Hastings Rare Metals

ASX Announcement

13 August 2014

DRILL RESULTS CONFIRM THE SOUTHERN EXTENSION.

POTENTIAL FOR THE HASTINGS PROJECT TO BE ENHANCED

HIGHLIGHTS

- **Drilling at the *Southern Extension* to the defined JORC resource, estimated in 2011, at the Hastings Project encounters significant mineralisation with higher HREO grades**
- **Intersection lengths are comparable to those in the defined resource**
- **Best intersections of total rare earths oxides (TREO) and heavy rare earths oxides (HREO) are:-**
    - **23m at 2,670ppm TREO including 2,300ppm HREO;**
    - **29m at 2,475ppm TREO including 2,120ppm HREO;**
    - **63m at 2,270ppm TREO including 1,935ppm HREO;**
    - **49m at 2,400ppm TREO including 2,040ppm HREO; and**
    - **34m at 2,360ppm TREO including 2,000ppm HREO**
- **The HREO grades are significantly higher than the defined JORC resource that averages 1,800ppm HREO**
- **Importantly, dysprosium oxide grades are 10-35% higher than the defined JORC resource**
- **Niobium oxide values are up to 40% higher than the defined JORC resource**
- **Drilling at the *Levon* and *Haig* targets also returned wide intervals of encouraging rare earths values**

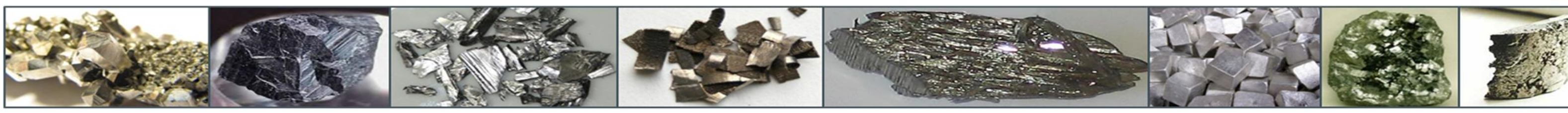
Introduction

The Directors of Hastings Rare Metals Limited (ASX:HAS) are pleased to announce the results of the reverse circulation (RC) drilling programme completed within its Hastings tenements in June 2014. The results from the three targets tested – *Southern Extension*, *Levon* and *Haig* – are encouraging and enhance the overall potential of the Hastings Project.

Southern Extension Prospect

Hastings has carried out systematic scintillometer-based mapping and rock chip sampling programmes over the target since 2012 (as has been previously reported), and this work indicated potential for a wide (+/-20m), continuous zone of mineralisation.

Hastings' June 2014 drilling programme comprised six holes testing some 400m of strike at the Southern Extension (Figure 1). Details of hole collar locations, declinations and bearings are provided in Appendix 1. Each hole intersected significant mineralisation in the Niobium Tuff unit that hosts the mineralisation within the defined JORC resource to the north, and also in the overlying trachytic lava unit.



Full assay details are provided in Appendix 2. Best intersections achieved from the drilling, from north to south, are shown in Table 1.

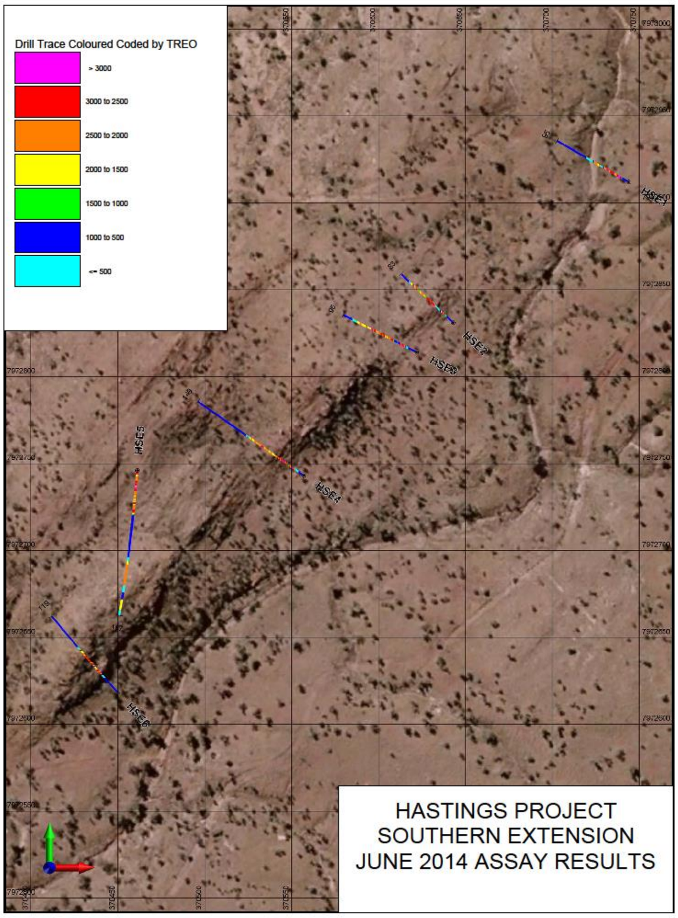


Figure 1 – Hastings RC Drilling Programme June 2014 – Southern Extension prospect Drillhole Locations

	From (m)	To (m)	Interval (m)	TREO ppm	HREO ppm	Dy_2O3 ppm	Nb_2O_5 ppm	Ta_2O_5 ppm	ZrO_2 ppm
SE1	10	33	23	2,670	2,300	250	5,000	250	12,025
and	41	46	5	2,090	1,800	190	3,800	180	8,800
SE2	14	18	4	2,750	2,320	260	5,025	280	12,910
and	29	65	36	2,325	1,980	215	4,470	225	10,675
SE3	15	22	7	2,680	2,290	250	5,025	270	12,910
and	30	59	29	2,475	2,120	230	4,725	240	11,425
(plus)	59	77	18	1,890	1,615	180	3,440	175	8,565
SE4	11	74	63	2,270	1,935	215	4,000	210	10,140
SE5	1	50	49	2,405	2,040	230	4,400	235	10,745
and	109	133	24	2,185	1,855	200	3,890	200	9,660
SE6	29	63	34	2,360	2,005	215	4,165	220	10,090

Table 1 – Hastings RC Drilling Programme June 2014 – Southern Extension prospect Assay Intersections

The majority of the intersections shown in Table 1 exceed the average grade of the defined resources further north that average 2,100ppm TREO including 1,800ppm HREO, including 186ppm Dy_2O_3 with 3,550ppm Nb_2O_5, 182ppm Ta_2O_5 and 8,900ppm ZrO_2 (as reported previously).

The increased grades for both the rare earths and the rare metals and the potential to increase the defined JORC resource further enhance the economics of the Hastings Project.

With a different host to the mineralisation, there is potential that the metallurgical characteristics of the Southern Extension zone might differ from those of the defined JORC resource. For this reason, samples have been sent for preliminary metallurgical test work. Further drilling will be considered when the test results are received.

Levon Prospect

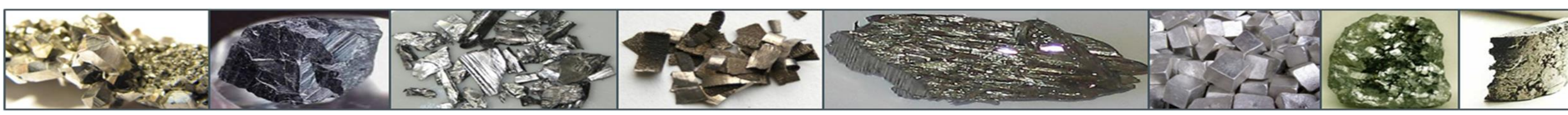
As reported previously, the Company drilled two holes in the Levon prospect where recent scintillometer-based mapping and rock chip sampling has identified a potentially large rare earths target. The two holes were designed to provide a first look at the mineralisation and to provide samples for preliminary metallurgical tests. Details of hole collar locations, declinations and bearings are provided in Appendix 1.

Both holes passed through monotonous trachytic lava and tuff with only minor variations in scintillometer readings. They were both terminated at the target depth of 95m to achieve the initial data required on this project. In both cases the holes commenced and terminated within the mineralisation, with the intersections achieved as shown in Table 2. Full assay details are provided in Appendix 3.

	From (m)	To (m)	Interval (m)	TREO ppm	HREO ppm	Dy_2O_3
Levon						
L1	0	95	95	2,770	800	78
L2	0	95	95	2,785	760	76

Table 2 - Hastings RC Drilling Programme June 2014 – Levon Prospect Assay Intersections

The average intersection TREO grade exceeds the arithmetic average of surface rock chip samples (2,050ppm TREO) that was reported previously.



Haig Prospect

At Haig prospect the one hole drilled intersected homogenous trachytic lava from 24m downhole to end of hole with only minor variation in scintillometer readings. As with Levon, the hole was terminated in mineralisation. Full assay details are provided in Appendix 4. The intersection from 24m to the end of hole at 125m is provided in Table 3. Details of hole collar location, declination and bearing are provided in Appendix 1.

	From (m)	To (m)	Interval (m)	TREO ppm	HREO ppm	Dy_2O_3
Haig						
HI	24	125	101	3,065	845	84

Table 3 - Hastings RC Drilling Programme June 2014 – Haig Prospect Assay Intersections

This intersection TREO grade exceeds the arithmetic average of surface rock chip samples (2,485ppm TREO including 766ppm HREO) that were reported previously.

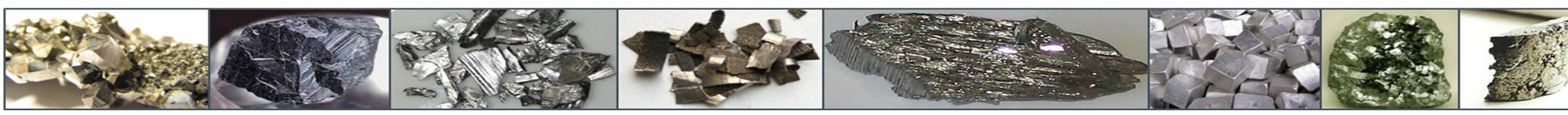
Composite samples from Levon and Haig were collected pending preliminary test work. A review of results will then be made to determine what further work is warranted.

* **TREO** is the sum of the oxides of the heavy rare earth elements (HREO) and the light rare earth elements (LREO).

HREO is the sum of the oxides of the heavy rare earth elements europium (Eu), gadolinium (Gd), terbium (Tb), dysprosium (Dy), holmium (Ho), erbium (Er), thulium (Tm), ytterbium (Yb), lutetium (Lu), and yttrium (Y).

CREO is the sum of the oxides of neodymium (Nd), europium (Eu), terbium (Tb), dysprosium (Dy), and yttrium (Y) that were classified by the US Department of Energy in 2011 to be in critical short supply in the foreseeable future.

LREO is the sum of the oxides of the light rare earth elements lanthanum (La), cerium (Ce), praseodymium (Pr), neodymium (Nd), and samarium (Sm).



For further information please contact:

Andy Border, General Manager Exploration +61 2 9078 7674
Guy Robertson, Company Secretary +61 2 9078 7674
Media & Investor relations: Fortbridge +612 9003 0477

Bill Kemmery +61 400 122 449 or Marina Trusa +61 404 330 634

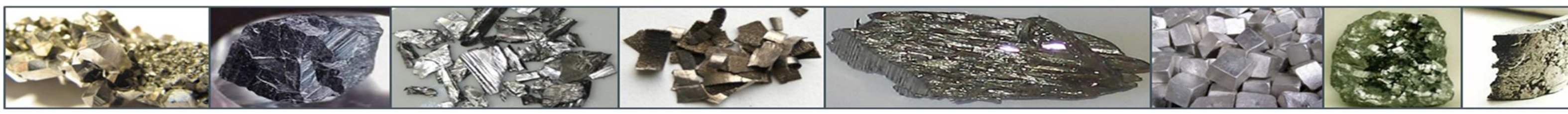
About Hastings Rare Metals

- Hastings Rare Metals is a leading Australian rare earths company, with two JORC compliant rare earths projects in Western Australia.
- The Hastings deposit contains JORC Indicated and Inferred Resources totalling 36.2 million tonnes (comprising 27.1mt Indicated Resources and 9.1mt Inferred Resources) at 0.21% TREO, including 0.18% HREO, plus 0.89% ZrO_2 and 0.35% Nd_2O_5.
- The Yangibana deposit contains JORC Indicated and Inferred Resources totalling 3.36 million tonnes at 1.34% TREO, including 0.29% of CREO (that includes 0.27% Nd_2O_3) (comprising 1.86 million tonnes at 1.38% TREO Indicated Resources and 1.50 million tonnes at 1.29% TREO in Inferred Resources).
- Rare earths are critical to a wide variety of current and new technologies, including smart phones, hybrid cars, wind turbines and energy efficient light bulbs.
- The Hastings deposit contains predominantly heavy rare earths (85%), such as dysprosium and yttrium, which are substantially more valuable than the more common light rare earths.
- The Company aims to capitalise on the strong demand for heavy rare earths created by expanding new technologies. It has recently validated the extensive
historical work and completed a Scoping Study to confirm the economics of the Project.

Competent Person's Statement

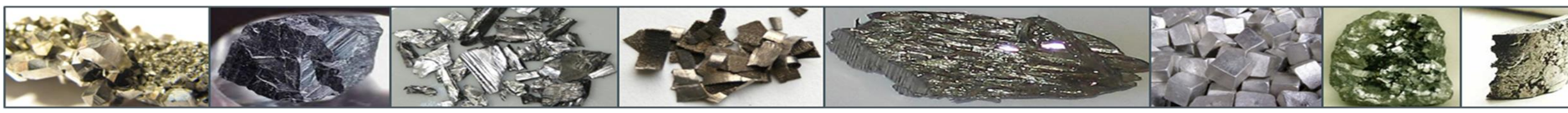
The information in this report that relates to Resources is based on information compiled by Simon Coxhell. Simon Coxhell is a consultant to the Company, and is a member of the Australasian Institute of Mining and Metallurgy. The information in this report that relates to Exploration Results is based on information compiled by Andy Border, an employee of the Company and a member of the Australasian Institute of Mining and Metallurgy.

