4	2	< 3
W	30	24000	600	1.1	41000	26400	< 50	0.8	1920000 0	310	57	84	190	4	3190	1.7	2	1	58	31	< 4	11	< 3
X	30	7000	300	0.9	45000	18500	< 50	9.1	1800000 0	230	15	53	170	5	4330	1.8	< 1	< 1	38	6	< 4	1	< 3
Y	50	18000	320	2.5	44000	65400	< 50	2.0	3240000 0	60	49	37	230	5	6900	2.1	2	< 1	74	13	< 4	4	< 3
Z	20	4000	350	0.9	65000	18100	< 50	13.8	1720000 0	590	8	22	70	7	4760	< 0.5	< 1	< 1	38	13	< 4	4	< 3

Results

Activation Laboratories Ltd.

Report: A16-02886

Analyte Symbol	Hg	Ho	In	K	La	Li	Lu	Mg	Mn	Mo	Na	Nb	Nd	Ni	P	Pb	Pd	Pr	Pt	Rb	Re	Sb	Se
Unit Symbol	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Lower Limit	10	0.4	0.2	10	3	10	0.4	1000	100	10	1000	2	5	10	3000	5	0.1	2	0.2	20	0.2	5	10
Method Code	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS
A	< 10	< 0.4	1.5	1140000 0	4	620	0.4	1640000	34300	1920	689000	< 2	< 5	440	5710000	63	< 0.1	< 2	< 0.2	3250	0.8	14	650
B	< 10	< 0.4	< 0.2	6650000 0	< 3	710	1.6	2290000	57300	3620	688000	< 2	< 5	610	1090000 0	39	0.1	< 2	< 0.2	14400	59.3	11	570
C	< 10	< 0.4	0.9	8280000 0	10	790	3.6	2380000	52800	3860	1080000	< 2	< 5	500	1210000 0	95	0.1	7	7.4	16700	81.7	13	590
D	< 10	< 0.4	< 0.2	5370000 0	3	5950	3.2	1470000	28900	1560	774000	< 2	6	110	7440000	69	< 0.1	< 2	< 0.2	13600	48.1	22	260
E	< 10	< 0.4	< 0.2	2690000 0	< 3	800	5.7	1050000	63700	1150	383000	< 2	< 5	90	3170000	49	< 0.1	< 2	< 0.2	3060	3.4	13	260
F	< 10	< 0.4	< 0.2	8220000 0	6	5390	1.9	2270000	50000	5230	875000	< 2	7	410	7360000	128	0.2	2	8.6	14800	158	20	700
G	< 10	< 0.4	< 0.2	6930000 0	< 3	3000	284	2410000	52100	3240	845000	< 2	< 5	560	1160000 0	58	0.1	< 2	< 0.2	15400	68.7	14	680
H	< 10	< 0.4	< 0.2	3950000 0	5	580	6.0	2300000	81900	12100	969000	< 2	< 5	320	9550000	68	0.1	< 2	3.6	12800	3.1	11	580
I	< 10	< 0.4	1.0	7470000 0	3	1060	2.0	2280000	45000	7040	693000	< 2	< 5	270	7170000	30	0.1	< 2	2.2	20600	77.5	8	2480
J	< 10	< 0.4	0.5	1590000 0	< 3	120	1.7	852000	26000	2220	250000	< 2	< 5	420	3890000	68	< 0.1	< 2	< 0.2	4100	10.3	15	380
K	< 10	< 0.4	0.6	8720000 0	6	1450	3.3	3270000	80600	17600	5800000	< 2	5	4010	1240000 0	88	0.2	< 2	< 0.2	16400	84.2	11	510
L	< 10	< 0.4	< 0.2	9170000 0	< 3	1550	1.8	3220000	79800	10400	5640000	< 2	< 5	4050	1080000 0	71	0.2	< 2	< 0.2	17500	101	14	510
M	< 10	< 0.4	0.8	6020000 0	8	920	9780	4480000	117000	28800	2670000	< 2	7	660	1480000 0	135	0.2	< 2	5.6	23500	4.2	11	710
AA	< 10	0.4	1.1	1220000 00	30	2850	111	1300000 0	72700	3870	4720000	6	44	210	3590000	300	0.7	8	5.7	23600	315	123	100
BB	< 10	< 0.4	< 0.2	1280000 00	5	2230	4.0	7340000	174000	6480	1470000 0	< 2	6	100	5320000	151	0.5	< 2	< 0.2	26200	232	17	70
CC	< 10	< 0.4	2.3	7630000 0	< 3	2530	4750	5220000	175000	5120	8310000	< 2	< 5	70	6030000	76	0.7	< 2	< 0.2	12900	70.4	40	390
DD	< 10	< 0.4	< 0.2	9980000 0	16	2900	3570	6400000	101000	5970	1790000 0	4	22	120	4070000	105	0.6	5	< 0.2	19400	160	31	220
EE	< 10	< 0.4	< 0.2	1580000 00	8	2550	10.2	5860000	105000	5180	1500000 0	< 2	9	190	4130000	107	0.6	< 2	2.0	34600	333	22	850
FF	< 10	< 0.4	< 0.2	5340000 0	4	1140	1.8	4580000	103000	9800	1050000	< 2	8	670	4520000	129	0.7	< 2	< 0.2	9220	57.5	12	110
GG	20	< 0.4	< 0.2	8900000 0	12	2150	29.8	6720000	49800	1460	7250000	2	14	70	3680000	101	0.4	3	< 0.2	19400	178	25	130
HH	< 10	0.5	< 0.2	1050000 00	25	11200	0.7	5390000	100000	2000	1110000 0	4	27	190	4580000	103	0.5	6	< 0.2	18400	84.3	22	140
II	< 10	3.5	1.3	5580000 0	230	3050	4.6	5740000	92800	3180	6320000	46	246	1270	9530000	632	0.8	67	38.9	20200	8.6	32	360
JJ	< 10	1.0	2.3	2660000 0	92	3570	2.4	3800000	79000	3000	9080000	15	94	290	5840000	287	0.9	25	29.3	8210	7.6	25	440
KK	< 10	0.8	< 0.2	1180000 00	66	6430	1.5	8000000	47700	1490	7080000	13	77	260	5220000	168	0.4	19	2.5	20000	228	15	160
LL	< 10	0.9	0.3	7760000 0	60	6860	1.6	5920000	75200	3630	8050000	15	72	520	8230000	197	0.5	19	5.7	40800	106	20	260
MM	< 10	< 0.4	< 0.2	5630000 0	27	3060	1.8	4440000	31100	14000	1060000	5	29	560	8590000	82	0.3	9	2.0	11100	50.9	16	230
NN	20	2.9	0.7	1020000 00	268	6960	3.4	7940000	160000	1380	9100000	56	287	290	7230000	400	1.1	78	13.6	18900	83.5	34	510
OO	< 10	< 0.4	0.8	9440000	31	8900	1.7	7210000	140000	5810	1340000	10	42	180	9440000	147	1.2	10	< 0.2	15700	81.4	16	1140

