ASX Code: IPT

FEBRUARY 27, 2024 **CORPORATE RELEASE**

Breakthrough alternative High Purity Alumina (HPA) metallurgy route revealed at the Lake Hope Project, WA

- 99.99% (4N) Al_2O_3 produced from a new low-temperature leach (LTL) and acid digestion process called the "LTL Process":
- The LTL Process is a simpler process that may lower the Capital and Operating Costs to produce HPA compared to the Sulphate Process, which has been the focus of test work to date.
- The Sulphate Process underpinned the recent Scoping Study, which indicated an operating cost of <US$4,000 per tonne of HPA, up to 50% lower than Impact's peers and an NPV_8 of A$1.3 billion.
- The LTL Process will now be included in the ongoing Pre-Feasibility Study in parallel with the Sulphate Process at marginal extra cost to determine the best processing route to HPA.
- The PFS is due to be completed on schedule in late 2024.

Impact Minerals' Managing Director, Dr Mike Jones, said, "*Today we reveal a further exciting breakthrough for producing HPA from the unique mix of minerals that are present at Lake Hope, minerals which have allowed our new LTL Process to produce the benchmark 99.99% pure HPA very quickly after starting the test work.*

The LTL Process is simpler than the Sulphate Process that underpinned our recent Scoping Study and showed that at less than US$4,000 per tonne, Lake Hope may produce HPA at up to 50% cheaper than our peers. We think that further work on the LTL Process could result in even lower operating and capital costs, and this would only further enhance the already impressive economics of the project, which has an NPV_8 of well over A$1 billion.

We have now started further optimization studies for the LTL Process and will push forward with our Pre-Feasibility Study using both process routes for the time being to determine the best strategic choice for processing at the project. Given we can run all these tests in parallel for little extra cost, we are still on course to finish the PFS later this year and continue to look forward towards producing HPA from Lake Hope".

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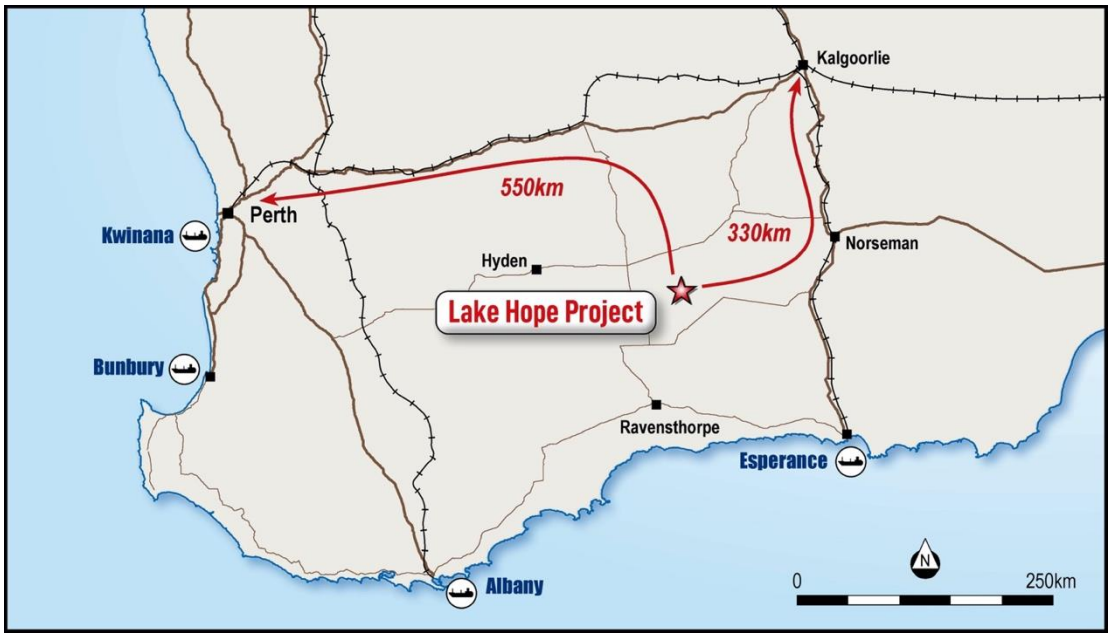


Figure 1. Location of the Lake Hope Project.

