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24 November 2016

Company Announcements Office ASX Limited Level 4, 20 Bridge Street SYDNEY NSW 2000

Red Hill Iron Ore Joint Venture - Mineral Resources Update

API Management Pty Ltd (API), the Manager of the Red Hill Iron Ore Joint Venture (RHIOJV), has delivered to Red Hill Iron Limited (RHI) and the other members of the RHIOJV updated Mineral Resource estimates dated 22 November 2016. A copy of the API covering letter and the report produced by Golder Associates Pty Ltd are attached.

The updated Mineral Resource estimates include maiden estimates for the Trixie West and Cardo Bore West Channel Iron Deposits (CID) and an updated estimate for the Red Hill Creek CID. The overall increase of 3 million tonnes in Mineral Resource estimates takes the total Mineral Resources from 813Mt (*RHI ASX announcement 26 June 2015*) to 816Mt.

RHI owns a 40% interest in the RHIOJV, which is maintained on a carry basis by API at no direct cost to RHI until the commencement of commercial production.

Upon commencement of commercial production, RHI may either elect to participate in the continuing RHIOJV mining operation at the 19% level or elect to convert its joint venture interest to a 2% FOB Royalty on all RHIOJV iron ore production. In the event of RHI electing to convert to the 2% Royalty, all funds advanced on RHI's behalf during the carry phase will be written off and the company's interest in the RHIOJV (which will be restricted to the FOB Royalty) will be debt free.

Neil Tomkinson Chairman 22 November 2016

Red Hill Iron Limited Level 2 9 Havelock Street WEST PERTH WA 6005

Aquila Steel Pty Ltd Level 14 225 St Georges Terrace PERTH WA 6000

AMCI Australia Pty Ltd Level 37 Riverside Centre 123 Eagle Street BRISBANE QLD 4000

Attention: Neil Tomkinson / Miles Zhou / Brian Clifford

Dear Sirs,

Re: Updated Mineral Resource Estimates for RHIOJV to include maiden estimates for Trixie West, Cardo Bore West and an updated estimate for Red Hill Creek West that incorporates infill RC drilling completed in 2015

API Management Pty Ltd (APIM) and Golder Associates Pty Ltd (Golder) have updated the RHIOJV Mineral Resource estimate to include the maiden Mineral Resource estimates for the Trixie West and Cardo Bore West Channel Iron Deposits (CID) and an update to the Red Hill Creek West (CID) Mineral Resource estimate that incorporates infill RC drilling that was completed in 2015. The division of each deposit based on Joint Venture (JV) ownership is summarised in the Table below.

Full Deposit Name	Sub-Reference Name (JV Split)	JV
Cardo Poro	Cardo Bore	MSIOJV
Caluo Dole	Cardo Bore West	RHIOJV
Rod Hill Crook	Red Hill Creek West	RHIOJV and APIM Mt Elvire Project
	Red Hill Creek (including Red Hill Creek Extension)	APIJV
Trivio	Trixie	APIJV
TIXIE	Trixie West	RHIOJV

The Mineral Resource estimates are presented in the attached report received from Golder dated 22 November 2016. A Competent Person Statement is contained within the report covering work completed by Golder.



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In the instance the Mineral Resource Statement is to be issued for public release the following Competent Person Statement should be attached when referring to the resources detailed in this report. Prior to public release of the Mineral Resource Statement <u>consent</u> <u>must be obtained from the Competent Persons</u>. Consents will be provided following review by the Competent Persons of the proposed release document.

Competent Person Statement

The Competent Person responsible for the geological interpretation and the drill hole data used for the resource estimation is Mr Michael Wall who is a full-time employee of API Management Pty Ltd, and Member of the Australasian Institute of Mining and Metallurgy. Michael Wall has sufficient relevant experience to the style of mineralisation and type of deposit under consideration and to the activity for which he is undertaking to qualify as a Competent Person as defined in the JORC Code (2012 Edition).

The information in this statement which relates to Mineral Resources is based on information compiled by Mr Richard Gaze who is a full-time employee of Golder Associates Pty Ltd, and Member and Chartered Professional of the Australasian Institute of Mining and Metallurgy. Richard Gaze has sufficient relevant experience to the style of mineralisation and type of deposit under consideration and to the activity for which he is undertaking to qualify as a Competent Person as defined in the JORC Code (2012 Edition).

Mineral Resource Estimates

APIM has reviewed the Mineral Resource estimates for each deposit and is satisfied the estimates have been completed to industry standard. All Mineral Resource estimates are reported at a 52% Fe block cut-off.

The updated global RHIOJV Mineral Resource estimate of 816 Mt at 56.5% Fe represents an increase of 3 Mt from the previously released 2015 Mineral Resource for the RHIOJV (813Mt). The previous estimates also used a 52% Fe block cut-off. Please note rounding of values has resulted in variation between tables.

The increase is attributed to;

- discovery and reporting of the maiden resource estimate for the Trixie West deposit (2.7 Mt);
- discovery and reporting of the maiden resource estimate for Cardo Bore West (0.1 Mt).

Table 1 summarises the three new estimates for Red Hill Creek West, Trixie West and Cardo Bore West.

Mineral Resource estimates from Cardo Bore East, Cardo Bore North, Catho Well North, Cochrane, Jewel, Kens Bore, Trinity Bore and Upper Cane were not updated as part of this work.