Analyte Symbol	Hg	Ho	In	K	La	Li	Lu	Mg	Mn	Mo	Na	Nb	Nd	Ni	P	Pb	Pd	Pr	Pt	Rb	Re	Sb	Se
Unit Symbol	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Lower Limit	10	0.4	0.2	10	3	10	0.4	1000	100	10	1000	2	5	10	3000	5	0.1	2	0.2	20	0.2	5	10
Method Code	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS
				0							0												
PP	< 10	< 0.4	1.3	8740000	25	7460	2.0	6200000	140000	5830	1070000	6	29	260	8040000	199	1.1	7	6.0	15000	90.2	35	1020
				0							0												
QQ	< 10	< 0.4	1.9	6160000	7	1320	1.3	4050000	27500	10500	1540000	3	10	1780	9660000	66	0.5	2	< 0.2	19400	19.2	8	450
				0																			
RR	< 10	0.6	0.5	1170000	103	13300	1.3	6310000	91400	4360	9660000	16	88	460	6350000	223	1.2	25	10.2	20900	169	22	580
				00																			
SS	< 10	1.3	1.0	5000000	73	5270	1.7	4560000	167000	8180	8010000	18	81	260	6340000	294	1.3	21	1.5	10100	14.7	21	830
				0																			
TT	< 10	1.2	< 0.2	2050000	94	2260	2.3	4140000	45900	800	7050000	20	127	120	3710000	158	0.9	29	< 0.2	4830	2.3	18	150
				0																			
UU	< 10	< 0.4	0.8	1760000	12	1750	1.1	4480000	127000	840	2590000	< 2	12	150	3370000	118	0.9	3	< 0.2	3620	7.4	968	160
				0																			
VV	< 10	0.6	< 0.2	3560000	46	3390	1.9	3930000	80900	1430	8010000	11	54	210	4330000	144	1.1	14	< 0.2	7700	4.7	25	180
				0																			
WW	< 10	< 0.4	3.3	2640000	14	790	632	3430000	43900	7550	1040000	< 2	17	1090	3620000	1120	0.6	3	87.1	5400	3.7	17	120
				0																			
XX	< 10	< 0.4	0.4	2540000	11	1960	0.6	3250000	95500	1430	4010000	< 2	6	100	4240000	72	0.8	< 2	< 0.2	6490	7.2	19	100
				0																			
YY	< 10	< 0.4	< 0.2	3790000	3	1550	1.8	4420000	75100	9100	1220000	< 2	< 5	910	5170000	70	0.7	< 2	< 0.2	8440	17.6	25	170
				0																			
ZZ	< 10	< 0.4	< 0.2	3230000	< 3	4160	1.0	3390000	117000	4220	3520000	< 2	< 5	60	4420000	51	1.0	< 2	< 0.2	7780	21.6	14	510
				0																			
V	< 10	< 0.4	< 0.2	7030000	4	13900	1.4	5040000	175000	9060	6670000	< 2	< 5	90	7040000	75	1.1	< 2	< 0.2	18700	62.2	15	450
				0																			
W	< 10	< 0.4	0.5	6800000	23	10300	1.7	4890000	88100	3330	1050000	5	23	230	6160000	94	0.9	8	0.4	19900	89.4	14	490
				0																			
X	20	< 0.4	0.9	1050000	8	15800	2.2	9180000	85400	1730	6660000	< 2	5	130	5450000	75	0.8	< 2	< 0.2	27500	251	16	160
				00																			
Y	< 10	< 0.4	< 0.2	5710000	21	4260	3.1	1050000	121000	2180	1380000	3	21	150	5280000	321	1.1	5	11.8	16600	20.3	44	210
				0																			
Z	< 10	< 0.4	0.4	9860000	< 3	20200	1.9	4590000	103000	3520	9820000	< 2	6	90	5230000	88	0.7	< 2	< 0.2	26800	228	19	420
				0																			

