Southern Gold reports 3.27% TREO at its Jangnam Project in South Korea

Highlights

- **Additional rock-chip samples have broadened the footprint of the discovery area, with identification of Rare Earth Element (REE)-enriched ironstones and fenite typically associated with carbonatite.**
- **REE grades of 3.27% TREO from carbonatite discovered south of the Hongcheon deposit.**
- **Regional exploration defines a 21-km long prospective corridor for REE carbonatite mineralisation with anomalous stream-sediment samples up to 0.3% TREO.**
- **REE-mineralised samples have very low deleterious Th (<259 ppm) and U (<8 ppm) values.**
- **Widespread granular monazite ($REEPO_4$) identified in carbonatite, which is favourable for beneficiation.**
- **Exploration plans include trench sampling in the discovery area and a drone magnetics survey in preparation for drilling in FYQ3-Q4.**

Southern Gold Limited (Southern Gold or the Company; ASX: SAU) is pleased to provide an update on its exploration activities at their Jangnam REE Project in South Korea, including the discovery of further mineralised carbonatite outcrop at Jangnam and extracts from a petrography study undertaken by consultants RSC.

Southern Gold Managing Director Robert Smillie said:

"The team have made great progress enhancing our understanding of Jangnam's geology and REE mineralisation - these efforts are pivotal to help refine our exploration strategy. I am particularly pleased to see new higher-grade TREO values in our main REE discovery area. This not only reinforces the importance of this discovery, but also bolsters our confidence in its significance as we move towards drill testing this area in FYQ3-Q4.

"Most REE minerals are difficult to process, so we are fortunate to have monazite at Jangnam, which is the key ore mineral in many economic REE deposits. The favourable low levels of thorium and uranium at Jangnam are also noteworthy. Unlike other deposits, where Thorium concentrations can reach several weight percent, Jangnam stands out for its low deleterious values.

"The regional exploration demonstrates the significant wider REE potential of Jangnam, and I look forward to the team defining additional target areas in the months ahead."

Background

Recent fieldwork and mineralogical studies have highlighted the exploration potential of the Jangnam REE Project that is situated adjacent to the Hongcheon REE carbonatite deposit, with rock chip samples returning up to 14.75% TREO. The Hongcheon deposit is held by a third party[1]. This recent work has included regional stream-sediment sampling, rock-chip sampling at the discovery area previously reported[2], and details mineralogical analysis of samples reported below. As a result of this work, additional exploration licences have been recently lodged, with the project now comprising 74 exploration licence applications covering area of 201 km^2. These new applications include six highly prospective areas, including one bordering the Hongcheon South orebody, and new applications at the far north and south (figure 1).

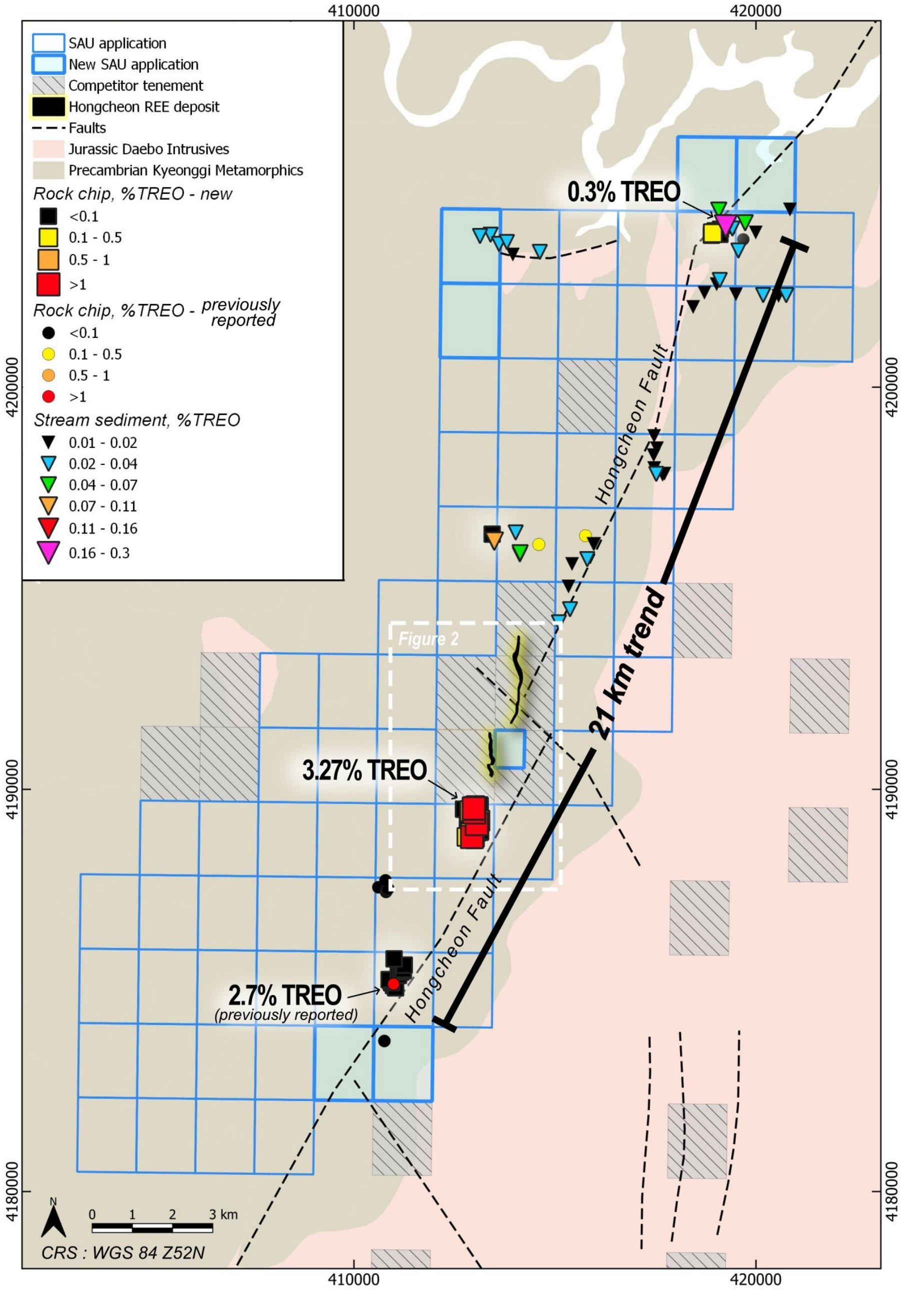

Figure 1: *Overview map of the Jangnam REE Project: note anomalous stream-sediment samples to the north of the project area; the central discovery area with the highest REE grade of 3.27% TREO along strike from the Hongcheon deposit; and significant REE rock-chip grades to the south.*

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[1] 20230308 – ASX Southern Gold applies for exploration licences adjacent to REE deposits in South Korea; Competent Person: Dr Michael Gazley, MAusIMM, MAIG.

[2] 20230615 – ASX REE Carbonatite Discovery at Jangnam Project; Competent Person: Dr Michael Gazley, MAusIMM, MAIG.

Stream-Sediment Samples

Results from stream-sediment sampling expand the prospective corridor for REE mineralisation to the north for 21 km along the Hongcheon Fault (Figure 1). The preliminary results outlined a cluster of REE anomalies up to 0.30% TREO in the northern end of the tenement which encouraged Southern Gold to apply for two new blocks in the area (Table 1). This anomaly is directly on the Hongcheon Fault but ~11 km NNW of the Northern Hongcheon deposit. Further anomalous values of up to 900 ppm TREO were sampled ~2 km north of the Northern Hongcheon deposit, which warrants follow-up work. The average crustal abundance of TREO is ~200 ppm. Results for all 41 stream-sediment samples are presented in Appendix 1.

Table 1: Stream sediment samples >400 ppm TREO, which is ~2 times the average crustal abundance.

