Quality Analysis ... *Innovative Technologies*

Date Submitted: 14-Jun-13
Invoice No.: A13-06741-3A
Invoice Date: 27-Jun-13
Your Reference:

MINNESOTA DEPT OF NAT RESOURCES
500 LAFAYETTE RD BOX 45
ST PAUL MN 55155-4045
United States

ATTN: Don Elsenheimer

CERTIFICATE OF ANALYSIS

70 Pulp samples were submitted for analysis.

The following analytical package was requested: Code 3A-Large HMC INAA(INAAGEO)
Code 3A-Medium HMC INAA(INAAGEO)
Code 3A-Small HMC INAA(INAAGEO)

REPORT **A13-06741-3A**

Notes:

CERTIFIED BY:

Emmanuel Eseme , Ph.D.
Quality Control

ISO/IEC 17025
SCC Accredited
LAB 266
LAB 266
Accrédité CCN

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Results

Analyte Symbol	Ag	As	Au	Ba	Br	Ca	Ce	Co	Cr	Cs	Eu	Fe	Hf	Hg	Ir
Unit Symbol	ppm	ppm	ppb	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppb
Detection limit	5	2	5	200	5	1	3	5	10	2	0.2	0.02	1	5	50
Analysis Method	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA
TK0171T-NHMC	< 5	27	76	< 200	< 5	< 1	326	27	380	< 2	4.1	36.7	164	< 5	< 50
TK0177T-NHMC	< 5	30	< 5	< 200	< 5	< 1	247	29	250	< 2	3.5	30.0	94	< 5	< 50
TK0179T-NHMC	< 5	16	< 5	< 200	< 5	< 1	67	50	280	< 2	1.2	15.5	26	< 5	< 50
TK0182T-NHMC	< 5	104	< 5	< 200	< 5	< 1	243	38	240	< 2	3.5	25.9	52	< 5	< 50
TK0185T-NHMC	< 5	30	< 5	< 200	< 5	< 1	416	19	340	< 2	5.1	34.7	179	< 5	< 50
TK0186T-NHMC	< 5	24	< 5	< 200	< 5	< 1	241	34	250	< 2	3.0	26.6	72	< 5	< 50
TK0187T-NHMC	< 5	28	< 5	< 200	< 5	< 1	288	31	330	< 2	3.9	28.5	86	< 5	< 50
TK0188T-NHMC	< 5	31	< 5	< 200	< 5	< 1	253	28	230	< 2	3.7	23.9	76	< 5	< 50
TK0192T-NHMC	< 5	28	25	< 200	< 5	< 1	197	30	230	< 2	2.8	24.4	59	< 5	< 50
TK0193T-NHMC	< 5	31	< 5	< 200	< 5	< 1	456	32	400	< 2	5.3	34.4	189	< 5	< 50
TK0171T-MHMC	< 5	7	< 5	< 200	< 5	< 1	34	80	2110	< 2	0.4	52.5	6	< 5	< 50
TK0177T-MHMC	< 5	25	< 5	< 200	< 5	< 1	29	73	1480	< 2	0.4	53.3	3	< 5	< 50
TK0179T-MHMC	< 5	10	< 5	< 200	< 5	< 1	26	95	1590	< 2	0.9	42.0	5	< 5	< 50
TK0182T-MHMC	< 5	11	< 5	< 200	< 5	< 1	31	76	1540	< 2	0.7	47.5	5	< 5	< 50
TK0185T-MHMC	< 5	15	< 5	< 200	< 5	< 1	43	64	1350	< 2	0.8	52.3	5	< 5	< 50
TK0186T-MHMC	< 5	15	< 5	< 200	< 5	< 1	35	75	1100	< 2	0.3	50.3	6	< 5	< 50
TK0187T-MHMC	< 5	20	< 5	< 200	< 5	< 1	34	86	1900	< 2	0.8	47.3	5	< 5	< 50
TK0188T-MHMC	< 5	15	< 5	< 200	< 5	< 1	39	75	1170	< 2	0.3	48.8	3	< 5	< 50
TK0192T-MHMC	< 5	26	< 5	< 200	< 5	< 1	35	121	1710	< 2	< 0.2	48.8	5	< 5	< 50
TK0193T-MHMC	< 5	28	< 5	< 200	< 5	< 1	52	78	2110	< 2	0.5	54.5	5	< 5	< 50
