ABx Group

ASX Announcement

29 June 2022

ASX: ABX

Thick High Grade Rare Earth Element Results

ABx's current drilling program has discovered a 10 metre thick channel of high-grade rare earth elements (REE) mineralisation at Deep Leads, northern Tasmania

88 new holes completed to date and another 25 holes scheduled to be drilled. Assays for first 20 holes have been received and have tripled the prospective area

This is a significant extension of the ionic adsorption clay (IAC) zone which has achieved excellent extraction rates of 48% to 71% of contained REE under low-cost processing [1]

Six channels of this mineralisation have been identified over considerable distances

ABx Group Limited (ASX: ABX) has received an initial batch of assays from exploration drilling for rare earth element (REE) at Deep Leads deposit, northern Tasmania (see Figures 2 and 3). ABx's mineralisation is mainly the most valuable permanent magnet type of REE.

Hole DL450 was the first hole to reach target depth and it returned 10 metres of REE mineralisation averaging 863ppm TREO, including 6 metres averaging 1,122ppm TREO from 5 metres depth. It discovered the channel that carries the high-grade ionic adsorption clay REE mineralisation westwards towards major channels that are being drilled now.

Hole DL450

From	To	TREO	SuperMag	TREO-Ce	Geology	Permanent magnet REE "SuperMags"			
						Pr_6O_{11}	Nd_2O_3	Tb_4O_7	Dy_2O_3
m	m	ppm	ppm	ppm		ppm	ppm	ppm	ppm
4	5	143	27	85		4.2	17.8	0.7	4.2
5	6	813	123	325		20.9	86.8	2.3	13.2
6	7	1158	333	806	Clay layers	59.2	235.6	5.6	32.9
7	8	1349	479	1144		86.9	338.2	7.9	46.4
8	9	1535	546	1373		97.9	379.1	10.1	58.8
9	10	950	299	789		52.8	207.6	5.6	33.4
10	11	930	263	787		44.0	173.2	6.3	39.3
11	12	755	160	701		22.1	92.1	6.0	39.5
12	13	559	122	502		17.4	71.1	4.4	28.7
13	14	282	55	248		7.1	31.0	2.4	14.8
14	15	302	53	270		6.8	29.4	2.3	14.9
15	16	226	40	192		5.5	23.9	1.6	9.5
16	17	193	35	161	Bedrock	5.0	21.2	1.2	7.6
17	18	148	29	117		4.6	18.3	0.9	5.3
18	19	226	43	192		6.1	25.7	1.5	9.8

Intercept 10 metres @ 863ppm TREO, incl 6m @ 1,122ppm TREO

Table 1

Assay results for hole DL450

This intercept is a thick channel of ionic adsorption clay-hosted REE, which is the same type of mineralisation as in DL403 that achieved excellent extraction rates of 48% to 71% under low-cost, relatively benign leaching conditions [1]

The REE mineralisation commences at only 5 metres depth

Note that the hole reached well below the mineralised zone (for the first time).

ABx CEO, Mark Cooksey commented, "We've now delineated a channel of thick ionic adsorption clay REE which is good grade, shallow and proven to be easily processed [1]. We await assay results from recent holes into 6 other large channels on the flanks of Deep Leads (see Figure 3). The potential size of REE mineralisation at Deep Leads and the Rubble Mound REE discovery 6 kms east of Deep Leads is becoming substantial. We are also pleased that our improved drilling technology can now penetrate the full thickness of many of our REE mineralisation zones for the first time.

[1] see ASX release 31 May 2022

Figure 1: Deep Leads REE project in recently harvested plantations, northern Tasmania (compare with Figure 2)

