02 April 2024

Flowsheet Update for Koppamurra Outlines Low Capital Development Pathway

AR3 Identifies Progressive Heap Leaching Development Pathway for Efficient Rare Earths Extraction at Koppamurra

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Highlights:

- Metallurgical testwork delivers **high recoveries for Magnet Rare Earths** (MRE) up to 72% (ranging from 43% to 72%).
- Progressive heap leach development pathway offers **lower capital and operating costs** compared to tank leach alternative.
- Optionality for modular expansion to scale up production over time across the province.
- **Improved environmental sustainability** characteristics:
  - Very low water consumption
  - Reduced power consumption
  - Rapid, progressive rehabilitation techniques
- Testwork also indicates **lower gangue/impurity profile** with **higher rare earth in solution** characteristics through column leach, favouring this development approach for an economically sustainable basis of development.

Australian Rare Earths Limited (ASX: AR3) is pleased to announce significant advancements in the metallurgical testwork conducted on its Koppamurra rare earths project in South Australia. These results have identified an improved development pathway (relative to previous tank slurry leach studies) through a progressive heap leach and rapid rehabilitation approach. Specifically, the metallurgical testwork on high-grade mineralised clays from Koppamurra has identified an improved approach for efficient extraction of rare earths through on-site leaching using short term heaps of the clay made alongside the mine pit.

The Australian Nuclear Science and Technology Organisation (ANSTO) is Australia's leading laboratory in ionic clay leaching and has assisted AR3 with its ongoing process flowsheet development work.

Engage with this announcement at the AR3 ***investor hub.***

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AR3 Chief Executive Travis Beinke said:

"Over the past four months, we've achieved extremely promising results in Magnet Rare Earth recoveries achieved through column leach test work with ANSTO. Combined with the high-grade subsets of the Koppamurra rare earth resources, the results open up positive outcomes for a high-grade progressive heap leach and rapid rehabilitation development pathway at Koppamurra.

Much of our metallurgical testwork to-date has focused on a slurry leach development pathway, which is consistent with the approach taken by most early-stage ionic clay projects in Australia and Latin America. However, given the infancy of ionic clay projects outside of China, our team decided to explore an alternate development pathway by investigating the leaching characteristics of the Koppamurra clays under a heap leach approach.

The preliminary column leach results are extremely encouraging. These initial, unoptimised results have demonstrated magnet rare earth recoveries that are comparable to, or even better than, results previously achieved via slurry leach testwork at Koppamurra.

We've identified several potential advantages of a progressive heap leach development approach. These include potentially lower initial capital and operating costs, and improvements to the project's environmental credentials, such as reduced water and power consumption. Importantly, this approach is also expected to enhance the clay's material handling characteristics, consistent with sustainable, rapid and progressive rehabilitation of the land after mining to return it to its former use.

Overall, this is a significant step forward for the technical and economic viability of the Koppamurra project, especially at a time when western governments are increasingly committed to developing alternative, sustainable supplies of the rare earths essential for the clean energy transition and national security."

ANSTO Metallurgical Column Leach Testwork

Metallurgical column leach testwork commenced at ANSTO in December 2023. The Koppamurra ore material generated from the Trial Pit operations[1] and from composite 'variability' samples have responded positively to agglomeration and percolation techniques which could be applied at larger scales in a progressive heap leach application and taken forward as a development pathway for the environmentally and economically sustainable multi-generational production of rare earths from the Koppamurra rare earths province.

The material, after column leaching, has shown favorable geochemical and geotechnical characteristics for the environmentally sustainable, rapid, progressive rehabilitation techniques planned for Koppamurra rare earth production. Detailed materials handling and geochemical stability assessments are being made of the material from these current tests and are planned for subsequent tests to ensure an environmentally sustainable operation at Koppamurra can be achieved.

Samples provided for column leach test work include samples taken from a range of locations and bench heights within the Trial Pit, and from the collation of drill hole cuttings representing significant areas of aerial extent covering the existing Koppamurra Mineral Resource Estimate. These Composite Samples (CP) derived from drillhole cuttings represent potential variability of

[1] Refer to ASX release 11 April 2022 "Mining Trial Commences at Koppamurra"

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the Koppamurra clay hosted rare earth resource and are key to demonstrating uniform recoveries using a progressive heap leach approach across the deposit.

Composite drill hole cuttings masses totaled as follows:

CP3a	100kg
CP4a	40kg
CP5a	70kg
CP6a	30kg
CP10a	40kg
CP10b	20kg

The individual samples making up the Composites, CP's 3a, 4a, 5a, 6a and 10a/10b are listed in Appendix II. The CP locations are illustrated in Figure 1 with respect to the Mineral Resource categories and AR3's proposed Mine Lease Application boundary.

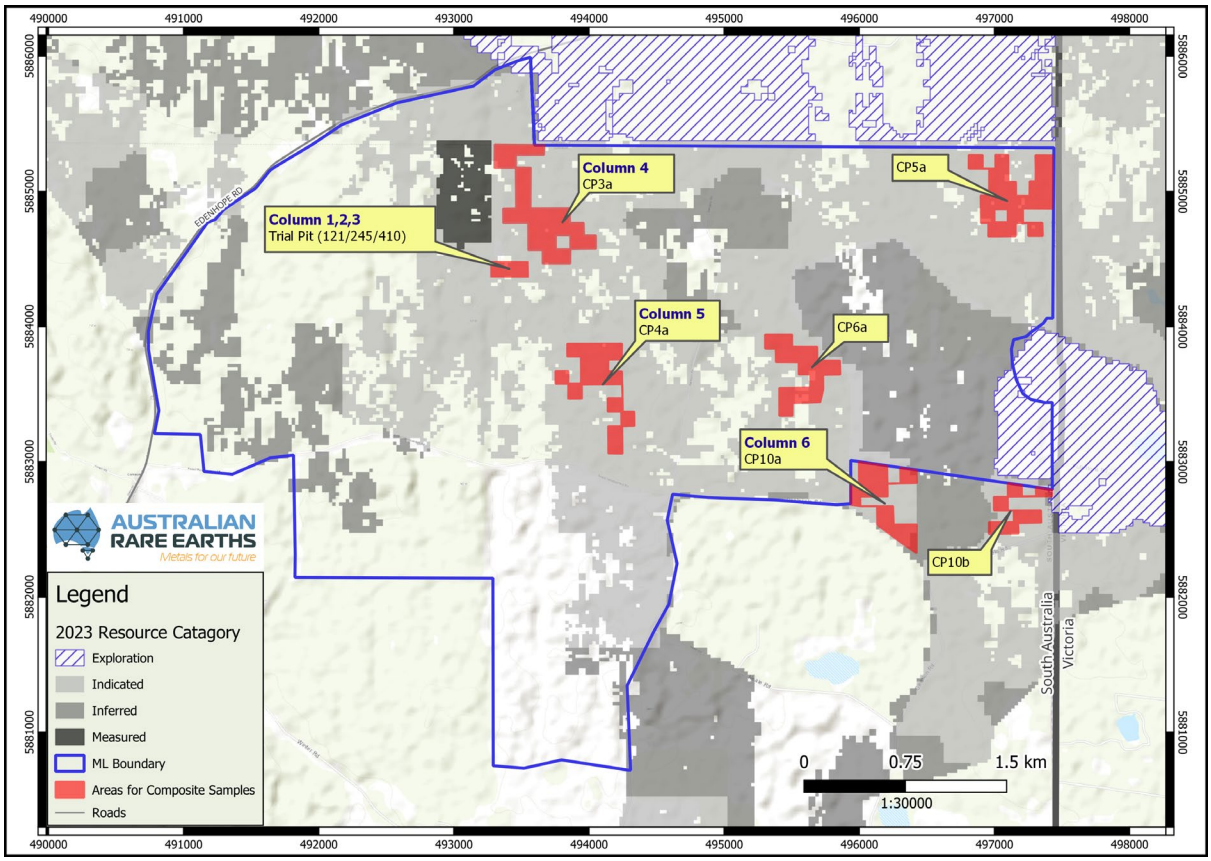

Figure 1: *Composite sample locations for Column leach test work, with Column ID's C1 through C6 (blue)*

The favourable geochemical and geotechnical characteristics of the leached material can be seen in the images below. They show that the competent, granular nature of the post-leach material will favour an environmentally sustainable return of this neutralised material to the excavated void, maintaining the previous geological/hydrological profile which will enable a rapid return to previous land uses.