Analyte Symbol	Sm	Sn	Sr	Ta	Tb	Te	Th	Ti	Tl	Tm	U	V	W	Y	Yb	Zn	Zr
Unit Symbol	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Lower Limit	2	30	50	1	2	5	1	200	0.5	0.1	0.5	20	5	4	3	100	20
Method Code	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS
A	3	100	11500	< 1	< 2	< 5	2	< 200	0.7	1.7	54.0	50	32	< 4	3	34000	20
B	< 2	30	23800	< 1	< 2	< 5	1	600	3.4	1.5	80.9	50	36	< 4	3	44900	30
C	7	90	23800	< 1	< 2	< 5	2	400	4.1	13.7	93.7	80	34	4	22	56700	40
D	< 2	100	26000	< 1	< 2	< 5	1	300	24.7	< 0.1	184	80	9	5	< 3	29800	< 20
E	< 2	200	27500	< 1	< 2	< 5	2	< 200	1.4	0.1	83.1	30	7	< 4	< 3	19000	< 20
F	< 2	130	34900	< 1	< 2	< 5	2	400	7.8	< 0.1	54.7	50	20	6	< 3	68800	30
G	< 2	640	29300	< 1	< 2	< 5	2	300	4.1	0.1	127	100	33	< 4	< 3	47100	30
H	< 2	580	25300	< 1	< 2	< 5	2	300	0.5	0.6	92.5	70	35	5	< 3	42400	20
I	< 2	50	32800	< 1	< 2	6	1	200	3.7	0.1	48.5	40	26	< 4	< 3	46700	< 20
J	< 2	80	8410	< 1	< 2	< 5	1	< 200	< 0.5	< 0.1	47.7	50	21	< 4	< 3	25500	< 20
K	< 2	410	31900	< 1	< 2	< 5	2	800	7.1	0.1	120	110	17	7	< 3	120000	30
L	< 2	340	30500	< 1	< 2	< 5	1	400	7.1	0.2	116	980	21	< 4	< 3	108000	20
M	< 2	240	49900	< 1	< 2	11	3	600	3.0	0.4	177	210	55	6	< 3	69000	200
AA	5	470	138000	< 1	< 2	15	7	2100	14.8	0.2	447	640	18	29	< 3	64300	100
BB	< 2	210	141000	< 1	< 2	11	2	300	559	0.2	95.8	120	15	5	< 3	62100	30
CC	< 2	140	191000	< 1	< 2	17	1	200	397	0.1	160	90	81	< 4	< 3	51200	90
DD	< 2	90	136000	< 1	< 2	11	4	1100	50.7	0.3	574	640	58	12	< 3	50000	160
EE	< 2	190	119000	< 1	< 2	13	2	300	450	0.1	215	260	12	6	< 3	75400	40
FF	< 2	410	149000	< 1	< 2	20	1	200	5.7	< 0.1	721	310	14	< 4	< 3	49400	30
GG	< 2	130	76900	< 1	< 2	16	4	700	38.7	0.1	431	360	13	10	< 3	43100	50
HH	5	180	131000	< 1	< 2	15	7	1700	1200	0.3	190	190	9	19	< 3	65300	70
II	42	470	187000	< 1	6	15	43	13100	23.7	2.0	866	5060	48	193	17	89100	410
JJ	15	3730	204000	< 1	< 2	21	30	6000	230	0.9	885	5540	64	64	8	39600	260
KK	8	280	93300	< 1	< 2	15	19	3000	21.0	1.0	358	710	16	37	7	52200	170
LL	10	80	110000	< 1	< 2	10	16	4200	30.9	0.5	250	550	30	50	< 3	78400	130
MM	5	110	71500	< 1	< 2	13	7	1700	5.4	0.4	141	250	11	29	< 3	43100	70
NN	48	2740	226000	< 1	6	27	67	16800	59.5	3.5	731	1380	382	194	37	109000	630
OO	6	460	275000	< 1	< 2	29	9	2200	44.4	0.4	595	730	75	23	< 3	227000	100
PP	3	180	273000	< 1	< 2	34	6	1400	856	0.3	684	720	51	13	< 3	218000	70
QQ	< 2	340	114000	< 1	< 2	17	3	1000	5.9	< 0.1	472	430	26	7	< 3	57900	40
RR	12	590	230000	< 1	< 2	31	28	3200	67.2	0.8	599	710	23	51	3	164000	170
SS	12	420	267000	< 1	3	78	23	3800	882	0.8	727	800	95	68	4	144000	190
TT	20	4680	187000	< 1	3	62	29	5100	22.5	1.3	475	690	21	76	6	99900	210
UU	< 2	1200	171000	< 1	< 2	50	5	700	1090	0.1	457	200	18	13	< 3	83900	40
VV	8	8900	203000	< 1	< 2	47	14	2900	324	0.5	1360	1280	15	35	3	95500	130
WW	3	840	123000	< 1	< 2	47	4	1000	4.6	0.2	1010	580	25	17	< 3	44700	340
XX	< 2	860	152000	< 1	< 2	50	3	300	740	< 0.1	520	230	16	7	< 3	74500	30
YY	< 2	260	161000	< 1	< 2	40	2	300	23.3	0.1	679	300	22	< 4	< 3	40500	20
ZZ	< 2	80	183000	< 1	< 2	95	1	300	607	< 0.1	197	90	121	4	< 3	24600	20
V	< 2	100	202000	< 1	< 2	47	1	300	1210	< 0.1	406	190	178	< 4	< 3	56700	< 20
W	4	60	170000	< 1	< 2	48	5	1300	40.7	0.2	577	660	51	22	< 3	51500	60
X	< 2	350	135000	< 1	< 2	30	2	500	44.5	0.1	562	330	9	8	< 3	63500	20
Y	< 2	330	272000	< 1	< 2	28	6	1100	11.8	0.3	510	420	14	13	< 3	74900	60
Z	< 2	60	138000	< 1	< 2	16	1	400	632	< 0.1	620	370	24	6	< 3	65100	30