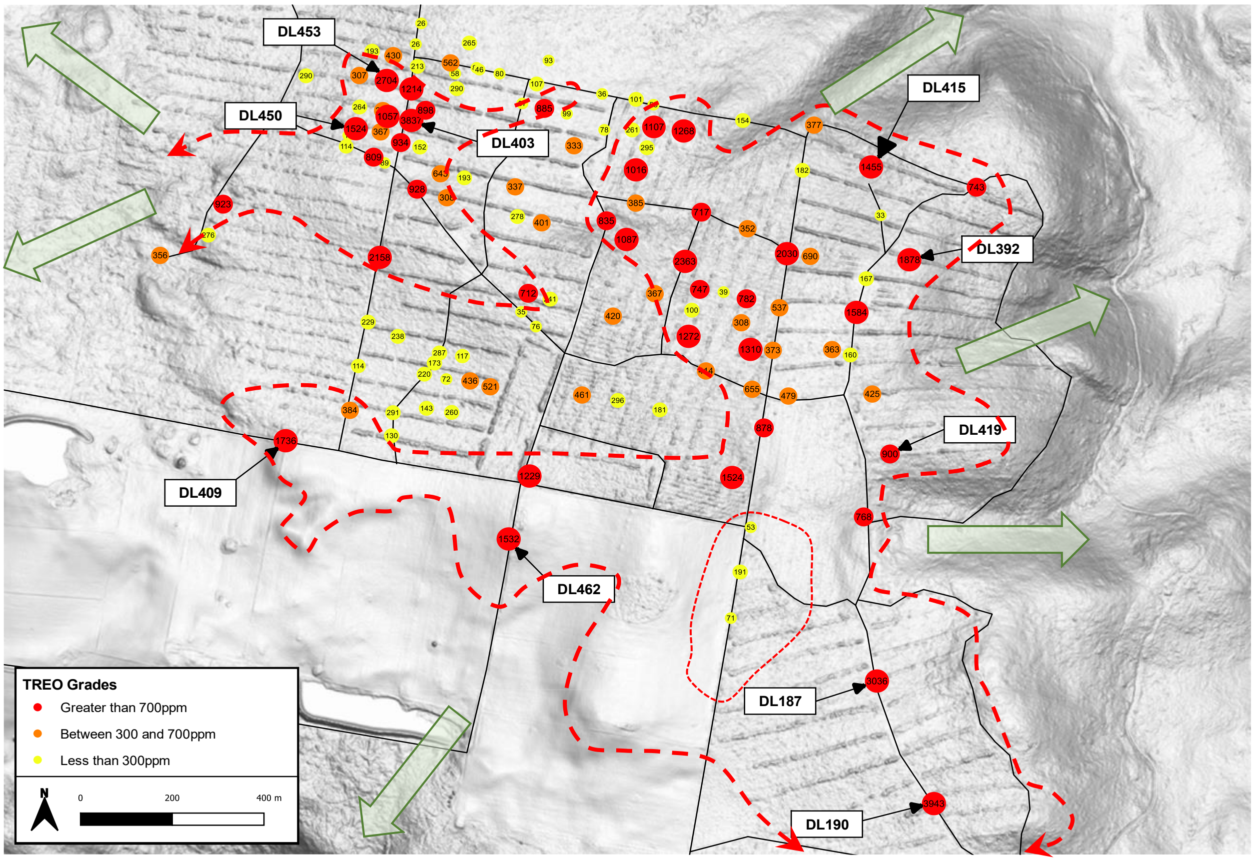

Figure 2: Deep Leads drillhole REE grades as total rare earth oxide (TREO). Channel targets shown as green arrows (see Figure 3). Holes DL403 and DL409 achieved good REE extraction rates of 48% to 71% under low-cost, relatively benign leaching conditions and are therefore considered premium targets (see ASX release dated 31 May 2022)

High grades: Holes DL450, DL453 and DL462 returned high-grade REE results that extended the area of strong mineralisation. These holes ended while still in the strongly mineralised zone due to drill difficulties with water and broken ground. Hole DL453 intersected 4 metres of clay with high REE grades and assays for shallower samples are still pending. See Table 2.

ABx has drilled 88 new holes at Deep Leads since 19 April. Early results have been received from only 20 holes that are reported here – see Table 2. These results have tripled the prospective area, including 6 major channels shown in Figure 2 above that can extend ABx's ionic adsorption clay REE mineralisation by over 6.5km towards Rubble Mound discovery – see Figure 3.

Drilling program continues

ABx's current drillholes in outlying greenfield areas are subject to a Tasmanian State Government, Exploration Drilling Grant Initiative (EDGI) for co-funded exploration drilling projects. ABx and Tasmania's E-Drill's improved drilling technology result in many holes now reaching target depths and collecting cores from important strata using push-tube methods.

The drilling program is planned to continue in July, including testing the 6 major channels at Deep Leads (see Figure 3) and a first pass drill testing of the 6km long extensions between Deep Leads and Rubble Mound project areas.