Sample ID	TREO	MREO	Nb
	ppm	ppm	ppm
KRS510671	3034	735	11
KRS510698	907	166	70
KRS510801	614	118	86
KRS510673	520	123	9
KRS510804	508	103	72
KRS510669	484	117	10
KRS510670	477	110	11
KRS510683	445	96	11
KRS510666	407	97	13

Rock-Chip Samples

Further rock-chip sampling has been carried out to gain a better understanding of the recently discovered carbonatite outcrops southwest of the Southern Hongcheon deposit (refer to Southern Gold ASX announcement from 15 June 2023[3]). The carbonatite and ironstone outcrops are interpreted to represent an extension of the Hongcheon deposit (Figure 2, Figure 3). It is crucial to understand the geochemical footprint of the carbonatite mineralisation in wall rock, hence abundant fenite-altered rocks were collected to vector towards mineralised zones.

[3] 20230615 – ASX REE Carbonatite Discovery at Jangnam Project; Competent Person: Dr Michael Gazley, MAusIMM, MAIG.

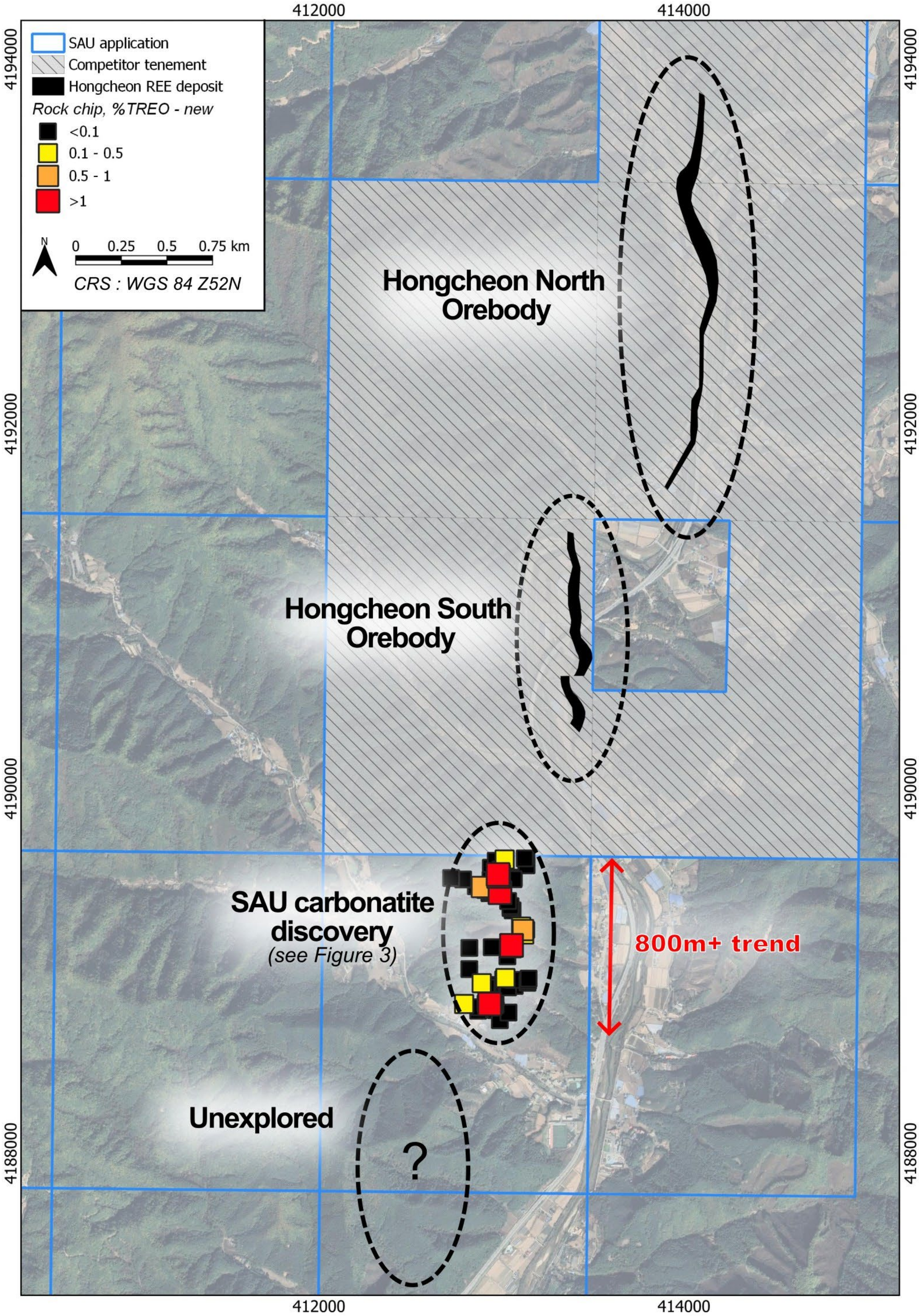


Figure 2: *Recent results from previously reported discovery area highlighting potential extension of Hongcheon REE deposit into Southern Gold exploration licences.*

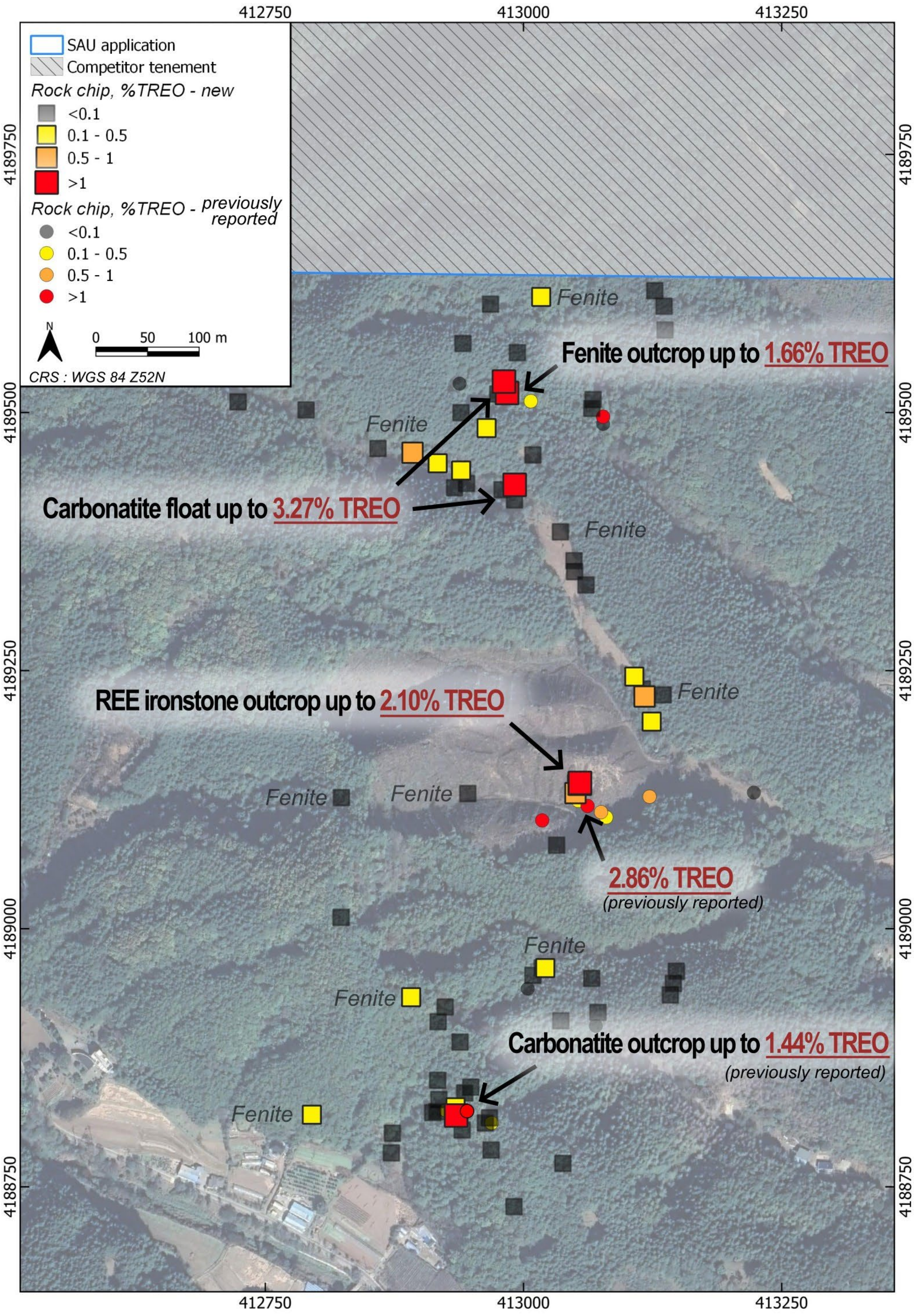


Figure 3: *Inset map from Figure 2 within SAU Exploration licence application showing most recent and previous rock-chip results at Jangnam highlighting an 800-m long area of REE mineralisation and with a broad zone of fenite wall-rock alteration.*

