

# ASX: AEV ASX ANNOUNCEMENT

ASX ANNOUNCEMENT AND MEDIA RELEASE

23 JUNE 2022

#### **Wonarah Review Identifies Rare Earth Element Potential**

#### **Highlights**

- Review of historical assays at the Wonarah Phosphate Project reveal high Total Rare Earth Oxide (TREO) content. Key results include:
  - o 0.21% TREO\* in WON035
  - 0.13% TREO in WNWE004
  - o 0.11% TREO\* in WNRC0298
- Two of the three intersections above (\*) have only been analysed for four (4) Rare Earth Elements (REE). This is encouraging as grades of these intersections are expected to increase with full REE suite analysis
- REE's are critical components in the rapidly expanding clean energy, electric vehicle and high technology industries
- Heavy Rare Earth Element proportion between 16% and 51% of the Total Rare Earth
  Oxide content. Rare Earth magnet elements (Nd<sub>2</sub>O<sub>3</sub> & Sm<sub>2</sub>O<sub>3</sub>) comprise up to 17% of
  Rare Earth Oxide content
- Layers of high REE content are generally 30-40 meters below surface predominantly within or above the existing Phosphate Mineral Resource
- Investigations have commenced to determine REE potential across the broader tenure portfolio

Avenira Limited (ASX: AEV or 'Avenira') is pleased to announce it has completed a review of historical analyses for Rare Earth Elements (REE) across the Wonarah Phosphate Project (Wonarah).

A total of 282 REE samples were identified, sourced from various locations and within differing stratigraphic horizons across the deposit. The location of REE analyses is displayed in Figure 1.

#### Avenira's Executive Chairman, Mr. Brett Clark commented,

"This low-cost body of work has identified potential value-add opportunities for the Wonarah Phosphate Project. This comes at an exciting time for Avenira with the imminent release of the Wonarah Scoping Study and provides an additional avenue for generating value for shareholders. We look forward to seeing the outcomes of this ongoing investigation."

A summary tabulation of the highest Total Rare Earth Oxide (TREO) analyses is contained in Table 1. A complete listing of all REE analyses across the project including coordinates is contained in Appendix A. One point of note is many samples have not been analysed for the complete REE suite. This is encouraging as grades from samples containing as low as 4 analytes are some of the highest TREO summations identified. The proportion of Light Rare Earth Elements (LREE) and Heavy Rare Earth Elements (HREE) is roughly equal across the higher TREO summations with complete suite analysis. This may provide a broad estimate as to the expected results for those samples that have not undergone complete REE suite analysis.

The highest grades observed are within the main Mudstone Phosphorite ore horizon or the overlying Convolute Mudstone unit. Table 2 outlines the number of samples and grade ranges within each stratigraphic unit confirming this observation. Figure 2 shows a stylised cross section of the Wonarah deposit with stratigraphic units highlighted.

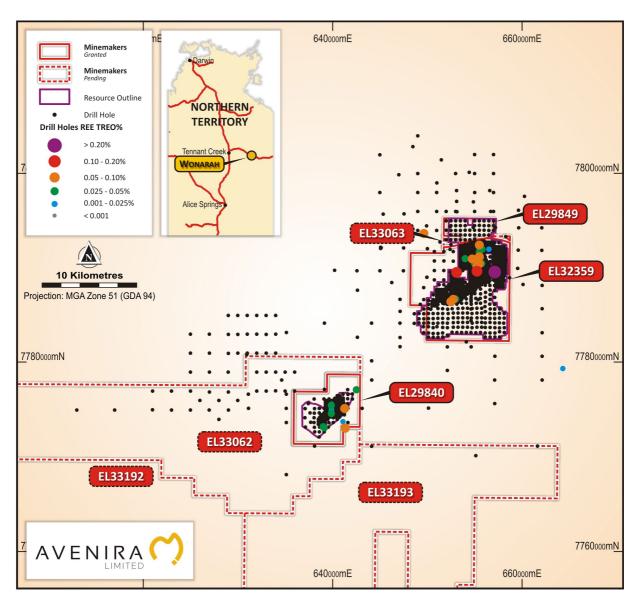


Figure 1. Location of all drillholes, REE analyses and tenure at Wonarah

**Table 1. Summary of Anomalous TREO Results** 

				<	_		_		_	_	_	_
HOLE	EID	WON035	WNWE004	WNRC0298	WNRC0909	WNRC0590	WNRC0338	WNRC0298	WNRC0298	WNRC0327	WNRC0408	WNRC0477
		035	<u>=</u> 004	0298	0909	:0590	0338	0298	0298	0327	0408	:0477
EAST	(m)	657129	653093	655249	656252	652999	652497	655249	655249	655500	655497	655502
2,101		129	093	249	252	999	497	249	249	500	497	502
NORTH	H (m)	7789677	7789604	7789747	7792371	7787122	7786501	7789747	7789747	7792502	7790500	7791252
		,						-	-			
RL (r	m)	246	252	254	277	297	267	253	255	238	248	241
STRA	AT	CMU	CMU	MPH								
ANALY	TES	4	15	4	15	15	4	4	4	4	4	4
TREE (	ppm)	1796	1061	933	801	737	673	682	668	578	518	494
TRE		0.210	0.128	0.114	0.097	0.089	0.084	0.083	0.082	0.070	0.063	0.060
THREO/	TREO*	0%	49%	51%	47%	47%	59%	50%	51%	49%	47%	44%
FROM	(m)	40	45	32	30	27	30	33	31	36	36	45
TO (ı	m)	41	46	33	34	31	31	34	32	37	37	46
P2O5	(%)	1	-	33	15	13	26	26	19	20	14	18
	Ce	750	209	300	157	150	165	220	200	185	165	165
	Eu		5		5	5						
LREE	Gd		32		26	23						
(ppm)	La	550	116	180	104	96	130	135	140	120	120	120
,	Nd	410	131		97	90						
	Pr		32		23	22						
	Sm	86	29		21	19						
	Dy		45		23	23						
	Er		26		18	16						
	Но		10		6	5						
HREE	Lu		3		2	2						
(ppm)	Sc			13			43	12	13	-2	13	9
	Tb		6		4	4						
	Tm	1	3		2	2						
	Y		396	440	297	267	335	315	315	275	220	200
	Yb		21		15	13						

<sup>\*</sup> THREO/TREO = Total Heavy Rare Earth Oxide / Total Rare Earth Oxide

NOTE: all coordinates and analyses have been truncated to 0 decimal places

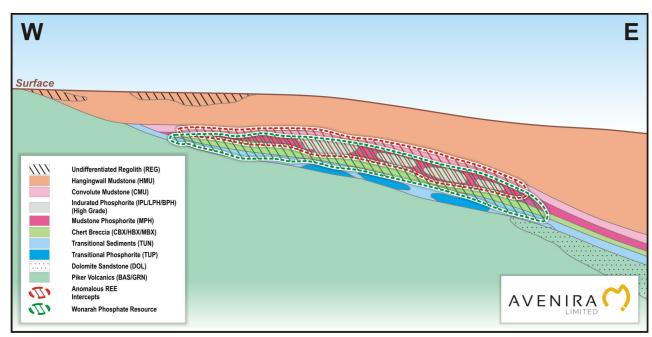


Figure 2. Stylised Cross Section showing stratigraphy with horizons containing anomalous REE analyses and the Wonarah Phosphate Resource

Table 2. Summary of received results split by stratigraphic unit

Stratigraphic Unit	Logged Codes	Number	MIN	AVE	MAX
Undifferentiated Regolith	REG	29	6.7	93.2	365.3
Hangingwall Mudstone	HMU	30	11.12	61.1	314.5
Convolute Mudstone	CMU	10	135.5	452.7	1796
Mudstone Phosphorite	MPH	108	11.25	216.9	933
Basal and Lateral	IPH	8	27.5	86.5	165.65
Mudstone Phosphorite	LPH	1	155	155.0	155
	BPH	2	61.36	84.5	107.58
Chert Breccia Phosphorite	CBX	22	29.5	87.9	209
	HBX	5	24.5	65.1	131
	MBX	9	38	81.6	165
Transitional Sediments	TUN	9	75	150.7	200
Transitional Phosphorite	TUP	6	27	56.1	122.32
Dolomitic Siltstone	DOL	10	15.21	44.0	102.33
Mafic Volcanics	BAS	20	97.62	174.5	412.36
Porphyritic Intrusives	GRN	13	340.43	411.1	458.87

#### **Ongoing Work**

Identification of sample pulps for REE analysis within the Mudstone Phosphorite and Convolute Mudstone stratigraphic units has commenced with a view of undertaking broad composite sampling across the Main Zone resource. Selective broad sampling will be undertaken across the Arruwurra Resource to assess the possibility of continuous mineralisation. Assessment of the potential across the remainder of the tenement package will also be undertaken to determine the potential for REE mineralisation.