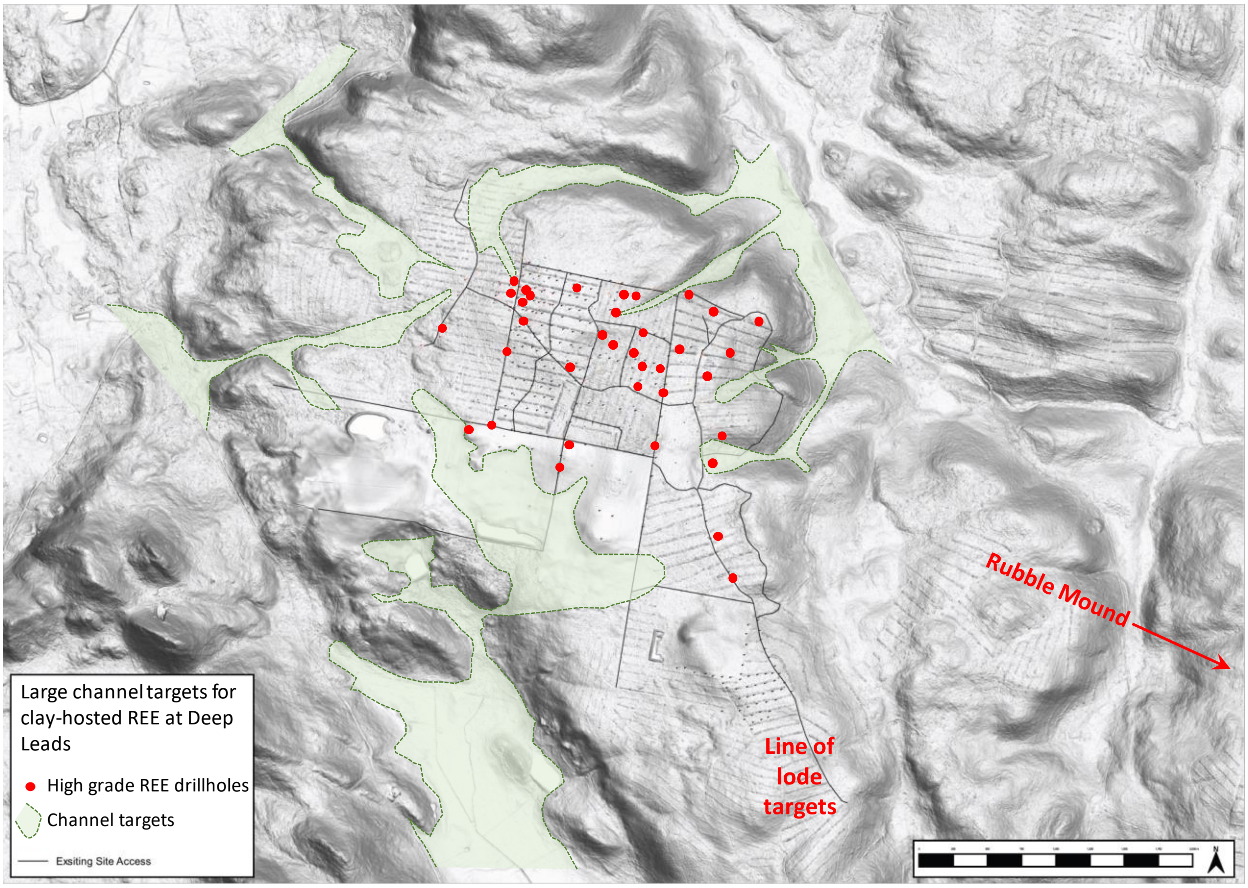

Figure 3: The REE channels at Deep Leads currently being drill tested are shown in green

This announcement is approved for release by the board of directors.

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***Table 2**: Full REE results from 20 holes at Deep Leads*

Hole DL444

					Permanent magnet REE "SuperMags"														
From	To	TREO	SuperMags	TREO-Ce	Pr_6O_{11}	Nd_2O_3	Tb_4O_7	Dy_2O_3	Sm_2O_3	La_2O_3	Y_2O_3	CeO_2	Eu_2O_3	Gd_2O_3	Ho_2O_3	Er_2O_3	Tm_2O_3	Yb_2O_3	Lu_2O_3
m	m	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
2	3	363	70	226	10.8	44.3	1.7	13.0	8.8	44.2	74.5	137.0	2.5	9.7	2.2	6.6	0.9	6.0	0.9
3	4	359	76	252	12.1	50.4	1.9	12.0	10.9	46.9	83.4	106.7	3.0	11.9	2.6	7.8	1.1	6.7	1.0
4	5	330	73	239	11.3	48.1	1.9	11.8	10.5	42.7	80.0	90.4	3.0	11.8	2.5	7.3	1.0	6.6	0.9
7	8	247	57	190	8.8	36.9	1.6	9.7	8.8	32.4	64.0	57.4	2.5	9.5	2.1	6.3	0.9	5.3	0.8

Hole DL445

					Permanent magnet REE "SuperMags"														
From	To	TREO	SuperMags	TREO-Ce	Pr_6O_{11}	Nd_2O_3	Tb_4O_7	Dy_2O_3	Sm_2O_3	La_2O_3	Y_2O_3	CeO_2	Eu_2O_3	Gd_2O_3	Ho_2O_3	Er_2O_3	Tm_2O_3	Yb_2O_3	Lu_2O_3
m	m	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
0	1	279	64	216	10.2	42.0	1.7	10.5	9.3	38.3	73.5	63.3	2.6	10.5	2.3	6.8	1.0	5.8	0.9

Hole DL446

					Permanent magnet REE "SuperMags"														
From	To	TREO	SuperMags	TREO-Ce	Pr_6O_{11}	Nd_2O_3	Tb_4O_7	Dy_2O_3	Sm_2O_3	La_2O_3	Y_2O_3	CeO_2	Eu_2O_3	Gd_2O_3	Ho_2O_3	Er_2O_3	Tm_2O_3	Yb_2O_3	Lu_2O_3
m	m	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
1	2	77	16	51	2.6	10.3	0.4	2.4	2.0	10.8	15.5	26.5	0.6	2.1	0.5	1.7	0.2	1.7	0.2
2	3	102	20	63	3.3	13.1	0.4	2.8	2.4	14.8	17.8	39.3	0.6	2.6	0.6	1.8	0.3	1.9	0.3
3	4	167	38	112	6.3	25.3	0.9	5.3	5.1	24.0	30.4	55.2	1.4	5.0	1.0	3.1	0.5	3.3	0.5

Hole DL447

					Permanent magnet REE "SuperMags"														
From	To	TREO	SuperMags	TREO-Ce	Pr_6O_{11}	Nd_2O_3	Tb_4O_7	Dy_2O_3	Sm_2O_3	La_2O_3	Y_2O_3	CeO_2	Eu_2O_3	Gd_2O_3	Ho_2O_3	Er_2O_3	Tm_2O_3	Yb_2O_3	Lu_2O_3
m	m	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
3	4	19	3	11	0.5	2.1	0.1	0.6	0.5	2.6	3.0	7.7	0.1	0.4	0.1	0.4	0.1	0.5	0.1
5	6	82	16	55	2.7	10.6	0.4	2.7	2.3	10.2	17.8	26.8	0.7	2.4	0.6	1.9	0.3	1.9	0.3
6	7	115	25	84	3.9	15.6	0.7	4.3	3.7	14.3	28.4	31.9	1.1	3.9	1.0	2.9	0.4	2.9	0.4