A new proprietary metallurgical process has been identified for producing high-value High Purity Alumina (HPA) from the lake clays at Impact Minerals Limited's (ASX:IPT) Lake Hope project, located 500 km east of Perth in Western Australia (Figure 1). Impact can earn an 80% interest in Playa One Pty Limited, which owns the Lake Hope project, by completing a Pre-Feasibility Study (PFS) on the project which is in progress (ASX Release March 21st 2023 and November 9th 2023).

The new process, called the LTL Process, has produced High Purity Alumina (HPA) at 99.99% purity from the raw lake clay in only a few months of laboratory test work (with its attendant delays for holidays and other customer work) (Table 1). This is one of the fastest times to produce HPA from raw materials reported by ASX-listed companies and attests to the relatively straightforward nature of the process. It involves different reagents to those used in the Playa One Sulphate Process, which has also recently successfully produced 4N HPA (ASX Release 19th February 2024).

Sample ID	Total 66 elements ppm	%HPA Elemental	As ppm	B ppm	Ca ppm	Cr ppm	Cu ppm	Fe ppm	K ppm	Mg ppm	Na ppm	Ni ppm	P ppm	S ppm	Si ppm
HY17154	104.82	99.990	0.005	1.408	10.83	1.176	1.103	17.58	1.254	20.38	1.999	1.323	2.899	7.157	30.620
HY17154	105.98	99.989	0.005	1.017	11.67	1.128	1.159	20.80	1.483	19.94	1.888	1.470	3.370	8.554	27.290

Table 1. Assays results for Lake Hope HPA via the LTL Process. Repeat samples derived from sample LHMET001 (see Table below for sample location). Assays units are parts per million (ppm).
Note that the LTL Process has not been optimized and further reductions in contaminants are anticipated.

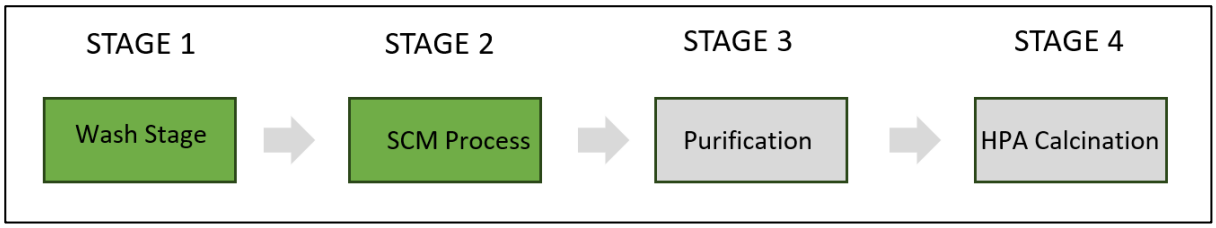
The LTL Process is a direct low-temperature leach (<90° C) that removes the requirement for sulphuric acid roasting, which was a key part of the Sulphate Process and reduces the number of steps to produce HPA from five stages to four (Figure 2). Accordingly, the new process could offer further reductions in operating costs and capital costs to produce HPA compared to the Playa One Sulphate Process.

The recently released Scoping Study on Lake Hope, which was based on the Sulphate Process, showed that at an operating cost of less than US$4,000 per tonne, Lake Hope could be the lowest-cost producer of HPA globally by a significant margin of up to 50% over Impact's peers (ASX Release November 9th 2023). Therefore, this margin could be increased should test work on the new process support these initial results and further demonstrate the potential world-class economics of the Lake Hope project.

In addition, the LTL Process is not yet fully optimized, and improved recoveries (currently 84.7% of the raw alumina) and further reductions in contaminants are expected as test work progresses.

Like the Sulphate Process, the LTL Process also produces a fertilizer by-product, which is likely to be a key factor in offsetting the operating cost to produce 4N HPA.

LTL Process



Sulphate Process

Figure 2. A comparison of the LTL Process and the Sulphate Process.

Background

The Lake Hope Project contains a unique deposit of clay, which contains about 880,000 tonnes of alumina (Al_2O_3) in the top two metres of two small salt lakes on E63/2086. The deposit comprises Indicated (88%) and Inferred (12%) Resources of 3.5 million tonnes at an average grade of 25.1% alumina (see Table at the back of this report and ASX Release 19th June 2023 for details). Impact can earn an 80% interest in Lake Hope from Playa One Pty Limited by completing a Pre-Feasibility Study, which is in progress (PFS).