Investigation of samples with incomplete REE analysis will be undertaken to confirm whether additional REEs had been analysed but not reported, as this was a fairly common occurrence historically. This may uncover the presence of additional high-value elements.

#### **Wonarah Scoping Study Update**

The Wonarah Scoping Study is expected to be released soon but the timing is expected to slip into early Q3 CY22 from the previously anticipated Q2 CY22. The document is in its final phases and is currently in the process of third party technical and commercial review to ensure the quality and outcomes meet the industry standards expected of scoping studies.

-END-

This announcement has been authorised by the Board of Avenira.

Brett Clark
Executive Chairman
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#### Competent Persons' and Qualified Person's Statement

The information in this document that relates to Exploration Results, geology, and data compilation is based on information compiled by Mr Stephen Harrison who is a Member of The Australian Institute of Geoscientists. Mr Harrison has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is 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'. Mr Harrison is a full-time employee of Avenira Limited and a holder of options in Avenira Limited. Mr Harrison consents to the inclusion in this announcement of the matters based on his information in the form and context in which it appears.

#### **Previous Exploration Results**

The references in this announcement to Exploration Results were reported in accordance with Listing Rule 5.7 in the announcements:

Announcement Title	Date
March 2014 Quarterly Activities Report	30 April 2014

The Company confirms that it is not aware of any new information or data that materially affects the information included in the previous market announcements noted above.

#### **APPENDIX A**

**REE ANALYSIS DETAILS** 

(SORTED BY DECREASING TREO)

HOLEID	EAST	NORTH	RL	STRAT	≥	TREE	TREO	寸 ᅻ	꾸	To			LR	EE (pp	om)						HF	REE (	ppm)			
	m	m	m		ANALYTES	ppm	%	THREO/ TREO	FROM (m)	TO (m)	Ce	Eu	Gd	La	Nd	Pr	Sm	Dy	Er	Но	Lu	Sc	Tb	Tm	Y	Yb
WON035	657129	7789677	246	CMU	4	1796	0.210	0%	40	41	750			550	410		86									
WNWE004	653093	7789604	252	CMU	15	1061	0.128	49%	45	46	209	5	32	116	131	32	29	45	26	10	3		6	3	396	21
WNRC0298	655249	7789747	254	MPH	4	933	0.114	51%	32	33	300			180								13			440	
WNRC0909	656252	7792371	277	MPH	15	801	0.097	47%	30	34	157	5	26	104	97	23	21	23	18	6	2		4	2	297	15
WNRC0590	652999	7787122	297	MPH	15	737	0.089	47%	27	31	150	5	23	96	90	22	19	23	16	5	2		4	2	267	13
WNRC0338	652497	7786501	267	MPH	4	673	0.084	59%	30	31	165			130								43			335	
WNRC0298	655249	7789747	253	MPH	4	682	0.083	50%	33	34	220			135								12			315	
WNRC0298	655249	7789747	255	MPH	4	668	0.082	51%	31	32	200			140								13			315	
WNRC0327	655500	7792502	238	MPH	4	578	0.070	49%	36	37	185			120								-2			275	
WNRC0408	655497	7790500	248	MPH	4	518	0.063	47%	36	37	165			120								13			220	
WNRC0477	655502	7791252	241	MPH	4	494	0.060	44%	45	46	165			120								9			200	
WNRC0298	655249	7789747	256	MPH	4	470	0.058	53%	30	31	135			95								15			225	
WNRC0295	655250	7790255	247	MPH	4	457	0.057	72%	37	38	85			49								-2			325	
WNWE029	641335	7773127	133	GRN	15	459	0.054	16%	138	144	194	2	11	94	59	17	11	8	5	2	1		2	1	50	5
WNRC0909	656252	7792371	277	MPH	15	444	0.053	42%	34	39	95	3	15	66	60	15	13	13	8	3	1		2	1	144	6
WNWE044	656252	7792371	277	GRN	15	445	0.053	17%	145	150	190	2	10	95	53	16	10	8	5	2	1		2	1	50	5
WNWE029	656252	7792371	277	GRN	15	444	0.052	15%	116	120	186	2	11	93	59	17	11	7	4	2	1		2	1	46	4
WNWE017	656252	7792371	277	GRN	15	433	0.051	17%	105	106	170	1	11	94	58	18	10	8	5	2	1		2	1	51	4
WNRC0418	656252	7792371	277	MPH	4	404	0.050	69%	32	33	80			55								14			255	
WNRC0346	656252	7792371	277	MPH	4	408	0.050	58%	29	30	110			70								8			220	
WNWE044	656252	7792371	277	GRN	15	423	0.050	17%	141	145	167	2	11	91	57	17	10	8	5	2	1		2	1	47	5
WNWE017	656252	7792371	277	GRN	15	420	0.050	19%	104	105	161	1	12	84	59	17	11	9	5	2	1		2	1	54	4
WNRC0408	656252	7792371	277	MPH	4	406	0.050	47%	35	36	130			95								6			175	
WNWE029	656252	7792371	277	GRN	15	418	0.049	17%	144	150	174	1	10	84	54	16	10	8	5	2	1		2	1	49	4
WNWE029	656252	7792371	277	BAS	15	412	0.049	18%	136	137	161	1	11	85	58	17	10	8	5	2	1		2	1	49	4
WNRC0408	656252	7792371	277	MPH	4	398	0.048	46%	40	41	130			95								3			170	
WNWE029	656252	7792371	277	GRN	15	405	0.048	18%	132	136	157	1	11	82	56	17	10	8	5	2	1		2	1	49	5
WNWE029	656252	7792371	277	GRN	15	400	0.047	16%	126	132	168	1	9	82	52	16	10	7	4	1	1		1	1	43	4
WNWE044	656252	7792371	277	GRN	15	395	0.047	21%	135	140	148	2	10	80	52	15	9	8	6	2	1		2	1	55	6
WNWE029	656252	7792371	277	GRN	15	393	0.047	17%	120	126	158	1	10	80	54	16	10	7	4	1	1		2	1	45	4