Each has sufficient experience relevant to the styles of mineralisation and types of deposits which are covered in this report and to the activity which they are undertaking to qualify as a Competent Person as defined in the 2012 edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves' ("JORC Code"). Each consents to the inclusion in this presentation of the matters based on his information in the form and context in which it appears.



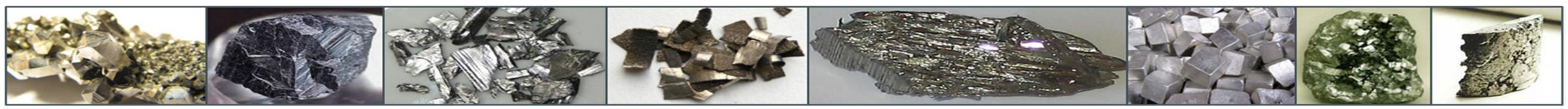
Appendix 1 – Drillhole collar data

Hole_ID	East_MGA94	North_MGA94	Dip	Mag_Azimuth	Depth
HSE1	370744	7972912	-60	300	95
HSE2	370643	7972831	-60	313	83
HSE3	370622	7972814	-60	297	95
HSE4	370557	7972743	-60	305	149
HSE5	370461	7972746	-60	185	167
HSE6	370450	7972618	-60	318	119
HH1	369996	7968145	-60	112	125
HL1	372202	7972731	-60	125	95
HL2	372179	7972528	-60	316	95

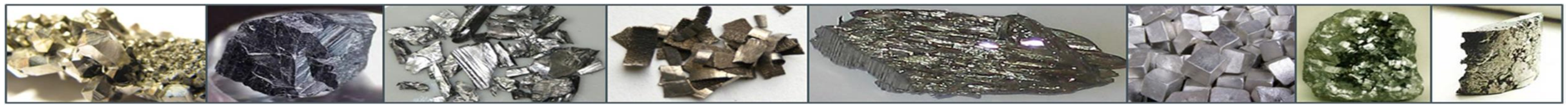


Appendix 2 – Southern Extension Assay Data

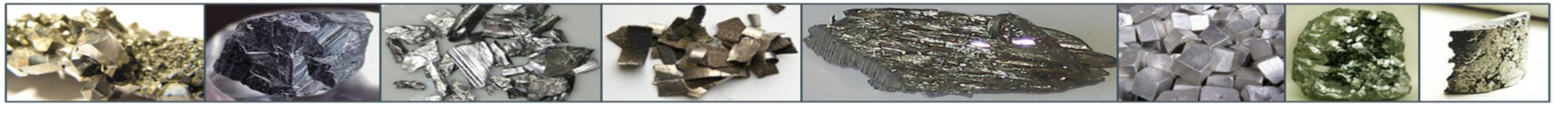
ELEMENTS	Fm	To	Ce	Dy	Er	Eu	Gd	Ho	La	Lu	Nb	Nd	Pr	Sm	Ta	Tb	Th	Tm	U	Y	Yb	Zr
UNITS			ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
DETECTION			0.5	0.1	0.1	0.1	0.1	0.1	0.2	0.1	10	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.5	0.1	5
METHOD			FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS
COMMENTS: 1429.0/1406922 (04/08/2014) CLIENT O/N: Andy Border 1/3																						
HSE1-9	8	9	150	11	6	1	9	2	75	1	122	60	17	11	6	2	27	1	6	59	6	505
HSE1-10	9	10	168	47	33	2	26	10	83	4	491	71	20	20	45	7	91	5	16	264	33	2239
HSE1-11	10	11	174	220	158	4	82	48	46	21	2955	98	25	57	235	27	406	25	50	1150	162	9687
HSE1-12	11	12	146	290	220	4	96	67	32	30	5255	84	22	56	228	34	400	35	79	1517	228	11555
HSE1-13	12	13	123	276	200	4	98	61	26	26	4052	79	20	57	234	34	410	32	70	1508	203	11077
HSE1-14	13	14	170	257	185	4	101	57	37	25	3913	103	28	64	258	32	442	29	69	1382	187	10325
HSE1-15	14	15	125	220	157	3	75	47	27	21	4012	74	20	47	186	26	313	25	55	1113	157	8095
HSE1-16	15	16	109	238	175	4	87	53	24	22	3704	73	18	48	215	29	372	28	60	1290	173	9537
HSE1-17	16	17	104	187	133	3	70	42	22	18	3214	63	17	43	166	24	289	21	45	1008	131	7159
HSE1-18	17	18	88	141	100	2	52	32	17	13	2740	50	13	33	126	18	206	16	34	742	99	5079
HSE1-19	18	19	110	192	143	3	68	44	22	19	3235	67	17	45	188	24	328	23	54	1054	146	7941
HSE1-20	19	20	134	251	181	4	92	56	28	24	3673	80	21	56	245	30	424	29	69	1328	187	10369
HSE1-21	20	21	124	240	178	3	88	55	26	24	3909	77	19	53	233	30	394	28	65	1275	178	9935
HSE1-22	21	22	112	217	157	3	80	48	25	21	3638	71	18	49	207	27	354	25	59	1161	156	8872
HSE1-23	22	23	117	208	152	3	79	48	26	20	3436	75	19	48	207	27	350	24	57	1134	158	8814
HSE1-24	23	24	125	212	152	3	79	47	28	21	3485	76	19	51	204	26	343	24	55	1104	155	8502
HSE1-25	24	25	108	180	130	3	68	39	24	17	2873	63	17	43	177	23	296	20	50	938	130	7077
HSE1-26	25	26	107	188	139	3	72	43	24	19	3138	65	17	43	185	24	302	23	50	1034	143	7967



ELEMENTS			Ce	Dy	Er	Eu	Gd	Ho	La	Lu	Nb	Nd	Pr	Sm	Ta	Tb	Th	Tm	U	Y	Yb	Zr
UNITS			ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
DETECTION			0.5	0.1	0.1	0.1	0.1	0.1	0.2	0.1	10	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.5	0.1	5
METHOD			FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS
HSE1-27	26	27	112	205	147	3	78	46	23	19	2985	68	18	47	182	26	309	23	52	1125	146	8293
HSE1-28	27	28	143	252	189	4	93	58	31	25	3875	85	22	58	250	31	417	30	71	1389	190	10431
HSE1-29	28	29	137	241	178	3	91	55	29	24	4206	89	22	56	244	31	405	28	62	1294	180	10147
HSE1-30	29	30	149	278	201	4	101	61	32	27	4101	92	24	66	284	35	476	32	73	1454	211	11757
HSE1-31	30	31	91	170	125	3	66	39	20	16	2494	58	14	36	159	22	265	19	40	929	123	7361
HSE1-32	31	32	89	178	125	2	66	40	19	16	2886	57	14	41	154	22	257	20	43	975	123	7347
HSE1-33	32	33	98	179	125	3	69	39	23	16	2655	60	15	42	161	22	271	19	44	965	123	7439
HSE1-34	33	34	100	24	16	1	12	5	48	2	479	40	12	11	19	3	48	3	11	131	16	925
HSE1-35	34	35	110	15	10	1	11	3	56	1	226	46	13	9	9	2	34	2	8	79	9	487
HSE1-36	35	36	124	10	5	2	10	2	63	1	41	54	15	10	3	2	25	1	9	52	5	163
HSE1-37	36	37	112	8	4	1	8	2	57	1	50	49	13	9	3	1	25	1	7	44	4	191
HSE1-38	37	38	79	10	7	1	7	2	39	1	170	32	9	7	6	2	23	1	9	51	6	300
HSE1-39	38	39	114	184	126	4	71	39	28	17	3186	66	17	44	168	23	292	20	47	943	127	7189
HSE1-40	39	40	97	152	107	2	63	34	21	14	2673	58	15	41	149	20	288	17	42	825	110	5952
HSE1-41	40	41	88	151	109	2	56	33	22	14	2683	51	13	36	125	19	218	17	39	849	109	6438
HSE1-42	41	42	88	162	117	2	63	36	19	16	2735	55	14	37	145	20	247	18	42	918	117	6510
HSE1-43	42	43	86	165	115	2	63	36	21	15	2626	51	14	38	138	20	229	18	39	925	115	6108
HSE1-44	43	44	92	161	116	2	64	36	21	15	2570	57	14	39	142	21	240	18	39	889	111	6421
HSE1-45	44	45	95	160	115	3	63	36	21	14	2610	55	15	39	144	20	246	18	50	894	113	6411
HSE1-46	45	46	109	197	132	3	76	42	24	17	2735	64	17	49	170	24	282	21	57	1018	131	7105
HSE1-47	46	47	86	108	73	2	43	23	25	10	2050	48	12	29	121	14	197	11	44	552	74	3840



ELEMENTS			Ce	Dy	Er	Eu	Gd	Ho	La	Lu	Nb	Nd	Pr	Sm	Ta	Tb	Th	Tm	U	Y	Yb	Zr
UNITS			ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
DETECTION			0.5	0.1	0.1	0.1	0.1	0.1	0.2	0.1	10	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.5	0.1	5
METHOD			FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS
HSE1-48	47	48	99	26	18	1	13	6	48	2	429	44	12	12	21	4	50	3	13	138	17	955
HSE1-49	48	49	109	8	4	1	7	2	57	1	118	47	13	9	3	1	24	1	7	42	4	189
HSE1-50	49	50	113	8	4	1	9	2	59	1	75	46	13	9	3	1	26	1	9	45	4	192
HSE1-51	50	51	116	9	4	2	8	1	61	1	31	45	13	9	2	1	26	1	6	44	4	160
HSE1-52	51	52	115	8	4	2	8	2	60	1	21	47	13	9	2	1	26	1	6	40	4	163
HSE1-53	52	53	122	8	5	1	9	2	62	1	23	50	14	11	2	1	25	1	5	43	4	138
HSE1-54	53	54	108	7	4	1	8	1	54	1	21	45	12	8	2	1	26	1	11	36	4	216
HSE1-55	54	55	107	7	4	1	8	1	56	1	17	46	12	9	2	1	24	1	6	36	4	194
HSE1-56	55	56	92	6	3	1	6	1	46	0	15	39	10	8	2	1	23	1	6	32	3	229



ELEMENTS			Ce	Dy	Er	Eu	Gd	Ho	La	Lu	Nb	Nd	Pr	Sm	Ta	Tb	Th	Tm	U	Y	Yb	Zr
UNITS			ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
DETECTION			0.5	0.1	0.1	0.1	0.1	0.1	0.2	0.1	10	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.5	0.1	5
METHOD			FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS
COMMENTS: 1429.0/1406922 (04/08/2014) CLIENT O/N: Andy Border 1/3																						
	Fm	To																				
HSE2-12	11	12	324	20	11	3	24	4	149	2	163	142	38	28	9	4	28	2	10	108	9	1242
HSE2-13	12	13	316	25	12	3	24	5	150	2	350	135	36	26	8	4	27	2	17	143	11	1197
HSE2-14	13	14	153	91	64	2	41	20	61	8	1223	72	20	29	102	12	172	10	30	481	65	3903
HSE2-15	14	15	147	246	178	4	92	55	37	23	3883	89	23	61	248	30	417	28	70	1248	181	10281
HSE2-16	15	16	156	249	183	4	91	55	38	24	3961	90	24	58	258	30	424	29	68	1294	185	10769
HSE2-17	16	17	118	183	133	3	66	41	31	18	2840	68	18	42	183	23	309	21	45	932	136	7734
HSE2-18	17	18	152	224	162	4	82	50	43	22	3359	89	22	51	223	28	370	26	47	1168	164	9440
HSE2-19	18	19	96	145	109	3	53	33	30	15	2248	55	15	33	139	18	233	17	34	795	108	6114
HSE2-20	19	20	89	41	29	1	17	10	41	4	652	40	11	13	35	5	72	5	13	225	30	1662
HSE2-21	20	21	94	32	20	1	13	7	46	3	507	39	12	12	24	4	56	3	10	160	20	1169
HSE2-22	21	22	92	22	14	1	13	5	44	2	381	43	11	11	16	3	43	2	8	114	15	815
HSE2-23	22	23	87	9	5	1	7	2	46	1	184	38	10	8	3	1	20	1	6	41	4	235
HSE2-24	23	24	93	9	5	1	7	2	48	1	198	39	11	8	3	1	21	1	5	44	5	254
HSE2-25	24	25	96	8	4	1	7	2	51	1	187	41	11	9	1	1	20	1	6	43	4	215
HSE2-26	25	26	95	8	4	1	8	2	50	1	175	40	11	8	1	1	19	1	7	39	4	191
HSE2-27	26	27	90	8	4	1	6	2	48	1	180	38	10	9	1	1	20	1	6	40	3	207
HSE2-28	27	28	94	10	6	1	7	2	48	1	210	39	11	9	1	1	19	1	7	53	4	283
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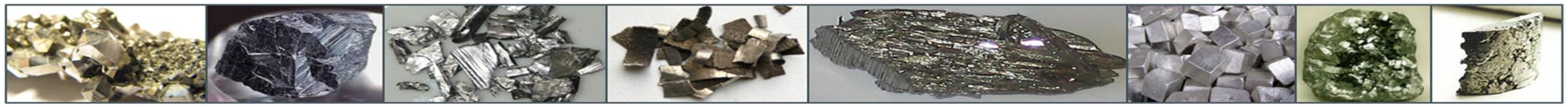