Analyte Symbol	Ag	Al	As	Au	B	Ba	Be	Bi	Ca	Cd	Ce	Co	Cr	Cs	Cu	Dy	Er	Eu	Fe	Ga	Gd	Ge	Hf
Unit Symbol	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppm	ppb	ppb	ppb	ppb
Lower Limit	10	1000	10	0.2	1000	10	50	0.5	10000	10	1	2	20	2	10	0.5	1	1	1	4	4	1	3
Method Code	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS
NIST 1575a Meas					7000	4900			2640000	240		56		315	2870				43				
NIST 1575a Cert					9600	6000			2500000	233		61		283	2800				46				
CDV-1 Meas	10	922000	1300	2.1	14000	7780		31.4	2120000 0	50	4700	1690	11600	106	7810				2620	324		11	35
CDV-1 Cert	9	1500000	1300	2.3	12400	8500		20	1940000 0	40	4350	2000	12100	121	8610				2560	600		30	46
L Orig	20	8000	250	0.8	8000	6140	< 50	2.3	5060000	200	7	45	4900	7	12500	0.6	< 1	< 1	92	< 4	< 4	142	< 3
L Dup	10	5000	240	0.9	8000	5710	< 50	< 0.5	4870000	180	8	43	4690	3	11800	< 0.5	< 1	< 1	90	4	< 4	142	< 3
MM Orig	40	31000	190	1.1	17000	9320	< 50	< 0.5	1050000 0	10	69	208	220	10	10800	4.5	2	< 1	112	< 4	< 4	3	< 3
MM Dup	30	35000	200	1.5	17000	11200	< 50	0.8	1020000 0	10	63	195	230	12	11000	4.7	1	< 1	111	6	< 4	2	< 3
Method Blank	< 10	< 1000	< 10	0.3	< 1000	10	< 50	< 0.5	< 10000	< 10	< 1	< 2	< 20	< 2	10	< 0.5	< 1	< 1	2	< 4	< 4	< 1	< 3

