



AUSTRALASIAN METALS

ASX Announcement | ASX: A8G | 3 Dec 2024

May Queen South Bauxite Project Update

Highlights

- **Review of Metallurgical testing completed in 2015/2016 indicated a hydrometallurgical treatment route for the Monogriliby bauxite is possible using citric acid or hydrochloric acid as the primary reagent.**
- **Significant levels of the semiconductor element gallium (Ga) which has seen considerable price appreciation of late, has been identified within the May Queen South Bauxite resource.**
- **Average gallium over 12 randomly selected samples of 67.59g/t Ga with an assay high of 145.5g/t Ga.**
- **An Inferred Mineral Resource of 54.9Mt at 37.5% total Al_2O_3 and 5.2% TiO_2 and 7.9% Rx SiO_2 .**
- **The project is located <55km from existing rail infrastructure with connections to the Port of Bundaberg.**

Australasian Metals Limited (**ASX: A8G, Australasian** or the **Company**) is pleased to advise that a re-evaluation of historical metallurgical testing completed at the May Queen South Bauxite Project in 2015 has highlighted a hydrometallurgical treatment route for the Monogriliby bauxite ore is possible using citric acid or hydrochloric acid as the primary reagent. Further test work is required in order to determine the recoveries, reagent consumption and purities of the titanium, aluminium and iron produced.

As previously reported, the Company has also recognised significantly elevated levels of gallium (Ga) and germanium (Ge) at May Queen South (see Figure 1 and Table 1). A 2016 metallurgical report also identified in the “Iron Ridge Head” sample Ga content of 64.4 mg/kg (64.4g/t)¹.

¹ Reference: Flowsheet Development Orientation Tests on a Sample of Monogriliby Titania, Core Metallurgy Pty Ltd April 2016.



AUSTRALASIAN METALS

ASX Announcement | ASX: A8G | 3 Dec 2024

Following the identification of significant gallium at the project of 64.4 mg/kg (64.4g/t)² (refer ASX announcement 8 October 2024), and in light of recent increases in the price of gallium, the Company decided to re-assay samples using ALS method ME-MS85 which includes the elements of Ga and Ge. The new analysis confirmed significant elevated Ga results averaging 67.59g/t Ga, with the highest value returning at 145.5g/t Ga. (see Figure 1 and Table 1).

These results highlight the potential for a significant upgrade for the May Queen South Bauxite resource which includes credits for Ga and Ge. Table 2 shows the multi-element analysis of the metallurgical sample.

SAMPLE ID	mE	mN	Ga (g/t)	Ge (g/t)	Comments
Q23763	307246	7113815	65.3	0.9	ROCK
Q23764	308235	7113713	87.6	0.6	ROCK
Q23765	306420	7113508	75.9	1.1	SOIL / GRAVEL
Q23766	306909	7113482	70.4	0.9	ROCK
Q23767	299680	7114297	145.5	0.9	ROCK
Q23768	299671	7114316	36.4	1.4	SOIL
Q23770	299505	7114378	48.3	1.3	SOIL / GRAVEL
Q23771	299756	7114330	93.2	0.8	ROCK
Q23772	299753	7114356	55.3	1.3	SOIL
Q23774	299164	7114458	56.9	1.3	ROCK
Q23775	299299	7114400	56.4	1.3	RUBBLE/SOIL
Q23776	298556	7113826	35.7	1.6	SOIL

Table 1. Rock chip sampling results for gallium and germanium results

² Reference: Flowsheet Development Orientation Tests on a Sample of Monogriliby Titania, Core Metallurgy Pty Ltd April 2016.



AUSTRALASIAN METALS

ASX Announcement | ASX: A8G | 3 Dec 2024

CERTIFICATE OF ANALYSIS

Project Job	001-6072									
Test Method										
Description	Iron Ridge Head sample									

		Project Job: 001-6072								
Sample ID	Sample Description	Method Analyte units LOR	SS-4AD- MEICP Ag mg/kg 3	SS-4AD- MEICP As mg/kg 10	SS-4AD- MEICP B mg/kg 100	SS-4AD- MEICP Be mg/kg 5	SS-4AD- MEICP Bi mg/kg 20	SS-4AD- MEICP Ca mg/kg 50	SS-4AD- MEICP Cd mg/kg 2	SS-4AD- MEICP Co mg/kg 5
Iron Ridge Head			< 3	< 10	< 100	< 5	< 20	< 50	2.38	9.71