TK0171S-NHMC	< 5	108	2890	< 200	< 5	< 1	162	179	26600	< 2	1.7	33.5	29	< 5	< 50
TK0177S-NHMC	< 5	40	< 5	< 200	< 5	< 1	290	1240	14600	< 2	0.6	31.4	5	< 5	< 50
TK0179S-NHMC	< 5	14	27	< 200	< 5	< 1	48	314	1660	< 2	0.6	24.9	4	< 5	< 50
TK0180S-NHMC	< 5	16	< 5	< 200	< 5	< 1	295	221	85900	< 2	< 0.2	30.0	16	< 5	< 50
TK0182S-NHMC	< 5	30	< 5	< 200	< 5	< 1	70	400	1790	2	0.4	26.0	< 1	< 5	< 50
TK0185S-NHMC	< 5	< 2	< 5	< 200	< 5	< 1	72	312	3310	< 2	0.6	28.5	2	< 5	< 50
TK0186S-NHMC	< 5	58	1260	400	< 5	< 1	111	232	3470	< 2	1.6	30.1	14	< 5	< 50
TK0187S-NHMC	< 5	15	< 5	< 200	< 5	< 1	50	444	22700	< 2	2.6	31.1	2	< 5	< 50
TK0188S-NHMC-1	< 5	< 2	< 5	< 200	< 5	< 1	48	196	4270	< 2	3.3	25.9	< 1	< 5	< 50
TK0188S-NHMC-2	< 5	< 2	< 5	< 200	< 5	< 1	49	222	4220	< 2	3.6	28.9	< 1	< 5	< 50
TK0192S-NHMC	< 5	42	< 5	< 200	< 5	< 1	113	801	3870	< 2	< 0.2	31.8	6	< 5	< 50
TK0193S-1-NHMC	< 5	150	< 5	< 200	< 5	< 1	48	162	10000	< 2	< 0.2	37.0	9	< 5	< 50
TK0193S-2-NHMC	< 5	14	< 5	< 200	< 5	< 1	181	941	5460	2	< 0.2	29.2	3	< 5	< 50
TK0171S-MHMC	< 5	27	< 5	< 200	< 5	< 1	< 3	454	93400	< 2	< 0.2	34.7	< 1	< 5	< 50
TK0177S-MHMC-1	< 5	14	< 5	< 200	< 5	< 1	171	1090	13900	< 2	< 0.2	37.3	< 1	< 5	< 50
TK0177S-MHMC-2	< 5	14	< 5	< 200	< 5	< 1	166	1190	15000	< 2	< 0.2	39.0	< 1	< 5	< 50
TK0179S-MHMC	< 5	14	< 5	< 200	< 5	< 1	71	413	4000	< 2	1.4	40.9	< 1	< 5	< 50
TK0180S-MHMC	< 5	< 2	< 5	< 200	< 5	< 1	< 3	486	> 100000	< 2	< 0.2	37.3	< 1	< 5	< 50
TK0182S-MHMC	< 5	< 2	< 5	< 200	< 5	< 1	198	415	46700	< 2	< 0.2	38.4	< 1	< 5	< 50
TK0185S-MHMC	< 5	11	< 5	< 200	< 5	< 1	166	367	16100	< 2	1.2	44.4	< 1	< 5	< 50
TK0186S-MHMC	< 5	14	< 5	< 200	< 5	< 1	< 3	480	28200	< 2	< 0.2	45.5	6	< 5	< 50
TK0187S-MHMC-1	< 5	< 2	< 5	< 200	< 5	< 1	51	1790	36500	< 2	2.1	38.7	< 1	< 5	< 50
TK0187S-MHMC-2	< 5	< 2	< 5	< 200	< 5	< 1	51	1790	35200	4	2.2	38.5	< 1	< 5	< 50
TK0188S-MHMC	< 5	< 2	< 5	< 200	< 5	< 1	142	313	18300	< 2	5.7	38.0	< 1	< 5	< 50
TK0192S-MHMC	< 5	52	< 5	< 200	< 5	< 1	63	749	9690	< 2	< 0.2	44.2	3	< 5	< 50

Analyte Symbol	Ag	As	Au	Ba	Br	Ca	Ce	Co	Cr	Cs	Eu	Fe	Hf	Hg	Ir
Unit Symbol	ppm	ppm	ppb	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppb
Detection limit	5	2	5	200	5	1	3	5	10	2	0.2	0.02	1	5	50
Analysis Method	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA
TK0193S-1-MHMC	< 5	13	< 5	< 200	< 5	< 1	78	137	15300	< 2	< 0.2	45.6	8	< 5	< 50
TK0193S-2-MHMC	< 5	7	< 5	< 200	< 5	< 1	164	1910	9940	< 2	< 0.2	43.0	< 1	< 5	< 50