Hole DL448

					Permanent magnet REE "SuperMags"														
From	To	TREO	SuperMags	TREO-Ce	Pr_6O_{11}	Nd_2O_3	Tb_4O_7	Dy_2O_3	Sm_2O_3	La_2O_3	Y_2O_3	CeO_2	Eu_2O_3	Gd_2O_3	Ho_2O_3	Er_2O_3	Tm_2O_3	Yb_2O_3	Lu_2O_3
m	m	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
4	5	67	10	30	1.6	6.8	0.3	1.8	1.7	5.5	7.1	37.2	0.5	1.6	0.3	1.1	0.1	1.1	0.2
5	6	71	11	33	1.7	7.1	0.4	2.0	1.8	5.6	8.6	37.7	0.6	1.8	0.4	1.2	0.2	1.3	0.2
6	7	69	13	38	1.9	8.2	0.4	2.4	2.2	5.7	10.7	30.6	0.8	2.2	0.5	1.3	0.2	1.4	0.2

Hole DL448

					Permanent magnet REE "SuperMags"														
From	To	TREO	SuperMags	TREO-Ce	Pr_6O_{11}	Nd_2O_3	Tb_4O_7	Dy_2O_3	Sm_2O_3	La_2O_3	Y_2O_3	CeO_2	Eu_2O_3	Gd_2O_3	Ho_2O_3	Er_2O_3	Tm_2O_3	Yb_2O_3	Lu_2O_3
m	m	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
7	8	129	28	87	4.2	18.0	0.9	5.2	4.5	13.6	26.4	41.8	1.5	4.9	1.1	3.1	0.5	3.2	0.5
8	9	166	37	117	5.2	23.7	1.2	7.2	6.5	16.8	35.6	49.3	2.0	6.5	1.5	4.4	0.7	4.7	0.6
9	10	531	171	478	26.5	115.5	4.3	24.8	28.1	75.2	134.0	53.4	8.5	26.5	4.8	13.7	1.9	12.5	1.7
10	11	814	277	739	43.1	190.7	6.5	36.4	45.0	121.4	194.3	75.8	13.4	40.2	6.8	19.3	2.6	16.6	2.3

Hole ended in REE mineralisation

Hole DL449

					Permanent magnet REE "SuperMags"														
From	To	TREO	SuperMags	TREO-Ce	Pr_6O_{11}	Nd_2O_3	Tb_4O_7	Dy_2O_3	Sm_2O_3	La_2O_3	Y_2O_3	CeO_2	Eu_2O_3	Gd_2O_3	Ho_2O_3	Er_2O_3	Tm_2O_3	Yb_2O_3	Lu_2O_3
m	m	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
4	5	378	55	143	8.7	37.6	1.2	7.3	9.0	25.0	32.9	234.6	2.5	7.4	1.4	4.3	0.6	4.9	0.7
5	6	295	60	208	8.5	37.4	2.0	11.9	9.4	28.6	77.6	86.4	2.9	11.6	2.5	7.4	1.0	6.5	1.0
6	7	229	43	173	6.2	26.6	1.5	9.1	6.6	22.2	75.1	55.2	2.1	8.7	2.0	6.3	0.9	5.4	0.8

Hole DL450

					Permanent magnet REE "SuperMags"														
From	To	TREO	SuperMags	TREO-Ce	Pr_6O_{11}	Nd_2O_3	Tb_4O_7	Dy_2O_3	Sm_2O_3	La_2O_3	Y_2O_3	CeO_2	Eu_2O_3	Gd_2O_3	Ho_2O_3	Er_2O_3	Tm_2O_3	Yb_2O_3	Lu_2O_3
m	m	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
4	5	143	27	85	4.2	17.8	0.7	4.2	4.2	14.1	27.2	57.9	1.3	4.1	0.9	2.7	0.4	2.7	0.4
5	**6**	**813**	**123**	**325**	20.9	86.8	2.3	13.2	17.3	71.3	73.4	487.7	4.4	14.2	2.7	8.0	1.2	8.4	1.2
6	**7**	**1158**	**333**	**806**	59.2	235.6	5.6	32.9	48.6	177.1	146.7	352.5	12.3	34.8	6.3	19.0	2.9	21.4	3.1
7	**8**	**1349**	**479**	**1144**	86.9	338.2	7.9	46.4	68.8	260.4	196.2	205.1	16.9	48.3	8.8	26.2	4.2	30.4	4.3
8	**9**	**1535**	**546**	**1373**	97.9	379.1	10.1	58.8	76.3	327.2	252.1	162.1	19.8	59.4	11.2	33.3	5.2	37.3	5.3
9	**10**	**950**	**299**	**789**	52.8	207.6	5.6	33.4	39.9	199.4	153.7	160.3	10.6	33.0	6.4	19.3	3.0	21.5	3.1
10	**11**	**930**	**263**	**787**	44.0	173.2	6.3	39.3	36.5	175.3	203.8	143.1	10.2	35.3	7.9	23.8	3.6	24.4	3.5
11	**12**	**755**	**160**	**701**	22.1	92.1	6.0	39.5	22.4	95.3	317.5	54.4	7.4	31.7	8.7	27.3	3.8	23.1	3.7
12	**13**	**559**	**122**	**502**	17.4	71.1	4.4	28.7	17.8	73.6	212.7	57.0	5.5	23.6	6.4	19.6	2.8	16.2	2.5
13	14	282	55	248	7.1	31.0	2.4	14.8	8.5	29.7	117.3	33.9	2.9	13.0	3.4	9.8	1.3	5.8	0.9
14	15	302	53	270	6.8	29.4	2.3	14.9	8.0	29.6	141.0	32.6	2.5	13.5	3.6	10.6	1.3	5.5	0.8
15	16	226	40	192	5.5	23.9	1.6	9.5	6.0	24.9	95.9	33.7	1.9	9.6	2.2	6.5	0.7	3.5	0.5
16	17	193	35	161	5.0	21.2	1.2	7.6	5.0	21.8	78.6	31.4	1.6	7.8	1.8	5.3	0.6	3.1	0.5
17	18	148	29	117	4.6	18.3	0.9	5.3	4.4	18.6	49.5	31.3	1.3	5.5	1.2	3.4	0.4	2.7	0.4
18	19	226	43	192	6.1	25.7	1.5	9.8	6.2	25.9	90.9	33.3	1.9	9.1	2.3	6.4	0.9	4.7	0.8