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Figure 2: *Column 1 clay in bucket post column test & material in column 2 post agglomeration, leaching, wash.*

Next steps include testing samples from a range of additional locations within the current Koppamurra Resource area, for variability assessments, and to increase the height of the test columns to assess optimal heap geometries.

This work, along with ongoing optimisation of reagent consumption and gangue dissolution characteristics, will be the focus of metallurgical testwork at Koppamurra over the next 3 to 6 months. Liquors extracted from the column testwork will also be assessed for impurity removal requirements, and ultimately the preparation of additional Mixed Rare Earth Carbonate ("MREC") for customer assessments.

AR3 is working closely with NEO Performance Materials Inc. ("Neo"), a world-leader in the production of rare earth permanent magnets and other rare earth products and whom with AR3 has a non-binding Memorandum of Understanding that provides for an offtake agreement for Koppamurra initial production of a MREC. Importantly, Neo operates several rare earth production facilities around the world, including one of the few western separation plants that source MREC from third-party producers. Neo's experience in providing input to MREC supply continues to be invaluable to AR3.

Ore Variability

Key to next steps in optimising the application of a progressive heap leach approach at Koppamurra is to identify optimal acid addition to the alkaline clay materials hosting rare earths there. The alkaline nature of the host material along with variable calcium contents within the sedimentary sequence are the main drivers for acid consumption during leaching of Koppamurra ore. Variability testwork to date has shown a strong correlation between acid consumption, gangue dissolution, rare earth recovery, and calcium contents of the samples.

Testwork has been applied in such a way as to minimise the number of variables being considered at one time. Columns 1,2 & 3 all used the same sample material – derived from the 2022 Test Pit location - and had varying amounts of acid addition and leach solution pH (1.5 & 2.2). Whereas columns 4, 5 & 6 had variable samples – derived from drill cuttings – with fixed acid addition and leach solution pH (2.2).

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Testwork Results

The testwork was undertaken at ANSTO, the leading laboratory in the metallurgical recovery assessment of clay hosted rare earths in Australia and globally outside of China. ANSTO has brought its wide-ranging experience and expertise to bear on the challenge of sustainable rare earth recovery from clays and delivered this exciting new development in the metallurgical treatment of Koppamurra ore.

The achievement of these results from the very first pass of this approach has been a significant milestone in the future development of Koppamurra. While much testwork remains to be undertaken to optimise this approach, these initial results have been encouraging.

The initial approach has been to apply the reagents to the ore for column leaching in much the same recipe that had been applied for successful rare earth recovery in a slurry leach. Very good recoveries have been achieved in the column using this initial recipe. Treatment of temporary ore heaps through agglomeration and percolation has further advantages over a slurry leach approach, including:

- minimal water consumption
- reduced power consumption
- lower gangue dissolution relative to the rare earth concentration in solution
- better materials handling characteristics

These attributes offer scope for further significant refinement and optimisation of the process going forward.

Figure 3: *Column's 3 through 6 at ANSTO's facility*

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Table 1: *Column Leach Summary*

Column / Sample	TREO Grade	Recovery					Gangue Dissolution (Gangue/ REE ratio)[1]			Target Feed pH	Total Acid Addition	Days under leach	General Characterisation		
		Nd	Pr	Dy	Tb	Magnet Rare Earths (MRE)	Al	Fe	Si				wt. % > 75 micron	Assay Ca % wt.	Smectite Index[2]
	ppm	%	%	%	%	%					kg/t		%	%	m²/g
C1 – Trial Pit (121/345/410)	1,636	71.2	75.9	64.8	66.3	72.0	2.57	0.67	0.18	1.5	62.3	31	9.1	1.27	296
C2 – Trial Pit (121/345/410)		68.5	72.7	62.0	66.0	69.5	1.93	0.13	0.18	2.2	46.5	31			
C3 – Trial Pit (121/345/410)		43.8	48.7	32.0	33.0	43.3	0.05*	0.01*	0.17*	2.2	29.3	32			
C4 – Resource Composite CP03a	936	41.7	40.9	51.9	44.5	42.8	2.14**	0.04**	0.30**	2.2	44.9	18	33.0	1.65	410
C5 – Resource Composite CP04a	1,060	42.4	41.9	44.0	38.5	42.5	0.74**	0.01**	0.20**	2.2	45.0	18	15.9	2.06	310
C6 – Resource Composite CP10a	1,340	45.5	43.6	50.9	45.3	45.8	2.12***	1.39***	0.18***	2.2	44.9	17	14.6	1.06	254

(1) Gangue Dissolution (Gangue/REE Ratio) = N/ TRE+Y, where N = Al, Fe, Si – day of measure is the last day of data from ANSTO
* Day 27 used for TREY / Gangue ratio, as the last assays for Gangue is day 27 for Column C3.
** Day 11 used for TREY / Gangue ratio, as the last assays received from laboratory for Gangue is day 11 for Column C4 and C5 – to be updated in the future releases.
*** Day 10 used for TREY / Gangue ratio, as the last assays received from laboratory for Gangue is day 10 for Column C6 – to be updated in future releases.
(2) Methylene Blue Surface Area – assuming all smectite dominating MB surface area is in the <45micron fraction [m2/g <45micron basis]