HOLEID	EAST	NORTH	RL	STRAT	≥	TREE	TREO	##	꾸	To			LR	REE (p	om)						HF	REE (	ppm)			
	m	m	m		ANALYTES	ppm	%	THREO/ TREO	FROM (m)	TO (m)	Ce	Eu	Gd	La	Nd	Pr	Sm	Dy	Er	Но	Lu	Sc	Tb	Tm	Y	Yb
WNRC0909	656252	7792371	277	MPH	15	377	0.045	42%	39	43	79	3	13	57	49	12	10	11	7	2	1		2	1	125	5
WNWE029	641330	7773130	123	GRN	15	368	0.044	19%	150	156	142	1	10	74	51	15	10	7	4	2	1		2	1	46	4
WNRC0408	655497	7790500	239	MPH	4	357	0.044	42%	45	46	125			90								12			130	
WNRC0768	639873	7774621	256	REG	4	365	0.043	6%	3	4	336			9								8			12	
WNRC0295	655250	7790255	246	MPH	4	347	0.043	67%	38	39	80			43								14			210	
WNRC0943	654498	7791625	281	MPH	15	358	0.043	40%	25	30	83	2	11	53	47	12	10	10	7	2	1		2	1	111	6
WNRC0330	655780	7792000	239	MPH	4	328	0.041	65%	39	40	75			49								19			185	
WNWE052	642516	7777136	103	GRN	15	340	0.040	19%	150	151	131	1	9	67	48	14	9	7	4	1	1		1	1	43	4
WNRC0408	655497	7790500	247	MPH	4	323	0.040	47%	37	38	110			70								13			130	
WNRC0338	652497	7786501	268	HMU	4	315	0.039	63%	29	30	80			45								25			165	
WNRC0418	654757	7791008	252	MPH	4	304	0.038	78%	33	34	44			28								12			220	
WNRC0279	654991	7790500	253	MPH	4	304	0.038	60%	31	32	80			49								20			155	
WNRC0338	652497	7786501	266	MPH	4	303	0.038	60%	31	32	70			60								18			155	
WNWE008	639022	7773223	139	BAS	15	306	0.036	16%	132	138	118	1	8	70	42	13	7	5	3	1	0		1	0	32	3
WNRC0346	652750	7786751	267	MPH	4	294	0.036	53%	30	31	90			55								4			145	
WNRC0407	655746	7790501	245	CMU	4	288	0.035	49%	39	40	90			65								13			120	
WNRC0279	654991	7790500	254	MPH	4	282	0.035	62%	30	31	70			44								18			150	
WNRC0768	639873	7774621	257	REG	4	295	0.035	8%	2	3	266			9								9			10	
WNRC0418	654757	7791008	250	MPH	4	270	0.034	68%	35	36	55			38								17			160	
WNWE008	639018	7773227	129	BAS	15	283	0.034	19%	144	150	107	1	8	57	41	12	8	6	3	1	0		1	1	35	3
WON035	657129	7789677	242	CMU	4	281	0.033	0%	44	44.4	81			89	92		19									
WNRC0345	652998	7786751	259	MPH	4	260	0.032	58%	38	39	65			49								11			135	
WNWE008	639029	7773216	156	BAS	15	266	0.032	19%	112	118	101	1	7	53	39	11	7	5	3	1	0		1	0	33	3
WNRC0768	639873	7774621	259	MPH	15	259	0.031	40%	16	21	68	1	6	38	32	8	6	7	5	2	1		1	1	78	5
WNRC0295	655250	7790255	245	MPH	4	252	0.031	61%	39	40	65			39								-2			150	
WNRC0298	655249	7789747	249	MPH	4	250	0.031	48%	37	38	80			55								10			105	
WNRC0330	655780	7792000	238	MPH	4	248	0.030	49%	40	41	80			50								-2			120	<u> </u>
WNRC0407	655746	7790501	244	MPH	4	246	0.030	60%	40	41	60			43								-2			145	<u> </u>
WNWE006	639081	7773160	160	BAS	15	247	0.029	20%	108	114	90	1	7	49	35	10	7	5	3	1	0		1	1	33	3
WNRC0768	639873	7774621	259	MPH	15	241	0.029	56%	11	15	40	1	7	29	24	6	5	8	7	2	1		1	1	102	7

HOLEID	EAST	NORTH	RL	STRAT	⊳	TREE	TREO		Ξ	_			LR	REE (p	om)						HF	REE (	ppm)			
	m	m	m		ANALYTES	ppm	%	THREO/ TREO	FROM (m)	TO (m)	Ce	Eu	Gd	La	Nd	Pr	Sm	Dy	Er	Но	Lu	Sc	Tb	Tm	Y	Yb
WNRC0667	654001	7790999	252	CMU	4	231	0.028	52%	32	33	70			47								14			100	
WNRC0408	655497	7790500	246	MPH	4	228	0.028	48%	38	39	75			49								9			95	
WON035	657129	7789677	243	CMU	4	238	0.028	0%	43	43.1	110			68	50		11									
WNRC0418	654757	7791008	249	MPH	4	222	0.028	65%	36	37	50			34								13			125	
WNRC0943	654498	7791625	281	MPH	15	226	0.027	42%	30	35	51	2	7	34	29	7	6	6	4	1	1		1	1	72	4
WNRC0432	655497	7791750	240	MPH	4	220	0.027	48%	41	42	70			49								6			95	
WNWE006	639066	7773176	124	BAS	15	226	0.027	19%	150	156	87	1	6	44	31	9	6	4	3	1	0		1	0	29	3
WNRC0346	652750	7786751	266	MPH	4	211	0.026	72%	31	32	39			26								12			135	
WNRC0432	655497	7791750	241	MPH	4	216	0.026	47%	40	41	70			50								6			90	
WNRC0775	639876	7775501	260	REG	4	216	0.026	8%	3	4	193			9								5			10	
WNRC0477	655502	7791252	233	CBX	4	209	0.025	35%	53	54	85			55								9			60	
WNWE007	639119	7773123	129	BAS	15	212	0.025	18%	144	150	82	1	6	42	31	9	6	4	2	1	0		1	0	25	2
WNRC0279	654991	7790500	251	MPH	4	204	0.025	60%	33	34	55			31								-2			120	
WNRC0298	655249	7789747	248	MPH	4	203	0.025	51%	38	39	65			41								12			85	
WNRC0477	655502	7791252	237	MPH	4	199	0.025	60%	49	50	39			46								9			105	
WNRC0408	655497	7790500	237	TUN	4	200	0.025	39%	47	48	80			48								17			55	
WNRC0330	655780	7792000	237	MPH	4	199	0.024	49%	41	42	65			41								-2			95	
WNRC0477	655502	7791252	240	MPH	4	194	0.024	47%	46	47	60			48								6			80	
WNRC0345	652998	7786751	258	MPH	4	191	0.023	53%	39	40	50			43								3			95	
WNRC0408	655497	7790500	251	MPH	4	190	0.023	49%	33	34	55			47								8			80	
WNRC0408	655497	7790500	238	MPH	4	191	0.023	42%	46	47	70			46								10			65	
WNRC0775	639876	7775501	259	REG	4	195	0.023	13%	4	5	162			11								9			13	
WNRC0407	655746	7790501	243	MPH	4	184	0.023	59%	41	42	47			32								10			95	
WNRC0345	652998	7786751	254	TUN	4	182	0.022	45%	43	44	60			45								12			65	
WNRC0534	656503	7792001	237	MPH	4	183	0.022	44%	42	43	60			45								-2			80	
WON035	657129	7789677	243	CMU	4	189	0.022	0%	43.1	44	83			56	41		9									
WNRC0768	639873	7774621	253	HMU	4	184	0.022	13%	6	7	110			52								3			20	
WNRC0279	654991	7790500	250	MPH	4	174	0.022	63%	34	35	42			26								11			95	
WNRC0279	654991	7790500	252	MPH	4	177	0.022	57%	32	33	49			30								-2			100	
WNRC0534	656503	7792001	238	MPH	4	177	0.022	49%	41	42	55			39							İ	-2			85	