Intercept 10 metres @ 863ppm TREO, incl 6m @ 1,122ppm TREO

Hole DL451

					Permanent magnet REE "SuperMags"														
From	To	TREO	SuperMags	TREO-Ce	Pr_6O_{11}	Nd_2O_3	Tb_4O_7	Dy_2O_3	Sm_2O_3	La_2O_3	Y_2O_3	CeO_2	Eu_2O_3	Gd_2O_3	Ho_2O_3	Er_2O_3	Tm_2O_3	Yb_2O_3	Lu_2O_3
m	m	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
1	2	103	24	84	3.8	15.4	0.7	4.3	3.5	15.9	29.1	18.8	1.0	3.7	0.9	2.7	0.4	2.4	0.4
2	3	77	16	55	2.3	9.9	0.5	3.4	2.6	8.3	17.5	22.1	0.7	2.6	0.8	2.3	0.4	3.1	0.5
3	4	103	18	56	2.8	11.8	0.5	3.0	2.9	10.2	17.3	46.6	0.8	2.7	0.6	1.6	0.3	1.7	0.3
4	5	345	51	145	8.2	34.5	1.2	7.2	8.0	27.7	39.1	199.6	2.2	7.4	1.4	3.8	0.6	3.7	0.5
5	6	363	85	288	11.3	52.8	3.0	18.0	14.7	38.8	102.6	74.6	4.8	18.8	3.6	9.7	1.3	7.4	1.1

Hole ended in REE mineralisation

***Table 2 continued**: Full REE results from 20 holes at Deep Leads*

Hole DL452

					Permanent magnet REE "SuperMags"														
From	To	TREO	SuperMags	TREO-Ce	Pr_6O_{11}	Nd_2O_3	Tb_4O_7	Dy_2O_3	Sm_2O_3	La_2O_3	Y_2O_3	CeO_2	Eu_2O_3	Gd_2O_3	Ho_2O_3	Er_2O_3	Tm_2O_3	Yb_2O_3	Lu_2O_3
m	m	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
4	5	239	39	120	6.5	25.8	1.0	6.0	6.3	23.7	33.8	119.5	1.7	5.7	1.3	3.6	0.5	3.4	0.5
5	6	269	56	162	9.2	37.4	1.3	7.9	8.5	30.7	44.6	106.6	2.4	8.0	1.6	4.8	0.7	4.3	0.7
6	7	187	36	134	5.6	22.6	1.1	6.9	5.3	21.0	52.2	52.8	1.6	6.3	1.5	4.5	0.7	4.1	0.7

Hole DL453

					Permanent magnet REE "SuperMags"														
From	To	TREO	SuperMags	TREO-Ce	Pr_6O_{11}	Nd_2O_3	Tb_4O_7	Dy_2O_3	Sm_2O_3	La_2O_3	Y_2O_3	CeO_2	Eu_2O_3	Gd_2O_3	Ho_2O_3	Er_2O_3	Tm_2O_3	Yb_2O_3	Lu_2O_3
m	m	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
2	3	assays pending																	
3	4	assays pending																	
4	5	2721	1041	2491	191.5	736.0	17.8	96.1	154.8	630.9	392.4	230.3	41.7	117.0	17.0	44.5	6.2	39.3	5.5
5	6	1586	480	1252	84.8	333.6	9.4	52.6	71.2	307.3	246.4	334.1	19.5	59.8	9.8	26.9	3.8	23.9	3.3
6	7	1424	368	941	65.4	255.4	7.1	40.1	54.8	218.7	187.9	482.7	15.1	45.4	7.5	20.3	2.8	18.1	2.5
7	8	527	111	316	19.3	74.9	2.4	14.5	16.9	65.0	83.4	210.7	4.7	14.9	2.9	7.9	1.1	7.0	1.0

Hole ended in mineralisation. Shallower sample assays pending.