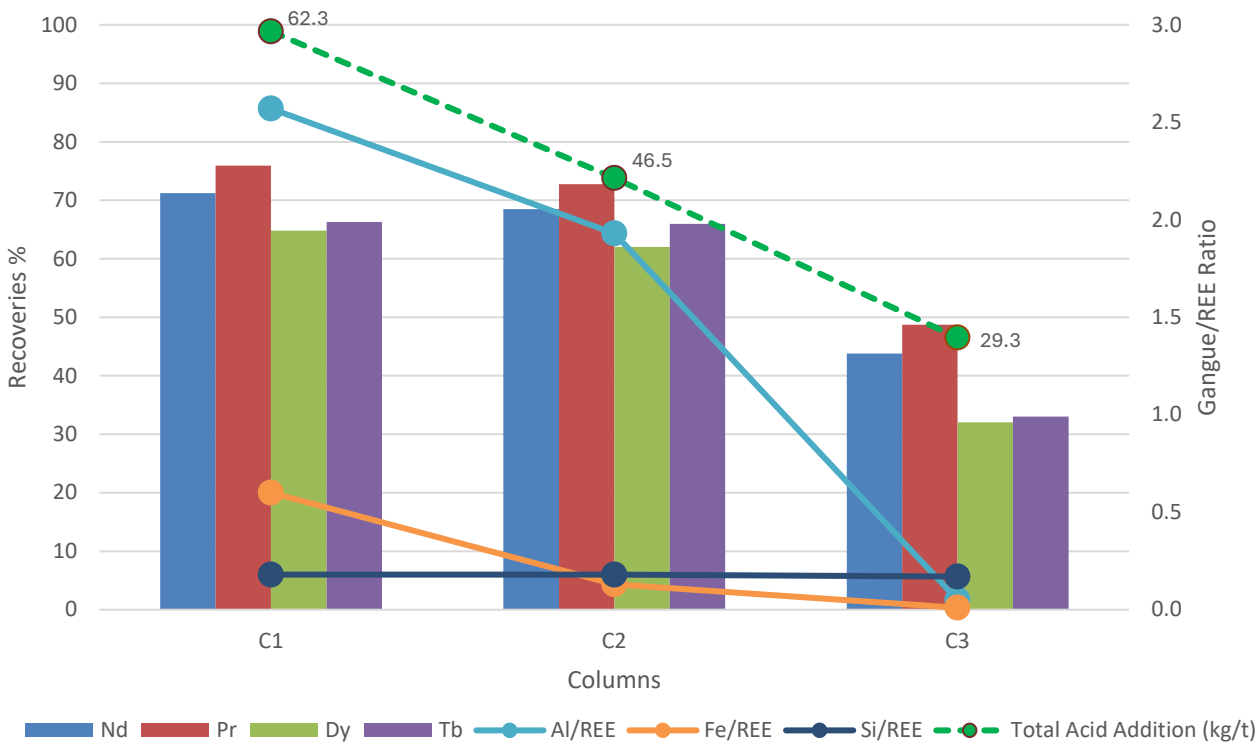

Figure 4: *Rare earth recoveries for Columns 1 through 3, showing Gangue dissolution characteristics (Al / Fe / Si) with respect to overall acid addition*

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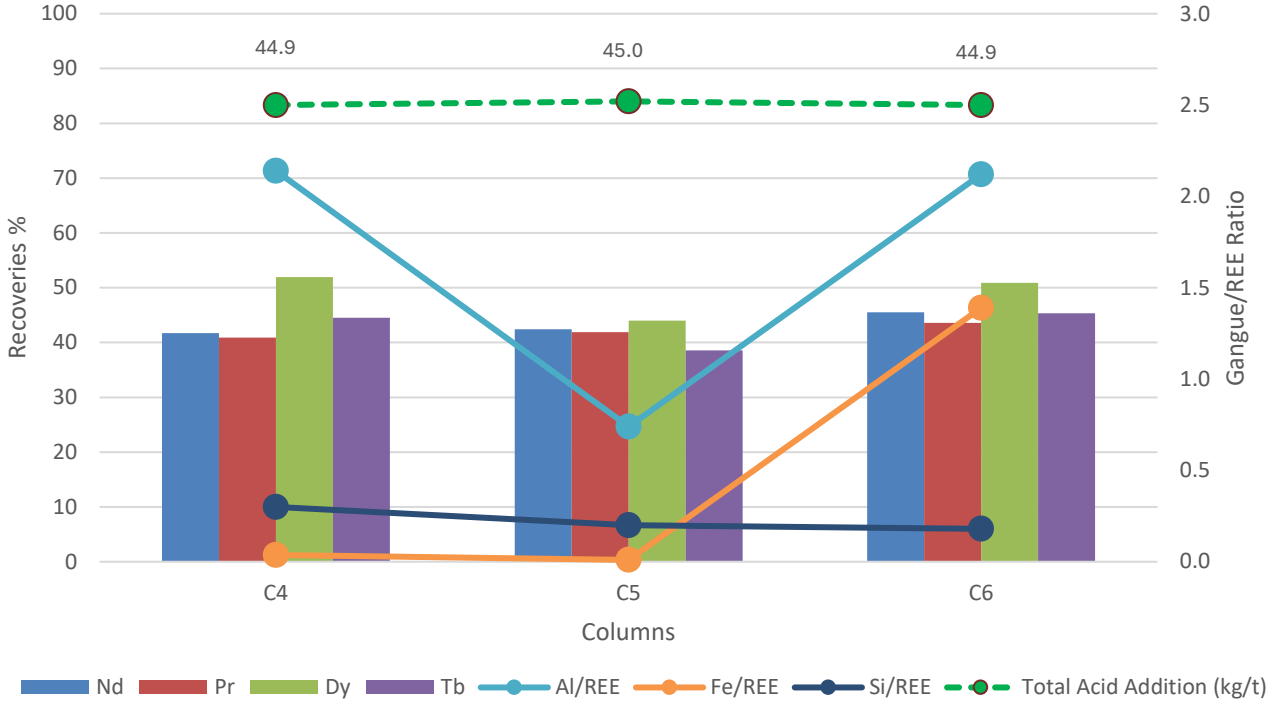

Figure 5: *Consistent rare earth recoveries for Columns 4 through 6, showing gangue dissolution characteristics (Al / Fe / Si) with respect to ore variability at constant acid addition of 45kg/t of Ore. Notable here is the relatively high gangue dissolution for samples that received more than the optimal acid addition, based on their calcium contents (i.e. C4 & C6)*

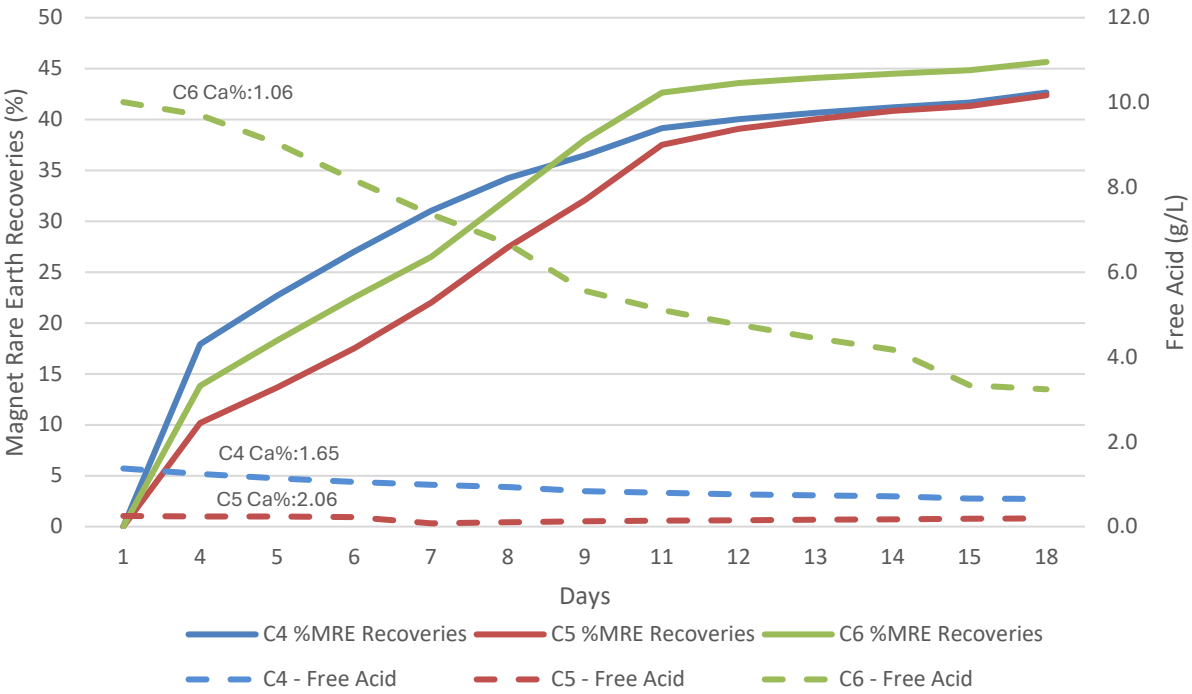

Figure 6: *Magnet Rare Earth recoveries for columns C4 through C6 with free acid in leach liquors over time – illustrating Calcium (Ca) contents of the variability samples as drivers of overall acid consumption*

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Flowsheet update: Progressive heap leach, high grade rare earths pathway

Additional drilling, assay results[2] and resources modelling undertaken at Koppamurra has allowed for the identification of a high-grade rare earth subset of the broader Koppamurra resources. These high-grade ore zones, and the application of temporary heap leaching production pathways, will allow for scalable, efficient production of rare earths with staged satellite developments enhancing the favorable environmental outcomes from a development of this type.