HOLEID	EAST	NORTH	RL	STRAT	⊳	TREE	TREO	$\dashv$	П	J			LR	REE (p	om)						HF	REE (	opm)			
	m	m	m		ANALYTES	ppm	%	THREO/ TREO	FROM (m)	TO (m)	Ce	Eu	Gd	La	Nd	Pr	Sm	Dy	Er	Но	Lu	Sc	Tb	Tm	Υ	Yb
WNRC0534	656503	7792001	219	BAS	4	168	0.021	45%	60	61	70			29								32			37	
WON035	657129	7789677	229	TUN	4	177	0.021	0%	57	57.6	85			52	32		8									
WNRC0534	656503	7792001	239	MPH	4	169	0.021	54%	40	41	48			33								-2			90	
WNRC0418	654757	7791008	251	MPH	4	162	0.020	78%	34	35	23			15								9			115	
WNRC0327	655500	7792502	239	CMU	4	166	0.020	40%	35	36	60			45								12			50	
WNRC0771	639874	7774996	259	REG	4	165	0.020	29%	1	2	108			14								14			30	
WNRC0590	652999	7787122	297	IPH	15	166	0.020	49%	33	38	31	1	4	25	18	5	4	5	4	1	1		1	1	63	4
WNRC0770	639875	7774873	260	REG	4	165	0.020	8%	0	1	148			6								5			6	
WNRC0298	655249	7789747	247	CBX	4	160	0.020	45%	39	40	60			32								8			60	
WNRC0408	655497	7790500	250	MPH	4	158	0.019	52%	34	35	42			38								8			70	
WNRC0769	639875	7774747	258	REG	4	162	0.019	13%	1	2	136			8								8			11	
WON035	657129	7789677	230	MBX	4	165	0.019	0%	56	56.5	87			49	25		5									
WNRC0295	655250	7790255	248	LPH	4	155	0.019	41%	36	37	60			37								17			42	
WON035	657129	7789677	229	TUN	4	164	0.019	0%	57.6	58	76			51	29		8									
WNRC0534	656503	7792001	224	TUN	4	156	0.019	29%	55	56	75			40								12			29	
WNRC0534	656503	7792001	234	MPH	4	150	0.018	52%	45	46	44			33								4			70	
WNRC0330	655780	7792000	236	MPH	4	144	0.018	48%	42	43	48			31								6			60	
WNRC0534	656503	7792001	235	MPH	4	143	0.018	50%	44	45	43			33								7			60	
WNRC1028	653249	7788375	296	HBX/ CBX	15	146	0.017	36%	42	45	38	1	4	24	20	5	4	4	3	1	0		1	0	40	2
WNRC0770	639875	7774873	259	REG	4	145	0.017	11%	1	2	124			8								6			7	
WNRC0774	639875	7775374	261	REG	4	146	0.017	5%	1	2	137			4								3			4	
WNRC0909	656252	7792371	277	TUN	15	144	0.017	22%	51	57	51	1	4	27	21	6	4	3	2	1	0		1	0	21	2
WNRC0774	639875	7775374	260	REG	4	142	0.017	8%	2	3	127			5								4			6	
WON035	657129	7789677	244	CMU	4	143	0.017	0%	42	43	64			40	32		7									
WNRC0338	652497	7786501	263	HBX	4	131	0.017	66%	34	35	28			21								13			70	
WNRC0408	655497	7790500	243	MPH	4	134	0.016	48%	41	42	44			29								6			55	
WNRC1073	654498	7792124	281	MPH	15	133	0.016	60%	47	53	19	1	4	13	13	3	3	4	4	1	1		1	1	63	4
WNRC0408	655497	7790500	241	MPH	4	133	0.016	46%	43	44	45			30								3			55	
WON035	657129	7789677	245	CMU	4	136	0.016	0%	41	42	62			36	31		7									
WNRC0408	655497	7790500	240	MPH	4	130	0.016	43%	44	45	48			30								3			50	

HOLEID	EAST	NORTH	RL	STRAT	⊳	TREE	TREO	$\dashv$ $\dashv$	П	J			LR	EE (pp	om)						HF	REE (	opm)			
	m	m	m		ANALYTES	ppm	%	THREO/ TREO	FROM (m)	TO (m)	Ce	Eu	Gd	La	Nd	Pr	Sm	Dy	Er	Но	Lu	Sc	Tb	Tm	Y	Yb
WNRC0534	656503	7792001	225	TUN	4	129	0.016	31%	54	55	60			32								11			26	
WNRC0667	654001	7790999	243	MPH	4	130	0.016	47%	41	42	42			30								-2			60	
WNRC0771	639874	7774996	260	REG	4	130	0.016	14%	0	1	107			7								7			10	
WON035	657129	7789677	230	TUN	4	131	0.015	0%	56.5	57	70			32	24		6									
WNRC0279	654991	7790500	249	MPH	4	122	0.015	57%	35	36	35			22								6			60	
WNRC0667	654001	7790999	247	IPH	4	124	0.015	45%	37	38	42			30								-2			55	
WNWE019	641082	7775180	221	BAS	15	125	0.015	34%	34	40	35	1	5	19	17	4	4	5	3	1	0		1	0	28	3
WNRC0943	654498	7791625	281	MPH	15	123	0.015	44%	35	37	27	1	3	18	15	4	3	3	3	1	0		1	0	41	3
WNRC0946	654501	7792000	280	TUP	15	122	0.015	39%	51	53	30	1	4	19	16	4	3	4	3	1	0		1	0	35	3
WNRC0327	655500	7792502	235	MPH	4	117	0.015	56%	39	40	34			22								7			55	
WNRC0338	652497	7786501	262	CBX	4	119	0.015	40%	35	36	49			26								7			37	
WON035	657129	7789677	241	MPH	4	124	0.014	0%	45	45.7	46			39	32		7									
WNRC0534	656503	7792001	220	BAS	4	109	0.014	60%	59	60	32			18								38			22	
WNRC0327	655500	7792502	232	CBX	4	117	0.014	48%	42	43	40			24								3			50	
WNRC0943	654498	7791625	281	MBX/ HBX	15	119	0.014	43%	37	42	27	1	3	18	14	4	3	3	3	1	0		1	0	38	3
WNRC0667	654001	7790999	244	MPH	4	117	0.014	47%	40	41	37			27								-2			55	
WNRC0408	655497	7790500	242	MPH	4	117	0.014	43%	42	43	41			28								2			46	
WNWE004	653072	7789604	214	BAS	15	118	0.014	36%	86	92	32	1	5	17	15	4	4	4	3	1	0		1	0	28	3
WNWE001	653033	7789601	183	BAS	15	118	0.014	36%	122	128	31	1	5	17	15	4	4	5	3	1	0		1	0	28	3
WNRC0407	655746	7790501	241	MBX	4	115	0.014	53%	43	44	35			22								3			55	
WNWE007	639149	7773091	204	BAS	15	117	0.014	34%	57	63	34	1	4	16	16	4	4	4	3	1	0		1	0	27	3
WNWE004	653081	7789604	230	BAS	15	117	0.014	35%	68	74	31	1	5	18	15	4	4	4	3	1	0		1	0	27	3
WNRC0338	652497	7786501	265	MPH	4	110	0.014	68%	32	33	22			16								12			60	
WNWE003	652928	7789601	232	BAS	15	116	0.014	37%	66	72	31	1	4	16	15	4	4	4	3	1	0		1	0	29	3
WNRC0346	652750	7786751	261	MPH	4	114	0.014	48%	36	37	37			24								-2			55	
WNWE008	639047	7773197	201	BAS	15	116	0.014	35%	60	66	33	1	4	16	15	4	4	4	3	1	0		1	0	27	3
WNWE001	653005	7789601	231	BAS	15	113	0.013	36%	67	73	31	1	4	16	14	4	4	4	3	1	0		1	0	27	3
WNWE037	641090	7773783	219	BAS	15	113	0.013	37%	39	45	30	1	5	15	15	4	4	4	3	1	0		1	0	28	3
WNWE002	653079	7789596	229	BAS	15	112	0.013	37%	69	75	30	1	4	15	15	4	4	5	3	1	0		1	0	28	3
WNRC0407	655746	7790501	242	MPH	4	110	0.013	50%	42	43	35			22								-2			55	