Hole DL454

					Permanent magnet REE "SuperMags"														
From	To	TREO	SuperMags	TREO-Ce	Pr_6O_{11}	Nd_2O_3	Tb_4O_7	Dy_2O_3	Sm_2O_3	La_2O_3	Y_2O_3	CeO_2	Eu_2O_3	Gd_2O_3	Ho_2O_3	Er_2O_3	Tm_2O_3	Yb_2O_3	Lu_2O_3
m	m	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
2	3	313	77	206	13.4	52.6	1.6	9.0	10.9	44.9	48.6	107.0	3.0	9.7	1.8	4.8	0.7	4.3	0.6
3	4	175	40	110	6.9	27.3	0.8	4.9	5.9	23.8	26.8	65.1	1.7	5.2	1.0	2.7	0.4	2.5	0.4

Hole DL455

					Permanent magnet REE "SuperMags"														
From	To	TREO	SuperMags	TREO-Ce	Pr_6O_{11}	Nd_2O_3	Tb_4O_7	Dy_2O_3	Sm_2O_3	La_2O_3	Y_2O_3	CeO_2	Eu_2O_3	Gd_2O_3	Ho_2O_3	Er_2O_3	Tm_2O_3	Yb_2O_3	Lu_2O_3
m	m	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
2	3	187	28	80	4.7	18.7	0.7	4.1	4.6	14.9	19.9	107.5	1.3	4.0	0.8	2.5	0.4	2.8	0.4
3	4	447	34	94	5.7	22.9	0.8	4.8	5.8	17.6	23.1	352.5	1.6	4.8	1.0	2.6	0.4	2.7	0.4
6	7	403	92	288	13.8	60.2	2.6	15.5	14.6	44.9	94.1	114.5	4.6	16.5	3.1	8.6	1.2	7.2	1.1
7	8	270	60	206	9.1	37.8	1.8	11.2	9.7	31.1	74.4	64.2	3.1	11.2	2.3	6.7	0.9	5.5	0.8

Hole DL456

					Permanent magnet REE "SuperMags"														
From	To	TREO	SuperMags	TREO-Ce	Pr_6O_{11}	Nd_2O_3	Tb_4O_7	Dy_2O_3	Sm_2O_3	La_2O_3	Y_2O_3	CeO_2	Eu_2O_3	Gd_2O_3	Ho_2O_3	Er_2O_3	Tm_2O_3	Yb_2O_3	Lu_2O_3
m	m	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
2	3	160	30	87	4.6	19.8	0.8	4.6	4.7	14.8	25.5	73.0	1.3	4.6	0.9	2.6	0.4	2.3	0.3
3	4	165	25	74	3.9	16.4	0.7	3.8	4.0	12.8	21.8	91.4	1.2	3.9	0.8	2.1	0.3	1.9	0.3
4	5	198	29	96	4.7	18.9	0.8	4.9	4.4	16.8	32.3	101.8	1.3	4.5	1.0	3.0	0.4	2.7	0.4

Hole DL457

					Permanent magnet REE "SuperMags"														
From	To	TREO	SuperMags	TREO-Ce	Pr_6O_{11}	Nd_2O_3	Tb_4O_7	Dy_2O_3	Sm_2O_3	La_2O_3	Y_2O_3	CeO_2	Eu_2O_3	Gd_2O_3	Ho_2O_3	Er_2O_3	Tm_2O_3	Yb_2O_3	Lu_2O_3
m	m	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
6	7	53	7	23	1.1	4.8	0.2	1.2	1.2	3.9	6.7	30.6	0.3	1.1	0.3	0.7	0.1	0.8	0.1
7	8	211	25	75	4.0	16.1	0.7	4.1	4.0	13.8	20.7	135.7	1.2	3.8	0.9	2.5	0.4	2.4	0.4
8	9	581	59	170	9.6	38.6	1.6	9.2	9.8	31.2	44.8	411.5	2.8	8.7	1.9	5.2	0.8	5.0	0.7
9	10	442	85	267	12.9	54.5	2.5	15.4	13.5	43.5	82.4	175.0	4.3	13.9	3.2	9.2	1.4	9.0	1.3

Hole ended in REE mineralisation

Hole DL458

					Permanent magnet REE "SuperMags"														
From	To	TREO	SuperMags	TREO-Ce	Pr_6O_{11}	Nd_2O_3	Tb_4O_7	Dy_2O_3	Sm_2O_3	La_2O_3	Y_2O_3	CeO_2	Eu_2O_3	Gd_2O_3	Ho_2O_3	Er_2O_3	Tm_2O_3	Yb_2O_3	Lu_2O_3
m	m	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
4	5	60	10	31	1.5	6.5	0.3	1.6	1.5	5.9	9.1	28.6	0.5	1.5	0.3	0.9	0.1	1.0	0.1
7	8	117	18	54	2.9	11.7	0.4	2.8	2.9	11.1	14.2	63.6	0.8	2.6	0.6	1.7	0.3	1.7	0.3
8	9	208	27	82	4.4	17.4	0.7	4.3	4.2	16.2	22.5	126.5	1.1	3.9	0.8	2.6	0.4	2.7	0.4
9	10	271	44	156	6.6	27.3	1.3	8.4	6.9	24.0	58.5	114.9	1.9	7.8	1.8	5.1	0.8	4.6	0.8