Results

Analyte Symbol	La	Lu	Mass	Mo	Na	Nd	Ni	Rb	Sb	Sc	Se	Sm	Sr	Ta	Tb
Unit Symbol	ppm	ppm	g	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm
Detection limit	1	0.05		20	0.05	10	200	50	0.2	0.1	20	0.1	0.2	1	2
Analysis Method	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA
TK0171T-NHMC	195	2.28	16.6	40	< 0.05	100	< 200	< 50	9.6	29.9	< 20	23.3	< 0.2	13	5
TK0177T-NHMC	150	0.65	43.7	< 20	0.06	40	< 200	< 50	7.9	22.5	< 20	18.4	< 0.2	3	< 2
TK0179T-NHMC	45	0.15	61.7	< 20	0.13	30	< 200	< 50	2.3	44.1	< 20	8.1	< 0.2	< 1	< 2
TK0182T-NHMC	141	0.46	32.8	< 20	0.06	90	< 200	< 50	6.6	25.3	< 20	17.7	0.2	< 1	< 2
TK0185T-NHMC	223	3.71	17.3	< 20	< 0.05	110	< 200	< 50	8.6	26.4	< 20	29.6	< 0.2	< 1	4
TK0186T-NHMC	154	0.48	51.1	< 20	< 0.05	60	< 200	< 50	8.5	23.0	< 20	19.7	< 0.2	< 1	< 2
TK0187T-NHMC	178	0.63	59.8	< 20	< 0.05	70	< 200	< 50	7.8	21.4	< 20	23.2	< 0.2	6	3
TK0188T-NHMC	152	0.60	47.1	< 20	0.07	70	< 200	< 50	6.9	21.6	< 20	19.5	< 0.2	5	< 2
TK0192T-NHMC	135	0.45	68.9	< 20	< 0.05	50	< 200	< 50	7.2	19.4	< 20	18.0	< 0.2	< 1	3
TK0193T-NHMC	227	4.23	16.7	< 20	0.06	150	< 200	< 50	9.4	26.1	< 20	31.1	< 0.2	10	< 2
TK0171T-MHMC	18	0.14	2.32	< 20	0.06	< 10	< 200	70	1.3	14.1	< 20	2.5	< 0.2	3	< 2
TK0177T-MHMC	18	0.23	2.91	< 20	0.07	< 10	< 200	< 50	1.1	9.5	< 20	2.0	< 0.2	< 1	< 2
TK0179T-MHMC	14	< 0.05	14.8	< 20	0.14	20	< 200	< 50	< 0.2	18.7	< 20	2.3	< 0.2	8	< 2
TK0182T-MHMC	24	0.17	3.41	< 20	0.09	< 10	< 200	< 50	1.2	13.0	< 20	2.0	< 0.2	< 1	< 2
TK0185T-MHMC	29	0.12	2.99	< 20	0.06	< 10	< 200	< 50	1.7	9.3	< 20	2.8	< 0.2	< 1	< 2
TK0186T-MHMC	30	0.29	3.10	< 20	0.09	< 10	< 200	< 50	3.3	11.1	< 20	2.3	< 0.2	< 1	< 2
TK0187T-MHMC	24	0.16	3.20	< 20	0.06	< 10	< 200	< 50	1.7	13.0	< 20	2.2	< 0.2	2	< 2
TK0188T-MHMC	31	0.19	3.19	< 20	0.08	< 10	< 200	< 50	1.9	9.8	< 20	2.5	< 0.2	2	< 2
TK0192T-MHMC	19	0.16	2.55	< 20	0.13	< 10	< 200	< 50	1.6	14.6	< 20	1.9	< 0.2	< 1	< 2
TK0193T-MHMC	24	0.22	1.99	< 20	0.06	< 10	< 200	< 50	2.3	11.3	< 20	2.4	< 0.2	6	< 2
TK0171S-NHMC	81	0.31	13.8	< 20	< 0.05	< 10	4600	< 50	6.7	16.0	< 20	10.2	< 0.2	< 1	< 2