		Project Job: 001-6072								
Sample ID	Sample Description	Method Analyte units LOR	SS-4AD- MEICP Cu mg/kg 0	SS-4AD- MEICP Ga mg/kg 10	SS-4AD- MEICP Ge mg/kg 10	SS-4AD- MEICP K mg/kg 100	SS-4AD- MEICP La mg/kg 5	SS-4AD- MEICP Li mg/kg 2	SS-4AD- MEICP Mg mg/kg 20	SS-4AD- MEICP Mo mg/kg 10
Iron Ridge Head			20.3	64.4	< 10	< 100	< 5	< 2	43.2	< 10

		Project Job: 001-6072								
Sample ID	Sample Description	Method Analyte units LOR	SS-4AD- MEICP Na mg/kg 50	SS-4AD- MEICP Ni mg/kg 10	SS-4AD- MEICP P mg/kg 10	SS-4AD- MEICP Pb mg/kg 20	SS-4AD- MEICP S mg/kg 100	SS-4AD- MEICP Sb mg/kg 10	SS-4AD- MEICP Sc mg/kg 2	SS-4AD- MEICP Se mg/kg 10
Iron Ridge Head			149	< 10	395	< 20	406	< 10	< 2	< 10

		Project Job: 001-6072								
Sample ID	Sample Description	Method Analyte units LOR	SS-4AD- MEICP Sn mg/kg 20	SS-4AD- MEICP Sr mg/kg 1	SS-4AD- MEICP Te mg/kg 30	SS-4AD- MEICP Th mg/kg 10	SS-4AD- MEICP U mg/kg 100	SS-4AD- MEICP Zn mg/kg 5	SS-4AD- MEICP Zr mg/kg 5	SS-Na2O2 Fusion- MEICP Al mg/kg 200
Iron Ridge Head			< 20	< 1	59	< 10	< 100	53.8	400	220000

		Project Job: 001-6072								
Sample ID	Sample Description	Method Analyte units LOR	SS-Na2O2 Fusion- MEICP Ba mg/kg 10	SS-Na2O2 Fusion- MEICP Cr mg/kg 20	SS-Na2O2 Fusion- MEICP Fe mg/kg 200	SS-Na2O2 Fusion- MEICP Mn mg/kg 20	SS-Na2O2 Fusion- MEICP Si mg/kg 100	SS-Na2O2 Fusion- MEICP Ti mg/kg 20	SS-Na2O2 Fusion- MEICP V mg/kg 0	SS-Na2O2 Fusion- MEICP W mg/kg 0
Iron Ridge Head			16.3	677	143000	265	12200	40600	393	14.9

Table 2. Multi-element analysis of the 2016 metallurgical sample

The preliminary metallurgical test-work included size reduction, scrubbing and sizing, and was completed at Core Resources laboratory in Brisbane, Australia on a representative 25 to 50kg bulk sample of the surface duricrust and bauxite resource. This work was carried out to test whether a 'premium quality' DSO product could be easily beneficiated through simple crushing, scrubbing and screening processes. The Company now plans to test a larger more representative sample with a view to:

1. confirm the results to a higher level of confidence;
2. investigate process optimisation options; and
3. evaluate a 'reject' stream for TiO₂ recovery.



AUSTRALASIAN METALS

ASX Announcement | ASX: A8G | 3 Dec 2024

Investigation of Gallium content considering surging prices for Gallium

As reported by the Company on 8 October 2024³, gallium prices have surged in recent years primarily due to increased demand in the electronics and semiconductor industries. Uses of Ga include the manufacture of compound semiconductor wafers that are used in integrated circuits for such devices as laser diodes, light-emitting diodes (LEDs), photodetectors, and solar cells. Gallium's unique properties, such as its low melting point and ability to form useful compounds, makes it a critical element with applications spanning various industries, particularly in advanced technology and electronics.

The global gallium market is heavily dominated by China, with other countries playing much smaller roles. Currently China produces approximately 98% of the world's supply of raw gallium⁴.

Recent market disruptions including the entry of price inelastic demand⁵ and Chinese export controls in August 2023 has seen a doubling of prices since 2021 when gallium was priced at \$422.70 per kg; compared to its current price of over \$900 per kg⁶.