A conceptual project process flowsheet is provided at Figure 7. Some of the design features and resulting advantages for the Koppamurra project with a progressive heap leach pathway compared to a slurry leach are as follows:

Design Features:

- High-grade satellite mine sites with temporary heap pads located at the edge of the satellite mine void;
- The extracted top soil and overburden material will be temporarily set aside ready to be placed back in the mine void after rare earths have been harvested from the clay and the clay has been washed allowing for rapid and progressive rehabilitation of the land;
- Water treatment equipment will be located near the temporary heap pads to facilitate recycling and reuse of both water and reagents.

Design advantages include:

- Potential for a significantly lower capital cost and reduced operating cost project;
- Enables improved environmentally sustainable characteristics with;
    - Very low water consumption
    - Reduced power consumption
    - Materials handling characteristics enabling environmentally sustainable, rapid, progressive rehabilitation techniques
- Testwork also indicates lower gangue/impurity profile with higher rare earth in solution characteristics through column leach resulting in lower capital and operating cost;
- Opportunity to easily expand and scale up production over time across the multi-generational province.

[2] Refer to ASX release 19 December 2023 "New infill drilling assays reveal high grades and significant magnet rare earth content" and ASX release 26 February 2024 "High-Grade mineralisation discovered North of Koppamurra MRE"

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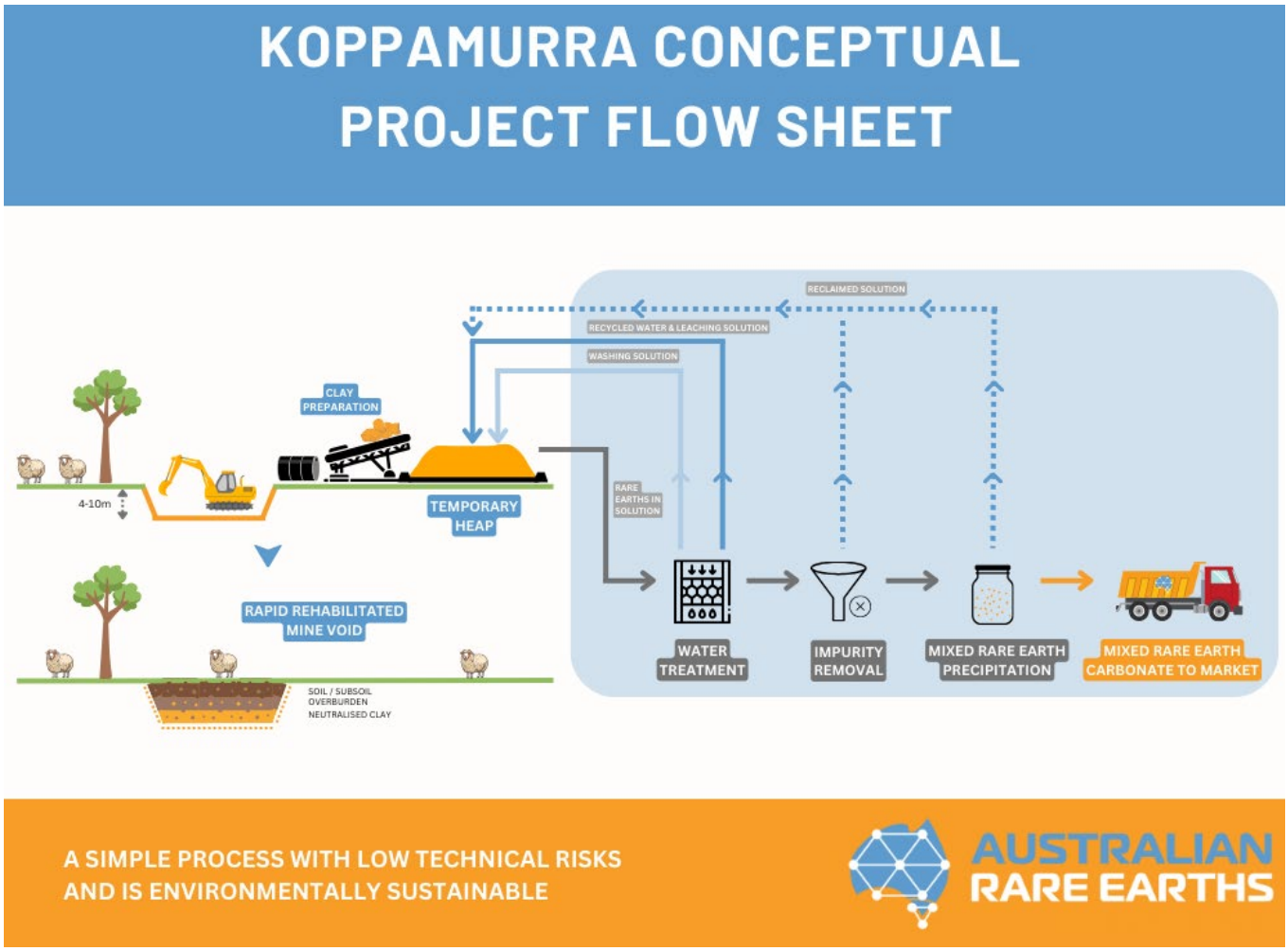

Figure 7: *Koppamurra conceptual project flow sheet*

Next Steps

Leaching Program

Column leaching of additional variability samples, C5a, C6a and C10b, (refer Figure 1) will be conducted to establish the amenability of a range of ore conditions with respect to >75um coarse fraction, smectite content, TREO head grade and calcium content in preparing the ore for heaping and the optimal leaching chemistries that could be applied to them. Results from this variability testwork will allow for future testwork to be designed and undertaken - dedicated to optimising leach chemistries and ore preparation.

A column test applying the material and leach chemistry used in column C2 will be applied to a 4m column to assess effects of raising the height of the heap to potential operating heap geometries.

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Water Treatment/Recycling

Water treatment processes applied to the leach solutions and for the recycle of water and reagents is being assessed at desktop level and will ultimately be tested through the application of reverse osmosis, nano filtration and ultra filtration in a comprehensive test work program to evaluate and select a process for the economic recovery of rare earth elements from the clay hosted deposit at Koppamurra.

Impurity Removal

Following the leaching program, impurity removal optimisations will be performed to improve the rejection of deleterious elements such as aluminium, iron, silica, whilst maximising the recovery of the rare earths. The testwork will aim to evaluate impurity removal conditions including pH, alkali type, temperature, and residence time.

Previous successful impurity removal testwork undertaken by AR3 will now be applied to the much higher-grade rare earths in solution derived from the column leaches which also have lower impurity to REE in solution ratios. Impurity removal steps in the production of marketable mixed rare earth concentrates are further enhanced by lower gangue/REE ratios and can generate lower REE losses through that process.