HOLEID	EAST	NORTH	RL	STRAT	⊳	TREE	TREO	$\dashv$ $\dashv$	П	J			LR	EE (p	om)						HF	REE (	ppm)			
	m	m	m		ANALYTES	ppm	%	THREO/ TREO	FROM (m)	TO (m)	Ce	Eu	Gd	La	Nd	Pr	Sm	Dy	Er	Но	Lu	Sc	Tb	Tm	Y	Yb
WNRC0346	652750	7786751	263	MPH	4	109	0.013	55%	34	35	30			22								-2			60	
WNRC0772	639875	7775125	262	BPH	15	108	0.013	68%	21	24	14	0	3	8	7	2	2	4	4	1	1		1	1	58	4
WNRC0432	655497	7791750	238	MPH	4	107	0.013	48%	43	44	32			27								4			45	
WNRC0769	639875	7774747	257	HMU	4	109	0.013	17%	2	3	60			32								4			13	
WNRC0327	655500	7792502	234	MPH	4	108	0.013	45%	40	41	38			23								-2			49	
WNRC0279	654991	7790500	248	MPH	4	105	0.013	60%	36	37	28			17								5			55	
WNRC0346	652750	7786751	265	MPH	4	104	0.013	63%	32	33	23			18								3			60	
WNRC0534	656503	7792001	233	MPH	4	103	0.013	52%	46	47	30			23								9			42	
WNRC0768	639873	7774621	254	HMU	4	106	0.013	16%	5	6	64			27								2			13	
WNRC0773	639876	7775251	260	REG	4	105	0.012	11%	2	3	89			6								4			6	
WNRC0295	655250	7790255	244	CBX	4	98	0.012	58%	40	41	28			16								13			41	
WNWE024	664302	7779377	146	DOL	15	102	0.012	33%	164	170	33	1	3	15	12	3	3	3	2	1	0		1	0	22	2
WNRC0432	655497	7791750	239	MPH	4	100	0.012	48%	42	43	31			24								4			41	
WNRC0345	652998	7786751	255	MPH	4	100	0.012	49%	42	43	29			25								-2			49	
WNRC0909	656252	7792371	277	IPH	15	101	0.012	43%	43	46	22	1	3	16	12	3	3	3	2	1	0		0	0	33	2
WNRC0534	656252	7792371	277	MBX	4	99	0.012	41%	53	54	34			27								-2			41	
WNRC0769	656252	7792371	277	HMU	4	98	0.012	38%	4	5	41			21								3			32	
WNWE032	656252	7792371	277	BAS	15	98	0.012	40%	129	130	25	1	5	11	12	4	4	4	2	1	0		1	0	28	2
WON035	656252	7792371	277	CBX	4	99	0.012	0%	54	55	47			31	18		4									
WNRC0909	656252	7792371	277	MBX/ CBX	15	96	0.012	39%	48	51	23	1	3	16	12	3	2	2	2	1	0		0	0	29	1
WNRC0667	656252	7792371	277	IPH	4	95	0.011	47%	35	36	30			22								-2			45	
WNRC0345	656252	7792371	277	MPH	4	89	0.011	59%	41	42	22			17								10			40	
WNRC0327	656252	7792371	277	MPH	4	89	0.011	59%	41	42	24			15								6			45	
WNRC0771	656252	7792371	277	HMU	4	90	0.011	38%	2	3	39			20								5			27	
WNRC0346	656252	7792371	277	MPH	4	89	0.011	55%	33	34	25			17								-2			50	
WNRC0776	656252	7792371	277	HMU	4	89	0.011	22%	3	4	63			9								7			10	
WNRC0279	656252	7792371	277	CBX	4	87	0.011	49%	37	38	30			17								4			37	
WON035	656252	7792371	277	MPH	4	90	0.011	0%	44.4	45	30			25	28		8									
WNRC0330	656252	7792371	277	CBX	4	85	0.010	52%	45	46	27			16								7			35	
WNRC0667	656252	7792371	277	IPH	4	83	0.010	46%	36	37	27			20								-2			39	

HOLEID	EAST	NORTH	RL	STRAT	⊳	TREE	TREO	$\dashv$ $\dashv$	П	J			LR	EE (p	om)						HF	REE (	ppm)			
	m	m	m		ANALYTES	ppm	%	THREO/ TREO	FROM (m)	TO (m)	Се	Eu	Gd	La	Nd	Pr	Sm	Dy	Er	Но	Lu	Sc	Tb	Tm	Y	Yb
WNRC0771	656252	7792371	277	HMU	4	83	0.010	17%	3	4	43			27								2			12	
WNRC0667	656252	7792371	277	MPH	4	82	0.010	48%	33	34	25			19								-2			40	
WNRC0346	656252	7792371	277	MBX	4	80	0.010	46%	37	38	28			17								6			29	
WNRC0534	656252	7792371	277	MPH	4	81	0.010	43%	43	44	28			20								-2			36	
WNRC0330	656252	7792371	277	MPH	4	79	0.010	57%	44	45	22			14								3			41	
WNRC0346	656252	7792371	277	MPH	4	78	0.010	63%	35	36	17			13								2			46	
WNRC0534	656252	7792371	277	CBX	4	78	0.010	44%	52	53	28			19								5			27	
WNRC0769	656252	7792371	277	HMU	4	78	0.009	33%	3	4	36			18								2			22	
WNRC0298	656252	7792371	277	TUN	4	75	0.009	44%	45	46	30			15								8			23	
WON035	656252	7792371	277	MBX	4	79	0.009	0%	53	53.7	33			27	16		4									
WNRC0776	656252	7792371	277	REG	4	75	0.009	20%	2	3	54			7								6			8	
WON035	656252	7792371	277	CBX	4	76	0.009	0%	55	56	35			23	15		3									
WNRC0769	656252	7792371	277	REG	4	73	0.009	18%	0	1	56			6								5			6	
WNRC0772	656252	7792371	277	REG	4	71	0.009	23%	3	4	52			5								7			7	
WON035	656252	7792371	277	CBX	4	72	0.008	0%	53.7	54	33			22	15		3									
WNRC0909	656252	7792371	277	HBX	15	70	0.008	44%	46	48	16	0	2	10	9	2	2	2	2	0	0		0	0	23	2
WNWE024	664316	7779354	193	DOL	15	70	0.008	41%	110	116	16	0	2	12	9	2	2	2	1	0	0		0	0	23	1
WNRC0298	655249	7789747	239	TUP	4	67	0.008	38%	47	48	28			16								6			18	
WNRC0477	655502	7791252	238	MPH	4	67	0.008	51%	48	49	19			16								2			31	
WNRC0477	655502	7791252	234	HBX	4	68	0.008	39%	52	53	25			18								-2			28	
WNRC0345	652998	7786751	257	MPH	4	65	0.008	49%	40	41	21			14								-2			33	
WNRC0534	656503	7792001	228	MBX	4	66	0.008	37%	51	52	25			17								-2			26	
WNRC0338	652497	7786501	264	MPH	4	63	0.008	61%	33	34	15			11								-2			40	
WON035	657129	7789677	238	MPH	4	64	0.008	0%	48.35	49	28			18	15		3									
WNRC0771	639874	7774996	261	BPH	15	61	0.007	55%	19	23	12	0	2	7	5	1	1	2	2	1	0		0	0	26	2
WNRC0327	655500	7792502	236	MPH	4	58	0.007	68%	38	39	13			8								6			32	
WON035	657129	7789677	236	MPH	4	62	0.007	0%	50	50.35	27			19	13		3									
WNRC0534	656503	7792001	230	CBX	4	60	0.007	43%	49	50	21			14								-2			27	
WNRC0408	655497	7790500	245	MPH	4	58	0.007	50%	39	40	18			13								3			25	
WNRC0773	639876	7775251	259	REG	4	58	0.007	22%	3	4	42			5								5			7	