A total of 120 new rock-chip samples of carbonatite and metasomatised rock (fenite) were collected to define the extent of alteration and highlight areas where carbonatite subcrop is likely. Apart from visual alteration, geochemical carbonatite indicators at Jangnam include REEs, Cu, Mo, Nb, Ag, S, Ca, P, Mg, and Sr which are used to vector towards mineralised carbonatite (Table 2, Appendix 2).

One sample of partially weathered carbonatite float has 3.27% TREO, which is the highest-grade carbonatite sample at Jangnam so far (Table 2). Five other carbonatite/ironstone/fenite samples have TREO grades above 1%. Further anomalous fenite samples with elevated REEs and indicator elements expand the size the footprint of mineralisation and related host-rock alteration SW of the Hongcheon deposit along an 800 m-long trend parallel to the Hongcheon Fault (Figure 3).

Radioactive elements Th and U are typically associated with many REE mineralisation styles including carbonatites. At Jangnam, their concentration is very low (Table 2), which is beneficial from an environmental viewpoint and greatly simplifies metallurgical processing. The highest value among all 120 samples is only 259 ppm Th and 10 ppm U. The latter is not related to mineralisation.

Table 2: *New results from rock-chip samples >0.2% TREO along the southern extension of the Southern Hongcheon carbonatite orebody. For the full REE suite please refer to Appendix 2. Nb for KRS507858 was out of range so the data presented reflects the minimum value.*

Sample ID	Type	Description	TREO	Nd2O3	Pr_6O_{11}	Nb	Th	U	Ag	Mo	Cu	Zn
			wt.%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
			ME-MS81d	ME-MS81d	ME-MS81d	ME-MS81d	ME-MS81d	ME-MS81d	ME-4ACD81	ME-4ACD81	ME-4ACD81	ME-4ACD81
KRS511449	float	carbonatite	3.27	2939	1190	193	90	1.7	0	20	196	197
KRS507845	float	carbonatite	2.28	4304	1208	45	154	2.1	0	3	113	287
KRS507832	outcrop	ironstone	2.1	2111	890	133	237	3.7	5.6	656	1980	342
KRS507834	outcrop	ironstone	1.96	1919	806	358	259	4.7	24.5	1770	5760	731
KRS511450	outcrop	fenite	1.66	1510	604	87	60	2.2	0	6	48	111
KRS507830	outcrop	carbonatite	1.12	1295	489	113	143	0.6	0.5	12	210	368
KRS507831	float	fenite	0.93	987	383	166	110	2	24.1	192	1490	577
KRS507835	float	fenite	0.73	751	302	102	55	0.5	0	5	20	225
KRS507851	float	fenite	0.58	699	251	39	22	2.6	0	1	69	132
KRS507849	outcrop	fenite	0.42	474	181	65	80	1.2	0	6	58	289
KRS507839	float	fenite	0.39	390	157	77	41	0.3	1.2	2260	436	296
KRS507837	float	fenite	0.31	327	126	107	24	0.2	0.6	28	9	225
KRS507858	float	fenite	0.31	376	131	>2500	24	8.1	0	3	219	340
KRS507814	outcrop	fenite	0.3	503	148	738	46	0.5	0	42	61	372
KRS507850	float	fenite	0.27	325	117	157	21	0.7	0	31	40	163
KRS507824	float	fenite	0.2	401	110	204	66	0.4	0	75	136	242

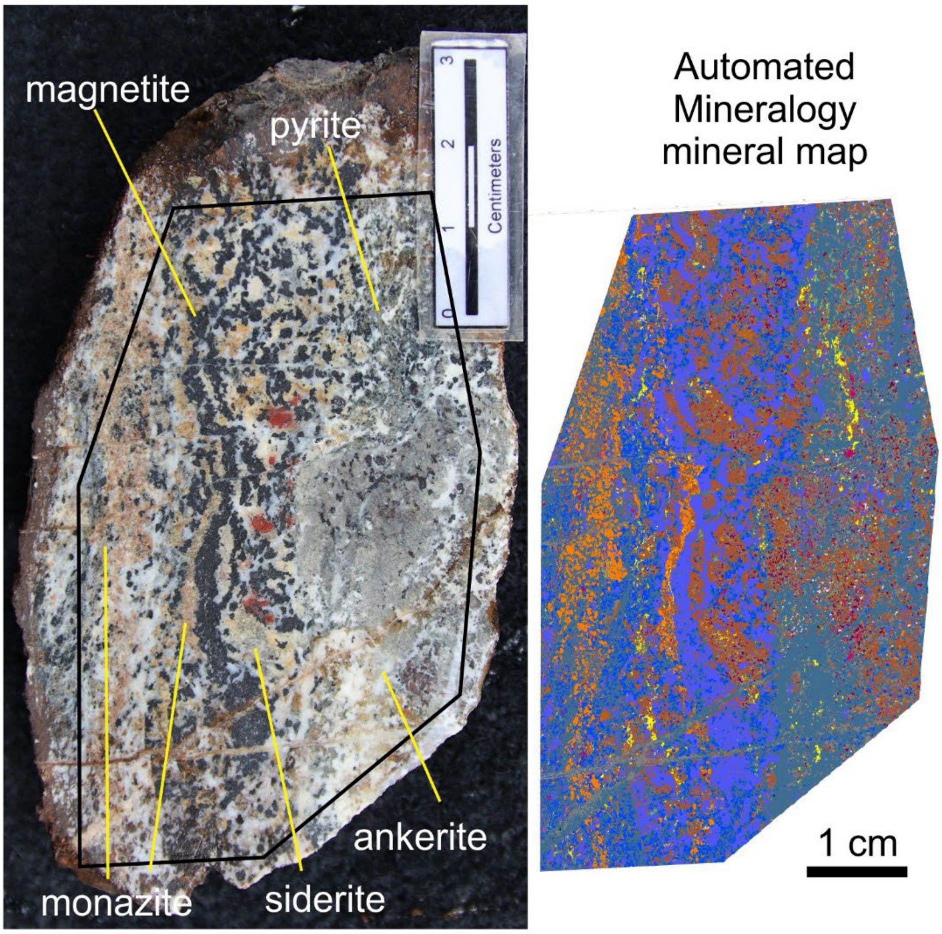
TREO (Total Rare Earth Oxide) = $La_2O_3 + CeO_2 + Pr_6O_{11} + Nd_2O_3 + Sm_2O_3 + Eu_2O_3 + Gd_2O_3 + Tb_4O_7 + Dy_2O_3 + Ho_2O_3 + Er_2O_3 + Tm_2O_3 + Yb_2O_3 + Y_2O_3 + Lu_2O_3$.

Petrography Data

Thin sections of several carbonatite, ironstone and fenite samples, as well as one carbonatite slab (Figure 4) have been characterised using scanning electron microscopy (SEM). The polished slab in Figure 4 is a typical representative sample of REE mineralisation in carbonatite at Jangnam. It has a layered texture with bands of monazite, pyrite, and magnetite in a matrix of ankerite, siderite and dolomite. Monazite is by far the dominant REE mineral, while minor xenotime, allanite, florencite, and fergusonite are also present.