May Queen South Bauxite project

The May Queen South Bauxite project is located in central Queensland, within a short trucking distance of a rail system leading north to the Port of Bundaberg. It is also located within close proximity of the main Queensland Rail network heading south towards the Port of Brisbane.

³ Gallium Mineralisation Discovered at May Queen South, <https://cdn-api.markitdigital.com/apiman-gateway/ASX/asx-research/1.0/file/2924-02863515-6A1229912>

⁴ Source: <https://features.csis.org/> - July 18 2023, "China's Control over Gallium Is a National Security Threat", Matthew P. Funaiole, Brian Hart, and Aidan Powers-Riggs

⁵ Source: G50Corp Sept 2024 presentation titled "Gallium / Lifeblood of the Modern World"

⁶ Source: MINING.COM April 3 2024 "Gallium price has more than doubled since China introduced export curbs"



AUSTRALASIAN METALS

ASX Announcement | ASX: A8G | 3 Dec 2024

The project has a JORC 2012 Inferred Mineral Resource estimate of **54.9Mt at 37.5% total Al_2O_3 and 5.2% TiO_2 and 7.9% Rx SiO_2** ⁷ (refer to announcement dated 30 May 2023⁸).

Sample pulps from the resource drilling may have been archived by the previous owner and the Company is in the process of accessing these samples. If the samples are found to be in good condition the A8G team will re-analysis the samples to determine and estimate the Ga and Ge content within the existing Mineral Resource estimate, however it may be determined that additional drilling will be necessary to accurately determine Ga and Ge content.

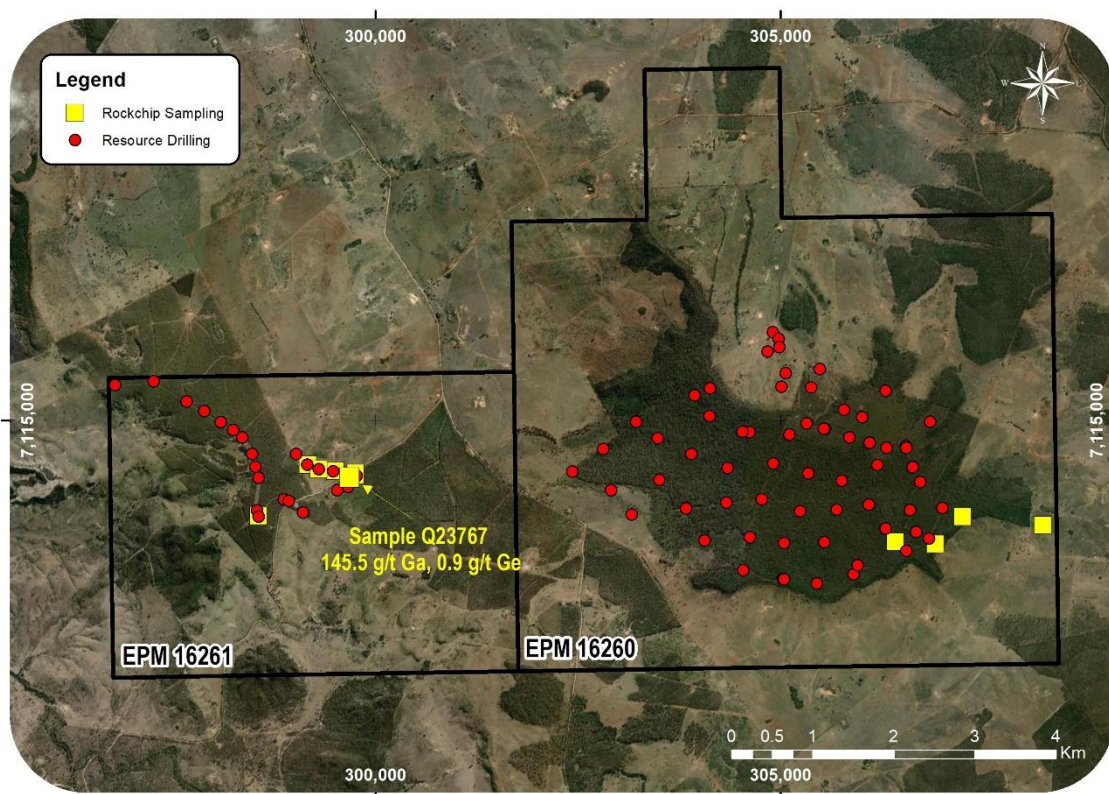


Figure 1. Basic geology of EPM16260 and EPM 16261 with rock samples (gallium analysis) and Bauxite resource RC drill hole locations marked