ELEMENTS			Ce	Dy	Er	Eu	Gd	Ho	La	Lu	Nb	Nd	Pr	Sm	Ta	Tb	Th	Tm	U	Y	Yb	Zr
UNITS			ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
DETECTION			0.5	0.1	0.1	0.1	0.1	0.1	0.2	0.1	10	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.5	0.1	5
METHOD			FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS
HSE2-30	29	30	155	228	165	4	82	51	38	22	3753	90	24	55	218	28	373	26	62	1204	168	9724
HSE2-31	30	31	156	264	193	4	98	58	35	25	4602	91	24	62	255	33	431	30	73	1407	194	11091
HSE2-32	31	32	146	240	177	3	90	54	35	24	4647	86	22	59	243	30	387	28	67	1280	183	10155
HSE2-33	32	33	132	214	156	3	80	47	30	21	4044	77	20	50	214	27	347	24	61	1141	157	9165
HSE2-34	33	34	118	207	152	3	80	47	27	20	3639	76	19	50	191	26	328	24	54	1140	153	8740
HSE2-35	34	35	135	236	173	4	86	52	32	23	4111	85	22	55	232	29	373	27	65	1239	172	9959
HSE2-36	35	36	145	236	172	4	89	53	33	23	3944	87	22	54	234	30	385	27	67	1259	173	9842
HSE2-37	36	37	120	195	138	3	72	42	28	19	3364	71	19	45	190	24	308	22	55	1027	141	7940
HSE2-38	37	38	122	225	163	3	85	50	27	21	3595	74	19	51	218	28	363	26	63	1174	166	9058
HSE2-39	38	39	129	244	179	4	92	54	28	24	3905	82	20	55	240	30	397	28	69	1320	178	10304
HSE2-40	39	40	116	214	154	3	79	47	26	20	3581	71	18	47	211	26	346	24	57	1140	159	9120
HSE2-41	40	41	141	215	161	4	84	49	31	22	3667	81	22	50	214	27	354	25	61	1160	163	9159
HSE2-42	41	42	137	239	173	4	91	53	30	23	3687	82	22	56	242	30	401	28	66	1246	181	10083
HSE2-43	42	43	86	163	120	3	62	37	19	16	2763	54	13	37	152	21	251	19	43	939	120	7339
HSE2-44	43	44	66	104	72	2	40	23	18	9	1626	35	10	25	90	13	152	11	26	591	69	4385
HSE2-45	44	45	71	107	77	2	40	24	17	10	1872	42	11	26	107	13	176	11	30	572	76	4072
HSE2-46	45	46	83	146	110	2	54	33	20	14	2368	51	13	33	130	18	212	17	37	803	108	6038
HSE2-47	46	47	93	161	115	2	58	36	23	15	2761	55	14	34	152	19	251	19	45	854	118	6727
HSE2-48	47	48	109	194	141	3	70	43	25	19	2833	65	17	44	188	24	323	22	51	999	146	7966
HSE2-49	48	49	113	192	141	3	71	44	26	19	3151	66	17	46	196	24	321	23	52	1013	143	8565
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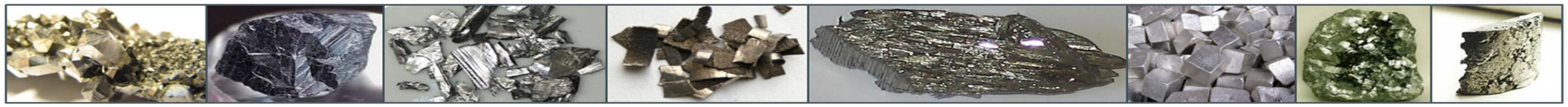

ELEMENTS			Ce	Dy	Er	Eu	Gd	Ho	La	Lu	Nb	Nd	Pr	Sm	Ta	Tb	Th	Tm	U	Y	Yb	Zr
UNITS			ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
DETECTION			0.5	0.1	0.1	0.1	0.1	0.1	0.2	0.1	10	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.5	0.1	5
METHOD			FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS
HSE2-51	50	51	95	170	119	3	64	37	23	15	2565	55	15	39	156	22	261	19	42	907	120	6493
HSE2-52	51	52	98	152	113	2	60	35	24	15	2382	58	15	38	157	20	257	17	43	818	115	6276
HSE2-53	52	53	95	165	120	3	60	37	21	15	2534	56	15	38	170	20	269	18	47	862	118	6552
HSE2-54	53	54	140	81	58	2	36	18	56	8	1486	66	18	25	80	10	137	9	24	434	58	3678
HSE2-55	54	55	174	152	106	3	60	33	63	15	2319	90	24	40	145	19	246	17	41	796	109	6306
HSE2-56	55	56	114	185	133	3	70	41	29	17	2989	67	17	44	184	22	301	21	49	983	134	7804
HSE2-57	56	57	109	180	130	3	67	40	27	17	3043	67	17	42	179	22	288	21	52	950	136	7526
HSE2-58	57	58	107	215	153	3	77	47	24	20	3327	70	17	46	203	26	341	24	57	1124	153	9070
HSE2-59	58	59	106	180	132	3	67	40	25	18	2781	63	16	41	177	22	304	21	50	979	137	7656
HSE2-60	59	60	96	175	129	3	67	39	22	16	2847	60	15	40	171	22	286	20	48	943	126	7435
HSE2-61	60	61	89	165	116	3	63	37	20	15	2608	56	14	40	159	20	250	19	44	880	116	6644
HSE2-62	61	62	83	131	95	2	48	28	22	12	2045	48	12	31	128	16	214	15	36	677	95	5211
HSE2-63	62	63	119	199	148	3	76	45	28	19	3415	69	19	47	202	24	334	23	51	1086	147	8576
HSE2-64	63	64	126	219	161	3	83	49	30	22	3624	76	19	51	221	27	362	25	62	1189	161	9431
HSE2-65	64	65	119	210	157	3	79	47	27	21	3642	71	18	51	213	26	347	25	59	1150	156	9140
HSE2-66	65	66	92	149	105	2	53	33	22	13	2307	57	14	36	158	18	266	17	42	759	107	5497
HSE2-67	66	67	87	132	93	2	51	30	23	12	2632	52	13	33	134	16	225	15	39	719	97	5875
HSE2-68	67	68	97	142	100	3	54	31	28	14	2704	56	15	34	136	18	236	16	39	762	105	6225
HSE2-69	68	69	89	15	9	1	8	3	42	1	315	40	11	9	9	2	32	1	10	75	9	643
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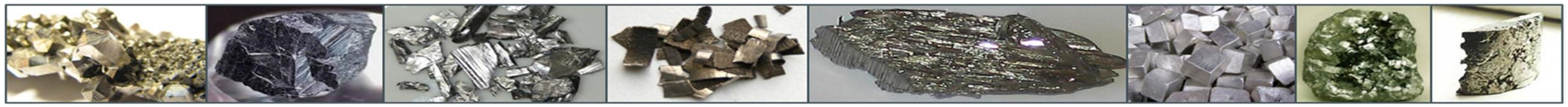

ELEMENTS	Fm	To	Ce	Dy	Er	Eu	Gd	Ho	La	Lu	Nb	Nd	Pr	Sm	Ta	Tb	Th	Tm	U	Y	Yb	Zr
UNITS			ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
DETECTION			0.5	0.1	0.1	0.1	0.1	0.1	0.2	0.1	10	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.5	0.1	5
METHOD			FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS
COMMENTS: 1429.0/1406922 (04/08/2014) CLIENT O/N: Andy Border 1/3																						
HSE3-11	10	11	155	14	8	2	13	3	72	1	243	67	19	16	6	2	19	1	10	63	7	480
HSE3-12	11	12	120	9	6	1	9	2	60	1	162	48	14	12	3	1	18	1	8	46	5	303
HSE3-13	12	13	72	8	4	1	5	2	36	1	173	31	9	6	1	1	12	1	6	35	4	253
HSE3-14	13	14	54	9	6	0	7	2	24	1	175	24	7	7	3	1	10	1	7	41	5	285
HSE3-15	14	15	72	71	52	2	28	16	23	7	958	40	10	21	68	9	117	8	20	386	52	3140
HSE3-16	15	16	124	202	149	4	77	44	32	19	3341	73	19	48	188	25	315	23	45	1046	147	8513
HSE3-17	16	17	147	234	173	4	86	52	34	22	3667	87	23	59	240	30	403	27	51	1219	180	10216
HSE3-18	17	18	151	244	181	4	93	55	34	25	5021	93	24	59	242	31	401	29	58	1294	188	10572
HSE3-19	18	19	125	214	157	3	80	48	28	20	3716	73	19	49	220	27	359	25	50	1126	161	9401
HSE3-20	19	20	115	221	157	3	82	50	26	21	3234	73	18	48	226	28	372	25	62	1209	165	9757
HSE3-21	20	21	108	200	146	3	74	46	25	20	2459	65	17	45	216	25	357	24	52	1102	150	9146
HSE3-22	21	22	127	205	149	4	77	46	31	20	3148	77	19	49	216	26	361	24	50	1109	155	9302
HSE3-23	22	23	80	63	45	1	26	14	31	6	899	39	11	17	62	8	108	7	19	345	45	2646
HSE3-24	23	24	112	38	26	1	18	8	54	3	535	52	14	15	32	5	66	4	14	201	25	1462
HSE3-25	24	25	139	9	5	1	9	2	72	1	93	55	16	10	4	2	22	1	7	50	5	363
HSE3-26	25	26	251	17	9	3	19	3	120	1	120	108	30	22	7	3	25	1	7	83	8	880
HSE3-27	26	27	234	15	8	2	16	3	115	1	114	94	27	17	6	3	26	1	7	76	7	792
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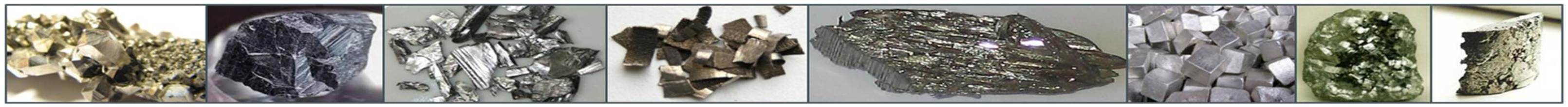

ELEMENTS			Ce	Dy	Er	Eu	Gd	Ho	La	Lu	Nb	Nd	Pr	Sm	Ta	Tb	Th	Tm	U	Y	Yb	Zr
UNITS			ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
DETECTION			0.5	0.1	0.1	0.1	0.1	0.1	0.2	0.1	10	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.5	0.1	5
METHOD			FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS
HSE3-29	28	29	161	10	5	1	10	2	85	1	72	68	19	12	4	2	24	1	8	51	5	417
HSE3-30	29	30	134	82	58	2	34	18	57	7	990	66	17	25	88	10	159	9	28	439	57	3509
HSE3-31	30	31	131	201	146	4	76	46	37	20	3480	76	19	49	200	25	339	23	44	1042	149	8768
HSE3-32	31	32	142	216	156	3	80	47	36	21	3819	85	21	49	217	27	361	25	51	1103	159	9278
HSE3-33	32	33	130	222	162	4	84	50	30	22	3934	81	20	55	221	28	367	26	53	1187	170	9621
HSE3-34	33	34	116	214	158	3	81	48	26	21	3004	67	18	47	205	27	342	25	62	1168	157	9066
HSE3-35	34	35	117	199	146	3	74	45	26	19	3127	69	18	45	193	25	328	24	53	1078	149	8706
HSE3-36	35	36	114	189	140	3	68	43	27	19	3743	68	18	42	179	23	299	22	53	1029	142	7907
HSE3-37	36	37	104	169	122	3	63	38	25	16	2895	62	16	39	147	22	246	19	44	913	121	6924
HSE3-38	37	38	100	177	124	3	65	39	23	16	3240	60	16	39	163	21	275	20	47	923	126	7146
HSE3-39	38	39	84	140	100	2	53	32	19	13	2242	48	13	33	139	17	227	16	41	713	101	5605
HSE3-40	39	40	110	198	143	3	71	44	24	19	3367	66	17	46	193	24	322	23	51	1060	145	8341
HSE3-41	40	41	96	155	111	2	61	35	23	15	2776	62	15	35	149	20	253	17	38	838	111	6283
HSE3-42	41	42	115	232	174	3	83	53	25	23	4374	72	18	49	209	29	344	28	83	1313	172	9398
HSE3-43	42	43	110	211	152	3	80	47	24	19	3151	71	18	50	193	26	326	24	63	1134	150	8164
HSE3-44	43	44	91	168	121	3	63	38	20	16	2807	55	14	40	155	21	257	19	45	918	121	6673
HSE3-45	44	45	126	223	161	3	82	50	28	21	2975	75	19	51	217	28	368	25	55	1244	164	9061
HSE3-46	45	46	131	247	181	3	92	55	30	24	3246	78	20	53	235	31	386	28	78	1317	180	10189
HSE3-47	46	47	124	238	173	4	87	53	28	23	3798	78	19	53	241	30	397	27	77	1230	175	10112
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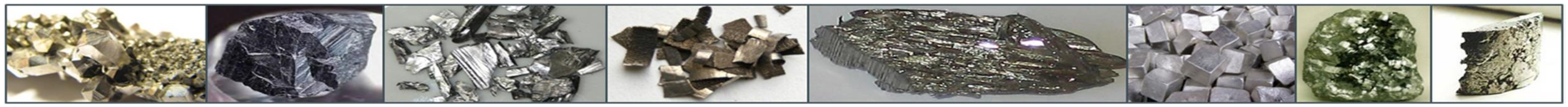