HOLEID	EAST	NORTH	RL	STRAT	⊳	TREE	TREO	$\dashv$	П	J			LR	EE (p	om)						HF	REE (I	opm)			
	m	m	m		ANALYTES	ppm	%	THREO/ TREO	FROM (m)	TO (m)	Ce	Eu	Gd	La	Nd	Pr	Sm	Dy	Er	Но	Lu	Sc	Tb	Tm	Υ	Yb
WNRC0772	639875	7775125	259	REG	4	58	0.007	18%	2	3	45			4								5			4	
WNRC0534	656503	7792001	221	TUP	4	56	0.007	44%	58	59	20			13								8			15	
WNRC0327	655500	7792502	237	MPH	4	55	0.007	65%	37	38	13			8								3			32	
WNRC0477	655502	7791252	239	MPH	4	56	0.007	46%	47	48	17			14								-2			27	
WON035	657129	7789677	235	CBX	4	57	0.007	0%	51.7	52	23			17	14		3									
WNWE024	664309	7779367	167	DOL	15	55	0.007	17%	140	146	21	0	1	12	8	2	1	1	1	0	0		0	0	7	1
WNRC0773	639876	7775251	258	HMU	4	54	0.007	26%	4	5	36			6								5			8	
WNRC0534	656503	7792001	229	MBX	4	55	0.007	40%	50	51	20			14								-2			23	
WNRC0667	654001	7790999	242	CBX	4	53	0.007	53%	42	43	17			10								5			21	
WON035	657129	7789677	234	CBX	4	56	0.007	0%	52	53	26			16	12		3									
WNRC0775	639876	7775501	256	HMU	4	52	0.006	35%	7	8	24			11								2			15	
WNRC0770	639875	7774873	258	HMU	4	51	0.006	29%	2	3	26			11								3			11	
WON035	657129	7789677	238	MPH	4	53	0.006	0%	48	48.35	23			17	11		2									
WNRC0774	639875	7775374	259	HMU	4	52	0.006	16%	3	4	42			3								3			4	
WON035	657129	7789677	241	MPH	4	52	0.006	0%	45.7	45.8	20			18	13		2									
WON035	657129	7789677	235	CBX	4	52	0.006	0%	51	51.7	24			14	12		3									
WNRC0776	639878	7775625	259	HMU	4	48	0.006	34%	4	5	27			7								7			8	
WNRC0667	654001	7790999	245	IPH	4	49	0.006	46%	39	40	16			12								-2			24	
WNRC0667	654001	7790999	250	IPH	4	48	0.006	51%	34	35	14			11								-2			26	
WNWE024	664307	7779369	161	DOL	15	48	0.006	22%	146	152	17	0	1	9	7	2	1	1	1	0	0		0	0	7	1
WNWE024	664310	7779364	172	DOL	15	45	0.005	31%	134	140	14	0	1	9	6	2	1	1	1	0	0		0	0	11	1
WNRC0330	655780	7792000	235	MPH	4	45	0.005	49%	43	44	14			10								-2			24	
WNRC0768	639873	7774621	255	HMU	4	44	0.005	16%	4	5	25			13								2			5	
WNWE024	664315	7779356	187	DOL	15	44	0.005	22%	116	122	16	0	1	9	6	2	1	1	0	0	0		0	0	7	0
WNRC0772	639875	7775125	254	HMU	4	42	0.005	15%	7	8	26			10								1			5	
WNRC0776	639878	7775625	258	HMU	4	38	0.005	41%	5	6	15			9								5			9	
WNRC0432	655497	7791750	237	MBX	4	40	0.005	31%	44	45	17			11								-2			14	
WNRC0534	656503	7792001	232	MBX	4	38	0.005	43%	47	48	13			10								-2			18	
WNRC0534	656503	7792001	223	TUP	4	37	0.005	37%	56	57	15			10								3			10	
WNRC0770	639875	7774873	256	HMU	4	37	0.004	22%	4	5	21			9								1			6	

HOLEID	EAST	NORTH	RL	STRAT	⊳	TREE	TREO	$\dashv$	П	J			LR	REE (p	om)						HF	REE (	ppm)			
	m	m	m		ANALYTES	ppm	%	THREO/ TREO	FROM (m)	TO (m)	Ce	Eu	Gd	La	Nd	Pr	Sm	Dy	Er	Но	Lu	Sc	Tb	Tm	Y	Yb
WNRC0327	655500	7792502	231	CBX	4	36	0.004	48%	43	44	12			7								-2			19	
WNRC0768	639873	7774621	258	REG	4	33	0.004	28%	1	2	21			4								4			4	
WON035	657129	7789677	236	CBX	4	34	0.004	0%	50.35	51	17			9	7		2									
WON035	657129	7789677	240	MPH	4	33	0.004	0%	45.8	46	13			11	8		2									
WNRC0477	655502	7791252	236	HBX	4	32	0.004	44%	50	51	11			8								-2			16	
WNRC0770	639875	7774873	257	HMU	4	31	0.004	31%	3	4	15			7								1			7	
WNRC0534	656503	7792001	222	TUP	4	28	0.004	57%	57	58	8			6								6			9	
WNRC0534	656503	7792001	231	CBX	4	30	0.004	42%	48	49	11			7								-2			14	
WNRC0667	654001	7790999	246	IPH	4	28	0.003	59%	38	39	7			5								2			14	
WNRC0775	639876	7775501	258	HMU	4	27	0.003	34%	5	6	15			5								4			4	
WNRC0298	655249	7789747	240	TUP	4	27	0.003	51%	46	47	9			6								2			11	
WON035	657129	7789677	237	MPH	4	28	0.003	0%	49	50	13			9	6		1									
WNRC0772	639875	7775125	256	HMU	4	27	0.003	18%	5	6	14			9								1			3	
WNRC0771	639874	7774996	256	HMU	4	27	0.003	22%	4	5	15			6								1			5	
WNRC0477	655502	7791252	235	HBX	4	25	0.003	44%	51	52	8			6								-2			13	
WNRC0775	639876	7775501	257	HMU	4	24	0.003	25%	6	7	11			8								2			3	
WNRC0776	639878	7775625	257	HMU	4	22	0.003	44%	6	7	9			5								1			8	
WNRC0772	639875	7775125	257	HMU	4	22	0.003	37%	4	5	10			4								4			3	
WNRC0772	639875	7775125	255	HMU	4	21	0.003	30%	6	7	11			5								1			5	
WON035	657129	7789677	239	MPH	4	22	0.003	0%	46.9	47	9			7	5		1									
WNWE024	664313	7779359	182	DOL	15	22	0.003	20%	122	128	8	0	0	4	3	1	0	0	0	0	0		0	0	3	0
WON035	657129	7789677	239	MPH	4	21	0.002	0%	47	47.2	9			7	5		1									
WNWE024	664304	7779374	151	DOL	15	21	0.002	23%	158	164	7	0	1	4	3	1	1	0	0	0	0		0	0	3	0
WNRC0773	639876	7775251	256	HMU	4	18	0.002	34%	6	7	9			4								2			4	
WNRC0773	639876	7775251	257	HMU	4	18	0.002	29%	5	6	10			3								1			4	
WNWE024	664312	7779361	177	DOL	15	17	0.002	37%	128	134	4	0	0	3	2	1	0	0	0	0	0		0	0	5	0
WNRC0773	639876	7775251	255	HMU	4	15	0.002	33%	7	8	7			4								1			3	
WNRC0775	639876	7775501	261	REG	4	15	0.002	35%	2	3	8			3								2			3	
WNWE024	664306	7779372	156	DOL	15	15	0.002	6%	152	158	7	0	0	4	2	1	0	0	0	0	0		0	0	1	0
WNRC0776	639878	7775625	262	REG	4	12	0.002	35%	1	2	6			3								2			2	