Monazite across all spot analyses has a median content of 5.6% Nd and 2.4% Pr and only 0.6% Th and no U detected (detection limit of ~0.1 %), a result consistent with whole rock analyses returned. In several monazite grains, Th was not detected. Monazite crystals are ~1 mm in size (Figure 5a–b). All analysed carbonatite samples also host several primary sulphides including sphalerite, pyrite, molybdenite, galena, or chalcopyrite (Figure 5a–b).

A first-pass assessment of the newly discovered mineralisation at Jangnam was conducted to identify potential issues with mineral processing such as deleterious elements, small grain-size distribution, complex REE mineralogy etc. Monazite is a main ore mineral in several REE deposits with established processing routes. Results of this initial study are favourable due to monazite being the dominant REE-bearing mineral, grain sizes of ~1 mm, and low amounts of deleterious elements (e.g. <0.1% Th in some monazite grains).



Modal Mineralogy (wt.%)		
	Ankerite	33.16
	Apatite	0.48
	Biotite	1.18
	Chlorite	0.59
	Dolomite	7.88
	Fe-oxide	20.51
	Ferro-hornblende	0.69
	Ferro-hypersthene	1.23
	Monazite	**6.15**
	Muscovite	0.28
	Pyrite	1.67
	Quartz	5.26
	Siderite	19.68

Figure 4: *Automated mineralogy result of sample KRS511484 (see SAU ASX announcement from 15 June 2023) scanned polished carbonatite slab. Note the pink monazite layers in the false colour image.*

Carbonatite samples from the Hongcheon deposit were also analysed with the SEM. Importantly, the minerals, paragenesis, monazite chemistry, and microtextures are comparable between the Jangnam Project samples and Hongcheon deposit carbonatites and is evidence that SAU has discovered an extension of the

Hongcheon carbonatite and highlights the potential scale of the mineralised system yet to be fully explored.

Field work has identified ironstones proximal to carbonatite outcrop (Figure 3). The ironstone formed after sulphides as there are several pseudomorphs of Fe-oxides after pyrite, chalcopyrite, and sphalerite (Figure 5d). These ironstones are enriched in REEs, Mo, Zn, Cu, and Ag, analogous to enrichment in carbonatite samples, indicating that the sulphide mineralisation and outcropping ironstones are related to the carbonatite system and there is good potential to discover further buried carbonatite mineralisation at Jangnam. The abundance of sulphides in association with carbonatite indicates a potential Phalaborwa-style carbonatite + base metal mineralisation. At Phalaborwa, South Africa, carbonatite is associated with Cu-sulphide mineralisation, which has been mined since the 1960s.

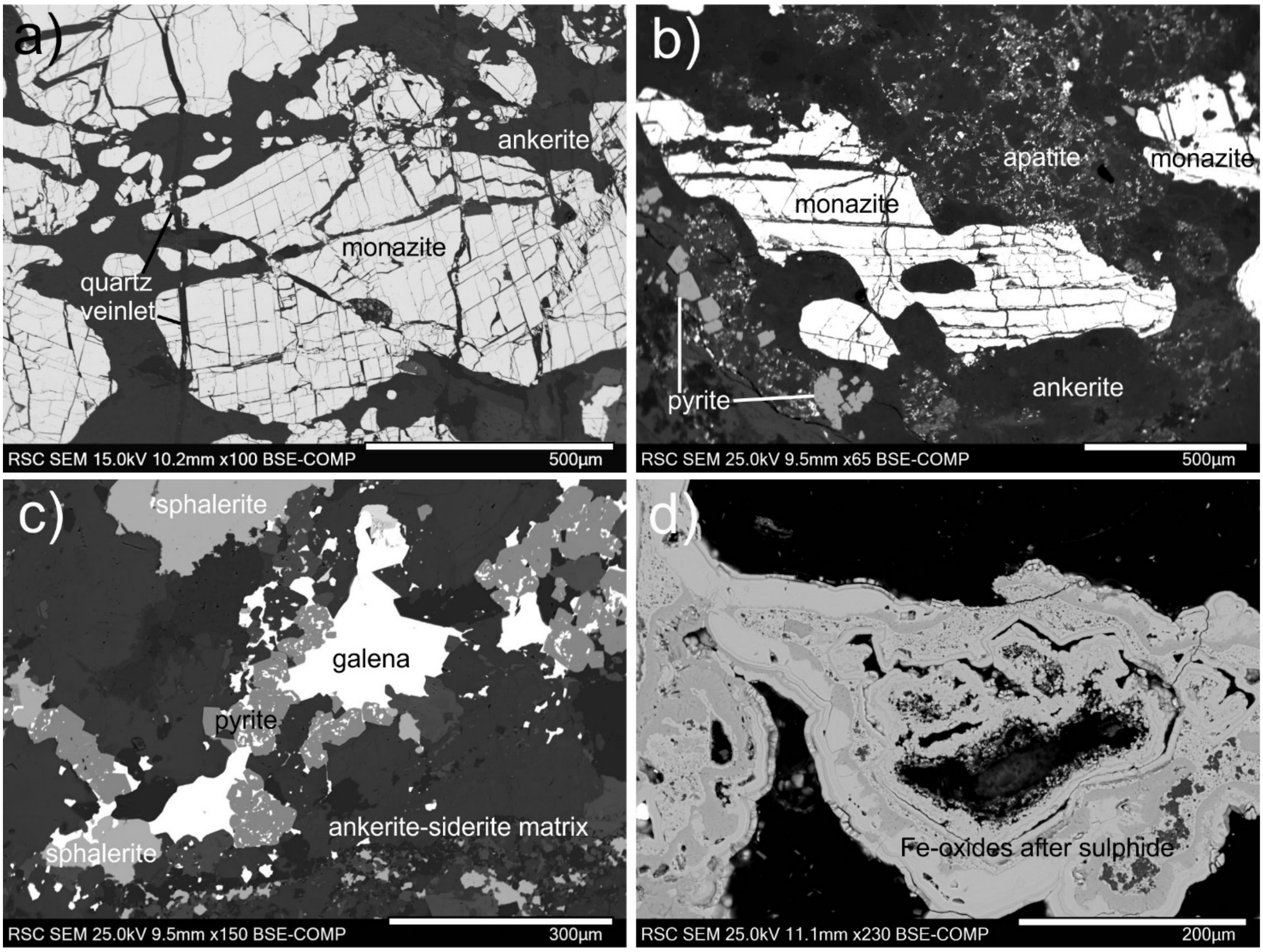


Figure 5: *SEM images of carbonatite and ironstone. (a-b) coarse-grained monazite mineralisation in carbonate matrix fractured by late ankerite-quartz overprinting (KRS511484 & KRS511488); c) polymetallic sulphide mineralisation in carbonatite (KRS513050); d) ironstone after sulphide mineralisation (KRS513054) in contact with fresh carbonatite. For sample descriptions, refer to the recent announcement[4].*

[4] 20230615 – ASX REE Carbonatite Discovery at Jangnam Project; Competent Person: Dr Michael Gazley, MAusIMM, MAIG.

Future Work

Further field work is planned to better define the geology of the discovery area for future drill testing through mapping and trench sampling, as well as locating additional carbonatite subcrops and soil sampling. In addition, regional fieldwork will be conducted along the NNE Hongcheon Fault zone, which likely was a controlling structure for the Hongcheon carbonatite deposit, to search for additional carbonatite mineralisation in both outcrop and under cover, including followup fieldwork in the northernmost area of stream sediment sampling.

The Jangnam Project area has not previously been explored using modern exploration techniques and no detailed radiometric or aeromagnetic survey has been flown over the area. REE mineralisation and magnetite are cogenetic in the Hongcheon carbonatite, and exploration plans include consideration of conducting a drone magnetic survey to reveal the subsurface extent of the mineralised system and to assist in future drill targeting.