Rare Earth Precipitation

Following the impurity removal program, rare earth precipitation tests will be performed to generate a saleable rare earth product. The testwork will evaluate the type of precipitation agent, pH, temperature, residence time, % solids and solid liquid separation performance.

The announcement has been authorised for release by the Board of Australian Rare Earths Limited.

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Competent Person's Statement

The information in this report that relates to metallurgical results is based on information compiled by Australian Rare Earths Limited and reviewed by Mr. Jon Weir who is the Technical Director of Wallbridge Gilbert Aztec and a member of the Australian Institute of Mining and Metallurgy (AusIMM). Mr. Weir has sufficient experience that is relevant to the metallurgical testing which was undertaken to qualify as a Competent Person as defined in the 2012 edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr. Weir consents to the inclusion in this report of the matters based on this information in the form and context in which it appears.

About Australian Rare Earths Limited

Australian Rare Earths is committed to the timely exploration and development of its 100% owned, flagship Koppamurra Project, located in the new Koppamurra rare earths Province in southeastern South Australia and western Victoria. Koppamurra is a prospective ionic clay hosted rare earth deposit, uniquely rich in all the elements required in the manufacture of rare earth permanent magnets which are essential components in electric vehicles, wind turbines and domestic appliances. In addition, AR3 is actively reviewing other potential prospective areas which may also host ionic clay hosted rare earth deposits throughout Australia.

The Company is focused on executing a growth strategy that will ensure AR3 is positioned to become an independent and sustainable source of rare earths, playing a pivotal role in the global transition to a green economy.

https://investorhub.ar3.com.au/link/Leovpy

Appendix I - JORC Table 1 - Section 2, Reporting of Exploration Results

Section 2 Reporting of Exploration Results		
Criteria	**Explanation**	**Comment**
Mineral tenement and land tenure status	*Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.* *The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.*	• *Koppamurra Project comprises of a granted South Australian Exploration Licences (EL), EL6509, EL6613, EL6690, EL6691, EL6942, and EL6943 along with Victorian EL007254 and EL007719 covering a combined area of ~6,300 km^2 which is in good standing.* • *EL6509 is within 100m of a Glen Roy Conservation Park and the Naracoorte Caves National Park, the latter of which is excised from the tenement. The License area contains several small Extractive Mineral Leases (EML) held by others, Native Vegetation Heritage Agreement areas, as well as the Deadman's Swamp Wetlands which are wetlands of national importance.* • *A Native Title Claim by the First Nations of the South East #1 has been registered but is yet to be determined. The claim area includes the areas covered by EL's 6509, 6613, 6690, 6691, 6942, and 6943.* • *The exploration work was completed on the tenement EL 6509 which is 100% owned by the company Australian Rare Earths Ltd.* • *The Exploration License EL6509 original date of grant was 15/09/2020 with an expiry date of 14/09/2028.* • *Details regarding royalties are discussed in chapter 3.4 of Australian Rare Earths Prospectus dated 7 May 2021.*

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Criteria	Explanation	Comment
Exploration done by other parties	*Acknowledgment and appraisal of exploration by other parties.*	• *Exploration activities by other exploration companies in the area have not previously targeted or identified REE mineralisation.* • *Historical exploration activities in the vicinity of Koppamurra include investigations for coal, gold and base metals, uranium, and heavy mineral sands.* • *Historical exploration by other parties is detailed in Chapter 7 of Australian Rare Earths Prospectus dated 7 May 2021.*
Geology	*Deposit type, geological setting and style of mineralisation.*	• *The Koppamurra deposit is interpreted to contain analogies to ion adsorption ionic clay REE deposits. REE mineralisation at Koppamurra is hosted by clayey sediments interpreted to have been deposited onto a limestone base (Gambier Limestone) and accumulated in an interdunal, lagoonal or estuarine environment.* • *A dedicated research program investigating the source of the REE at Koppamurra is ongoing, with no definitive source of the REE confirmed to date although preliminary results of this study have ruled out the alkali volcanics in south- eastern Australia which was originally considered.* • *Mineralogical test work previously conducted on clay samples from the project area established that the dominant clay minerals are smectite and kaolin, and that the few REE-rich minerals detected during the SEM investigation are considered consistent with the suggestion that a significant proportion of REE are distributed in the material as adsorbed elements on clay and iron oxide surfaces.* • *There are several known types of regolith hosted REE deposits, including: ion adsorption clay deposits, alluvial and placer deposits. Whilst Koppamurra shares similarities with both ion adsorption clay deposits and volcanic ash fall placer deposits, there are also several differences, highlighting the need for further work before a genetic model for REE mineralisation at Koppamurra can be confirmed.* • *There is insufficient geological work undertaken to determine any geological disruptions, such as faults or dykes, that may cause variability in the mineralisation.*

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Criteria	Explanation	Comment
Drill hole Information	*A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:* *- easting and northing of the drill hole collar* *- elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar* *- dip and azimuth of the hole* *- down hole length and interception depth* *- hole length.* *If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.*	• *The material information for drill holes relating to this report are contained within Appendices of this release (Appendix II).*
Data aggregation methods	*In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.* *Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.* *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	• *No metal equivalents have been used.*

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Criteria	Explanation	Comment
Relationship between mineralisation widths and intercept lengths	*These relationships are particularly important in the reporting of Exploration Results. If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported. If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').*	• *All intercepts reported are down hole lengths.* • *The mineralisation is interpreted to be flat lying. Morphology of the mineralised unit is influenced by the morphology of the undulating limestone basement below.* • *Drilling is vertical perpendicular to mineralisation. Any internal variations to REE distribution within the horizontal layering was not defined, therefore the true width is considered not known.*
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.*	• *Diagrams are included in the body of this release.*
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.*	• *This release contains all drilling results that are consistent with the JORC guidelines.* • *Where data may have been excluded, it is considered not material.*

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Criteria	Explanation	Comment
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.*	• *AR3 has completed tank leach test work at ANSTO (ASX release: Highly successful metallurgical tests point to significantly lower processing costs, 16 May 2023).* • *AR3 has produced MREC at ANSTO from the tank leach test work (ASX release: First Mixed Rare Earth Carbonate (MREC) produced, 09 March 2023).* • *AR3 has completed column test work at ANSTO investigating the agglomeration, percolation and recoveries from columns to simulate the use of heap leach as a potential component of the process flowsheet (this ASX release).* • *AR3 column leach tests carried out at ANSTO have investigated lixiviant composition in columns C1, C2 and C3 using samples sourced from various locations and bench heights within the Trial Pit (location identified in diagram in the body of this release) and variability sample testing in columns C4, C5 and C6 from samples sourced from the drilling cuttings composites (CP03a, CP04a and CP10a) selected as examples of variability across the orebody (this ASX release).* • *Composite drill hole cuttings masses totaled as follows:* CP3a 100kg CP4a 40kg CP5a 70kg CP6a 30kg CP10a 40kg CP10b 20kg • *Individual drill holes making up the composites are listed in Appendix II and their locations listed in Appendix III* • *All known relevant exploration data and metallurgical test results have been reported*

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Criteria	Explanation	Comment
		in this release.