HOLEID	EAST	NORTH	RL	STRAT	≥	TREE	TREO	<b>オ</b>	Ţ	Ţ			LR	EE (p	om)						HF	REE (p	ppm)			
	m	m	m		ANALYTES	ppm	%	THREO/ TREO	FROM (m)	O (m)	Ce	Eu	Gd	La	Nd	Pr	Sm	Dy	Er	Но	Lu	Sc	Tb	Tm	Υ	Yb
WON035	657129	7789677	239	MPH	4	13	0.001	0%	47.2	48	5			5	3		1									
WNRC0772	639875	7775125	260	REG	4	11	0.001	39%	1	2	5			2								2			2	
WNRC0774	639875	7775374	258	HMU	4	11	0.001	50%	4	5	4			2								2			3	
WON035	657129	7789677	240	MPH	4	11	0.001	0%	46	46.9	5			4	3		1									
WNRC0768	639873	7774621	259	REG	4	10	0.001	36%	0	1	5			2								1			2	
WNRC0776	639878	7775625	263	REG	4	9	0.001	29%	0	1	4			2								1			1	
WNRC0772	639875	7775125	261	REG	4	8	0.001	32%	0	1	4			2								1			1	
WNRC0773	639876	7775251	262	REG	4	8	0.001	32%	0	1	4			2								1			1	
WNRC0775	639876	7775501	262	REG	4	8	0.001	31%	1	2	4			2								1			1	
WNRC0775	639876	7775501	263	REG	4	7	0.001	36%	0	1	4			2								1			1	
WNRC0773	639876	7775251	261	REG	4	7	0.001	33%	1	2	3			1								1			1	
WNRC0774	639875	7775374	262	REG	4	7	0.001	31%	0	1	3			2								1			1	

#### **APPENDIX B**

**JORC TABLE 1** 

## **JORC Code, 2012 Edition – Table 1 report template**

### **Section 1 Sampling Techniques and Data**

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

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul> <li>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.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> </ul>	<ul> <li>Exploration and resource drilling undertaken by Minemakers and previous holders of the Wonarah tenements totals 2,111 RAB, air core, RC and diamond cored holes for 100,238 m of drilling.</li> <li>RC and diamond holes were generally sampled over 1 m down hole intervals.</li> <li>Minemakers RC sub-samples were collected by riffle splitting. Diamond core was halved for assaying using a diamond saw.</li> <li>All of Minemakers drilling and sampling was supervised by field geologists.</li> </ul>
	Aspects of the determination of mineralisation that are Material to the Public Report.	<ul> <li>"Mineralisation" is determined as being any samples containing &gt;0.05% TREO. These are not determined to be economic but may serve as vectors to higher levels of mineralisation being targeted with ongoing work.</li> </ul>
	<ul> <li>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.</li> </ul>	Hand-held XRF measurements were used to aid selection of intervals for assaying where elevated Y and U were encountered. The hand-held XRF results are not reported.
Drilling techniques	<ul> <li>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).</li> </ul>	<ul> <li>The RC drilling utilised face sampling bits with diameters of generally 5 to 5 ¼ inches (127-133 mm).</li> <li>All diamond drilling was triple tube, at HQ and PQ diameter. Diamond core was not oriented.</li> <li>All Wonarah drilling was vertical with the exception of 4 diamond holes and 44 RC holes primarily drilled for ground-water investigation.</li> </ul>

Criteria	JORC Code explanation	Commentary
Drill sample recovery	<ul> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>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.</li> </ul>	<ul> <li>RC sample recovery was assessed by weighing total recovered sample material. The recovered weights show generally reasonably consistent sample recoveries averaging 84% for the mineralised samples which is consistent with good quality RC drilling.</li> <li>Additional confirmation of the reliability of RC sampling is provided by 30 twinned diamond holes which show very similar average phosphate grades to the paired RC holes.</li> <li>Diamond core recovery was assessed by measuring recovered lengths for core runs. Recovery measurements are available for 95% of Minemakers holes and show an average recovery of 91% for mineralised intervals, which is consistent with good quality diamond drilling.</li> <li>The available information suggests that the resource sampling is representative and does not include a systematic bias due to preferential sample loss or gain.</li> </ul>
Logging	<ul> <li>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.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	<ul> <li>Minemakers RC and diamond holes were routinely geologically logged by industry standard methods, with logging available for around 88% of RC and diamond drilling.</li> <li>Sub-samples of all RC chips were retained in chip trays for the future reference. Diamond core is routinely photographed. Chip trays are routinely photographed.</li> <li>The geological logging is qualitative in nature, and of sufficient detail to support the resource estimates.</li> <li>Hand-held XRF measurements were used to aid selection of intervals for assaying where elevated Y and U were encountered. The hand-held XRF results are not reported.</li> </ul>
Sub-sampling techniques and sample preparation	<ul> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li> <li>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.</li> <li>Whether sample sizes are appropriate to the grain size of</li> </ul>	<ul> <li>RC samples were collected over generally 1m down-hole intervals and sub-sampled with a three-tier riffle splitter. Virtually all RC samples were dry, with only 0.1% logged as wet.</li> <li>Diamond core was halved for assaying using a diamond saw.</li> <li>Measures taken to ensure the representivity of RC and diamond sub-sampling include close supervision by field geologists, use of appropriate sub-sampling methods, routine cleaning of splitter and cyclones, and rigs with sufficient capacity to provide generally dry, high recovery RC samples.</li> <li>Information available to demonstrate the representivity of sub-sampling includes RC field duplicates and paired RC and diamond holes. Note that these are specific to the Phosphate Mineral Resource and may not fully reflect the representativity for Rare Earth Elements discussed in this release</li> </ul>

Criteria	JORC Code explanation	Commentary
	the material being sampled.	<ul> <li>The available information demonstrates that the sub-sampling methods and sub-sample sizes are appropriate for the grain size of the material being sampled and provide sufficiently representative sub-samples for resource estimation. Note that these are specific to the Phosphate Mineral Resource and may not fully reflect the representativity for Rare Earth Elements (REE) discussed in this release</li> </ul>
Quality of assay data and laboratory tests	<ul> <li>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> <li>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.</li> <li>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.</li> </ul>	<ul> <li>Hand-held XRF measurements were used to aid selection of intervals for assaying where elevated Y and U were encountered. The hand-held XRF results are not reported.</li> <li>Analysis was undertaken by ALS Chemex using the ME-MS81 method.</li> <li>Sample Decomposition: Lithium Metaborate Fusion (FUS-LI01)</li> <li>Analytical Method: ICP-MS</li> <li>A prepared sample (0.200 g) is added to lithium metaborate flux (0.90 g), mixed well and fused in a furnace at 1000°C. The resulting melt is then cooled and dissolved in 100 mL of 4% HNO<sub>3</sub> / 2% HCl solution. This solution is then analyzed by inductively coupled plasma - mass spectrometry</li> <li>Minemakers assay quality control procedures include certified reference standards, coarse blanks and external laboratory checks. These results have established acceptable levels of precision and accuracy for the assays included in the current estimates. Note that these are specific to the Phosphate Mineral Resource and may not fully reflect the representativity for REE discussed in this release.</li> </ul>
ANALYSIS METHOD	<ul> <li>The verification of significant intersections by either independent or alternative company personnel.</li> <li>The use of twinned holes.</li> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>	<ul> <li>No verification has been undertaken at this point in time to specifically verify the intervals sampled. It has been assumed that due to the system in place for Phosphate sampling and sub-sampling that intervals will be correct</li> <li>Minemakers diamond drilling includes 30 holes drilled within 10 m of RC holes. The twinned diamond and RC holes show very similar Phosphate mineralisation grades and thicknesses providing confidence in the reliability of the RC sampling for Phosphate. This may not reflect the reliability for REE sampling.</li> </ul>