In addition, historical drill data from the Hongcheon deposit is currently being assessed in 3-D to better determine the spatial relationship between rock-chips from the discovery area and the orebodies at Hongcheon and to better delineate the extent of the known mineralisation and the potential extent of the carbonatite.

Carbonatites

Carbonatites are igneous rocks with a silica content of <20% SiO_2 and a carbonate content of >50%. Typical primary carbonate minerals include ankerite $(Ca,Fe,Mg)(CO_3)_2$, siderite $FeCO_3$, dolomite $(Ca,Mg)(CO_3)_2$, and calcite $CaCO_3$. Carbonatites are one of the most prospective rock types on Earth with ~20% of carbonatite occurrences worldwide hosting an active or former mine or a mineral resource. Typical commodities associated with carbonatites include REEs, niobium, copper, phosphate, fluorite, vermiculite, iron, titanium, zirconium, and vermiculite. Carbonatites are the main source of REEs and Nb. They are typically hosted in alkaline complexes, but some occur as isolated pipes, sills, dikes, or plugs (Anenburg et al. 2022, Simandl and Paradis, 2018, Woolley and Kjarsgaard 2008).

Only two carbonatite localities are reported in South Korea. While the Ulsan carbonatite is depleted in REEs, the Hongcheon ferro-carbonatite is highly enriched in REEs and other high field strength elements (Kim et al. 2016). Ferro-carbonatites are dominated by siderite and ankerite and prominent resources occur in the Gifford Creek Ferro-carbonatite complex (Yin, Dreadnought Resources and Yangibana, Hastings Technology Metals). The Jangnam Project borders the outcropping Hongcheon deposit.

Anenburg, M., Broom-Fendley, S., & Chen, W. (2021). Formation of rare earth deposits in carbonatites. *Elements: An International Magazine of Mineralogy, Geochemistry, and Petrology*, *17*(5), 327-332

Simandl, G. J., & Paradis, S. (2018). Carbonatites: related ore deposits, resources, footprint, and exploration methods. *Applied Earth Science*, *127*(4), 123-152.

Woolley, A. R., & Kjarsgaard, B. A. (2008). Carbonatite occurrences of the world: map and database. *Geol Surv Can Open File*.

Kim, N., Cheong, A. C. S., Yi, K., Jeong, Y. J., & Koh, S. M. (2016). Post-collisional carbonatite-hosted rare earth element mineralization in the Hongcheon area, central Gyeonggi massif, Korea: ion microprobe monazite U-Th-Pb geochronology and Nd-Sr isotope geochemistry. *Ore Geology Reviews*, *79*, 78-87.

Authorised for release by the Board of Southern Gold Limited.

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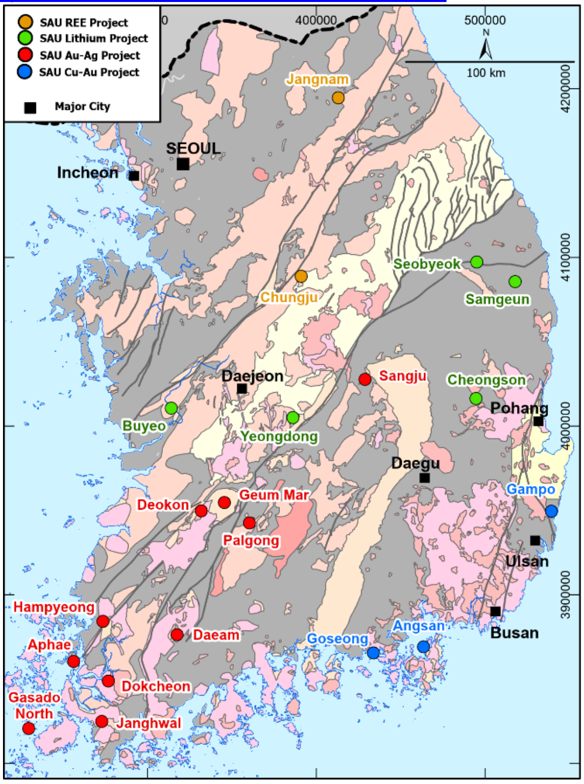
Southern Gold Limited: Company Profile

Southern Gold is a successful mineral exploration and battery technology commercialisation group listed on the Australian Securities Exchange (under ASX ticker "SAU"). The mineral exploration business includes 100% interest in a substantial portfolio of REE, Li and precious metals exploration projects in South Korea. Backed by a first-class technical team, Southern Gold's aim is to find world-class deposits in a jurisdiction that has seen very little modern exploration. The technology commercialisation business holds three exclusive world-wide licences comprising the next generation battery technologies comprising 1) an enhanced performance non-flammable lithium-ion based battery, 2) a low-cost, environmentally sustainable method for recycling lithium batteries, and 3) a low-cost, high cycle life water-based battery.



Competent Person's Statements

The information in this report that relates to Exploration Results is based on information compiled under the supervision of Dr Michael Gazley, a Competent Person who is a Member of The AusIMM and a Member of the AIG. Dr Gazley is employed by RSC as General Manager Geoscience. The full nature of the relationship between Dr Gazley and Southern Gold has been declared, including any issue that could be perceived by investors as a conflict of interest. Dr Gazley has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity he has undertaken to qualify as a Competent Person as defined in the 2012 Edition of the Australasian Code for the Reporting of Mineral Resources and Ore Reserves. Dr Gazley consents to the inclusion in this report of the matters based on his information in the form and context in which it appears.

Forward-looking statements

Some statements in this release regarding estimates or future events are forward looking statements. These mayinclude, without limitation:

- Estimates of future cash flows, the sensitivity of cash flows to metal prices and foreign exchange rate movements.
- Estimates of future metal production; and
- Estimates of the resource base and statements regarding future exploration results.

Such forward looking statements are based on a number of estimates and assumptions made by the Company and its consultants in light of experience, current conditions and expectations of future developments which the Company believes are appropriate in the current circumstances. Such statements are expressed in good faith and believed tohave a reasonable basis. However, the estimates are subject to known and unknown risks and uncertainties thatcould cause actual results to differ materially from estimated results.

All reasonable efforts have been made to provide accurate information, but the Company does not undertake any obligation to release publicly any revisions to any "forward-looking statement" to reflect events or circumstancesafter the date of this presentation or ASX release, except as maybe required under applicable laws. Recipients should make their own enquiries in relation to any investment decisions from a licensed investment advisor.

Appendix 1: Geochemical analyses and coordinates of stream-sediment samples at Jangnam REE Project