The alumina in the lake clay can be converted into HPA via Playa One's proprietary and patented 'Sulphate Process", and this has been the focus of metallurgical test work to date and was used as the basis for the Scoping Study (ASX Releases March 21st 2023, October 18th 2023 and November 9th 2023).

As part of ongoing metallurgical research, Playa One has identified two other potential pathways to HPA and associated valuable by-products, including the new LTL Process. Results from the third process are due early in the next Quarter.

Next Steps

The PFS at Lake Hope is progressing on schedule and is due for completion in late 2024. Metallurgical test work is the critical component of the work to be completed for the PFS and is the focus of the forward work programme, which will now include batch production from both the Sulphate Process and LTL Process (ASX Release February 19th 2024). The test work will be completed on both processes in parallel at marginal extra cost and time. Final optimization of the LTL Process and preliminary economic studies will be completed as part of this work.

All of these results, and results from the third possible process route, are due in the next Quarter. This will allow a final choice to be made of the process route required for commercial production of HPA.

Given the potential for chemical and fertilizer products as a valuable by-product from both the Sulphate Process and the LTL Process, an assessment of the mineral potential of the wider Lake Hope playa system is in progress. This has involved some preliminary shallow auger and push tube drilling, and a detailed review and interpretation of the results is in progress.

Dr Michael G Jones
Managing Director

Sample Information

Sample	MGA E	MGA N	Source	Al_2O_3%	K_2O%	Fe_2O_3%	CaO%	Na_2O%	SiO_2%	MgO%	MnO%	P_2O_5%
LHMET001	243,880	6,409,250	East Lake	28.77	7.25	3.03	0.05	3.29	15.8	0.79	x	0.082

Assay and Metallurgical Information

All testing was undertaken at ALS Metallurgy Pty Ltd, Balcatta, Western Australia, under the supervision of a qualified metallurgist. All data is presented as received. Assays were undertaken at ALS Geochemistry using 4-Acid digestion with ICP-OES multi-element quantification or lithium borate fusion with XRF finish, where appropriate. The metallurgical testing is incomplete, and results are preliminary in nature.

Resource Statement

The Mineral Resource Estimate for Lake Hope is:

Category	Million tonnes	Alumina %	Al_2O_3 Tonnes
West Lake			
Indicated	2.09	25.5%	534,600
Inferred	0.23	23.2%	52,300
Total	**2.32**	**25.3%**	**586,900**
East Lake			
Indicated	1.10	24.8%	273,400
Inferred	0.08	24.1%	19,400
Total	**1.18**	**24.8%**	**292,800**
Combined			
Indicated	3.19	25.3%	808,000
Inferred	0.31	23.4%	71,700
Total	**3.50**	**25.1%**	**879,700**

The resource statement was first made to the ASX on June 19th 2023. There are no factors that Impact is aware of that have changed the material assumptions made at that time.

Competent Persons Statement

The review of metallurgical results contained in this report is based on information compiled by Mr Roland Gotthard, a Member of the Australasian Institute of Mining and Metallurgy and a consultant to Impact Minerals Limited. He has sufficient experience which is relevant to the style of mineralisation and types of deposits under consideration and to the activity that he is undertaking to qualify as a Competent Person as defined in the 2012 edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (the JORC Code). Mr Gotthard has consented to the inclusion in the report of the matters based on his information in the form and context in which it appears.