Hole DL459

					Permanent magnet REE "SuperMags"														
From	To	TREO	SuperMags	TREO-Ce	Pr_6O_{11}	Nd_2O_3	Tb_4O_7	Dy_2O_3	Sm_2O_3	La_2O_3	Y_2O_3	CeO_2	Eu_2O_3	Gd_2O_3	Ho_2O_3	Er_2O_3	Tm_2O_3	Yb_2O_3	Lu_2O_3
m	m	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
5	6	64	13	43	2.0	7.9	0.3	2.3	1.8	8.2	14.4	20.5	0.5	1.9	0.5	1.3	0.2	1.5	0.3
6	7	39	8	25	1.2	4.9	0.2	1.3	1.1	4.7	7.7	14.5	0.3	1.1	0.3	0.8	0.1	0.9	0.1
7	8	87	18	60	2.8	11.3	0.5	3.1	2.5	10.2	21.1	26.8	0.8	2.8	0.7	2.0	0.3	2.1	0.3

Hole DL460

					Permanent magnet REE "SuperMags"														
From	To	TREO	SuperMags	TREO-Ce	Pr_6O_{11}	Nd_2O_3	Tb_4O_7	Dy_2O_3	Sm_2O_3	La_2O_3	Y_2O_3	CeO_2	Eu_2O_3	Gd_2O_3	Ho_2O_3	Er_2O_3	Tm_2O_3	Yb_2O_3	Lu_2O_3
m	m	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
5	6	40	6	24	1.1	3.8	0.2	1.2	0.9	5.0	8.1	15.7	0.2	0.9	0.3	0.9	0.1	1.1	0.2
6	7	83	7	22	1.1	4.7	0.2	1.0	1.1	4.6	6.5	60.9	0.3	1.1	0.2	0.6	0.1	0.8	0.1

Hole DL461

					Permanent magnet REE "SuperMags"														
From	To	TREO	SuperMags	TREO-Ce	Pr_6O_{11}	Nd_2O_3	Tb_4O_7	Dy_2O_3	Sm_2O_3	La_2O_3	Y_2O_3	CeO_2	Eu_2O_3	Gd_2O_3	Ho_2O_3	Er_2O_3	Tm_2O_3	Yb_2O_3	Lu_2O_3
m	m	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
4	5	46	6	18	1.0	3.7	0.1	0.8	0.8	4.2	5.1	27.5	0.2	0.7	0.2	0.5	0.1	0.6	0.1
5	6	94	18	64	2.8	11.3	0.5	3.4	2.7	10.8	23.4	29.8	0.8	3.1	0.7	2.1	0.3	2.0	0.3

Hole DL462

					Permanent magnet REE "SuperMags"														
From	To	TREO	SuperMags	TREO-Ce	Pr_6O_{11}	Nd_2O_3	Tb_4O_7	Dy_2O_3	Sm_2O_3	La_2O_3	Y_2O_3	CeO_2	Eu_2O_3	Gd_2O_3	Ho_2O_3	Er_2O_3	Tm_2O_3	Yb_2O_3	Lu_2O_3
m	m	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
8	9	150	32	85	5.8	21.9	0.6	3.3	4.8	24.0	15.2	65.3	1.4	4.0	0.6	1.6	0.2	1.4	0.2
9	10	146	24	68	4.3	15.9	0.5	2.9	3.7	19.1	13.7	77.4	1.1	3.3	0.6	1.5	0.2	1.4	0.2
10	11	280	30	88	5.2	19.8	0.7	4.4	4.7	21.3	19.0	192.2	1.5	4.6	0.8	2.3	0.4	2.3	0.3
11	12	218	36	104	6.1	23.7	0.9	5.1	5.8	23.8	24.1	113.9	1.8	5.5	1.0	2.7	0.4	2.5	0.3
12	13	381	80	188	13.2	56.0	1.7	9.0	14.4	33.4	34.9	192.9	4.2	10.8	1.6	4.0	0.5	3.5	0.5
13	14	612	170	427	29.4	120.1	3.2	16.9	26.9	106.3	76.3	184.9	7.3	22.0	3.1	7.6	1.0	6.5	0.9
14	15	1549	427	1242	65.7	285.8	11.2	64.7	66.8	220.5	350.5	307.1	20.4	72.6	12.6	33.7	4.6	28.8	4.0

Hole ended in REE mineralisation

Table 3
Location data for the 20 holes at Deep Leads reported in Table 2

Hole ID	Northing	Easting
	GDA 94	
DL444	5409898	477934
DL445	5409944	478039
DL446	5410780	478477
DL447	5410145	478339
DL448	5410121	478399
DL449	5410178	478414
DL450	5410185	478360
DL451	5410226	478419
DL452	5410234	478368
DL453	5410294	478427
DL454	5410305	478367
DL455	5410350	478441
DL456	5410360	478395
DL457	5410334	478566
DL458	5410379	478607
DL459	5410323	478623
DL460	5410310	478673
DL461	5410340	478780
DL462	5409261	478696
DL463	5409110	478605

Glossary of technical terms

Rare earth elements: ("REE") are lanthanum (La), cerium (Ce), praseodymium (Pr), neodymium (Nd), promethium (Pm), samarium (Sm), europium (Eu), gadolinium (Gd), terbium (Tb), dysprosium (Dy), holmium (Ho), erbium (Er), thulium (Tm), ytterbium (Yb) and lutetium (Lu). Yttrium (Y) is also usually included with the REE.