Criteria	JORC Code explanation	Commentary
Location of data points	<ul> <li>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.</li> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	<ul> <li>For Minemakers drilling, sample intervals and geological logs were directly entered into lap-top computers. These logs and laboratory assay files were merged directly into a central Micromine database.</li> <li>Minemakers database and geological staff routinely validate database entries with reference to original data.</li> <li>The Competent Person's independent checks of database validity include: Comparison of assay values with geological logging, comparison of assay values between nearby holes, checking for internal consistency between, and within database tables, comparisons between assay results from different sampling phases, and for most assays from Minemakers drilling the results from laboratory source files were compared with database assay entries.</li> <li>These checks showed no significant discrepancies in the databases used for resource estimation.</li> <li>No original source data is available for checking of database entries for Rio Tinto drilling. These data represent only 4% of the resource dataset and any uncertainty associated with their validity does not significantly affect confidence in the resource estimates.</li> <li>Around 55% of Phosphate resource holes have high accuracy differential GPS collar surveys. The remainder of collar locations were measured by hand-held GPS, with elevations derived from the aerial survey.</li> <li>No holes were down-hole surveyed. For the comparatively widely spaced and shallow vertical holes the lack of comprehensive differential GPS collar surveys and lack of down-hole surveys and does not affect confidence in resource estimates.</li> <li>All surveying was undertaken in Map Grid of Australia 1994 (MGA94) Zone 53 coordinates.</li> <li>In October 2008, Fugro Airborne Surveys completed an aerial survey of the Wonarah area. Data captured in the survey included topographic elevations measured by radar altimeter relative to differential GPS locations.</li> <li>Topographic control is adequate.</li> </ul>
Data spacing and distribution	<ul> <li>Data spacing for reporting of Exploration Results.</li> <li>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</li> </ul>	<ul> <li>Drill hole spacing at Main Zone varies from more than one by one km in peripheral portions of the deposit to around 250 by 62.5 m in several comparatively small areas.</li> </ul>

Criteria	JORC Code explanation	Commentary
	<ul> <li>estimation procedure(s) and classifications applied.</li> <li>Whether sample compositing has been applied.</li> </ul>	<ul> <li>For peripheral Arruwurra mineralisation, drill spacing ranges from around 500 by 500 m to one by one km in the far west of the deposit. Central portions have been sampled by generally 250 by 250 m spaced drilling with an area including virtually the entire BPH zone infilled to 125 by 125 m spacing.</li> </ul>
		<ul> <li>With only selective sampling of the above drill spacing having been undertaken for REE, this is insufficient to allow for reporting of a Mineral Resource Estimate</li> </ul>
Orientation of data in relation to geological structure	<ul> <li>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>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.</li> </ul>	The orientation of the REE mineralisation is currently unknown due to a lack of systematic sample analysis
Sample security	The measures taken to ensure sample security.	<ul> <li>Sample collection for Minemakers drilling was supervised by Minemakers geologists.</li> <li>Wonarah is in an isolated area with limited access to the general public. Samples selected for assaying were collected in heavy-duty polywoven plastic bags that were immediately sealed. The bagged samples were then delivered directly to the analytical laboratories in Mount Isa by Minemakers employees or contractors, or less commonly by a local freight carrier.</li> <li>Pulps and metallurgical samples are stored either in a secure facility in Adelaide, or a semi-secure facility in Mount Isa.</li> </ul>
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	<ul> <li>Sample data reviews have included comparisons between various sampling phases and methods which provide some confidence in the general reliability of the data for the Phosphate Resource. It is assumed that the same procedures were followed for REE sampling and analysis</li> <li>The Competent Person considers that the sample preparation, security and analytical procedures adopted for the Wonarah Phosphate drilling provide an adequate basis for the REE Exploration Results reported</li> </ul>

## **Section 2 Reporting of Exploration Results**

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	<ul> <li>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.</li> <li>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.</li> </ul>	<ul> <li>The REE analyses contained within this release are situated mostly over Arruwurra and Main Zone Phosphate Resource areas lie within the granted Exploration Licences EL32359, EL29840 and EL29849. Minemakers also has applications in place for Exploration Licences EL33062, EL33063, EL33192 and EL33193 adjacent to the granted Exploration Licences. The underlying land tenure is NT freehold held by the Arruwurra Aboriginal Corporation.</li> <li>There are no known impediments to obtaining a licence to operate in the area.</li> </ul>
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	<ul> <li>Data from holes drilled by Rio Tinto provide information in areas of limited Minemakers sampling and represent around 4% of the Phosphate resource database.</li> </ul>
Geology	Deposit type, geological setting and style of mineralisation.	<ul> <li>Wonarah is hosted by late Proterozoic to early Palaeozoic sedimentary rocks of the Georgina Basin. The REE mineralisation appears to be hosted by either the Mudstone Phosphorite Unit which hosts the majority of Phosphate mineralisation, or the overlying Convolute Mudstone Unit. Both units are a part of the Upper Gum Ridge Formation. Anomalous analyses appear to be more widespread at the Main Zone, which reflects either selective sampling or mineralisation controls</li> <li>The style and exact setting of REE mineralisation is yet top be determined due to a lack of systematic analysis</li> </ul>
Drill hole Information	<ul> <li>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:         <ul> <li>easting and northing of the drill hole collar</li> <li>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> <li>dip and azimuth of the hole</li> <li>down hole length and interception depth</li> <li>hole length.</li> </ul> </li> <li>If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from</li> </ul>	No drill hole results are reported in this announcement.

Criteria	JORC Code explanation	Commentary
	the understanding of the report, the Competent Person should clearly explain why this is the case.	
Data aggregation methods	<ul> <li>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.</li> <li>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.</li> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	<ul> <li>Majority of analyses reported in this release are of individual sample intervals, hence no weighting or aggregation is required</li> <li>Several downhole composites have been included, which were aggregated via splitting of individual sample intervals, followed by combining of the intervals and mixing to ensure homogeneity</li> <li>All analytes reported were in ppm, with a converted result being reported as REO. Conversions are as follows:         <ul> <li>Ce&gt; CeO<sub>2</sub> = 1.1713</li> <li>Dy&gt; Dy<sub>2</sub>O<sub>3</sub> = 1.1477</li> <li>Pr&gt; Pr<sub>6</sub>O<sub>11</sub> = 1.2082</li> <li>Er&gt; Er<sub>2</sub>O<sub>3</sub> = 1.1435</li> <li>Sc&gt; Sc<sub>2</sub>O<sub>3</sub> = 1.5338</li> <li>Eu&gt; Eu<sub>2</sub>O<sub>3</sub> = 1.1579</li> <li>Sm&gt; Sm<sub>2</sub>O<sub>3</sub> = 1.1596</li> <li>Gd&gt; Gd<sub>2</sub>O<sub>3</sub> = 1.1526</li> <li>Ho&gt; Tb<sub>4</sub>O<sub>7</sub> = 1.1762</li> <li>Ho&gt; Ho<sub>2</sub>O<sub>3</sub> = 1.1455</li> <li>Tm&gt; Tm<sub>2</sub>O<sub>3</sub> = 1.1421</li> <li>La&gt; La<sub>2</sub>O<sub>3</sub> = 1.1728</li> <li>Y&gt; Y<sub>2</sub>O<sub>3</sub> = 1.2699</li> <li>Lu&gt; Lu<sub>2</sub>O<sub>3</sub> = 1.1371</li> </ul> </li> </ul>
Relationship between mineralisation widths & intercept lengths	<ul> <li>These relationships are particularly important in the reporting of Exploration Results.</li> <li>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> <li>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').</li> </ul>	The orientation of REE mineralisation is not established, but is believed to be roughly stratabound within the Convolute Mudstone and Mudstone Phosphorite Units
Diagrams	<ul> <li>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.</li> </ul>	See relevant figures
Balanced reporting	<ul> <li>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.</li> </ul>	<ul> <li>All samples analysed for the RRE suite of elements have been included in this release. Collar positions only are shown for holes where no REE elements have been analysed as these are areas where no data is present and will provide additional data points for analysis in ongoing work</li> </ul>
Other substantive	<ul> <li>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</li> </ul>	<ul> <li>Phosphate Mineral Resources were estimated from drill hole assay data, with geological logging used to aid interpretation of mineralised domains. Metallurgical data has been previously reported.</li> </ul>

Criteria	JORC Code explanation	Commentary
exploration data	method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	Metallurgical test work for the proposed method of treatment, IHP, is ongoing.
Further work	<ul> <li>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	<ul> <li>Further work to support the Phosphate DFS will be undertaken as required. Systematic analysis of existing drill samples and pulps for REE will be undertaken to establish tenor of mineralisation and any stratigraphic, structural or regolith controls in place.</li> </ul>