Analyte Symbol	Hg	Ho	In	K	La	Li	Lu	Mg	Mn	Mo	Na	Nb	Nd	Ni	P	Pb	Pd	Pr	Pt	Rb	Re	Sb	Se
Unit Symbol	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Lower Limit	10	0.4	0.2	10	3	10	0.4	1000	100	10	1000	2	5	10	3000	5	0.1	2	0.2	20	0.2	5	10
Method Code	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS
NIST 1575a Meas	30			4180000				889000	488000		60000			1260	1060000	227				17200			100
NIST 1575a Cert	39.9			4170000				1060000	488000		63000			1470	1070000	167				16500			99
CDV-1 Meas	40			1740000	2000	320		1110000	412000	170	53000	49		5720	364000	1110				2330		34	240
CDV-1 Cert	41			1800000	2310	560		1310000	413000	200	60000	60		6400	400000	1330				2600		30	300
L Orig	< 10	< 0.4	< 0.2	9430000 0	3	1580	2.4	3300000	81800	10600	5830000	< 2	< 5	4230	1110000 0	78	0.1	< 2	< 0.2	17700	103	13	520
L Dup	< 10	< 0.4	0.6	8920000 0	< 3	1510	1.2	3140000	77900	10100	5460000	< 2	< 5	3880	1060000 0	63	0.2	< 2	< 0.2	17300	99.0	15	500
MM Orig	< 10	< 0.4	2.4	5600000 0	28	3050	2.3	4470000	31100	13900	1070000	5	35	550	8510000	85	0.4	9	2.0	11000	51.6	17	240
MM Dup	< 10	0.4	< 0.2	5660000 0	27	3080	1.3	4410000	31100	14100	1050000	6	24	580	8670000	80	0.2	9	2.1	11300	50.3	15	230
Method Blank	< 10	< 0.4	< 0.2	2220	< 3	< 10	0.7	1000	< 100	< 10	3000	< 2	< 5	< 10	< 3000	11	< 0.1	< 2	< 0.2	< 20	< 0.2	< 5	< 10

Analyte Symbol	Sm	Sn	Sr	Ta	Tb	Te	Th	Ti	Tl	Tm	U	V	W	Y	Yb	Zn	Zr
Unit Symbol	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Lower Limit	2	30	50	1	2	5	1	200	0.5	0.1	0.5	20	5	4	3	100	20
Method Code	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS
NIST 1575a Meas																37700	
NIST 1575a Cert																38000	
CDV-1 Meas		130	120000			29	636	25800			185	4830		1540		22800	1200
CDV-1 Cert		80	122000			40	610	30000			170	4200		1410		23300	1290
L Orig	< 2	580	31000	< 1	< 2	5	1	300	7.4	0.2	116	1010	21	< 4	< 3	110000	30
L Dup	< 2	100	30100	< 1	< 2	< 5	1	500	6.7	0.1	115	950	20	< 4	< 3	106000	20
MM Orig	5	130	71900	< 1	< 2	12	8	1700	5.7	0.4	142	280	12	32	4	42500	70
MM Dup	6	90	71200	< 1	< 2	13	7	1600	5.1	0.4	140	230	10	27	< 3	43600	60
Method Blank	< 2	< 30	< 50	< 1	< 2	< 5	< 1	< 200	< 0.5	< 0.1	< 0.5	< 20	< 5	< 4	< 3	< 100	< 20