Super magnets and permanent magnets: REE super magnets are used in electronic and computing equipment, batteries, electric vehicles, wind turbines, mobile phones and military systems. Nd & Pr are used in high-power magnets. Dy, Sm & Tb are used in high-temperature super magnets.

Ionic adsorption clay REE: ("IAC") in contrast with hard-rock REE ores, ionic adsorption clay REE mineralisation forms when REE attach loosely to clays and can be recovered by low-cost leaching methods. IAC REE deposits have been mined in southern China and Myanmar. ABx is one of the very few listed companies with proven, authentic IAC REE mineralisation in the channels at Deep Leads.

Extraction rates from desorption tests: To assess the potential of extracting REEs from these prospects, tests are done to measure the "leachability" to "extract" REE under typical IAC desorption conditions that are applied to ionic clay deposits. These leaching tests were conducted by ANSTO in Sydney, which has extensive experience in metallurgical testing of clay-hosted rare earth deposits worldwide. The tests were conducted at "standard" desorption conditions of 0.5 M ammonium sulfate at pH 4 which are low-acid, low-cost processing conditions for ionic adsorption clay REE.

Extraction rates are the proportion of REE contained in the sample that reports to the leach solution. Very few other REE occurrences in Australia have achieved extraction rates that have been achieved on ABx's REE mineralisation in the channels at the Deep Leads project area in northern Tasmania.

Qualifying statements

General: The information in this report that relates to Exploration Information is based on information compiled by Ian Levy who is a member of The Australasian Institute of Mining and Metallurgy and the Australian Institute of Geoscientists. Mr Levy is a qualified geologist and is a director of ABx Group Limited.

The information relating to Exploration Information and Mineral Resources in Tasmania has been prepared or updated under the JORC Code 2012. Mr Levy has sufficient experience, which is relevant to the style of mineralisation and type of deposit under consideration, and to the activity, which has been undertaken, 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.

Mr Levy has consented in writing to the inclusion in this report of the Exploration Information in the form and context in which it appears.

JORC Code, 2012 Edition – Table 1 report

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.*	• Drill holes samples to 25 metres maximum depth but typically to 12 metres depth
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 rotary percussion and push-tube coring
Drill sample recovery	• *Method of recording & assessing core and chip sample recoveries and results assessed.* • *Measures taken to maximise sample recovery & 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.*	• Weight tests indicated reliable sample recovery
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. Core (or costean, channel, etc) photography.* • *The total length and percentage of the relevant intersections logged.*	• Geologically logged in detail by senior geologists. Every sample photographed, with photos and logs and assays entered into ABx's proprietary ABacus database.
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.*	• Chips are subsampled using bauxite shovel and quartering method in accordance with ISO standards
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 lab checks) & whether*	• Assaying done at NATA-registered commercial labs of ALS Brisbane Australia and Labwest Minerals Analysis in Western Australia. Duplicate interlab assays done. • Desorption extraction tests were conducted by ANSTO at Lucas Heights, Sydney NSW with assays done at ALS Brisbane.

Criteria	JORC Code explanation	Commentary
	acceptable levels of accuracy (ie lack of bias) & precision have been established.	
Verification of sampling and assaying	• *The verification of significant intersections by either independent or alternative company personnel.* • *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.*	• All assaying done at NATA-registered commercial laboratories of ALS Brisbane Australia and Labwest Minerals Analysis Pty Ltd in Western Australia. Duplicate interlab assays showed excellent correspondence.
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.*	• GPS hole locations have been tested for accuracy on many prospects, all satisfactorily – within 1m.
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.*	• Drilling typically at 50 to 75 metre spacing on mineralised prospects
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.*	• Vertical holes through flat-dipping bauxite is as good as it gets
Sample security	• *The measures taken to ensure sample security.*	• Samples collected and assembled onto pallets every day
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• Several audits confirmed reliability

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.*	• Satisfactory to excellent. All tenements are unencumbered.…
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• ABx is the first company to explore for Rare Earth Elements in northern Tasmania.
Geology	• *Deposit type, geological setting and style of mineralisation.*	• Bauxite deposit formed on Lower Tertiary basalts

Criteria	JORC Code explanation	Commentary
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:* ○ *easting and northing of the drill hole collar* ○ *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar* ○ *dip and azimuth of the hole* ○ *down hole length and interception depth* ○ *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.*	• GPS location. • Airborne Radar RL topography • Lidar topography contoured at 1m height intervals • All holes are short straight vertical holes
Data aggregation methods	• *In reporting Exploration Results, weighting 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.*	• All data are presented.
Relationship between mineralisation widths & 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').*	• Mineralisation typically 3 to 6 metres thick and Drillholes are sampled at 1 metre intervals
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.*	• N.A.
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.*	• All new results are reported in this report
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.*	• N.A.
Further work	• *The nature and scale of planned further work (eg tests for lateral extensions or 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.*	• Step-out drilling over a wider area has been planned, work plans submitted and new drill rig configurations have been developed.

END