HSE3-49	48	49	110	197	147	3	72	44	25	20	3129	64	17	46	203	25	334	23	162	1082	150	8506
ELEMENTS			Ce	Dy	Er	Eu	Gd	Ho	La	Lu	Nb	Nd	Pr	Sm	Ta	Tb	Th	Tm	U	Y	Yb	Zr
UNITS			ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
DETECTION			0.5	0.1	0.1	0.1	0.1	0.1	0.2	0.1	10	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.5	0.1	5
METHOD			FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS
HSE3-50	49	50	117	186	138	3	69	42	27	19	3487	70	18	44	187	23	306	22	107	983	138	7931
HSE3-51	50	51	82	133	94	2	50	30	19	13	2434	50	13	35	127	17	213	15	57	695	97	5522
HSE3-52	51	52	113	182	135	3	69	41	26	18	3063	67	18	42	178	23	299	21	61	982	133	7693
HSE3-53	52	53	101	176	127	2	66	39	24	17	2971	61	16	40	171	22	281	20	50	938	129	7254
HSE3-54	53	54	130	229	164	3	83	50	30	22	3615	80	20	55	223	28	371	26	64	1229	171	9716
HSE3-55	54	55	127	242	174	4	89	53	28	23	4051	79	20	57	235	30	386	27	65	1296	174	10320
HSE3-56	55	56	98	169	127	3	65	39	22	17	2814	60	16	42	155	22	266	20	45	915	128	7185
HSE3-57	56	57	137	240	181	4	85	55	31	24	3754	77	22	54	239	29	403	29	62	1240	183	10162
HSE3-58	57	58	140	254	191	3	96	58	29	25	3710	84	22	56	260	32	438	31	74	1296	195	10802
HSE3-59	58	59	146	264	202	4	97	61	31	26	3711	89	24	63	261	32	443	32	75	1346	206	11368
HSE3-60	59	60	76	149	110	3	57	34	16	14	2115	48	12	34	136	19	238	17	41	775	111	6113
HSE3-61	60	61	65	121	88	2	49	27	13	11	1722	41	11	30	111	16	186	13	35	666	88	4858
HSE3-62	61	62	70	128	89	2	52	28	14	12	1924	42	11	30	110	16	182	14	34	672	88	4637
HSE3-63	62	63	74	137	96	2	54	30	16	13	2170	46	12	31	120	17	198	15	35	736	98	5391
HSE3-64	63	64	91	153	115	3	57	36	22	15	2666	54	15	35	146	20	248	18	44	824	114	6533
HSE3-65	64	65	99	170	128	3	64	39	23	18	2935	57	15	41	173	21	291	21	50	864	136	7428
HSE3-66	65	66	110	182	140	3	67	42	26	19	3102	62	17	41	179	22	301	22	51	925	145	7805
HSE3-67	66	67	93	161	119	3	61	36	22	16	2563	54	15	38	140	19	236	19	41	831	117	5923
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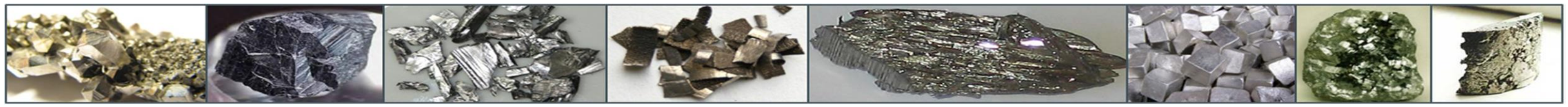
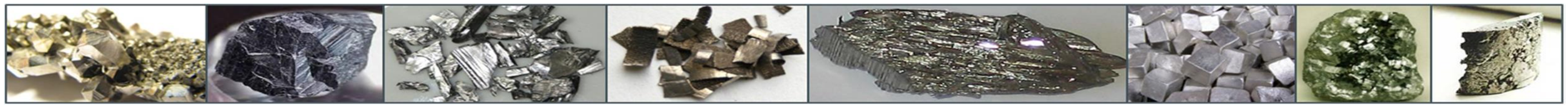


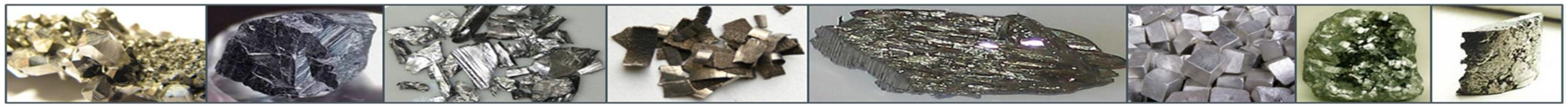
HSE3-69	68	69	94	160	122	3	58	37	21	15	2517	56	14	36	162	20	266	19	47	823	119	6517
HSE3-70	69	70	102	134	100	2	52	30	28	13	2113	54	14	32	126	18	213	16	33	695	96	5476
ELEMENTS			Ce	Dy	Er	Eu	Gd	Ho	La	Lu	Nb	Nd	Pr	Sm	Ta	Tb	Th	Tm	U	Y	Yb	Zr
UNITS			ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
DETECTION			0.5	0.1	0.1	0.1	0.1	0.1	0.2	0.1	10	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.5	0.1	5
METHOD			FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS
HSE3-71	70	71	96	159	119	3	58	36	23	15	2384	55	15	37	149	20	243	18	43	804	117	6227
HSE3-72	71	72	92	165	124	2	62	37	20	16	2671	52	14	38	158	20	262	20	44	873	128	6615
HSE3-73	72	73	109	193	143	3	74	44	24	19	2856	66	17	45	188	24	307	22	52	973	144	8071
HSE3-74	73	74	94	187	138	3	74	44	20	17	2509	59	15	42	167	24	258	22	44	999	134	7990
HSE3-75	74	75	89	156	112	2	59	35	20	14	2223	55	14	40	133	20	218	18	38	807	110	5868
HSE3-76	75	76	83	147	106	2	62	34	18	14	2170	50	13	36	134	19	219	17	38	783	109	6584
HSE3-77	76	77	92	144	110	2	56	33	24	15	2245	58	14	34	141	18	226	17	36	771	109	6388
HSE3-78	77	78	92	9	5	1	7	2	47	1	158	38	11	8	3	1	23	1	5	46	5	324
HSE3-79	78	79	109	8	5	1	8	2	55	1	105	45	13	10	2	1	24	1	6	44	4	234
HSE3-80	79	80	103	7	4	1	7	1	53	1	40	44	12	8	2	1	23	1	7	41	4	220
HSE3-81	80	81	108	8	5	1	7	2	58	1	46	48	13	10	2	1	25	1	7	42	4	239
HSE3-82	81	82	107	7	4	1	8	2	56	1	31	44	13	9	2	1	25	1	8	39	4	281
HSE3-83	82	83	96	8	5	1	7	2	48	1	33	38	11	8	1	1	24	1	6	38	4	297



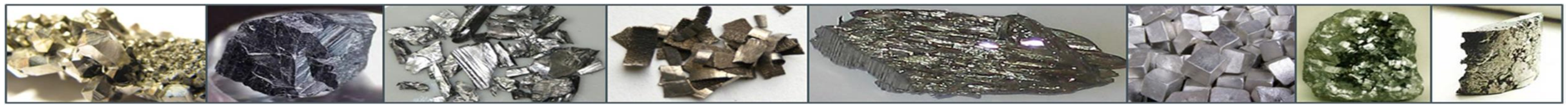
ELEMENTS			Ce	Dy	Er	Eu	Gd	Ho	La	Lu	Nb	Nd	Pr	Sm	Ta	Tb	Th	Tm	U	Y	Yb	Zr
UNITS			ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
DETECTION			0.5	0.1	0.1	0.1	0.1	0.1	0.2	0.1	10	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.5	0.1	5
METHOD			FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS

COMMENTS: 1429.0/1406922 (04/08/2014) CLIENT O/N: Andy Border 1/3

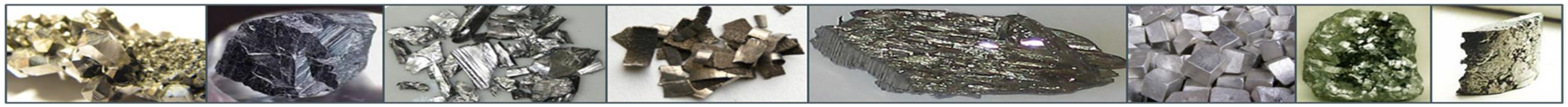
	Fm	To	Ce	Dy	Er	Eu	Gd	Ho	La	Lu	Nb	Nd	Pr	Sm	Ta	Tb	Th	Tm	U	Y	Yb	Zr
HSE4-8	8	9	120	8	4	1	7	2	62	1	139	46	14	10	3	1	20	1	7	37	4	321
HSE4-9	9	10	122	7	4	1	7	2	64	1	139	46	14	10	2	1	21	1	7	36	4	266
HSE4-10	10	11	98	6	3	1	6	1	52	1	176	40	12	9	1	1	20	1	6	32	3	206
HSE4-11	11	12	77	13	8	1	8	3	36	1	263	35	9	9	6	2	25	1	7	58	8	466
HSE4-12	12	13	123	174	126	3	63	39	31	17	2767	69	18	41	164	21	272	21	39	832	130	6994
HSE4-13	13	14	112	184	142	3	69	43	29	19	2895	66	17	41	177	23	292	22	42	960	144	7816
HSE4-14	14	15	168	272	204	4	101	63	39	27	4221	98	26	67	264	33	427	33	67	1347	204	11077
HSE4-15	15	16	157	274	203	4	101	63	35	27	4106	92	24	62	260	33	421	32	65	1357	199	10760
HSE4-16	16	17	163	265	206	4	98	62	37	27	4126	97	25	62	261	34	423	32	85	1401	207	10787
HSE4-17	17	18	98	171	126	3	69	38	21	16	2539	62	16	41	151	22	248	20	40	874	121	6452
HSE4-18	18	19	95	198	149	3	68	45	20	19	2897	58	15	44	182	24	297	23	50	1028	145	8009
HSE4-19	19	20	133	249	191	4	94	57	33	25	2788	81	22	57	266	31	421	30	73	1236	192	10636
HSE4-20	20	21	94	73	52	2	31	16	39	7	1000	45	13	20	70	9	122	8	20	383	52	3190
HSE4-21	21	22	101	13	8	1	9	3	52	1	290	44	12	9	6	2	26	1	6	67	8	460
HSE4-22	22	23	102	57	43	1	23	13	45	6	917	47	13	17	49	7	94	7	16	300	43	2290
HSE4-23	23	24	123	186	140	3	66	42	32	18	2649	67	18	44	175	22	288	22	55	949	138	7710
HSE4-24	24	25	128	193	147	3	73	43	36	19	2949	70	19	44	185	24	305	23	60	983	149	7876
HSE4-25	25	26	140	234	175	4	86	53	33	23	3815	81	22	54	222	29	358	27	66	1183	180	9382
HSE4-26	26	27	97	180	134	3	70	43	22	17	2143	58	15	42	171	23	285	21	48	965	133	6947
HSE4-27	27	28	108	230	180	3	78	53	24	24	3355	62	17	43	217	28	353	29	59	1216	178	9402



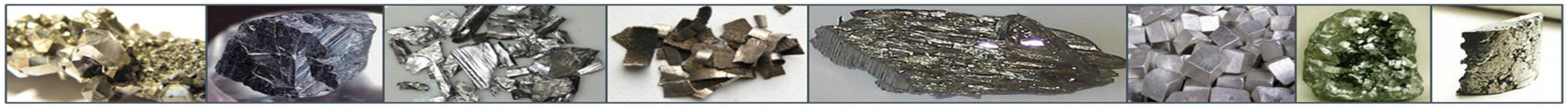
ELEMENTS			Ce	Dy	Er	Eu	Gd	Ho	La	Lu	Nb	Nd	Pr	Sm	Ta	Tb	Th	Tm	U	Y	Yb	Zr
UNITS			ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
DETECTION			0.5	0.1	0.1	0.1	0.1	0.1	0.2	0.1	10	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.5	0.1	5
METHOD			FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS
HSE4-28	28	29	155	301	232	4	104	70	35	30	3660	91	24	64	287	36	472	37	67	1616	233	12346
HSE4-29	29	30	111	224	171	3	78	53	24	22	2926	66	18	45	203	27	343	27	51	1216	173	9187
HSE4-30	30	31	142	259	201	4	93	60	31	25	3163	83	22	56	261	32	426	31	66	1356	200	10639
HSE4-31	31	32	130	231	171	4	87	53	30	23	2699	77	20	52	244	29	384	28	56	1202	175	9441
HSE4-32	32	33	91	169	127	3	63	39	19	17	2518	55	15	36	145	20	282	20	39	849	128	6316
HSE4-33	33	34	112	214	164	3	80	49	24	22	2912	66	17	43	188	26	304	25	52	1101	167	8707
HSE4-34	34	35	142	219	167	4	83	51	31	22	2908	81	22	55	212	27	351	26	61	1117	173	8566
HSE4-35	35	36	120	195	146	3	74	44	29	19	3421	72	19	46	184	24	304	23	45	1014	145	7839
HSE4-36	36	37	128	209	161	3	81	48	29	22	3405	75	20	51	206	26	328	25	58	1103	162	8721
HSE4-37	37	38	115	186	139	3	71	43	28	18	2882	68	18	45	183	24	301	22	52	990	140	7797
HSE4-38	38	39	108	183	137	3	68	42	26	18	2753	64	17	43	176	23	283	21	50	959	136	7385
HSE4-39	39	40	123	203	149	3	75	46	28	20	3077	73	19	50	202	25	329	24	57	1017	155	8105
HSE4-40	40	41	100	175	128	3	64	40	23	17	2867	57	15	40	160	21	257	20	46	889	132	6807
HSE4-41	41	42	94	159	117	3	60	38	24	15	1979	54	15	34	154	20	238	19	40	797	117	6117
HSE4-42	42	43	98	152	115	2	58	35	22	15	2139	57	15	37	153	19	254	18	42	795	113	5922
HSE4-43	43	44	87	154	116	2	59	36	20	15	2524	56	14	36	146	19	236	19	41	789	115	6004
HSE4-44	44	45	86	149	112	2	54	34	19	15	2607	50	13	34	148	19	235	17	40	744	112	5875
HSE4-45	45	46	104	193	143	3	72	44	22	19	3303	65	16	44	180	24	290	22	49	1012	142	8010
HSE4-46	46	47	104	193	143	3	70	44	24	18	2958	62	17	42	171	24	275	22	47	1012	140	7901
HSE4-47	47	48	85	151	114	2	55	34	18	15	2723	51	13	35	142	19	229	17	39	752	115	6202