TK0177S-NHMC	42	< 0.05	41.8	< 20	< 0.05	20	6100	< 50	2.3	21.1	< 20	5.4	< 0.2	< 1	< 2
TK0179S-NHMC	21	< 0.05	45.9	< 20	< 0.05	< 10	6600	< 50	1.0	23.9	< 20	3.1	< 0.2	< 1	< 2
TK0180S-NHMC	44	0.52	2.97	< 20	< 0.05	< 10	1100	< 50	1.4	11.4	< 20	5.2	< 0.2	< 1	< 2
TK0182S-NHMC	15	< 0.05	45.6	< 20	< 0.05	< 10	3100	< 50	< 0.2	20.0	< 20	2.3	< 0.2	< 1	< 2
TK0185S-NHMC	18	< 0.05	42.4	< 20	< 0.05	< 10	1500	< 50	< 0.2	26.8	< 20	2.1	< 0.2	< 1	< 2
TK0186S-NHMC	85	0.17	52.9	< 20	< 0.05	60	1100	< 50	5.8	25.2	< 20	11.6	< 0.2	< 1	< 2
TK0187S-NHMC	52	0.14	52.2	< 20	< 0.05	40	1700	< 50	0.8	22.9	< 20	12.8	< 0.2	< 1	< 2
TK0188S-NHMC-1	55	0.29	43.6	< 20	< 0.05	40	2000	< 50	0.6	18.4	< 20	14.6	< 0.2	< 1	< 2
TK0188S-NHMC-2	58	0.30	46.2	< 20	< 0.05	60	2000	< 50	1.4	19.1	< 20	16.2	< 0.2	< 1	< 2
TK0192S-NHMC	16	< 0.05	46.2	< 20	< 0.05	< 10	1600	< 50	1.2	30.6	< 20	2.9	< 0.2	< 1	< 2
TK0193S-1-NHMC	4	< 0.05	13.6	< 20	< 0.05	< 10	1500	< 50	1.8	25.7	< 20	0.8	< 0.2	< 1	< 2
TK0193S-2-NHMC	13	< 0.05	47.5	< 20	< 0.05	20	2500	< 50	< 0.2	22.5	< 20	1.4	< 0.2	< 1	< 2
TK0171S-MHMC	4	< 0.05	12.0	< 20	< 0.05	50	5700	< 50	1.0	5.2	< 20	0.2	< 0.2	< 1	< 2
TK0177S-MHMC-1	25	0.11	44.7	< 20	< 0.05	< 10	4900	< 50	1.4	14.4	< 20	3.3	< 0.2	< 1	< 2
TK0177S-MHMC-2	28	0.08	45.3	< 20	< 0.05	< 10	4600	< 50	1.3	16.9	< 20	4.1	0.2	< 1	< 2
TK0179S-MHMC	24	0.67	9.84	< 20	< 0.05	< 10	5700	< 50	< 0.2	22.4	< 20	4.1	< 0.2	< 1	< 2
TK0180S-MHMC	3	< 0.05	15.1	< 20	< 0.05	< 10	3100	< 50	< 0.2	4.3	< 20	0.5	< 0.2	< 1	< 2
TK0182S-MHMC	16	0.13	2.34	< 20	< 0.05	< 10	2300	< 50	< 0.2	24.4	< 20	2.1	< 0.2	< 1	< 2
TK0185S-MHMC	28	< 0.05	12.6	< 20	< 0.05	< 10	< 200	< 50	< 0.2	14.9	< 20	2.8	< 0.2	< 1	< 2
TK0186S-MHMC	15	0.05	12.6	20	< 0.05	< 10	3200	< 50	3.2	21.2	< 20	4.3	< 0.2	< 1	< 2
TK0187S-MHMC-1	34	0.22	53.7	< 20	< 0.05	< 10	1800	< 50	1.5	15.8	< 20	10.2	< 0.2	< 1	< 2
TK0187S-MHMC-2	34	0.17	54.2	< 20	< 0.05	< 10	1600	< 50	2.3	16.0	< 20	10.1	< 0.2	< 1	< 2
TK0188S-MHMC	95	1.16	2.17	< 20	< 0.05	40	2900	< 50	0.9	17.4	< 20	21.1	< 0.2	< 1	4
TK0192S-MHMC	10	0.08	44.5	< 20	< 0.05	< 10	1100	< 50	2.4	26.2	< 20	2.0	< 0.2	< 1	< 2