Sample ID	Easting	Northing	La_2O_3	CeO_2	Pr_6O_{11}	Nd_2O_3	Sm_2O_3	Eu_2O_3	Gd_2O_3	Tb_4O_7	Dy_2O_3	Ho_2O_3	Er_2O_3	Tm_2O_3	Yb_2O_3	Lu_2O_3	Y_2O_3	TREO	MREO
			ppm	*ppm*	*ppm*	*ppm*	*ppm*	*ppm*	*ppm*	*ppm*	*ppm*	*ppm*	*ppm*	*ppm*	*ppm*	*ppm*	*ppm*	*ppm*	*ppm*
KRS510671	419245	4204002	647	1413	151	560	94	2.2	53.6	4.9	19.2	2.5	5.8	0.6	3.4	0.5	76	3034	735
KRS510698	413490	4196171	246	421	40	119	15	3.0	9.6	1.2	6.7	1.2	3.4	0.5	3.3	0.4	36	907	166
KRS510801	413465	4196184	156	283	26	85	11	2.6	7.6	1.0	5.9	0.9	2.9	0.4	2.9	0.4	28	614	118
KRS510673	419729	4204087	110	230	26	92	16	1.2	9.4	1.0	4.6	0.8	2.1	0.3	1.8	0.2	25	520	123
KRS510804	414131	4195882	130	222	23	74	9	2.2	6.0	0.9	4.7	0.9	2.9	0.4	2.4	0.4	29	508	103
KRS510669	419072	4204400	101	213	24	88	16	1.2	9.4	1.0	4.2	0.7	1.8	0.3	1.9	0.3	22	484	117
KRS510670	419207	4204091	93	195	22	79	15	1.3	10.3	1.3	7.3	1.2	4.1	0.5	3.5	0.5	43	477	110
KRS510683	420176	4202289	93	181	19	68	11	1.2	8.4	1.2	7.2	1.4	4.4	0.6	3.7	0.5	43	445	96
KRS510666	413803	4203608	84	179	20	71	11	1.2	8.0	0.8	4.4	0.8	2.0	0.3	1.8	0.3	22	407	97
KRS510672	419410	4203942	78	163	18	67	11	1.2	7.7	0.9	4.6	0.8	2.3	0.3	1.9	0.3	23	381	90
KRS510663	413397	4203790	76	157	17	64	11	1.2	7.5	1.0	5.2	1.0	2.9	0.4	2.7	0.4	31	378	87
KRS510692	417518	4197843	80	157	17	59	9	1.0	6.1	0.9	4.8	0.9	2.9	0.4	2.8	0.4	33	376	82
KRS510665	413607	4203560	81	160	17	58	10	1.1	7.5	0.9	5.0	0.9	2.6	0.3	2.1	0.3	25	371	80
KRS510681	420750	4202288	79	156	16	59	10	1.0	7.0	0.8	4.2	0.7	2.0	0.2	1.8	0.2	22	360	80
KRS510676	419560	4203396	70	141	16	55	10	1.3	7.1	0.9	4.5	0.8	2.2	0.3	2.0	0.3	25	335	76
KRS510803	414125	4195842	81	139	14	46	7	1.6	4.7	0.7	3.9	0.8	2.2	0.3	2.1	0.3	23	325	64
KRS510677	419097	4202664	63	128	14	53	11	1.4	7.9	1.0	5.6	1.0	3.1	0.4	2.7	0.4	31	325	74
KRS510807	415096	4194153	76	141	14	46	6	1.0	4.2	0.5	3.4	0.6	1.8	0.2	1.7	0.2	17	315	64
KRS510668	414622	4203363	63	131	15	55	10	1.0	6.5	0.8	3.8	0.7	2.2	0.3	1.9	0.2	20	311	74
KRS510802	414021	4196387	69	131	13	43	7	1.5	4.8	0.7	4.0	0.7	2.2	0.3	2.2	0.3	22	302	60
KRS510664	413134	4203757	59	121	13	49	9	1.0	6.4	0.8	4.2	0.8	2.2	0.3	2.1	0.3	22	292	67
KRS510806	415373	4194479	62	114	12	41	6	0.9	3.8	0.5	2.6	0.6	1.3	0.2	1.2	0.2	16	262	56
KRS510696	415802	4195724	58	110	12	40	7	1.1	4.7	0.7	3.1	0.7	1.8	0.3	1.7	0.3	20	260	55
KRS510694	415953	4196106	54	103	11	38	6	1.0	4.0	0.6	3.0	0.6	1.6	0.3	1.5	0.3	17	243	53
KRS510697	415423	4195607	54	104	11	36	6	0.9	4.0	0.5	2.9	0.5	1.5	0.2	1.2	0.2	15	237	50

Sample ID	Easting	Northing	La_2O_3	CeO_2	Pr_6O_{11}	Nd_2O_3	Sm_2O_3	Eu_2O_3	Gd_2O_3	Tb_4O_7	Dy_2O_3	Ho_2O_3	Er_2O_3	Tm_2O_3	Yb_2O_3	Lu_2O_3	Y_2O_3	TREO	MREO
KRS510690	417675	4197825	54	105	11	33	6	0.7	3.8	0.5	2.3	0.4	1.4	0.2	1.2	0.2	14	233	46
KRS510805	415336	4195047	52	97	10	35	5	1.0	3.8	0.5	2.6	0.5	1.4	0.2	1.2	0.2	16	228	49
KRS510686	418435	4201997	47	96	10	37	7	1.0	4.9	0.6	3.0	0.5	1.5	0.2	1.2	0.2	15	227	51
KRS510674	420843	4204421	44	91	10	35	6	0.8	4.7	0.7	3.7	0.7	2.1	0.3	1.8	0.3	21	222	49
KRS510689	417454	4198310	36	78	9	35	8	1.7	6.4	0.8	5.5	1.0	2.9	0.4	2.5	0.3	30	217	51
KRS510695	415973	4196101	47	90	10	35	5	0.8	4.1	0.5	2.7	0.5	1.4	0.2	1.1	0.2	16	214	49
KRS510667	413951	4203300	42	86	10	35	7	0.9	4.6	0.6	3.2	0.6	1.5	0.2	1.4	0.2	15	208	48
KRS510684	419499	4202313	43	83	9	32	5	0.9	3.5	0.5	2.2	0.4	1.1	0.2	1.3	0.2	14	197	44
KRS510688	417535	4198484	41	76	8	30	6	1.2	4.1	0.6	3.4	0.6	2.0	0.3	1.5	0.2	21	196	43
KRS510682	420559	4202272	40	76	9	29	5	0.9	2.8	0.5	2.0	0.5	1.1	0.2	1.1	0.3	12	180	40
KRS510675	419992	4203849	38	75	8	30	5	0.9	3.9	0.5	2.4	0.4	1.1	0.2	1.0	0.1	13	180	41
KRS510685	418716	4202352	35	69	7	27	5	1.0	4.2	0.6	3.5	0.6	1.9	0.3	1.8	0.2	20	178	39
KRS510693	417466	4197991	33	66	7	25	5	1.2	4.0	0.6	3.5	0.6	1.7	0.2	1.7	0.2	19	169	37
KRS510691	417722	4197853	29	60	7	25	5	1.0	3.5	0.7	3.1	0.6	1.7	0.3	1.6	0.3	19	159	36
KRS510678	419019	4202563	30	62	7	24	5	0.9	3.3	0.4	3.0	0.5	1.4	0.2	1.4	0.2	16	155	35
KRS510687	417464	4198788	30	58	7	23	5	1.0	3.2	0.6	2.5	0.6	1.5	0.5	1.2	0.5	14	148	33

Appendix 2: Geochemical analyses of relevant main elements and REEs of rock-chip samples >0.2% TREO, Jangnam Project

Sample ID	Fe_2O_3	CaO	MgO	P_2O_5	SrO	La_2O_3	CeO_2	Pr_6O_{11}	Nd_2O_3	Sm_2O_3	Eu_2O_3	Gd_2O_3	Tb_4O_7	Dy_2O_3	Ho_2O_3	Er_2O_3	Tm_2O_3	Yb_2O_3	Lu_2O_3	Y_2O_3	TREO	MREO
	wt%	*wt%*	*wt%*	*wt%*	*wt%*	*ppm*	*ppm*	*ppm*	*ppm*	*ppm*	*ppm*	*ppm*	*ppm*	*ppm*	*ppm*	*ppm*	*ppm*	*ppm*	*ppm*	*ppm*	*wt.%*	*ppm*
KRS511449	35.6	2.4	2.9	2.9	0.34	12256	15785	1190	2939	200	37	76	7	31	4.6	9.8	1.0	5.2	0.7	122	3.27	4168
KRS507845	23.7	22.4	4.7	12.2	1.41	4140	10294	1208	4304	595	153	399	50	240	41.4	96.1	10.9	48.2	5.5	1168	2.28	5802
KRS507832	37.2	0.1	0.3	1.6	0.05	7131	10392	890	2111	167	32	81	8	36	6.0	13.7	1.5	6.9	0.8	154	2.1	3046
KRS507834	71.1	0.0	0.1	0.6	0.03	6720	9631	806	1919	160	30	79	8	37	5.9	13.4	1.5	6.2	0.6	147	1.96	2769
KRS511450	21.1	1.2	1.6	1.0	0.11	6310	7960	604	1510	103	20	42	3	14	2.0	3.7	0.4	1.8	0.2	48	1.66	2132
KRS507830	48.0	4.7	9.2	0.5	0.23	3554	5663	489	1295	110	22	44	3	11	1.2	2.0	0.2	1.1	0.2	31	1.12	1798
KRS507831	61.5	0.1	0.2	1.3	0.02	3014	4570	383	987	89	17	49	5	23	3.9	9.4	1.1	5.7	0.7	106	0.93	1399
KRS507835	9.1	14.9	6.9	1.2	0.13	2404	3673	302	751	59	14	28	3	12	2.0	4.9	0.6	2.9	0.4	58	0.73	1068
KRS507851	14.8	1.8	0.4	1.0	0.09	1771	2862	251	699	71	16	37	4	14	2.1	4.4	0.5	2.6	0.4	59	0.58	968
KRS507849	24.9	3.8	4.9	0.2	0.1	1308	2125	181	474	38	8	16	1	6	0.8	2.1	0.3	1.8	0.3	22	0.42	662
KRS507839	17.5	7.1	4.5	0.2	0.09	1308	1965	157	390	29	6	13	1	6	1.0	2.7	0.4	2.7	0.6	29	0.39	554
KRS507837	16.7	7.0	6.5	0.4	0.1	1006	1554	126	327	29	6	16	2	8	1.5	3.7	0.5	2.9	0.5	43	0.31	462
KRS507858	34.5	1.8	3.5	0.6	0.07	945	1486	131	376	39	8	21	3	13	2.3	5.4	0.7	4.5	0.6	63	0.31	522
KRS507814	21.0	7.7	6.1	2.0	0.36	684	1400	148	503	69	17	43	5	25	4.0	10.0	1.1	6.2	0.9	113	0.3	681
KRS507850	16.2	4.5	3.9	1.3	0.24	802	1333	117	325	34	8	22	3	12	1.9	4.7	0.6	2.7	0.4	55	0.27	457
KRS507824	28.9	0.1	0.7	0.1	0.02	379	970	110	401	57	12	24	2	6	0.8	1.8	0.2	1.2	0.2	23	0.2	519