⁷ IronRidge Resources RNS dated 24 November 2017, 'High-Grade Bauxite Discovered at Koko. Monogriliby Bauxite and May Queen Gold Project Update, Queensland, Australia'.

https://www.rns-pdf.londonstockexchange.com/rns/4144X_-2017-11-24.pdf

⁸ <https://cdn-api.markitdigital.com/apiman-gateway/ASX/asx-research/1.0/file/2924-02670847-6A1152118>



AUSTRALASIAN METALS

ASX Announcement | ASX: A8G | 3 Dec 2024

The highest Ga grade of 145.5g/t Ga was returned from sample Q23767 which is an outcrop of brittle lateritic rock (see Photo 1).



Photo 1. Brittle nature of the bauxite rock as sample Q23767 (145.5g/t Ga)



AUSTRALASIAN METALS

ASX Announcement | ASX: A8G | 3 Dec 2024

A8G Managing Director Dr Qingtao Zeng commented:

High gallium grades at surface from our May Queen South Bauxite project present some very exciting possibilities for the Company. We believe that for a very low cost we will be able to add Ga and Ge into the bauxite mineral resource estimate which will significantly upgrade the overall value of the deposit. With surging demand for gallium from industrial users in China, Japan, and South Korea, and significant price rises for the metal we feel that the timing could not be better for this development.

Next Steps

The Company is in the process of locating the sample pulps and or drill chip sample trays from the resource drilling which were archived in a storage shed at the old Shamrock mine some 40km west of Gympie by the previous owner, Atlantic Lithium Limited (formerly Iron Ridge Resources Limited).

The Company has a strong network in the downstream processing and product offtake space in Asia and it is actively reaching out to potential partners and customers.

This announcement is approved for release by the Board of Directors.

ENDS

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Competent Person Statement

The information in this report that relates to Exploration Results is based on, and fairly represents, information and supporting documentation prepared by Ian Cooper, a consultant geologist of Australasian Metals Limited. Mr Cooper is a Fellow of the Australasian Institute of Mining and Metallurgy, and he has sufficient experience which is relevant to the style of mineralisation and type of deposits under consideration and to the activity which has been undertaken to qualify as a Competent Person as defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr Cooper consents to the inclusion in this release of the matters based on the information in the form and context in which they appear.



AUSTRALASIAN METALS

ASX Announcement | ASX: A8G | 3 Dec 2024

Report compliant with the JORC Code (2012).

Section 1: Sampling Techniques and Data

Criteria	Commentary
<i>Sampling techniques</i>	- The deposit was primarily sampled via representative drill chip samples based on geological considerations from Reverse Circulation (RC) drill holes drilled on a 400m x 400m up to a 200m x 200m pattern through the deposit - The holes were orientated to ensure drill intersections were approximately perpendicular to the dip and strike of the ore lenses and overall geological package. - Reverse circulation drill samples were crushed and assayed for Al₂O₃, SiO₂, Fe₂O₃, TiO₂, V₂O₅, LOI, via Fusion XRF and Loss On Ignition (LOI) by Thermogravimetric Analyser (TGA). Avl_Al₂O₃ and RxSiO₂ were tested by ICP-AES. Rock Chip and Rubble/soil Samples - During recent field review consultant geologist Ian Cooper collected rock samples and rubble/soil samples of 1.5 to 3kg in weight for each sample. Samples were under supervision of the geologist until submitted to the laboratory. - Sample location, descriptions and sample photos were recorded in the field using purpose software from Konect. - Samples were submitted to the ALS laboratory located in Brisbane Australia with sample preparation method as per the following laboratory code: - LOG-22_CRU-21_PREP-22 (CRUSH/PULVERISE EACH SAMPLE)
<i>Drilling techniques</i>	A total of 94 drill holes have been drilled into the May Queen South Bauxite project area, of these a total of 32 were used for the resource estimate. All holes were drilled using Reverse Circulation (RC) method. The drill hole diameters were 140mm for phase 1 drilling and 114mm for phase 2. All holes were drilled at -90 degree.
<i>Drill sample recovery</i>	- The RC chip recovery was monitored onsite by IronRidge or contract geologists and field staff. RC chip recovery and assaying was recorded by sample requisition sheets. - The resource is based on RC drilling, the deposit predominately consists of available Al₂O₃ in Bauxite (as the mineral gibbsite), there are no concerns regarding loss of fine material during the chip sampling process for this deposit.
<i>Logging</i>	- No specific geological or geotechnical logging was undertaken. The Avl_Al₂O₃ assay results were determined to be bauxite mineralisation. This result enables a resource constraint i.e. 'hard boundary' and was sufficient enough to enable creation of resource boundary that supports this resource estimate. Rock Chip and Rubble/soil Samples - Sample location, descriptions and sample photos were recorded in the field using purpose software from Konect.
<i>Sub-sampling techniques and sample preparation</i>	- The RC samples were speared sampled by IronRidge or contract geologists/field staff. Samples were circulated from the drill face through a cyclone and then into a large plastic bag (UV). - All UV bags were labelled according to drill depth; these details were recorded on a sample requisition sheet. Speared samples were placed into pre-labelled calico bags and cross checked with sample requisition sheets. The sample requisition sheets were checked off prior to dispatch to lab. A ticketing book system was also used during the sample requisition for cross checking. The sample sizes for lab dispatch were on average between 1 and 2kgs. - The sample sizes are appropriate given the relatively homogenous distribution of bauxite within the deposit.