Analyte Symbol	La	Lu	Mass	Mo	Na	Nd	Ni	Rb	Sb	Sc	Se	Sm	Sr	Ta	Tb
Unit Symbol	ppm	ppm	g	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm
Detection limit	1	0.05		20	0.05	10	200	50	0.2	0.1	20	0.1	0.2	1	2
Analysis Method	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA
TK0193S-1-MHMC	6	0.06	42.2	< 20	< 0.05	< 10	900	< 50	3.0	27.9	< 20	1.1	< 0.2	2	< 2
TK0193S-2-MHMC	10	< 0.05	43.4	< 20	< 0.05	< 10	2500	< 50	2.6	18.9	< 20	1.0	< 0.2	< 1	< 2

Results

Analyte Symbol	Th	U	W	Yb	Zn
Unit Symbol	ppm	ppm	ppm	ppm	ppm
Detection limit	0.5	0.5	4	0.2	200
Analysis Method	INAA	INAA	INAA	INAA	INAA
TK0171T-NHMC	63.8	19.0	< 4	20.4	< 200
TK0177T-NHMC	50.8	16.6	< 4	14.0	< 200
TK0179T-NHMC	14.0	4.8	< 4	5.5	< 200
TK0182T-NHMC	44.1	11.0	< 4	8.8	< 200
TK0185T-NHMC	73.4	20.2	< 4	20.7	< 200
TK0186T-NHMC	55.6	19.4	< 4	13.1	< 200
TK0187T-NHMC	59.9	22.0	< 4	15.4	< 200
TK0188T-NHMC	50.8	19.2	< 4	13.4	< 200
TK0192T-NHMC	50.6	12.3	< 4	11.4	< 200
TK0193T-NHMC	85.6	23.4	< 4	22.6	< 200
TK0171T-MHMC	5.1	< 0.5	< 4	0.9	400
TK0177T-MHMC	2.6	10.6	< 4	0.7	300
TK0179T-MHMC	3.1	< 0.5	20	2.4	500
TK0182T-MHMC	4.9	4.9	< 4	0.9	300
TK0185T-MHMC	7.1	< 0.5	< 4	1.5	200
TK0186T-MHMC	6.7	< 0.5	< 4	0.9	200
TK0187T-MHMC	6.4	6.2	< 4	1.5	400
TK0188T-MHMC	6.8	< 0.5	127	2.1	200
TK0192T-MHMC	4.9	8.9	< 4	0.8	300
TK0193T-MHMC	5.9	4.5	< 4	1.6	300
TK0171S-NHMC	27.1	< 0.5	< 4	3.9	300
TK0177S-NHMC	11.3	< 0.5	< 4	1.1	300
TK0179S-NHMC	< 0.5	< 0.5	< 4	2.1	1500
TK0180S-NHMC	8.1	11.2	34	1.4	400
TK0182S-NHMC	2.1	< 0.5	< 4	0.9	600
TK0185S-NHMC	2.4	< 0.5	< 4	1.6	< 200
TK0186S-NHMC	34.2	< 0.5	15	6.1	< 200
TK0187S-NHMC	2.6	< 0.5	< 4	5.2	< 200
TK0188S-NHMC-1	< 0.5	< 0.5	< 4	6.2	< 200
TK0188S-NHMC-2	< 0.5	< 0.5	< 4	7.0	< 200
TK0192S-NHMC	5.3	< 0.5	< 4	2.2	< 200
TK0193S-1-NHMC	6.8	2.7	< 4	< 0.2	< 200
TK0193S-2-NHMC	2.0	< 0.5	< 4	< 0.2	< 200
TK0171S-MHMC	< 0.5	5.5	< 4	< 0.2	600
TK0177S-MHMC-1	6.7	< 0.5	< 4	< 0.2	300
TK0177S-MHMC-2	6.9	< 0.5	< 4	1.9	200
TK0179S-MHMC	< 0.5	< 0.5	< 4	4.0	< 200
TK0180S-MHMC	< 0.5	< 0.5	< 4	< 0.2	600
TK0182S-MHMC	2.1	< 0.5	< 4	1.9	500
TK0185S-MHMC	2.4	< 0.5	< 4	< 0.2	< 200
TK0186S-MHMC	15.6	5.0	< 4	3.3	300
TK0187S-MHMC-1	< 0.5	< 0.5	< 4	4.2	< 200
TK0187S-MHMC-2	< 0.5	< 0.5	< 4	3.7	< 200
TK0188S-MHMC	0.9	< 0.5	< 4	7.5	400
TK0192S-MHMC	18.7	5.3	< 4	0.6	300

Analyte Symbol	Th	U	W	Yb	Zn
Unit Symbol	ppm	ppm	ppm	ppm	ppm
Detection limit	0.5	0.5	4	0.2	200
Analysis Method	INAA	INAA	INAA	INAA	INAA
TK0193S-1-MHMC	18.2	15.5	< 4	< 0.2	< 200
TK0193S-2-MHMC	6.1	10.4	< 4	< 0.2	< 200