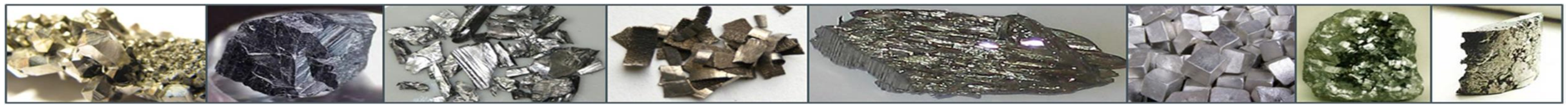
HSE4-48	48	49	91	162	122	2	60	37	19	16	2878	57	14	35	162	20	255	19	47	831	124	6958
ELEMENTS			Ce	Dy	Er	Eu	Gd	Ho	La	Lu	Nb	Nd	Pr	Sm	Ta	Tb	Th	Tm	U	Y	Yb	Zr
UNITS			ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
DETECTION			0.5	0.1	0.1	0.1	0.1	0.1	0.2	0.1	10	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.5	0.1	5
METHOD			FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS
HSE4-49	49	50	81	181	137	3	64	43	17	16	2700	50	14	37	140	22	226	21	40	964	130	8017
HSE4-50	50	51	89	190	140	3	74	44	18	16	2458	56	14	42	136	25	220	21	38	1032	128	8591
HSE4-51	51	52	92	181	132	3	68	40	19	17	2525	55	14	41	151	23	241	20	41	919	128	8123
HSE4-52	52	53	102	197	148	3	75	47	21	19	2900	65	16	48	168	25	263	24	46	1050	147	8197
HSE4-53	53	54	91	169	126	3	69	40	20	16	2818	55	15	42	150	21	234	20	41	902	126	6939
HSE4-54	54	55	108	208	155	3	79	48	23	20	3337	63	17	44	189	26	303	24	53	1074	152	8585
HSE4-55	55	56	91	158	117	3	64	35	18	14	2501	57	15	39	133	19	207	18	38	802	110	5522
HSE4-56	56	57	99	184	138	3	72	44	21	18	2546	62	16	44	161	23	257	21	45	1007	137	7533
HSE4-57	57	58	137	267	191	4	100	59	29	24	3386	88	23	60	257	33	419	30	69	1312	188	10397
HSE4-58	58	59	128	229	162	3	85	51	26	22	3201	78	20	54	212	28	340	26	61	1105	165	8516
HSE4-59	59	60	136	230	173	4	88	52	30	23	3618	80	21	54	216	29	338	27	58	1161	172	9021
HSE4-60	60	61	98	165	125	3	63	39	22	16	2872	58	16	38	153	21	249	20	42	834	123	6461
HSE4-61	61	62	108	193	146	3	72	44	25	19	3246	67	17	44	187	25	291	23	50	988	148	7798
HSE4-62	62	63	107	191	145	3	71	44	24	19	2881	63	17	43	184	25	291	23	53	944	148	7851
HSE4-63	63	64	102	190	140	3	74	42	22	16	2737	63	17	46	158	24	249	21	44	964	133	7048
HSE4-64	64	65	106	194	141	3	75	44	22	17	2681	63	17	47	154	24	251	21	40	1055	135	7698
HSE4-65	65	66	93	158	114	3	62	35	20	15	2313	56	14	39	144	20	263	18	39	787	115	5728
HSE4-66	66	67	91	177	127	3	66	40	19	15	2888	56	14	39	153	22	240	19	42	921	125	6793
HSE4-67	67	68	96	172	124	3	65	39	20	16	2937	56	15	39	163	22	234	19	42	932	120	6819



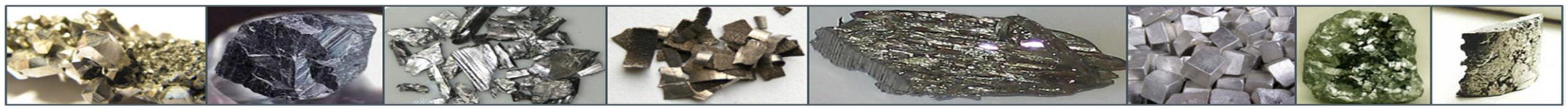
ELEMENTS			Ce	Dy	Er	Eu	Gd	Ho	La	Lu	Nb	Nd	Pr	Sm	Ta	Tb	Th	Tm	U	Y	Yb	Zr
UNITS			ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
DETECTION			0.5	0.1	0.1	0.1	0.1	0.1	0.2	0.1	10	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.5	0.1	5
METHOD			FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS
HSE4-68	68	69	95	185	129	3	70	41	20	17	2831	60	15	44	161	24	265	21	43	942	132	7147
HSE4-69	69	70	92	178	138	3	71	41	19	18	2823	58	15	43	159	23	254	21	43	926	131	6847
HSE4-70	70	71	104	143	113	2	58	34	27	14	2195	60	16	36	127	18	206	17	36	774	114	5927
HSE4-71	71	72	93	136	101	3	52	31	23	13	2113	53	14	33	126	17	209	16	37	666	97	5308
HSE4-72	72	73	98	148	109	2	60	34	23	14	2576	56	15	37	128	19	211	17	36	776	107	5881
HSE4-73	73	74	107	185	140	3	69	42	23	18	2984	64	17	42	164	23	268	22	46	971	141	7379
HSE4-74	74	75	99	171	129	3	65	40	22	17	2288	60	16	42	150	22	243	20	43	887	130	6805
HSE4-75	75	76	115	130	98	2	51	30	36	13	1946	59	16	33	126	16	211	15	39	647	97	5328
HSE4-76	76	77	98	10	6	1	8	2	50	1	142	40	11	8	5	2	26	1	6	50	5	320
HSE4-77	77	78	109	10	6	1	9	2	58	1	124	46	13	10	3	1	25	1	7	49	5	311
HSE4-78	78	79	115	30	22	2	16	7	56	3	492	48	14	14	21	4	55	3	10	155	19	1103
HSE4-79	79	80	116	12	8	2	9	3	60	1	201	49	14	11	6	2	29	1	8	63	7	357
HSE4-80	80	81	112	9	5	1	8	2	59	1	135	51	13	10	2	1	24	1	7	42	5	219



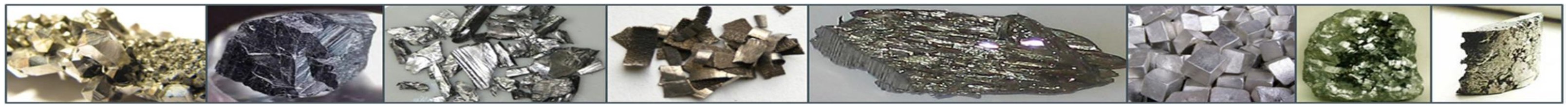
ELEMENTS			Ce	Dy	Er	Eu	Gd	Ho	La	Lu	Nb	Nd	Pr	Sm	Ta	Tb	Th	Tm	U	Y	Yb	Zr
UNITS			ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
DETECTION			0.5	0.1	0.1	0.1	0.1	0.1	0.2	0.1	10	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.5	0.1	5
METHOD			FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS
COMMENTS: 1429.0/1406922 (04/08/2014) CLIENT O/N: Andy Border 1/3																						
	Fm	To																				
HSE5-1	0	1	94	150	118	3	54	35	17	15	1878	47	12	34	145	19	225	18	24	744	119	6019
HSE5-2	1	2	154	250	190	4	91	58	35	25	2931	88	24	59	247	31	379	30	41	1235	188	9565
HSE5-3	2	3	135	208	156	4	79	49	34	21	2716	79	21	52	199	26	310	25	33	1090	159	8252
HSE5-4	3	4	146	238	178	4	91	54	38	23	3419	84	23	57	229	30	362	28	38	1207	182	9522
HSE5-5	4	5	157	244	181	4	95	56	39	23	3701	94	24	60	242	31	381	29	41	1270	183	10049
HSE5-6	5	6	110	160	121	3	62	37	29	16	2575	60	16	38	156	20	241	20	28	801	118	6225
HSE5-7	6	7	130	150	110	3	58	34	45	15	2221	67	19	37	142	19	233	18	27	765	112	5914
HSE5-8	7	8	126	201	151	3	74	46	25	21	2985	64	17	47	190	26	311	24	38	1011	148	7935
HSE5-9	8	9	107	176	132	3	67	41	24	17	2730	64	16	43	162	22	263	21	30	895	129	6842
HSE5-10	9	10	107	184	136	3	71	43	26	19	2797	65	17	45	176	24	285	22	30	923	140	7017
HSE5-11	10	11	122	172	129	3	66	40	35	16	2665	68	18	41	155	21	263	20	29	882	126	6643
HSE5-12	11	12	120	171	126	3	63	39	31	17	2729	64	18	41	159	21	258	20	31	889	128	6751
HSE5-13	12	13	125	228	172	3	86	51	28	23	3607	76	20	54	226	28	360	28	44	1215	178	9597
HSE5-14	13	14	124	215	160	3	77	50	28	21	3332	74	19	48	205	27	326	25	41	1059	157	8458
HSE5-15	14	15	122	180	131	3	69	41	29	18	2836	71	19	46	173	22	271	21	34	910	136	7002
HSE5-16	15	16	122	210	157	3	78	49	27	20	3204	73	19	49	191	25	312	25	40	1074	153	8318
HSE5-17	16	17	129	220	164	3	78	49	29	21	3320	75	20	52	209	27	333	25	41	1094	160	8669
HSE5-18	17	18	157	268	199	4	103	62	35	26	4016	98	24	61	239	34	402	32	52	1311	200	10466



ELEMENTS			Ce	Dy	Er	Eu	Gd	Ho	La	Lu	Nb	Nd	Pr	Sm	Ta	Tb	Th	Tm	U	Y	Yb	Zr
UNITS			ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
DETECTION			0.5	0.1	0.1	0.1	0.1	0.1	0.2	0.1	10	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.5	0.1	5
METHOD			FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS
HSE5-19	18	19	97	158	117	3	60	35	22	17	2417	56	15	36	151	20	237	19	34	807	119	6209
HSE5-20	19	20	147	273	206	4	97	63	32	26	4205	90	24	63	262	33	428	32	63	1399	206	11213
HSE5-21	20	21	138	261	199	4	96	60	30	27	4183	82	22	58	257	32	401	31	62	1363	201	10694
HSE5-22	21	22	128	245	186	4	92	56	29	24	3823	77	20	55	242	31	382	29	56	1262	186	10169
HSE5-23	22	23	135	243	182	3	92	55	30	24	3723	84	21	59	236	30	365	29	55	1171	183	9408
HSE5-24	23	24	123	201	159	3	80	47	28	20	3269	72	19	47	198	25	315	24	44	1063	158	8228
HSE5-25	24	25	116	178	129	3	71	41	27	17	2625	67	18	41	168	22	267	20	34	895	132	6943
HSE5-26	25	26	117	172	132	3	67	40	28	17	2712	69	18	43	168	22	266	21	39	901	130	6856
HSE5-27	26	27	94	177	134	3	64	40	21	17	2953	56	15	42	165	22	265	21	36	886	132	6794
HSE5-28	27	28	110	180	128	3	66	40	25	17	2767	62	17	40	165	22	265	20	36	888	130	6730
HSE5-29	28	29	102	182	130	3	70	41	22	17	2984	63	16	41	165	22	258	21	38	901	129	6867
HSE5-30	29	30	96	159	117	3	61	37	22	16	2797	54	15	38	152	20	233	19	33	842	123	6404
HSE5-31	30	31	120	203	150	3	76	46	27	20	3572	74	18	48	196	25	303	24	47	1028	152	7763
HSE5-32	31	32	113	167	123	3	64	38	29	17	3055	62	17	40	162	21	266	20	45	838	125	6282
HSE5-33	32	33	105	166	124	3	64	38	24	17	3104	62	16	43	166	21	263	20	44	872	128	6424
HSE5-34	33	34	90	164	120	3	64	38	19	16	3079	55	14	37	143	21	234	19	41	856	122	6533
HSE5-35	34	35	100	169	125	3	62	38	22	16	2865	58	16	41	168	21	266	19	45	832	129	6973
HSE5-36	35	36	107	187	141	3	69	43	24	18	3048	63	17	44	181	24	295	22	52	969	141	7787
HSE5-37	36	37	104	145	107	3	55	33	25	14	2265	60	16	39	155	18	248	16	42	714	106	5876
HSE5-38	37	38	139	245	183	4	89	57	31	25	3354	84	21	58	242	30	385	29	66	1218	190	10191