AUSTRALASIAN METALS

ASX Announcement | ASX: A8G | 3 Dec 2024

Criteria	Commentary
	Rock Chip and Rubble/soil Samples - Samples were submitted to the ALS laboratory located in Brisbane Australia with sample preparation method as per the following laboratory code: - LOG-22_CRU-21_PREP-22 (CRUSH/PULVERISE EACH SAMPLE) - Sample pulps and sample bulks were recovered from the laboratory and stored in the company's secure storage facility.
<i>Quality of assay data and laboratory tests</i>	- ALS laboratory completed internal standard and duplicate samples. The results of these samples indicate that there are no known material biases in the original May Queen South Bauxite project assay dataset. 14 re-assays of drill chip sample pulps were submitted to ALS laboratory from holes along the Monogriliby area of mineralisation, the results of these re-assayed showed an acceptable correlation with the original assay data. Rock Chip and Rubble/soil Samples - Samples were originally submitted to the ALS laboratory located in Brisbane Australia with sample analysis method as per the following laboratory code: ME-XRF21u - In September 2024 the samples pulps were collected by the QP from the company's secure storage facility and submitted for addition analysis for gallium and germanium using the ALS laboratory analytical method ME-MS85. Metallurgical Sample - rock samples received for testing were stage-crushed to 12.5mm and a sub-sample of the crushed product was used for standard ore grade analysis. In the second stage two portions of the 12.5 mm product from Stage 1 were crushed to 4.75 mm and 2.36 mm respectively. Two further portions of the 12.5 mm product were used to conduct scrubbing tests at different conditions. All test products generated were evaluated by conducting size x assay distribution analyses for Al, Fe, Ti, Si, P, Cr, Mg, Mn. - A multielement scan of the sample was completed for; Ag, As, B, Be, Bi, Ca, Cd, Co, Cu, Ga, Ge, K, La, Li, Mg, Mo, Na, Ni, P, Pb, S, Sb, Sc, Se, Sn, Sr, Te, Th, U, Zn, Zr, Al, Ba, Cr, Fe, Mn, Si, Ti, V, W. by method described as MEICP, laboratory unknown.
<i>Verification of sampling and assaying</i>	- Close spaced RC holes exist in the dataset. The correlation between these holes for bauxite assays is high. - Data was entered into a central database and then validated by a series of validation checks to ensure erroneous data was not saved into the resource database.
<i>Location of data points</i>	- MGA94 GDA zone 56 datum and projection was used as the grid reference system for the May Queen south bauxite deposit. All holes were surveyed using Single Point GPS system. Elevation data was generation from government high resolution DTM data. - The topography surface is represented by a DTM wireframe file that was generated by government high resolution Ortho-DEM data, this data has not been edited in any way. The surface covers the complete deposit area. The surface is considered no better than 1m accuracy and is an acceptable representation of the actual topographic surface at the site for this resource calculation. Rock Chip and Rubble/soil Samples - Sample location, descriptions and sample photos were recorded in the field using purpose software from Konect.
<i>Data spacing and distribution</i>	- The May Queen South bauxite deposit has been drilled on an average spacing of 250m x 250m within a plateau area around 7km². This drill spacing provides sufficient evidence of mineralised zone continuity for the purposes of this resource estimation. - No sampling compositing was necessary for the resource estimation process.
<i>Orientation of data in</i>	All RC holes were orientated at -90o to provide an approximate perpendicular intersection angle with the main mineralised zones.