QC

Analyte Symbol	Ag	As	Au	Ba	Br	Ca	Ce	Co	Cr	Cs	Eu	Fe	Hf	Hg	Ir
Unit Symbol	ppm	ppm	ppb	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppb
Detection limit	5	2	5	200	5	1	3	5	10	2	0.2	0.02	1	5	50
Analysis Method	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA
DMMAS 115 Meas		503	1750	1200			47	22	100			2.84			
DMMAS 115 Cert		527	1720	1210			40.0	21.0	100			2.64			
DMMAS 115 Meas		586	1760	1100			41	23	100			2.79			
DMMAS 115 Cert		527	1720	1210			40.0	21.0	100			2.64			
DMMAS 115 Meas		541	1720	1100			37	22	110			2.91			
DMMAS 115 Cert		527	1720	1210			40.0	21.0	100			2.64			
TK0182T-NHMC Orig	< 5	104	< 5	< 200	< 5	< 1	243	38	240	< 2	3.5	25.9	52	< 5	< 50
TK0182T-NHMC Split	< 5	110	< 5	< 200	< 5	< 1	246	36	240	< 2	3.2	25.2	52	< 5	< 50
Method Blank	< 5	< 2	< 5	< 200	< 5	< 1	< 3	< 5	< 10	< 2	< 0.2	< 0.02	< 1	< 5	< 50
Method Blank	< 5	< 2	< 5	< 200	< 5	< 1	< 3	< 5	< 10	< 2	< 0.2	< 0.02	< 1	< 5	< 50
Method Blank	< 5	< 2	< 5	< 200	< 5	< 1	< 3	< 5	< 10	< 2	< 0.2	< 0.02	< 1	< 5	< 50

QC

Analyte Symbol	La	Lu	Mass	Mo	Na	Nd	Ni	Rb	Sb	Sc	Se	Sm	Sr	Ta	Tb
Unit Symbol	ppm	ppm	g	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm
Detection limit	1	0.05		20	0.05	10	200	50	0.2	0.1	20	0.1	0.2	1	2
Analysis Method	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA	INAA
DMMAS 115 Meas	22				1.94				4.5	7.7		3.7			
DMMAS 115 Cert	21.9				1.92				5.50	7.30		3.10			
DMMAS 115 Meas	22				1.90				5.0	7.3		3.4			
DMMAS 115 Cert	21.9				1.92				5.50	7.30		3.10			
DMMAS 115 Meas	22				1.91				5.5	7.2		4.0			
DMMAS 115 Cert	21.9				1.92				5.50	7.30		3.10			
TK0182T-NHMC Orig	141	0.46	32.8	< 20	0.06	90	< 200	< 50	6.6	25.3	< 20	17.7	0.2	< 1	< 2
TK0182T-NHMC Split	141	0.35	27.9	30	0.06	90	< 200	< 50	6.1	23.6	< 20	17.3	< 0.2	< 1	< 2
Method Blank	< 1	< 0.05	30.0	< 20	< 0.05	< 10	< 200	< 50	< 0.2	< 0.1	< 20	< 0.1	< 0.2	< 1	< 2
Method Blank	< 1	< 0.05	10.0	< 20	< 0.05	< 10	< 200	< 50	< 0.2	< 0.1	< 20	< 0.1	< 0.2	< 1	< 2
Method Blank	< 1	< 0.05	1.00	< 20	< 0.05	< 10	< 200	< 50	< 0.2	< 0.1	< 20	< 0.1	< 0.2	< 1	< 2

QC

Analyte Symbol	Th	U	W	Yb	Zn
Unit Symbol	ppm	ppm	ppm	ppm	ppm
Detection limit	0.5	0.5	4	0.2	200
Analysis Method	INAA	INAA	INAA	INAA	INAA
DMMAS 115 Meas		100			
DMMAS 115 Cert		101			
DMMAS 115 Meas		109			
DMMAS 115 Cert		101			
DMMAS 115 Meas		111			
DMMAS 115 Cert		101			
TK0182T-NHMC Orig	44.1	11.0	< 4	8.8	< 200
TK0182T-NHMC Split	44.6	10.0	< 4	9.9	< 200
Method Blank	< 0.5	< 0.5	< 4	< 0.2	< 200
Method Blank	< 0.5	< 0.5	< 4	< 0.2	< 200
Method Blank	< 0.5	< 0.5	< 4	< 0.2	< 200