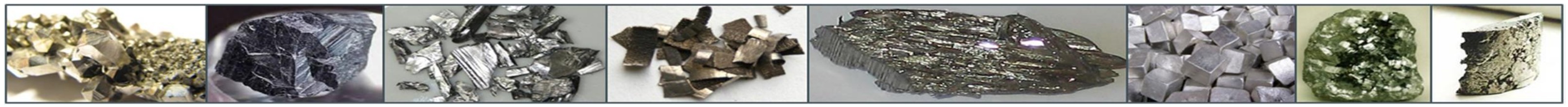
ELEMENTS			Ce	Dy	Er	Eu	Gd	Ho	La	Lu	Nb	Nd	Pr	Sm	Ta	Tb	Th	Tm	U	Y	Yb	Zr
UNITS			ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
DETECTION			0.5	0.1	0.1	0.1	0.1	0.1	0.2	0.1	10	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.5	0.1	5
METHOD			FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS
HSE5-39	38	39	131	245	186	4	92	57	29	24	3389	80	21	55	227	30	364	29	65	1194	183	10161
HSE5-40	39	40	89	148	108	3	60	33	21	13	2365	53	14	35	150	19	235	17	40	748	107	5763
HSE5-41	40	41	100	184	133	3	67	42	22	17	2544	61	16	44	167	23	273	21	46	930	133	7670
HSE5-42	41	42	104	175	130	3	71	40	23	17	2517	62	17	43	165	21	263	20	45	871	128	7130
HSE5-43	42	43	109	196	152	3	78	46	23	20	2648	65	17	46	190	25	301	23	43	983	150	8201
HSE5-44	43	44	119	204	154	3	79	48	27	21	2946	73	19	51	193	26	315	24	52	1047	156	8449
HSE5-45	44	45	110	183	138	3	70	43	23	18	2816	68	18	46	177	23	285	21	49	926	138	7140
HSE5-46	45	46	119	218	169	4	82	52	26	22	3291	73	19	48	214	27	339	27	58	1088	171	8928
HSE5-47	46	47	125	221	170	3	84	51	27	22	3270	73	20	52	212	29	339	26	60	1142	169	8931
HSE5-48	47	48	131	232	174	4	88	54	29	23	3582	82	22	57	225	29	338	27	54	1167	177	9008
HSE5-49	48	49	124	223	170	3	86	52	27	23	3952	78	20	52	210	28	340	26	58	1184	172	9328
HSE5-50	49	50	117	185	140	3	69	44	25	19	2766	68	18	45	193	23	304	23	51	944	150	7454
HSE5-51	50	51	92	163	117	2	66	37	19	15	2444	54	15	40	143	21	229	18	39	837	116	5994
HSE5-52	51	52	94	109	80	2	44	25	30	11	1980	51	14	28	99	14	164	13	29	603	77	4377
HSE5-53	52	53	105	30	19	1	15	7	47	2	508	43	12	13	22	4	51	3	11	151	19	1067



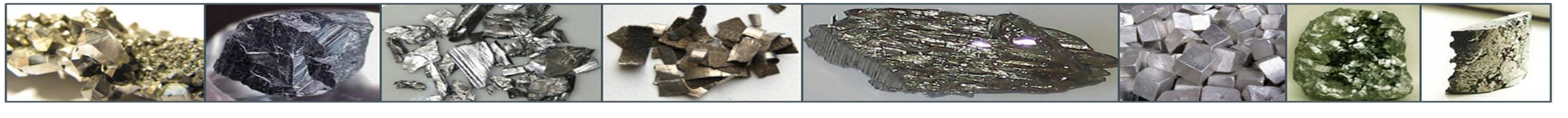
ELEMENTS			Ce	Dy	Er	Eu	Gd	Ho	La	Lu	Nb	Nd	Pr	Sm	Ta	Tb	Th	Tm	U	Y	Yb	Zr
UNITS			ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
DETECTION			0.5	0.1	0.1	0.1	0.1	0.1	0.2	0.1	10	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.5	0.1	5
METHOD			FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS

COMMENTS: 1429.0/1406922 (04/08/2014) CLIENT O/N: Andy Border 1/3

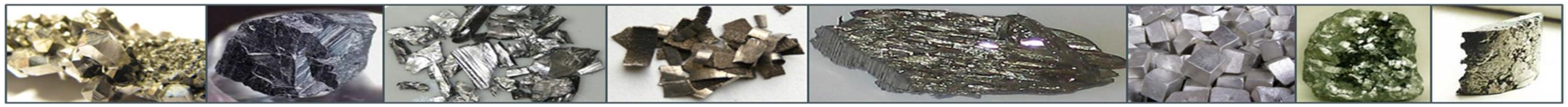
	Fm	To	Ce	Dy	Er	Eu	Gd	Ho	La	Lu	Nb	Nd	Pr	Sm	Ta	Tb	Th	Tm	U	Y	Yb	Zr
HSE5101-105	101	105	118	7	4	1	8	2	60	1	22	48	14	9	2	1	26	1	8	39	4	238
HSE5105-109	105	109	112	132	95	3	52	31	36	13	2152	62	16	33	127	17	224	16	39	733	98	5629
HSE5109-113	109	113	111	178	130	3	69	41	25	18	2851	66	18	44	171	23	295	21	51	967	133	7603
HSE5113-117	113	117	104	164	118	2	62	37	26	16	2846	63	16	40	151	21	265	19	45	906	120	7125
HSE5117-121	117	121	110	176	128	3	68	40	25	17	2851	67	18	43	165	23	286	21	51	986	131	7326
HSE5121-124	121	125	113	181	130	3	69	41	26	18	2736	67	18	43	176	23	297	21	51	988	132	7079
HSE5124-129	125	129	103	167	120	3	63	38	23	16	2409	61	16	40	161	22	273	20	47	909	122	6711
HSE5129-133	129	133	108	170	125	3	65	39	27	17	2619	64	16	41	164	22	287	20	49	947	126	7057
HSE5133-137	133	137	109	14	9	1	10	3	55	1	211	46	13	10	9	2	32	1	8	77	9	490
HSE5137-141	137	141	116	9	5	1	8	2	58	1	56	48	13	9	4	2	28	1	8	50	5	281
HSE5141-145	141	145	121	55	38	2	25	12	54	5	799	55	15	19	50	7	103	6	19	297	39	2216
HSE5145-149	145	149	111	25	18	1	14	6	54	2	368	49	13	12	20	4	54	3	12	140	17	968
HSE5149-153	149	153	92	143	103	2	55	32	22	14	2448	55	14	35	137	19	232	17	41	783	103	5931
HSE5153-157	153	157	91	140	97	2	58	31	21	13	2304	57	14	37	137	19	229	16	39	768	99	5265
HSE5157-161	157	161	95	150	106	2	58	33	23	15	2672	57	15	37	147	19	248	17	43	810	108	6435
HSE5161-165	161	165	88	24	17	1	13	5	42	2	473	39	11	11	19	3	45	3	10	133	16	937
HSE5165-167	165	167	97	16	10	1	9	3	47	1	333	41	12	10	10	2	32	2	7	87	10	564



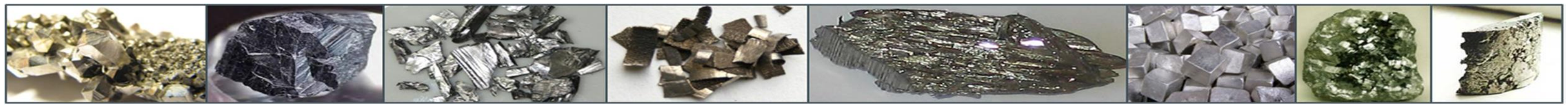
ELEMENTS	Fm	To	Ce	Dy	Er	Eu	Gd	Ho	La	Lu	Nb	Nd	Pr	Sm	Ta	Tb	Th	Tm	U	Y	Yb	Zr
UNITS			ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
DETECTION			0.5	0.1	0.1	0.1	0.1	0.1	0.2	0.1	10	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.5	0.1	5
METHOD			FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS
COMMENTS: 1429.0/1406922 (04/08/2014) CLIENT O/N: Andy Border 1/3																						
HSE6-25	24	25	112	8	4	1	7	1	57	1	102	47	13	9	1	1	23	1	8	41	4	188
HSE6-26	25	26	119	8	4	1	8	2	60	1	133	50	14	10	2	1	23	1	8	47	4	208
HSE6-27	26	27	122	14	9	1	10	3	60	1	237	51	14	11	8	2	34	1	10	79	8	469
HSE6-28	27	28	100	16	11	1	11	4	47	2	297	43	12	10	11	3	38	2	9	89	10	666
HSE6-29	28	29	94	48	34	1	21	11	37	5	643	46	12	17	43	6	90	5	17	263	34	1962
HSE6-30	29	30	132	199	143	4	76	45	36	20	3074	77	19	50	183	26	330	23	50	1108	143	7961
HSE6-31	30	31	143	193	138	3	76	44	37	19	3369	82	21	49	180	25	314	22	52	1050	140	7843
HSE6-32	31	32	147	221	159	4	84	50	36	22	3708	86	23	55	212	29	374	26	63	1229	162	8971
HSE6-33	32	33	132	205	147	3	77	47	31	21	2900	79	21	51	198	27	337	24	57	1119	149	8079
HSE6-34	33	34	123	187	134	3	72	43	30	18	2775	73	19	47	177	25	307	21	50	1008	135	7471
HSE6-35	34	35	143	231	167	4	89	52	32	23	3547	89	22	57	221	30	391	27	62	1280	166	9165
HSE6-36	35	36	139	222	160	3	83	51	32	22	3170	85	22	54	211	29	363	26	61	1196	162	8809
HSE6-37	36	37	123	201	142	3	77	45	27	20	3065	76	19	49	183	26	314	23	54	1092	143	8134
HSE6-38	37	38	92	158	109	3	61	35	20	15	2644	57	15	38	146	21	247	18	40	859	109	6055
HSE6-39	38	39	101	147	102	3	61	33	22	14	2686	62	16	40	144	20	235	16	41	806	102	5483
HSE6-40	39	40	121	195	138	3	73	44	27	19	3170	73	19	48	186	25	316	22	52	1027	141	7324
HSE6-41	40	41	107	152	112	3	57	35	28	16	2693	62	16	37	148	20	254	18	44	838	115	6159
HSE6-42	41	42	124	220	165	3	78	51	28	23	3158	77	19	50	207	28	364	27	67	1189	169	9043



ELEMENTS			Ce	Dy	Er	Eu	Gd	Ho	La	Lu	Nb	Nd	Pr	Sm	Ta	Tb	Th	Tm	U	Y	Yb	Zr
UNITS			ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
DETECTION			0.5	0.1	0.1	0.1	0.1	0.1	0.2	0.1	10	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.5	0.1	5
METHOD			FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS
HSE6-44	43	44	90	160	115	3	61	36	20	15	2462	55	14	39	142	21	238	18	42	856	113	6179
HSE6-45	44	45	139	220	156	4	85	49	30	22	3351	84	22	57	206	29	344	25	60	1176	160	8311
HSE6-46	45	46	114	212	152	3	81	48	25	21	2909	69	18	50	175	28	301	25	51	1230	153	8937
HSE6-47	46	47	104	180	125	3	71	40	22	17	2671	63	16	45	153	24	271	20	45	1010	123	7431
HSE6-48	47	48	100	172	121	3	67	39	22	16	2622	62	15	42	155	22	264	19	44	955	118	7264
HSE6-49	48	49	136	184	135	3	71	42	32	18	3370	80	21	49	196	24	335	22	56	987	138	7034
HSE6-50	49	50	125	210	151	3	82	48	27	21	3168	77	20	51	198	28	339	24	57	1169	151	8380
HSE6-51	50	51	132	219	161	3	85	50	28	22	3230	81	21	53	218	29	367	26	62	1203	164	8931
HSE6-52	51	52	117	184	133	3	71	42	25	19	3105	73	19	49	189	24	319	22	55	994	136	7275
HSE6-53	52	53	125	210	154	3	81	48	27	22	3360	77	20	53	216	28	366	25	62	1136	159	8265
HSE6-54	53	54	137	232	168	4	87	53	30	23	3345	83	22	55	226	30	390	27	65	1300	169	9135
HSE6-55	54	55	111	164	117	3	63	37	28	16	2431	65	17	40	168	22	281	19	49	885	120	6402
HSE6-56	55	56	122	202	146	3	76	46	27	20	3203	75	19	50	196	26	329	23	58	1102	148	7971
HSE6-57	56	57	117	209	150	3	79	47	25	21	3344	73	19	50	203	27	338	24	59	1188	152	8283
HSE6-58	57	58	125	226	161	3	85	51	27	22	3277	77	20	51	219	29	363	26	62	1225	163	8981
HSE6-59	58	59	102	163	118	3	62	37	25	16	2591	62	16	39	159	21	268	19	48	894	120	6774
HSE6-60	59	60	101	148	108	2	57	33	25	15	2571	57	15	37	143	19	242	18	43	812	112	6156
HSE6-61	60	61	120	185	136	3	72	43	29	19	2928	72	19	46	182	24	314	22	52	1016	137	7420
HSE6-62	61	62	115	192	139	3	72	44	26	19	2773	69	18	47	192	25	322	22	57	1051	144	7775
HSE6-63	62	63	104	160	116	3	61	36	24	16	2271	62	16	41	156	21	269	19	45	871	117	6500
HSE6-64	63	64	98	160	115	2	59	37	22	16	2336	58	15	37	154	21	263	19	46	857	118	6462

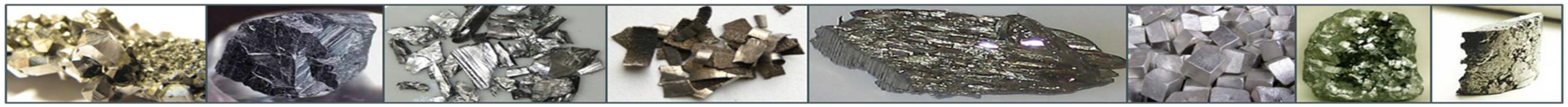


ELEMENTS			Ce	Dy	Er	Eu	Gd	Ho	La	Lu	Nb	Nd	Pr	Sm	Ta	Tb	Th	Tm	U	Y	Yb	Zr
UNITS			ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
DETECTION			0.5	0.1	0.1	0.1	0.1	0.1	0.2	0.1	10	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.5	0.1	5
METHOD			FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS
HSE6-65	64	65	85	140	102	2	54	32	20	15	2557	51	14	34	131	18	224	17	40	786	107	5845
HSE6-66	65	66	83	135	93	2	54	30	19	12	2430	52	13	35	124	18	212	15	36	734	94	5110
HSE6-67	66	67	26	56	39	1	23	13	7	5	3390	17	4	12	18	7	29	6	7	308	35	1738
HSE6-68	67	68	96	83	59	2	35	19	37	8	1133	51	13	23	75	11	140	9	26	455	58	3292
HSE6-69	68	69	100	161	113	3	63	36	24	16	2848	60	15	38	156	21	267	18	44	870	115	6183
HSE6-70	69	70	86	15	10	1	10	3	42	1	276	37	10	9	11	2	36	2	9	82	9	641
HSE6-71	70	71	116	9	6	1	9	2	60	1	88	49	14	10	4	2	27	1	7	51	5	233
HSE6-72	71	72	53	4	2	1	4	1	27	0	23	22	6	5	2	1	12	0	2	21	2	83