Further work	*The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling). Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*	• *AR3 intends to continue to define the Koppamurra resource during 2024. This will include (but not limited to) drilling, assay, ground based geophysical surveys and further metallurgical testwork.*
		• *Metallurgical test work next steps are:*
		  • *column leach test work: specifically in areas of further variability samples in columns C7-C9 (CP05a, CP06a and CP10b, detailed in Appendix II) and investigation of increased height of column (C10, using bulk sample sourced from trial pit) on recoveries;*
		  • *Water treatment testwork, impurity removal and rare earth collection in solution from the pregnant liquor solution from columns; and*
		  • *investigations into the precipitation of impurities and recovered rare earths from solution.*

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Appendix II list of drillhole intervals for Composite Samples

Hole ID	Composite ID	Depth From (m)	Depth To (m)	Sample ID
KM0946	CP03a	6	7	668666
KM0946	CP03a	8	9	668668
KM0947	CP03a	10	11	668681
KM1075	CP03a	6	7	669746
KM1075	CP03a	9	10	669749
KM1075	CP03a	10	11	669750
KM1075	CP03a	11	12	669751
KM1076	CP03a	11	12	669765
KM1077	CP03a	9	10	669778
KM1078	CP03a	4	5	669785
KM1078	CP03a	5	6	669786
KM1079	CP03a	4	5	669793
KM1079	CP03a	8	9	669797
KM1080	CP03a	8	9	669806
KM1082	CP03a	7	8	669827
KM1083	CP03a	3	4	669832
KM1096	CP03a	4	5	669965
KM1096	CP03a	5	6	669966
KM1097	CP03a	14	15	669983
KM1098	CP03a	8	9	669992
KM1099	CP03a	2	3	669996
KM1103	CP03a	9	10	670033
KM1103	CP03a	13	14	670038
KM1103	CP03a	14	15	670039
KM1103	CP03a	15	16	670040
KM1108	CP03a	0	1	670093
KM1108	CP03a	3	4	670096
KM1108	CP03a	4	5	670097
KM1108	CP03a	2	3	670095
KM1113	CP03a	0	1	670144
KM1113	CP03a	2	3	670146
KM1116	CP03a	8	9	670182
KM1116	CP03a	7	8	670181
KM1117	CP03a	3	4	670188
KM1117	CP03a	6	7	670191
KM1117	CP03a	9	10	670194
KM1122	CP03a	4	5	670242
KM1122	CP03a	5	6	670243
KM1124	CP03a	5	6	670259
KM1125	CP03a	2	3	670267
KM1125	CP03a	3	4	670268
KM0946	CP03a	7	8	668667
KM0947	CP03a	9	10	668680
KM1075	CP03a	4	5	669744
KM1075	CP03a	5	6	669745
KM1076	CP03a	9	10	669763
KM1076	CP03a	10	11	669764
KM1077	CP03a	8	9	669777
KM1079	CP03a	5	6	669794
KM1079	CP03a	6	7	669795
KM1080	CP03a	7	8	669805
KM1082	CP03a	6	7	669826
KM1083	CP03a	2	3	669831
KM1096	CP03a	1	2	669961
KM1096	CP03a	2	3	669962

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Hole ID	Composite ID	Depth From (m)	Depth To (m)	Sample ID
KM1096	CP03a	3	4	669963
KM1097	CP03a	11	12	669980
KM1097	CP03a	12	13	669981
KM1097	CP03a	13	14	669982
KM1098	CP03a	6	7	669990
KM1098	CP03a	7	8	669991
KM1099	CP03a	1	2	669995
KM1100	CP03a	2	3	670001
KM1103	CP03a	10	11	670034
KM1103	CP03a	11	12	670035
KM1103	CP03a	12	13	670036
KM1108	CP03a	1	2	670094
KM1113	CP03a	1	2	670145
KM1116	CP03a	6	7	670180
KM1117	CP03a	4	5	670189
KM1117	CP03a	5	6	670190
KM1122	CP03a	1	2	670239
KM1122	CP03a	2	3	670240
KM1122	CP03a	3	4	670241
KM1123	CP03a	3	4	670249
KM1123	CP03a	4	5	670250
KM1124	CP03a	3	4	670257
KM1124	CP03a	4	5	670258
KM1125	CP03a	1	2	670265
KM0881	CP04a	6	7	668223
KM0881	CP04a	7	8	668224
KM0881	CP04a	8	9	668225
KM0881	CP04a	9	10	668226
KM0881	CP04a	5	6	668222
KM0882	CP04a	0	1	668229
KM0883	CP04a	2	3	668234
KM0883	CP04a	1	2	668233
KM0884	CP04a	1	2	668237
KM0884	CP04a	9	10	668245
KM0884	CP04a	5	6	668241
KM0884	CP04a	6	7	668242
KM0884	CP04a	7	8	668243
KM0884	CP04a	8	9	668244
KM0897	CP04a	1	2	668326
KM0897	CP04a	2	3	668327
KM0898	CP04a	1	2	668332
KM0909	CP04a	0	1	668406
KM0909	CP04a	1	2	668407
KM0910	CP04a	0	1	668412
KM0911	CP04a	3	4	668418
KM0911	CP04a	4	5	668419
KM0972	CP04a	6	7	668938
KM0973	CP04a	0	1	668940
KM0973	CP04a	1	2	668941
KM0974	CP04a	4	5	668947
KM0975	CP04a	6	7	668955
KM0976	CP04a	8	9	668969
KM0976	CP04a	9	10	668970
KM0976	CP04a	10	11	668971
KM0976	CP04a	11	12	668972
KM0976	CP04a	12	13	668973
KM0976	CP04a	13	14	668974

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Hole ID	Composite ID	Depth From (m)	Depth To (m)	Sample ID
KM0978	CP04a	2	3	668992
KM0978	CP04a	3	4	668993
KM0980	CP04a	2	3	669011
KM0981	CP04a	4	5	669018
KM0981	CP04a	7	8	669021
KM0982	CP04a	4	5	669027
KM0983	CP04a	3	4	669032
KM0983	CP04a	4	5	669033
KM1676	CP04a	3	4	676233
KM1676	CP04a	4	5	676234
KM1676	CP04a	5	6	676235
KM1676	CP04a	6	7	676236
KM1676	CP04a	7	8	676237
KM0898	CP04a	3	4	668334
KM0898	CP04a	5	6	668336
KM0907	CP04a	1	2	668401
KM0911	CP04a	2	3	668417
KM0884	CP04a	2	3	668238
KM0884	CP04a	3	4	668239
KM0884	CP04a	4	5	668240
KM0898	CP04a	2	3	668333
KM0909	CP04a	2	3	668408
KM0911	CP04a	1	2	668416
KM0912	CP04a	5	6	668426
KM0912	CP04a	6	7	668427
KM0972	CP04a	4	5	668936
KM0972	CP04a	5	6	668937
KM0974	CP04a	3	4	668946
KM0975	CP04a	7	8	668956
KM0975	CP04a	8	9	668957
KM0976	CP04a	6	7	668967
KM0976	CP04a	7	8	668968
KM0980	CP04a	1	2	669010
KM0981	CP04a	5	6	669019
KM0981	CP04a	6	7	669020
KM0982	CP04a	3	4	669026
KM0983	CP04a	5	6	669034
KM0983	CP04a	6	7	669035
KM0983	CP04a	7	8	669036
KM0983	CP04a	8	9	669037
KM0989	CP04a	5	6	669074
KM0989	CP04a	6	7	669075
KM0739	CP05a	2	3	666686
KM0740	CP05a	9	10	666698
KM0741	CP05a	3	4	666703
KM0741	CP05a	4	5	666704
KM0742	CP05a	4	5	666710
KM0762	CP05a	17	18	666897
KM0762	CP05a	18	19	666898
KM0763	CP05a	4	5	666905
KM0764	CP05a	7	8	666915
KM0784	CP05a	13	14	667116
KM0784	CP05a	14	15	667117
KM0784	CP05a	11	12	667114
KM0784	CP05a	12	13	667115
KM0784	CP05a	10	11	667113
KM0785	CP05a	8	9	667127