JORC Code, 2012 Edition – Table 1

Section 1 Sampling Techniques and Data

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. • Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used. • Aspects of the determination of mineralisation that are Material to the Public Report. • Description of 'industry standard' work	• Sampling comprised a representative 10kg sample dug from a pit. • Samples were obtained from 0.5 to 1m depth with a weight of ~10kg, with the whole sample bagged in plastic buckets. • Sample preparation and analysis was completed at a commercial laboratory (Intertek WA) using industry standard practices. • Metallurgical samples are representative powders produced in the laboratory using normal metallurgical processes.
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).	• Not applicable to metallurgical sample.
Drill sample recovery	• Method of recording and assessing core and chip sample recoveries and results assessed. • Measures taken to maximise sample recovery and ensure representative nature of the samples. • Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.	• Not applicable to metallurgical sample.
Logging	• Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies. • Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography. • The total length and percentage of the relevant intersections logged.	• Mineralisation collected in LHMET001 is visually and chemically identical to material throughout the East Lake. • Mineralogy is impossible to determine visually. • Logging is qualitative in nature as the grain size is too fine to allow visual identification of mineralogy even under hand lens or electron microscope.
Sub-sampling techniques and sample preparation	• If core, whether cut or sawn and whether quarter, half or all core taken. • If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry. • For all sample types, the nature, quality and appropriateness of the sample preparation technique. • Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples. • Measures taken to ensure that the sampling is representative of the in-situ material collected, including for instance results for field duplicate/second-half sampling. • Whether sample sizes are appropriate to the grain size of the material being sampled.	• Metallurgical samples were collected by Impact Minerals staff. • Metallurgical samples were prepared, treated, and prepared for assay by ALS Metallurgy using industry standard techniques. • Quality control measures are observed by the metallurgical laboratory. • The metallurgical results are consistent with initial test work stages and are not the final embodiment of the process. • The grain size of the mud sample is nanometre size and sample size is appropriate. • Sub-sample sizes presented for metallurgy are considered appropriate and representative. • LHMET001 is considered representative of higher grade material from the Lake Hope mineral resource.
Quality of assay data and laboratory tests	• The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total. • For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc. • Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.	• LHMET samples were assayed via lithium borate fusion and XRF quantification via FB1/XRF10 or FB1/XRF30. The technique is considered a total digest technique. • The assay method is considered appropriate for the material and elements reported. • Sampling methodology at ALS is considered industry standard for metallurgical processing test work. • Metallurgical solids are assayed by ALS Geochemistry using 4-acid or fusion digests and ICP-MS or XRF quantification, respectively. These are considered total digestions. • Metallurgical liquors are assayed via solution ICP-MS and halides by ISE. • Percent extractions are calculated by ALS Metallurgy based on solid and liquid assays and sample masses. • High Purity Alumina is defined by summing the known elemental concentrations of all elements besides aluminium, oxygen, nitrogen and hydrogen, where known, and subtracting from 100%. • The detection limits for most elements assayed here are too high to define alumina as HPA.
Verification of sampling and assaying	• The verification of significant intersections by either independent or alternative company personnel. • The use of twinned holes. • Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols. • Discuss any adjustment to assay data.	• LHMET001 has been assayed at Intertek and at ALS Laboratories. • Metallurgical samples have not been independently verified. • Data is stored on a professional relational database maintained by Impact Minerals Limited. • Assays below detection limit of the respective methodology are highlighted.
Location of data points	• Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation. • Specification of the grid system used. • Quality and adequacy of topographic control.	• A table of sample locations is provided in the report. • Sample locations recorded with handheld GPS accurate to within 1m. • MGA Zone 50 South. • Topographic control is provided by DGPS and drone topographic control.

Criteria	JORC Code explanation	Commentary
Data spacing and distribution	• Data spacing for reporting of Exploration Results. • Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied. • Whether sample compositing has been applied.	• No new exploration results are reported here. • Not applicable as there was no drilling.
Orientation of data in relation to geological structure	• Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type. • If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.	• The mineralization is considered representative of the mineral deposit from which is sourced.
Sample security	• The measures taken to ensure sample security.	• Samples were sealed in individually numbered plastic buckets and bags with zip ties. • Samples were delivered to the laboratory directly by company personnel to ensure complete chain of custody.
Audits or reviews	• The results of any audits or reviews of sampling techniques and data.	• No audits or reviews of sampling techniques and data have been completed.

Section 2 Reporting of Exploration Results

Criteria listed in the preceding section also apply to this section

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	• Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings. • The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.	• E63/2086 Lake Hope • E63/2317 • E63/2318 • E63/2319 • E64/673 • E64/674 • 100% Playa One Pty Ltd • Native Title Agreements are in place with Native Title parties. • Heritage Surveys have been conducted and no Aboriginal Cultural Heritage exists over the mineralization or Mineral Resource. • No national parks, nature reserves or other licences interact with E63/2086.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• Nil.
Geology	• *Deposit type, geological setting and style of mineralisation.*	• Mineralisation comprises a flat-lying evaporitic lake sequence and is bound by the margins of the lake by sand dunes. • Mineralisation comprises light brown to light grey, dense, plasticine consistency salt. • The salt is a nanometre sized colloidal precipitate of aluminium minerals and silica. • Salt lakes within evaporitic basins within the granite terrane of the Yilgarn Craton, Western Australia. • Lacustrine evaporite sulphate salts hosted within flat-lying sheet deposits.
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.*	• All drill hole information has previously been reported.
Data aggregation methods	• *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.* • *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 exploration results are reported in this disclosure.