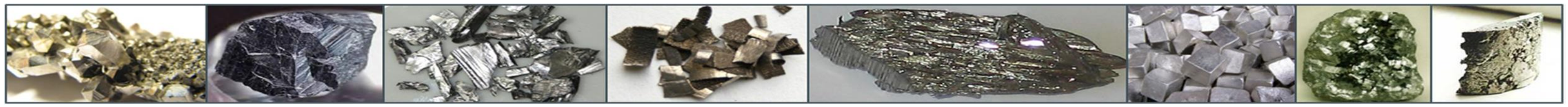
Appendix 3 – Levon Assay Data

ELEMENTS			Ce	Dy	Er	Eu	Gd	Ho	La	Lu	Nb	Nd	Pr	Sm	Ta	Tb	Th	Tm	U	Y	Yb	Zr
UNITS			ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
DETECTION			0.5	0.1	0.1	0.1	0.1	0.1	0.2	0.1	10	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.5	0.1	5
METHOD			FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS
COMMENTS: 1429.0/1406922 (04/08/2014) CLIENT O/N: Andy Border 1/3																						
	Fm	To																				
HL1-(0-4)	0	4	809	69	42	4	56	14	435	6	951	293	88	58	57	11	95	6	21	408	40	3899
HL1-(5-8)	4	8	960	81	50	4	63	17	492	7	1129	327	100	67	68	13	114	8	22	487	49	4617
HL1-(9-12)	8	12	864	74	45	3	59	15	439	6	1023	294	90	60	60	12	101	7	20	436	44	4176
HL1-(13-16)	12	16	826	68	42	4	56	14	417	6	905	286	86	57	57	11	97	7	16	403	41	3990
HL1-(17-20)	16	20	779	62	38	4	51	13	389	5	744	268	82	54	52	10	87	6	16	363	36	3721
HL1-(21-24)	20	24	492	40	25	4	33	8	261	3	607	184	56	36	30	7	50	4	13	232	23	2332
HL1-(25-28)	24	28	961	78	49	4	61	16	499	7	1070	328	101	64	65	12	110	8	25	454	47	4515
HL1-(29-32)	28	32	849	70	43	3	56	15	442	6	1007	287	91	57	58	11	97	7	22	421	41	4132
HL1-(33-36)	32	36	930	75	46	3	60	16	484	6	1093	319	99	62	63	12	107	7	24	445	44	4460
HL1-(37-40)	36	40	930	74	47	4	60	16	480	6	1112	312	98	63	62	12	105	7	18	444	44	4285
HL1-(41-44)	40	44	821	66	41	3	54	14	427	6	999	282	88	56	56	10	94	6	21	390	40	3871
HL1-(45-48)	44	48	798	66	40	3	52	14	418	5	971	278	84	54	54	11	92	6	22	393	39	3994
HL1-(49-52)	48	52	988	80	51	4	65	17	504	7	1228	335	103	66	68	13	114	8	28	490	48	4768
HL1-(53-56)	52	56	872	73	46	3	58	16	461	6	1042	307	95	61	61	12	102	7	24	445	43	4336
HL1-(57-60)	56	60	924	76	47	4	60	16	474	6	1015	318	97	64	63	12	107	7	26	463	46	4387
HL1-(61-64)	60	64	764	64	40	3	50	14	397	5	949	264	83	53	53	10	91	6	22	389	38	3808
HL1-(65-68)	64	68	803	67	42	3	53	14	423	6	1003	280	86	54	56	11	95	6	24	407	41	3931
HL1-(69-72)	68	72	554	45	27	4	38	10	290	4	577	202	61	41	35	7	59	4	20	263	26	2498

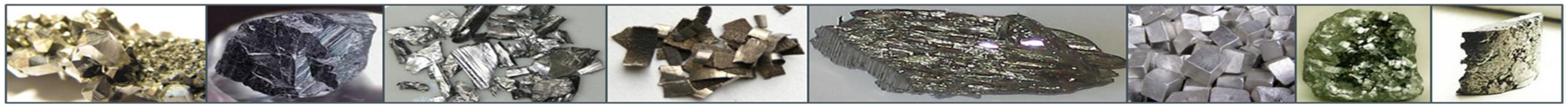


ELEMENTS	From	To	Ce	Dy	Er	Eu	Gd	Ho	La	Lu	Nb	Nd	Pr	Sm	Ta	Tb	Th	Tm	U	Y	Yb	Zr
UNITS			ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
DETECTION			0.5	0.1	0.1	0.1	0.1	0.1	0.2	0.1	10	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.5	0.1	5
METHOD			FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS
HL1-(73-76)	72	76	798	65	41	3	52	14	414	5	1002	273	84	55	56	10	91	6	22	393	39	3871
HL1-(77-80)	76	80	741	62	38	3	49	13	389	5	954	259	80	51	52	10	86	6	21	376	37	3616
HL1-(81-84)	80	84	828	69	43	3	54	14	429	6	1082	279	87	57	58	11	96	7	24	416	41	4093
HL1-(85-88)	84	88	868	73	44	3	57	15	447	6	1113	293	92	58	61	11	100	7	23	425	42	4104
HL1-(89-92)	88	92	792	64	41	3	51	14	405	5	1011	271	83	54	55	10	91	6	20	392	38	3811
HL1-(93-95)	92	95	885	73	45	3	58	15	461	6	1112	302	95	60	62	12	103	7	22	437	44	4280

HL2-(0-4)	0	4	980	75	46	4	66	16	661	6	1283	407	126	73	62	12	101	7	19	443	44	4118
HL2-(5-8)	4	8	920	76	46	4	60	16	492	6	1128	318	99	62	62	12	105	7	19	443	45	4199
HL2-(9-12)	8	12	882	69	43	3	55	15	445	6	1068	289	90	57	58	11	95	7	16	418	41	3937
HL2-(13-16)	12	16	879	71	43	4	56	15	460	6	1056	301	93	60	58	11	95	6	23	415	42	4026
HL2-(17-20)	16	20	911	72	43	3	58	15	472	6	1064	303	96	60	58	11	99	7	24	408	41	4021
HL2-(21-24)	20	24	860	69	42	3	56	14	457	6	1039	297	93	58	58	11	96	7	22	397	41	3912
HL2-(25-28)	24	28	889	68	42	3	56	14	453	6	1052	297	93	58	58	11	98	7	29	401	41	4071
HL2-(29-32)	28	32	850	65	41	3	54	14	445	6	1030	292	91	56	56	10	96	6	17	378	40	3960
HL2-(33-36)	32	36	865	67	42	3	53	14	451	6	981	290	91	57	55	10	99	6	18	397	40	3918
HL2-(37-40)	36	40	829	65	40	3	52	14	436	5	903	286	89	56	56	11	93	6	24	383	39	3701
HL2-(41-44)	40	44	866	68	42	3	55	14	445	6	1082	294	91	58	58	11	95	7	21	410	41	3974
HL2-(45-48)	44	48	876	71	44	3	55	15	460	6	1238	301	93	58	60	11	101	7	28	430	43	4115
HL2-(49-52)	48	52	776	59	36	3	48	12	403	5	967	265	82	52	52	9	85	6	22	330	35	3451
HL2-(53-56)	52	56	805	61	36	3	51	12	423	5	728	271	84	54	54	10	87	6	28	335	35	3689

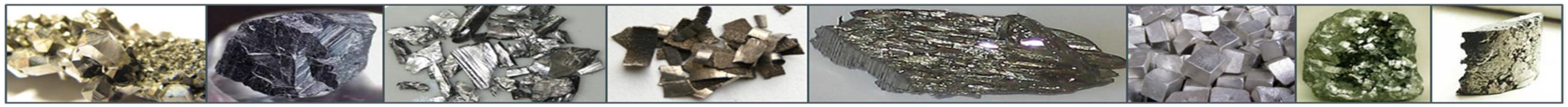


ELEMENTS			Ce	Dy	Er	Eu	Gd	Ho	La	Lu	Nb	Nd	Pr	Sm	Ta	Tb	Th	Tm	U	Y	Yb	Zr
UNITS			ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
DETECTION			0.5	0.1	0.1	0.1	0.1	0.1	0.2	0.1	10	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.5	0.1	5
METHOD			FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS
HL2-(57-60)	56	60	883	67	40	3	57	14	460	6	767	304	94	60	59	11	100	6	34	356	39	3921
HL2-(61-64)	60	64	908	67	41	3	57	14	472	6	726	306	94	59	59	11	100	7	35	371	42	3891
HL2-(65-68)	64	68	923	69	42	3	57	14	477	6	744	311	96	58	60	11	101	7	21	396	42	3988
HL2-(69-72)	68	72	982	75	47	4	63	16	517	6	1046	330	104	65	66	12	108	7	20	446	42	4083
HL2-(73-76)	72	76	922	67	38	3	58	14	478	4	867	308	96	61	61	11	104	5	14	363	33	3681
HL2-(77-80)	76	80	863	68	40	3	53	14	456	5	1033	292	91	58	56	11	96	6	17	386	39	4096
HL2-(81-84)	80	84	848	67	42	3	54	14	442	6	959	287	89	57	56	11	96	6	17	401	40	4003
HL2-(85-88)	84	88	436	34	20	3	29	7	220	3	453	161	48	30	26	5	44	3	13	191	19	2043
HL2-(89-92)	88	92	506	40	24	3	34	8	261	3	553	187	56	36	31	7	54	4	12	229	23	2355
HL2-(93-95)	92	95	877	70	42	3	56	15	457	6	1047	298	93	59	58	11	100	7	18	408	41	4127

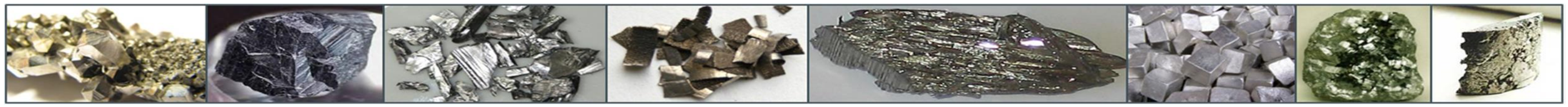


Appendix 4 – Haig Assay Data

ELEMENTS			Ce	Dy	Er	Eu	Gd	Ho	La	Lu	Nb	Nd	Pr	Sm	Ta	Tb	Th	Tm	U	Y	Yb	Zr
UNITS			ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
DETECTION			0.5	0.1	0.1	0.1	0.1	0.1	0.2	0.1	10	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.5	0.1	5
METHOD			FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS
COMMENTS: 1429.0/1406922 (04/08/2014) CLIENT O/N: Andy Border 1/3																						
	Fm	To																				
HH1-(24-28)	24	28	1041	92	56	4	72	19	545	7	917	358	112	72	69	14	116	9	24	536	52	4770
HH1-(28-32)	28	32	1104	86	51	4	71	18	576	7	1028	377	117	75	72	14	123	8	28	487	49	4866
HH1-(32-36)	32	36	1153	95	58	4	76	20	603	8	1131	389	120	77	76	15	130	9	30	542	57	5396
HH1-(36-40)	36	40	1133	88	53	4	72	18	591	7	1086	376	117	74	75	14	128	8	29	499	52	5184
HH1-(40-44)	40	44	1132	92	56	4	72	19	611	7	1001	381	119	75	74	14	128	9	31	519	54	5446
HH1-(44-48)	44	48	1035	84	53	4	66	18	563	7	938	350	111	70	71	14	117	8	30	481	51	5124
HH1-(48-52)	48	52	956	76	46	4	64	16	511	6	889	333	103	65	64	12	105	7	27	424	44	4472
HH1-(52-56)	52	56	879	68	41	3	56	14	468	5	883	302	94	58	57	11	95	6	23	377	40	3928
HH1-(56-60)	56	60	822	66	39	3	53	14	437	5	797	279	88	55	57	11	97	6	22	376	37	3963
HH1-(60-64)	60	64	802	62	38	3	49	13	416	5	785	269	83	53	51	10	88	6	19	360	36	3645
HH1-(64-68)	64	68	799	63	40	3	48	14	426	6	860	276	85	53	56	10	91	6	22	384	41	3804
HH1-(68-72)	68	72	725	59	37	3	45	12	383	5	708	247	76	48	49	9	81	6	19	344	33	3453
HH1-(72-76)	72	76	820	63	38	3	52	13	440	5	780	284	88	55	55	10	92	6	23	351	36	3709
HH1-(76-80)	76	80	841	64	38	3	53	13	444	5	743	285	88	56	56	10	92	6	23	372	36	3967
HH1-(80-84)	80	84	970	82	51	4	67	17	512	6	821	333	103	66	65	13	109	8	27	503	47	4897