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Hole ID	Composite ID	Depth From (m)	Depth To (m)	Sample ID
KM0785	CP05a	9	10	667129
KM0788	CP05a	6	7	667156
KM1168	CP05a	5	6	670694
KM1168	CP05a	7	8	670696
KM1168	CP05a	8	9	670697
KM1170	CP05a	4	5	670714
KM1170	CP05a	5	6	670715
KM1171	CP05a	2	3	670721
KM1171	CP05a	1	2	670720
KM1171	CP05a	3	4	670722
KM1363	CP05a	11	12	673184
KM1363	CP05a	12	13	673185
KM1363	CP05a	13	14	673186
KM1364	CP05a	0	1	673193
KM1364	CP05a	1	2	673194
KM1364	CP05a	2	3	673195
KM1365	CP05a	8	9	673207
KM1366	CP05a	16	17	673225
KM1366	CP05a	17	18	673226
KM1367	CP05a	4	5	673231
KM1367	CP05a	5	6	673232
KM1368	CP05a	7	8	673243
KM1369	CP05a	3	4	673248
KM1369	CP05a	7	8	673252
KM1389	CP05a	4	5	673471
KM1390	CP05a	6	7	673482
KM1391	CP05a	1	2	673486
KM1391	CP05a	2	3	673487
KM1392	CP05a	4	5	673499
KM1393	CP05a	7	8	673511
KM1365	CP05a	7	8	673206
KM1366	CP05a	11	12	673219
KM1366	CP05a	12	13	673220
KM1366	CP05a	13	14	673222
KM1366	CP05a	14	15	673223
KM1366	CP05a	15	16	673224
KM1369	CP05a	4	5	673249
KM0739	CP05a	1	2	666685
KM0741	CP05a	2	3	666702
KM0742	CP05a	3	4	666709
KM0760	CP05a	1	2	666869
KM0760	CP05a	2	3	666870
KM0761	CP05a	3	4	666877
KM0762	CP05a	12	13	666892
KM0762	CP05a	13	14	666893
KM0762	CP05a	14	15	666894
KM0762	CP05a	15	16	666895
KM0762	CP05a	16	17	666896
KM0763	CP05a	3	4	666904
KM0764	CP05a	6	7	666914
KM0785	CP05a	7	8	667126
KM0788	CP05a	4	5	667154
KM0788	CP05a	5	6	667155
KM1168	CP05a	6	7	670695
KM1170	CP05a	3	4	670713
KM1363	CP05a	10	11	673183
KM1366	CP05a	9	10	673217

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Hole ID	Composite ID	Depth From (m)	Depth To (m)	Sample ID
KM1366	CP05a	10	11	673218
KM1368	CP05a	3	4	673239
KM1368	CP05a	4	5	673240
KM1368	CP05a	5	6	673241
KM1368	CP05a	6	7	673242
KM1389	CP05a	5	6	673472
KM1390	CP05a	5	6	673481
KM1392	CP05a	5	6	673500
KM1393	CP05a	6	7	673510
KM1424	CP06a	4	5	673857
KM1425	CP06a	4	5	673863
KM1425	CP06a	5	6	673864
KM1426	CP06a	1	2	673866
KM1431	CP06a	3	4	673904
KM1432	CP06a	7	8	673914
KM1432	CP06a	8	9	673915
KM1433	CP06a	3	4	673919
KM1439	CP06a	2	3	673974
KM1441	CP06a	3	4	673987
KM1444	CP06a	2	3	674022
KM1448	CP06a	0	1	674049
KM1448	CP06a	1	2	674050
KM1450	CP06a	0	1	674058
KM1450	CP06a	1	2	674059
KM1451	CP06a	0	1	674061
KM1451	CP06a	1	2	674062
KM1452	CP06a	7	8	674073
KM1453	CP06a	6	7	674087
KM1455	CP06a	3	4	674108
KM1455	CP06a	4	5	674109
KM1455	CP06a	5	6	674110
KM1456	CP06a	1	2	674112
KM1456	CP06a	5	6	674116
KM1455	CP06a	2	3	674107
KM1424	CP06a	2	3	673855
KM1424	CP06a	3	4	673856
KM1431	CP06a	4	5	673905
KM1432	CP06a	6	7	673913
KM1433	CP06a	2	3	673918
KM1437	CP06a	5	6	673962
KM1438	CP06a	4	5	673970
KM1439	CP06a	1	2	673973
KM1440	CP06a	2	3	673980
KM1444	CP06a	1	2	674021
KM1452	CP06a	6	7	674072
KM1452	CP06a	8	9	674074
KM1453	CP06a	5	6	674086
KM1455	CP06a	1	2	674106
KM1456	CP06a	2	3	674113
KM1456	CP06a	3	4	674114
KM1456	CP06a	4	5	674115
KM1605	CP10a	3	4	675629
KM1606	CP10a	2	3	675634
KM1606	CP10a	3	4	675635
KM1612	CP10a	8	9	675697
KM1613	CP10a	8	9	675708
KM1613	CP10a	11	12	675711

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Hole ID	Composite ID	Depth From (m)	Depth To (m)	Sample ID
KM1614	CP10a	5	6	675720
KM1617	CP10a	10	11	675749
KM1618	CP10a	9	10	675766
KM1618	CP10a	10	11	675767
KM1618	CP10a	11	12	675768
KM1618	CP10a	12	13	675769
KM1619	CP10a	11	12	675786
KM1620	CP10a	3	4	675793
KM1620	CP10a	4	5	675794
KM1621	CP10a	7	8	675803
KM1624	CP10a	4	5	675829
KM1624	CP10a	5	6	675830
KM1624	CP10a	7	8	675832
KM1624	CP10a	8	9	675833
KM1624	CP10a	9	10	675834
KM1625	CP10a	5	6	675842
KM1626	CP10a	6	7	675849
KM1605	CP10a	2	3	675628
KM1612	CP10a	5	6	675694
KM1612	CP10a	6	7	675695
KM1613	CP10a	9	10	675709
KM1613	CP10a	10	11	675710
KM1614	CP10a	6	7	675721
KM1616	CP10a	6	7	675736
KM1616	CP10a	7	8	675737
KM1617	CP10a	7	8	675746
KM1617	CP10a	8	9	675747
KM1617	CP10a	9	10	675748
KM1619	CP10a	12	13	675787
KM1621	CP10a	4	5	675800
KM1621	CP10a	5	6	675801
KM1621	CP10a	6	7	675802
KM1624	CP10a	6	7	675831
KM1625	CP10a	4	5	675841
KM1626	CP10a	4	5	675847
KM1626	CP10a	5	6	675848
KM1630	CP10b	1	2	675871
KM1630	CP10b	2	3	675872
KM1631	CP10b	0	1	675873
KM1631	CP10b	2	3	675875
KM1632	CP10b	4	5	675883
KM1632	CP10b	5	6	675884
KM1633	CP10b	6	7	675891
KM1633	CP10b	7	8	675892
KM1634	CP10b	1	2	675898
KM1635	CP10b	11	12	675916
KM1635	CP10b	12	13	675917
KM1635	CP10b	13	14	675918
KM1637	CP10b	1	2	675930
KM1639	CP10b	5	6	675946
KM1639	CP10b	6	7	675947
KM1640	CP10b	0	1	675950
KM1641	CP10b	4	5	675957
KM1642	CP10b	1	2	675960
KM1642	CP10b	2	3	675961
KM1642	CP10b	3	4	675962
KM1643	CP10b	1	2	675966