TREO (Total Rare Earth Oxide) = $La_2O_3 + CeO_2 + Pr_6O_{11} + Nd_2O_3 + Sm_2O_3 + Eu_2O_3 + Gd_2O_3 + Tb_4O_7 + Dy_2O_3 + Ho_2O_3 + Er_2O_3 + Tm_2O_3 + Yb_2O_3 + Y_2O_3 + Lu_2O_3$.

MREO (Magnetic Rare Earth Oxide) = $Pr_6O_{11} + Nd_2O_3 + Tb_4O_7 + Dy_2O_3$

Appendix 3: 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 (e.g., 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.*	Rock-chip samples were collected from outcrop where present (e.g. Figure 3) and float in areas where no outcrop was present. Surface reconnaissance rock-chip samples were taken based upon geological features relevant to the target style of mineralisation. Sample sites were chosen to reflect geological features relevant to the target style of mineralisation. Stream-sediment samples sites were pre-defined based on a catchment analysis. Actual samples sites were refined in the field based on suitability and representative nature of the watercourse.
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	Only fresh rock samples were collected. Surface reconnaissance rock-chip samples are considered representative of in-situ outcrop and are used as an early-stage exploration tool. Stream-sediment samples were only taken at sites considered to be free of significant anthropogenic sedimentary contaminants.
	Aspects of the determination of mineralisation that are Material to the Public Report.	Mineralisation was visually determined by the field geologists by presence of iron oxides and carbonates.
	In cases where 'industry standard' work has been done this would be relatively simple (e.g. '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 (e.g. submarine nodules) may warrant disclosure of detailed information.	Outcrop samples were collected using a geological hammer with a target weight of 1–2 kg which was crushed. Stream sediment samples were collected from surface with a shovel, and coarse sieved. A weight of ~2 kg was targeted.
Drilling techniques	*Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc.) and details (e.g. 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.).*	No drilling reported.
Drill sample recovery	*Method of recording and assessing core and chip sample recoveries and results assessed.*	No drilling reported.
	Measures taken to maximise sample recovery and ensure representative nature of the samples.	No drilling reported.
	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.	No drilling reported.
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*	No drilling reported. Field observations were recorded for the rock-chip and stream sediment samples and all samples were photographed to support the early-stage reconnaissance

Criteria	JORC Code explanation	Commentary
	studies.	targeting.
	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.	No drilling reported.
	The total length and percentage of the relevant intersections logged.	No drilling reported.
Sub-sampling techniques and sample preparation	*If core, whether cut or sawn and whether quarter, half or all core taken.*	No drilling reported.
	If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.	Rock-chip samples were taken dry and had representative slabs cut, for example, see Figure 4 in the body of this release). All of the remaining offcuts of each sample were sent for analyses. Stream sediment samples were coarse sieved in the field then oven dried.
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	All SAU rock-chip and stream-sediment samples were sent to SGS laboratory in South Korea for sample preparation. SGS is an ISO/IEC 17025:2005 certified laboratory. Samples were dried and crushed to 75% passing 2mm, split to 1,000 g, then pulverised to 85% passing 150 microns. Pulp samples are then split using a micro-riffle splitter to produce 500 g of pulp reject, 250 g of pulp duplicate, and 250 g of sample for shipment to ALS Geochemistry, Perth, Australia. The nature of the laboratory preparation techniques is considered 'industry standard' and appropriate by the CP.
	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	The crushing stage unit is a Rocklabs Smart Boyd-RSD Crusher capable of over 5kg primary sample in one load, with rotating sample divider (RSD) ensuring single pass crushing, producing representative coarse sample split sent to grinding, typically up to 1,000 g. Coarse rejects are retained for each sample. The grinding stage unit is an Essa LM2 and utilises a large grinding bowl (1,600 g) ensuring single pass grinding of the coarse split. The full 1 kg of pulp material was sent to ALS Labs for micro-riffle splitting enabling a parent pulp sample, a daughter pulp sample, and two reject pulp samples to be produced (typically each 250 g) in one grind. Pulp rejects are retained for each sample.
	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.	Rock chips were collected from representative outcrop or float. Stream-sediment samples were only taken at sites considered to be free of significant anthropogenic sedimentary contaminants.
	Whether sample sizes are appropriate to the grain size of the material being sampled.	The CP considers that the size of rock-chip and stream-sediment samples is appropriate for this stage of exploration.
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.*	Rock chips were analysed using protocol ME-MS81d at ALS to obtain the full REE suite. This technique is considered industry standard for REE analyses. Further, the samples were analysed using ME-4ACID and ME-ICP06. Sample KRS513050 was analysed using Zn-OG62 due to out-of-range Zn analysis. All analyses were carried out at ALS Perth. Stream-sediment samples were analysed using protocol ME-MS61r to obtain the full REE suite, Li and various other metals considered relevant for exploration.
	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.	Not applicable.

Criteria	JORC Code explanation	Commentary
	Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.	ALS also uses in-house controls, blanks and duplicates. The CP considers that acceptable levels of accuracy and precision have been achieved by the laboratory given the purpose of the analysis (first pass exploration).
Verification of sampling and assaying	*The verification of significant intersections by either independent or alternative company personnel.*	No independent verification of the geochemical data has been carried out to date.
	The use of twinned holes.	No drilling reported.
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	All field logging is entered into notebooks on site and then digitised into excel sheets and uploaded into the database at the office. Assay files are received electronically from the laboratories and uploaded into the database.
	Discuss any adjustment to assay data.	The conversion of elemental weight percent of REEs to oxide weight percent in order to calculate TREO and MREO used the following conversion factors: La_2O_3 1.1728 CeO_2 1.2284 Pr_6O_{11} 1.2082 Nd_2O_3 1.1664 Sm_2O_3 1.1596 Eu_2O_3 1.1579 Gd_2O_3 1.1526 Tb_4O_7 1.1762 Dy_2O_3 1.1477 Ho_2O_3 1.1455 Er_2O_3 1.1435 Tm_2O_3 1.1421 Yb_2O_3 1.1387 Lu_2O_3 1.1371 Y_2O_3 1.2699
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.*	Rock-chip and stream sediment sample locations were collected using a handheld GPS with an accuracy of +/- 5 m in easting and northing and +/- 10 m in elevation.
	Specification of the grid system used.	Grid system used is WGS 84/UTM zone 52N.
	Quality and adequacy of topographic control.	The quality of topographic control is adequate for early-stage surface reconnaissance REE exploration
Data spacing and distribution	*Data spacing for reporting of Exploration Results.*	Rock-chip samples were taken where outcrop was available and are therefore irregularly spaced. Stream sediment sites were generated by a catchment analysis and then refined in the field based on site suitability and contamination factors.
	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.	Exploration is at an early-stage reconnaissance level. The rock-chip sample spacing and distribution is not sufficient to establish the degree of geological and grade continuity appropriate for a Mineral Resource.
	Whether sample compositing has been applied.	No sample composting has been applied.
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.*	Samples were collected where outcrop and/or mineralised float were encountered south of Hongcheon. Rock-chip sampling by nature is biased and this is considered appropriate for early-stage exploration. Stream sediment sampling was guided by a catchment analysis and no significant bias is known.
	If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias,	No drilling reported.