ELEMENTS			Ce	Dy	Er	Eu	Gd	Ho	La	Lu	Nb	Nd	Pr	Sm	Ta	Tb	Th	Tm	U	Y	Yb	Zr
UNITS			ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
DETECTION			0.5	0.1	0.1	0.1	0.1	0.1	0.2	0.1	10	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.5	0.1	5
METHOD			FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS	FP6/MS
HH1-(84-88)	84	88	900	76	47	3	59	16	481	6	1012	306	96	60	59	12	99	7	23	468	45	4151
HH1-(88-92)	88	92	920	70	44	3	55	15	479	6	1137	306	96	60	59	11	97	7	24	422	42	4112
HH1-(92-96)	92	96	882	64	40	3	53	13	455	6	1109	294	90	57	58	10	89	6	23	375	39	3943
HH1-(96-100)	96	100	901	67	40	3	55	14	466	6	1069	305	94	59	58	11	107	6	24	398	41	3916
HH1-(100-104)	100	104	889	66	40	3	54	14	463	6	955	298	92	58	58	11	101	6	24	387	39	3920
HH1-(104-108)	104	108	906	70	43	3	58	15	471	6	1082	308	96	61	60	11	101	7	24	404	41	3927
HH1-(108-112)	108	112	912	68	42	3	56	14	465	6	1094	304	94	59	59	11	103	7	24	392	40	3774
HH1-(112-116)	112	116	903	66	40	3	53	14	465	6	1094	300	94	59	57	11	97	6	23	379	39	3790
HH1-(116-120)	116	120	928	70	43	4	57	15	485	6	1120	309	97	62	60	11	103	7	24	411	42	4021
HH1-(120-125)	120	125	967	77	48	4	62	16	509	6	1050	329	102	63	63	12	107	7	25	481	45	4439

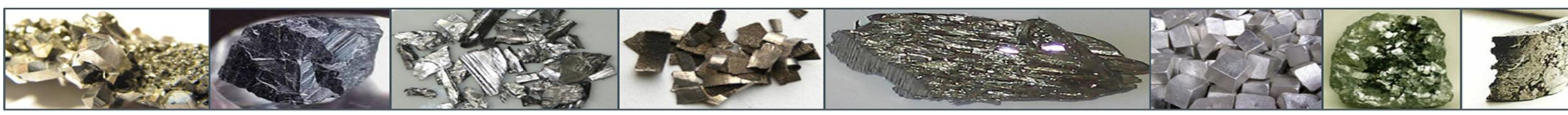


JORC Code, 2012 Edition – Table 1

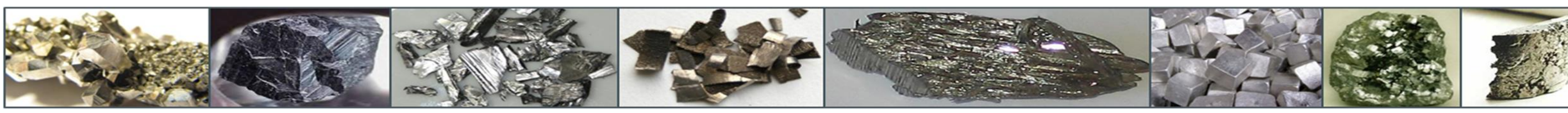
Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections.)

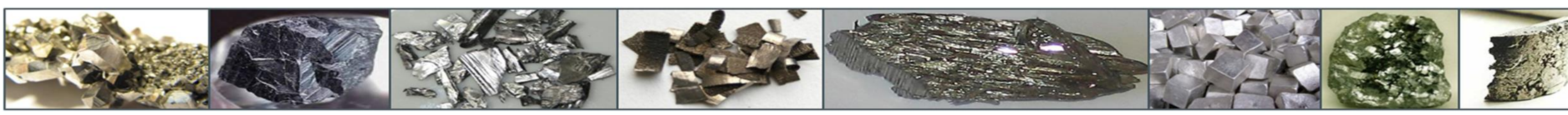
Criteria	JORC Code explanation	Commentary
Sampling techniques	• *Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.* • *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* • *Aspects of the determination of mineralisation that are Material to the Public Report.* • *In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.*	• Reverse circulation drilling was carried out at the Southern Extension, Levon and Haig prospects to obtain drill chip samples from one-metre intervals from which a 2-4kg sample was collected for submission to the laboratory for analysis for rare earths, rare metals, U and Th. Mineralised zones were identified visually during geological logging in the field. • Samples from each metre were collected in a cyclone and split using a 3 level riffle splitter. Field duplicates and Reference Standards were inserted at a rate of approximately 1 in 40.
Drilling techniques	• *Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).*	• Reverse Circulation drilling at Southern Extension, Levon and Haig was carried out utilising a nominal 5 1/4 inch diameter face-sampling hammer
Drill sample recovery	• *Method of recording and assessing core and chip sample recoveries and results assessed.* • *Measures taken to maximise sample recovery and ensure representative nature of the samples.* • *Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.*	• Recoveries are recorded by the geologist in the field at the time of drilling/logging. • If poor sample recovery is encountered during drilling, the geologist and driller have endeavoured to rectify the problem to ensure maximum sample recovery. Visual assessment is made for moisture and contamination. A cyclone and splitter were used to ensure representative samples and were routinely cleaned. • Sample recoveries to date have generally been high, and moisture in samples minimal. Insufficient data is available at present to determine if a relationship exists between recovery and grade. This will be assessed once a statistically valid amount of data is available to make a determination.



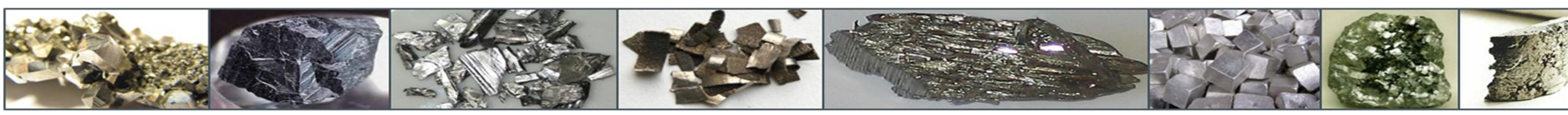
Criteria	JORC Code explanation	Commentary
Logging	• *Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.* • *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.* • *The total length and percentage of the relevant intersections logged.*	• All drill chip samples are geologically logged at 1m intervals from surface to the bottom of each individual hole to a level that will support appropriate future Mineral Resource studies. • Logging is considered to be semi-quantitative given the nature of reverse circulation drill chips and the inability to obtain detailed geological information. • All RC drill holes in the current programme are logged in full.
Sub-sampling techniques and sample preparation	• *If core, whether cut or sawn and whether quarter, half or all core taken.* • *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.* • *For all sample types, the nature, quality and appropriateness of the sample preparation technique.* • *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.* • *Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.* • *Whether sample sizes are appropriate to the grain size of the material being sampled.*	• The RC drilling rig was equipped with an in-built cyclone and triple tier riffle splitting system, which provided one bulk sample of approximately 20kg, and a sub-sample of 2-4kg per metre drilled. • All samples were split using the system described above to maximise and maintain consistent representivity. The majority of samples were dry. For wet samples the cleanliness of the cyclone and splitter was constantly monitored by the geologist and maintained to avoid contamination. • Bulk samples were placed in green plastic bags, with the sub-samples collected placed in calico sample bags. • Field duplicates were collected directly off the splitter as drilling proceeded through a secondary sample chute. These duplicates were designed for lab checks as well as lab umpire analysis. • A sample size of 2-4kg was collected and considered appropriate and representative for the grain size and style of mineralisation
Quality of assay data and laboratory tests	• *The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.* • *For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.* • *Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.*	• Genalysis (Perth) was used for all analysis work carried out on the 1m drill chip samples and the rock chip samples. The laboratory techniques below are for all samples submitted to Genalysis and are considered appropriate for the style of mineralisation defined at the Hastings REE Project: FP6/MS • Blind field duplicates were collected at a rate of 1 duplicate for every 40 samples that are to be submitted to Genalysis for laboratory analysis. Field duplicates were split directly off the splitter as drilling proceeded at the request of the supervising geologist.
Verification of sampling	• *The verification of significant intersections by either independent or alternative company personnel.*	• At least two company personnel verify all significant intersections. • All geological logging and sampling information is



Criteria	JORC Code explanation	Commentary
and assaying	• *The use of twinned holes.* • *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.* • *Discuss any adjustment to assay data.*	completed firstly on to paper logs before being transferred to Microsoft Excel spreadsheets. Physical logs and sampling data are returned to the Hastings head office for scanning and storage. Electronic copies of all information are backed up daily. • No adjustments of assay data are considered necessary.
Location of data points	• *Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.* • *Specification of the grid system used.* • *Quality and adequacy of topographic control.*	• A Garmin GPS 60 hand-held GPS is used to define the location of the drill hole collars. Standard practice is for the GPS to be left at the site of the collar for a period of 5 minutes to obtain a steady reading. Collar locations are considered to be accurate to within 5m. Collars will be picked up by DGPS in the future. Down hole surveys are conducted by the drill contractors using a Reflex electronic single-shot camera with readings for dip and magnetic azimuth nominally taken every 30m down hole, except in holes of less than 30m. The instrument is positioned within a stainless steel drill rod so as not to affect the magnetic azimuth. • Grid system used is MGA 94 (Zone 52) • Topographic control is obtained from detailed 1m topography acquired by Hastings in 2012. It will be necessary to undertake more detailed topographic controls later in the programme.
Data spacing and distribution	• *Data spacing for reporting of Exploration Results.* • *Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.* • *Whether sample compositing has been applied.*	• Drill holes were located at optimal locations to provide intersections as required. • The drill hole spacing at Southern Extension is considered to be reasonable to enable geological continuity to be interpreted. As such, it should be sufficient to enable estimation of a Mineral Resource. • Insufficient holes have been drilled at Levon and Haig to estimate resources, but the data has confirmed surface information regarding the geological continuity of the mineralisation. • Samples from Levon and Haig, and portions of HSE5 at Southern Extension were composited over 4m intervals due to the homogeneity of the mineralisation. All other samples were analysed over 1m intervals.
Orientation of data in relation to geological structure	• *Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.* • *If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.*	• Most drill holes are planned to intersect the interpreted mineralised structures/lodes as near to a perpendicular angle as possible (subject to access to the preferred collar position).
Sample security	• *The measures taken to ensure sample security.*	• The chain of custody is managed by the project geologist who places calico sample bags in polyweave sacks. Up to 10 calico sample bags are



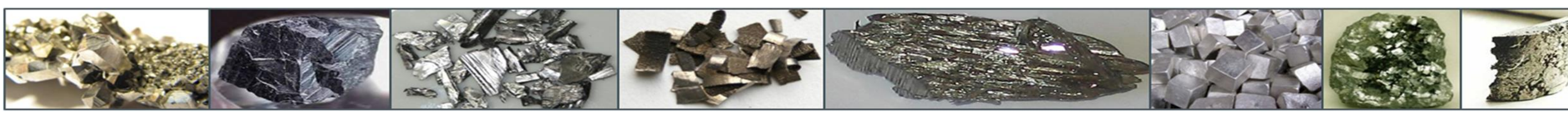
Criteria	JORC Code explanation	Commentary
		placed in each sack. Each sack is clearly labelled with: • Hastings Rare Metals Ltd • Address of laboratory • Sample range • Samples were delivered by Hastings personnel to the Nexus Logistics in order to be loaded on the next available truck for delivery to Genalysis. The freight provider delivers the samples directly to the laboratory. Detailed records are kept of all samples that are dispatched, including details of chain of custody.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• No audit of sampling data has been completed to date but a review will be conducted once all data from Genalysis (Perth) has been received. Data is validated when loading into the database and will be validated again prior to any Resource estimation studies.



Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	• *Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.* • *The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.*	• The RC drilling at Southern Extension was all within P80/1629, that at Levon was within P80/1629 and the hole at Haig was within P80/1635 ï all 100% held by Hastings Rare Metals Limited. • The tenements are in good standing and no known impediments exist.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• Two RC holes were drilled by Union Oil into the Southern Extension in the early 1980s. No holes had previously been drilled at Levon or Haig. • Union Oil carried out regional geochemistry and mapping that identified Levon and Haig as hosting anomalous rare metals (Nb). One rock chip sampling traverse at Levon identified anomalous Y, but no further work was undertaken.
Geology	• *Deposit type, geological setting and style of mineralisation.*	• The Southern Extension was considered to be the distal portion of the Niobium Tuff unit that was explored and drilled in the 1980s by Union Oil and West Coast Holdings Limited. Mineralisation was thought to be confined to a narrow, tightly folded portion of the Niobium Tuff. The recent drilling has indicated mineralisation is also associated with an alkaline (trachytic) lava unit in the hangingwall of the Niobium Tuff. • Mineralisation at both Levon and Haig is associated with alkaline (trachytic) lava flows and lesser tuffaceous unts.
Drill hole Information	• *A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:* o *easting and northing of the drill hole collar* o *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar* o *dip and azimuth of the hole* o *down hole length and interception depth* o *hole length.* • *If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.*	• Refer to details of drilling in table in the body of this report and the appendices.
Data	• *In reporting Exploration Results, weighting*	• All intervals reported are composed of 1m



Criteria	JORC Code explanation	Commentary
aggregation methods	*averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.* • *Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.* • *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	down hole intervals or 4m composites as identified above. In tervals are calculated based on length weighting. A lower cut-off grade of 2000ppm TREO has been used for assessing significant intercepts, and no upper cut-off grade was applied. • Maximum internal dilution of 2m was incorporated in reported significant intercepts. • No metal equivalents are used for reporting.
Relationship between mineralisation widths and intercept lengths	• *These relationships are particularly important in the reporting of Exploration Results.* • *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.* • *If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').*	• True widths for mineralisation have not been calculated and as such only down hole lengths have been reported. • While interpretation of the results is still in the early stages, a better understanding of the geometry of the deposit will be achieved, and true widths reported, later in the programme. It is expected that true widths will be less than down hole widths, due to the apparent steep nature of the mineralisation.
Diagrams	• *Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.*	• Appropriate maps and sections are available in the body of this ASX announcement.
Balanced reporting	• *Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.*	• Reporting of results in this report is considered balanced.
Other substantive exploration data	• *Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.*	• No other significant exploration work has been done by Hastings.
Further work	• *The nature and scale of planned further work (eg tests for lateral extensions, depth extensions or large-scale step-out drilling).* • *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*	• Insufficient results from Hastings drilling have been received to date and as such there is currently insufficient data to confirm a plan for follow-up work.