Hole ID	Composite ID	Depth From (m)	Depth To (m)	Sample ID
KM1643	CP10b	2	3	675967
KM1643	CP10b	3	4	675968
KM1643	CP10b	4	5	675969
KM1644	CP10b	2	3	675973
KM1644	CP10b	3	4	675974
KM1645	CP10b	1	2	675981
KM1645	CP10b	2	3	675982
KM1646	CP10b	9	10	675995
KM1646	CP10b	10	11	675996
KM1631	CP10b	1	2	675874
KM1632	CP10b	3	4	675882
KM1633	CP10b	4	5	675889
KM1633	CP10b	5	6	675890
KM1635	CP10b	8	9	675911
KM1635	CP10b	9	10	675912
KM1635	CP10b	10	11	675915
KM1640	CP10b	1	2	675951
KM1641	CP10b	3	4	675956
KM1645	CP10b	3	4	675983
KM1646	CP10b	6	7	675992
KM1646	CP10b	7	8	675993
KM1646	CP10b	8	9	675994

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Appendix III list of drillhole locations

Hole_ID	East	North	Total Drill Depth	RL
KM0739	497,292	5,884,716	5	116.9
KM0740	497,195	5,884,724	11	115.3
KM0741	497,091	5,884,721	5	112.3
KM0742	496,995	5,884,717	6	111.8
KM0760	497,349	5,884,917	6	117.1
KM0761	497,250	5,884,917	6	114.7
KM0762	497,146	5,884,920	21	110.8
KM0763	497,049	5,884,920	7	106.6
KM0764	496,945	5,884,921	9	106.0
KM0784	496,842	5,885,117	16	107.9
KM0785	497,037	5,885,119	12	108.9
KM0788	497,336	5,885,121	9	111.4
KM0881	494,190	5,883,514	12	98.5
KM0882	494,085	5,883,517	3	99.9
KM0883	493,981	5,883,514	4	99.9
KM0884	493,892	5,883,510	14	99.9
KM0897	494,083	5,883,413	6	98.3
KM0898	494,175	5,883,406	6	98.0
KM0907	494,284	5,883,420	3	96.6
KM0909	494,282	5,883,317	5	96.6
KM0910	494,184	5,883,316	3	97.2
KM0911	494,188	5,883,217	5	97.7
KM0912	494,184	5,883,113	9	99.0
KM0946	493,594	5,884,618	11	96.8
KM0947	493,592	5,884,726	13	96.6
KM0972	493,785	5,883,622	8	94.7
KM0973	493,884	5,883,619	3	98.2
KM0974	493,982	5,883,614	6	100.8
KM0975	494,083	5,883,618	11	100.1
KM0976	494,085	5,883,717	15	99.7
KM0978	493,889	5,883,723	6	97.4
KM0980	493,887	5,883,817	5	100.1
KM0981	493,989	5,883,816	9	100.6
KM0982	494,087	5,883,816	6	100.5
KM0983	494,187	5,883,619	14	101.0
KM0989	494,186	5,883,817	10	98.0
KM1075	493,791	5,884,517	14	97.3
KM1076	493,689	5,884,521	15	96.0
KM1077	493,700	5,884,611	12	95.0
KM1078	493,791	5,884,614	7	98.1
KM1079	493,889	5,884,615	9	101.0
KM1080	493,992	5,884,614	10	102.9
KM1082	493,895	5,884,697	9	102.8
KM1083	493,792	5,884,714	6	99.3
KM1096	493,395	5,884,823	8	95.7
KM1097	493,492	5,884,820	15	95.6
KM1098	493,594	5,884,818	10	96.2
KM1099	493,693	5,884,818	5	97.8

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KM1099	493,693	5,884,818	5	97.8
KM1100	493,791	5,884,825	6	99.6
KM1103	493,493	5,884,925	16	92.6
KM1108	493,496	5,885,014	9	93.0
KM1113	493,495	5,885,120	6	95.7
KM1116	493,305	5,885,218	11	95.7
KM1117	493,396	5,885,219	12	95.6
KM1122	493,598	5,885,323	8	94.3
KM1123	493,494	5,885,320	8	94.7
KM1124	493,396	5,885,322	9	95.4
KM1125	493,311	5,885,321	9	95.4
KM1168	496,944	5,884,818	9	107.2
KM1170	497,150	5,884,825	9	112.5
KM1171	497,255	5,884,822	6	116.2
KM1363	497,353	5,885,220	20	114.9
KM1364	497,248	5,885,219	6	113.2
KM1365	497,143	5,885,215	9	111.4
KM1366	497,041	5,885,211	18	110.7
KM1367	496,955	5,885,228	9	108.6
KM1368	496,850	5,885,211	9	110.0
KM1369	496,750	5,885,218	9	110.0
KM1389	497,003	5,885,019	9	106.8
KM1390	497,105	5,885,020	9	107.6
KM1391	497,201	5,885,025	9	109.5
KM1392	497,309	5,885,025	9	111.1
KM1393	497,401	5,885,021	9	112.6
KM1424	495,443	5,883,392	6	105.2
KM1425	495,544	5,883,389	6	106.3
KM1426	495,641	5,883,391	6	107.1
KM1431	495,646	5,883,488	6	104.2
KM1432	495,549	5,883,492	9	104.8
KM1433	495,450	5,883,493	6	105.2
KM1437	495,792	5,883,695	9	111.1
KM1438	495,685	5,883,694	6	109.5
KM1439	495,585	5,883,692	6	106.8
KM1440	495,627	5,883,794	6	107.3
KM1441	495,723	5,883,790	9	109.6
KM1444	495,685	5,883,590	6	105.6
KM1448	495,490	5,883,689	6	105.7
KM1450	495,286	5,883,690	3	103.2
KM1451	495,322	5,883,795	3	100.3
KM1452	495,419	5,883,795	15	103.9
KM1453	495,518	5,883,789	9	105.0
KM1455	495,446	5,883,891	6	104.4
KM1456	495,345	5,883,891	12	102.4
KM1605	495,955	5,882,695	6	110.0
KM1606	496,051	5,882,697	6	110.3
KM1612	496,145	5,882,777	9	110.5
KM1613	496,051	5,882,794	15	110.2
KM1614	495,947	5,882,794	9	110.2
KM1616	496,045	5,882,888	9	110.8

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KM1617	496,140	5,882,894	18	110.9
KM1618	496,245	5,882,892	18	111.7
KM1619	496,345	5,882,877	15	110.2
KM1620	496,086	5,882,594	6	110.2
KM1621	496,186	5,882,594	9	110.3
KM1624	496,306	5,882,496	12	110.2
KM1625	496,229	5,882,494	6	109.5
KM1626	496,334	5,882,412	9	109.7
KM1630	497,051	5,882,791	3	113.9
KM1631	496,944	5,882,791	6	113.2
KM1632	497,057	5,882,693	6	115.0
KM1633	497,345	5,882,794	12	114.3
KM1634	497,250	5,882,793	6	115.3
KM1635	497,139	5,882,789	15	117.4
KM1637	497,253	5,882,696	6	115.4
KM1639	497,387	5,882,590	9	112.7
KM1640	497,294	5,882,599	3	114.2
KM1641	497,189	5,882,590	6	114.3
KM1642	497,090	5,882,592	6	113.6
KM1643	497,310	5,882,494	6	113.3
KM1644	497,212	5,882,493	9	112.7
KM1645	497,114	5,882,496	6	113.0
KM1646	497,010	5,882,492	12	112.5
KM1676	494,286	5,883,217	15	95.7

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