Criteria	JORC Code explanation	Commentary
	this should be assessed and reported if material.	
Sample security	*The measures taken to ensure sample security.*	All samples were collected, bagged, and sealed by SAU staff. From the point of sample generation to laboratory, samples (and reject returns) are under the full security and Chain of Custody of the Company. This is done by the following procedures: Post on-site logging and processing, samples are transported to the Company's shed facilities under the direct supervision of a Company representative. Samples are further processed for dispatch by Company representatives under guidance of the Competent Person. Bagged samples are secured by tags and delivered by a Company representative to a courier service to deliver to the sample preparation laboratory. The preparation laboratory sends pulp samples directly to the assay laboratory for analysis via door-to-door courier service. All rejects are returned under courier service and stored in the Company's secure lock-up long-term core storage facility.
Audits or reviews	*The results of any audits or reviews of sampling techniques and data.*	No audits or reviews have been undertaken for rock-chip sampling.

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.*	All tenements referred to in this report are exploration licence applications, submitted by SAU. For the Jangnam REE Project, SAU applied for 74 exploration licence blocks. There are no native title interests in Korea. It is a generally accepted requirement that mineral title holders gain the consent of local landowners and residents before undertaking any major exploration activity, such as drilling. However, no consent it required for geophysical surveys, soil/rock-chip sampling, and mapping.
	The security of the tenure held at the time of reporting along with any known impediments to obtaining a license to operate in the area.	Following the submission of a Mineral Deposit Report for a licence application, it is reviewed by the Mine Registration Office (MRO) who determines if the application meets specified criteria for approval and if so, grant an Exploration Right. The holder has one year to submit an Exploration Plan to MOTIE outlining planned work. An initial three-year exploration period is given to complete exploration work, which can be subsequently extended for a further 3 years upon successful submission to MOTIE. Upon successful conversion to an Exploration Right, the holder has 3 years to submit Exploration Results and have an Extraction Plan authorised. An application can be made to extend this period by 1 year. The Extraction Plan is submitted to the Local Government and requires approvals from a number of stakeholders. The term of an Extraction Right is 20 years. This can be extended upon application, provided all statutory requirements have been met over the life of the mine. From the date the Extraction Plan is approved, the title holder has a 3-year period in which mine production must commence. During this 3-year period, the title holder must make a minimum level of investment on plant and mine infrastructure in the amount of KRW100 million

<table>
<tr><th>Criteria</th><th>JORC Code explanation</th><th>Commentary</th></tr>
<tr><td></td><td></td><td>(~AUD$120,000) and meet certain minimum annual production levels, which are dependent on the commodity being mined.

There are no known impediments to obtaining a license to operate.</td></tr>
<tr><td>Exploration done by other parties</td><td>Acknowledgment and appraisal of exploration by other parties.</td><td>The Hongcheon carbonatite was explored by KIGAM between 1989 and 2015 according to government reports. There are no records of exploration activity in the area surrounding the Hongcheon deposit apart from Ahn et al. 2014, who sampled stream-sediments, soil, and rock chips for an academic study.</td></tr>
<tr><td>Geology</td><td>Deposit type, geological setting and style of mineralisation.</td><td>The Jangnam REE project is adjacent the Hongcheon REE (ferro-)carbonatite deposit, which intruded the Precambrian Gyeonggi Gneiss Complex, along the Hongcheon Fault. The Jangnam project covers the same geology and fault system as the Hongcheon deposit.</td></tr>
<tr><td rowspan="2">Drill hole Information</td><td>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 meters) of the drill hole collar
dip and azimuth of the hole
down hole length and interception depth
hole length.</td><td>No drilling reported.

The rock-chip sample locations are:<table>
<tr><th>Sample ID</th><th>Northing</th><th>Easting</th></tr>
<tr><td>KRS511449</td><td>412984</td><td>4189519</td></tr>
<tr><td>KRS507845</td><td>412991</td><td>4189430</td></tr>
<tr><td>KRS507832</td><td>413054</td><td>4189141</td></tr>
<tr><td>KRS507834</td><td>413055</td><td>4189141</td></tr>
<tr><td>KRS511450</td><td>412981</td><td>4189530</td></tr>
<tr><td>KRS507830</td><td>412935</td><td>4188819</td></tr>
<tr><td>KRS507831</td><td>413050</td><td>4189131</td></tr>
<tr><td>KRS507871</td><td>413433</td><td>4190837</td></tr>
<tr><td>KRS507835</td><td>413117</td><td>4189225</td></tr>
<tr><td>KRS507851</td><td>412893</td><td>4189461</td></tr>
<tr><td>KRS507849</td><td>412940</td><td>4189444</td></tr>
<tr><td>KRS507839</td><td>413107</td><td>4189244</td></tr>
<tr><td>KRS507837</td><td>413124</td><td>4189201</td></tr>
<tr><td>KRS507858</td><td>412964</td><td>4189485</td></tr>
<tr><td>KRS507814</td><td>412934</td><td>4188827</td></tr>
<tr><td>KRS507850</td><td>412917</td><td>4189451</td></tr>
<tr><td>KRS507824</td><td>412891</td><td>4188934</td></tr>
</table></td></tr>
<tr><td>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.</td><td>The Competent Person is not aware of any Material information being excluded from this ASX release.</td></tr>
<tr><td rowspan="3">Data aggregation methods</td><td>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.</td><td>No drilling reported.

Stream sediment samples are presented in Table 1 and Appendix 1. No reporting cut-off has been applied. Individual rock-chip samples grading >0.2% TREO are presented in table 2 and Appendix 2</td></tr>
<tr><td>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.</td><td>No drilling reported.</td></tr>
<tr><td>The assumptions used for any reporting of metal equivalent values should be clearly stated.</td><td>No metal equivalent values have been reported in this ASX Release.</td></tr>
<tr><td rowspan="2">Relationship between mineralisation widths and</td><td>These relationships are particularly important in the reporting of Exploration Results.</td><td>No drilling reported.</td></tr>
<tr><td>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</td><td>No drilling reported.</td></tr>
</table>

Criteria	JORC Code explanation	Commentary
intercept lengths	*If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').*	No drilling reported.
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.*	Overview plan map of rock-chip samples in Figure 1 and Figure 3.
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.*	Rock-chip results presented in Table 2 reflect all analyses received from the laboratory. No relevant information has been omitted. Stream sediment samples presented in Table 1 and Appendix 1 reflect all samples taken with main relevant elements and calculations shown.
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.*	All relevant data available to SAU has been documented in this report.
Further work	*The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).*	Future and ongoing fieldwork includes rock-chip and channel sampling, field mapping, and soil sampling around key areas of interest to define targets for potential drill testing. Further regional exploration planned across the wider project includes stream sediment sampling and geophysical surveys. Assessment of Korean KIGAM and KETEP reports for Hongcheon deposits is ongoing.
	Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	Figures highlighting areas of possible are shown in Figures 1,2 and 3. Drill targets are yet to be defined from ongoing fieldwork.