AUSTRALASIAN METALS

ASX Announcement | ASX: A8G | 3 Dec 2024

Criteria	Commentary
<i>relation to geological structure</i>	No sampling bias has been assessed caused by this drilling orientation.
<i>Sample security</i>	- Samples were supervised by drilling contractors, field assistants or geologist at all times. Given the nature of the deposit sample security was not assessed as a significant risk. Rock Chip and Rubble/soil Samples - Rock Chip Samples: During recent field review consultant geologist Ian Cooper collected rock samples of 1.5 to 3kg in weight for each sample. Samples were under supervision of the geologist until submitted to the laboratory. - Rubble/soil Samples: During recent field review consultant geologist Ian Cooper collected rubble/soil samples of 1.5 to 3kg in weight for each sample. Samples were under supervision of the geologist until submitted to the laboratory. - Sample pulps and sample bulks were recovered from the laboratory and stored in the company's secure storage facility. In September 2024 the samples pulps were collected by the QP from the company's storage facility and submitted for addition analysis.
<i>Audits or reviews</i>	A due diligence review of the assays data and the resource estimation was completed by Mining One Consultants in January 2016.

Section 2: Reporting of Exploration Results (Criteria listed in the preceding section also apply to this section.)

Criteria	Commentary
<i>Mineral tenement and land tenure status</i>	- No joint ventures exist over the property. The standard Queensland government royalty. - The renewal application for EPM16260 and 16261 were submitted by UTM Global on the 23rd of May 2023. - On 22 February 2024 Exploration Permit the current 13 sub-blocks for Minerals (EPM) 16260 was renewed (Renewal commencement date being 12 June 2023) for a term of three years. - On 12 March 2024 Exploration Permit the current 6 sub-blocks for Minerals (EPM) 16261 was renewed (Renewal commencement date being 28 May 2023) for a term of three years.
<i>Exploration done by other parties</i>	Eastern Exploration Pty Ltd (a subsidiary of Iron Ridge Resources LTD) staff and contractors drilled the deposit in two drill phases between 2011 and 2015.
<i>Geology</i>	- The deposit consists of lateritised Tertiary volcanics and pyroclastics and is concentrated in a topographic high. - The mineralised zones occur within the lateritised Tertiary volcanics and pyroclastics (Main Range Volcanics). The zones are considered relatively homogenous for this resource estimation and are on average 5-10m thick below 1-2m of silcrete/duricrusts.
<i>Drill hole Information</i>	The detailed drilling hole information has been published by IronRidge in their JORC report completed by Mining One Consultants in 2016
<i>Data aggregation methods</i>	The exploration results reported for the May Queen South Bauxite deposit were included as weighted average assay intervals for Al₂O₃_Avl, Tot_Al₂O₃, RxSiO₂, TotSiO₂, Fe₂O₃, TiO₂, V and LOI. No cutting of high grades was completed when reporting as exploration results
<i>Relationship between</i>	All drill sample intervals are 1m in length, the average thickness of the mineralised zone is <10m, there are no issues with reporting the results based on this.



AUSTRALASIAN METALS

ASX Announcement | ASX: A8G | 3 Dec 2024

Criteria	Commentary
<i>mineralisation widths and intercept lengths</i>	The drill holes intercepted the mineralised lenses at an approximately perpendicular angle. All exploration results were reported as downhole thicknesses.
<i>Diagrams</i>	The detailed drilling hole information has been published by IronRidge in their JORC report completed by Mining One Consultants in 2016
<i>Balanced reporting</i>	The full data can be accessed through company website, including the full report of Mining One Consultants on this project
<i>Other substantive exploration data</i>	Not applicable
<i>Further work</i>	- Follow up work programmes will include further infill drilling and MET testing works. - The Company is currently recovering the pulp samples from analytical work conducted during the drilling phase for the bauxite resource estimation work as defined by IronRidge Resources, it is intended to conduct analysis of the stored sample pulps so that an estimation of gallium content of the bauxite resource can be reported.