The full RHIOJV Mineral Resource Statement is presented in Attachment A. Refer to Figure 1 for deposit locations.

Table 1. Summary of Mineral Resource estimates for the three identified Channel IronDeposits within the RHIOJV (52% Fe cut-off).

Deposit	Joint Venture	Tonnage Mt	Fe %	SiO₂ %	Al ₂ O ₃ %	Mn %	LOI %	MgO %	P %	S %
Cardo Bore West	RHIOJV	0.1	52.34	7.91	7.15	0.08	9.21	0.17	0.054	0.009
Trixie West	RHIOJV/ APIM Elvire	2.7	55.30	7.56	3.75	0.02	9.13	0.05	0.069	0.026
Red Hill Creek West	RHIOJV/ APIM Elvire	27.8	56.98	5.62	3.30	0.02	8.89	0.07	0.116	0.010
TOTAL		30.6	56.82	5.80	3.35	0.02	8.91	0.07	0.112	0.011

The Mineral Resource estimate update for the three deposits (Cardo Bore West, Red Hill Creek West and Trixie West) totals 31 Mt at 56.8% Fe.





Figure 1. West Pilbara Iron Ore Project – Stage 1 – CID deposit location plan.



Estimation Process

The following flow sheet summarises key activities by APIM and Golder, all forming part of the resource estimation process.





Geological Interpretation

Three dimensional geological interpretations have been completed for all deposits. Revised geological interpretations are based on increased drill density and extension drilling at the Red Hill Creek deposit and improved mineralisation surface mapping.

The key stratigraphic units identified and modelled for the CID include:

- Canga (Dhc)
- Hardcap CID (Zpw)
- Hematitic Hard Zone CID (Zph)
- Goethitic Zone CID (Zpg)
- Clay Zone (Zpc)
- Mixed Zone CID (Zpm)
- Lithic Zone CID (Zpl)
- Basal Clay Zone (Zpb)
- Basal Conglomerate or Gravel (JK / Zpk)
- Basement (Bsm)

Solid 3D geological models for each of the stratigraphic units listed above were created based on drill hole and mapping data. The geological model was used to constrain the mineralisation and assign material density. Figure 4 shows an example of the construction of the Upper Cane geological model. Not all stratigraphic units are present at each deposit.



Figure 3 – The Geological Modelling Process





Figure 4 – Geological / Stratigraphic Model (Using Upper Cane as an Example)

Mineralisation Interpretation

Mineralised outlines were created using a combination of lithological and grade data. Hard boundaries were defined based on the following guidelines:

- 52% Fe applied as a lower cut-off;
- A minimum intercept width of 2m across two sections;
- A maximum consecutive waste intercept of 2m across two sections.

It should be noted that the criteria set out above acted as a guideline only, cut-offs were relaxed in situations where geological continuity would be maintained. Mineralisation was domained by stratigraphic unit.

Internal dilution has been kept to a minimum provided continuity of the mineralised envelopes could be maintained.

Mineralised envelopes were constrained by topography and the CID stratigraphy – geological model (Figure 5).





Figure 5 – Modelled Mineralisation Envelope (Using Upper Cane as an Example)

Golder undertook statistical and geostatistical analysis on drilling data that was constrained to the modelled mineralisation envelope and mineralised stratigraphic units.

For statistical data analysis, drilling data was composited to 2 m downhole lengths. Analysis was based on eight assay variables: Fe, SiO₂, Al₂O₃, P, S, Mn, MgO and LOI (LOI 1000°C).

Directional grade variography was completed for all domains in all the deposits, to provide parameters for the Ordinary Kriging method used for resource estimation.

Block Model

Block models were constructed using a parent block size of $25m \times 25m \times 2m$ and a subblock cell size of $5m \times 5m \times 2m$. The mineralised envelope was used to constrain the block model.

Density

No diamond core density testwork is available from the Trixie or Cardo Bore deposits and densities have been assumed based on rock type from nearby WPIOP Stage 1 Deposits. A description on this density information is provided below.

API has assigned dry densities to the mineralised stratigraphic units based on 1,335 density determinations completed on diamond drill core and winze stockpile samples collected between May 2008 and May 2015.



The accuracy and representativeness of dry densities determined by API were checked with 225 waxed sample pair densities determined Ammtec (Laboratory) and ALS Laboratories. 17% of all densities were validated in this manner. Based on the validation, a correction factor of -3.5% was applied to API's field densities for the RHIOJV deposits. Correction factors account for voids/porosity and any retained moisture at time of field measurement.

Densities have been assigned to mineralised stratigraphic units based on a global average of the density data set.

Classification

The Mineral Resource estimates were classified by Golder in accordance with the JORC Code (2012 Edition).

The classification approach was both quantitative and qualitative. Quantitatively, the classification is based on estimation performance. Qualitatively, the approach used adjustments based on geological confidence taking into consideration the drill hole spacing, confidence in the geological interpretation / continuity and representativeness of the available assay data.

Measured, Indicated and Inferred categories have been defined.

Cut-Off Grades

The Mineral Resource estimates are reported using a 52% Fe block cut-off grade.

Reporting

The Mineral Resource estimates have been compiled in accordance with the guidelines defined in the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC, 2012 Edition).

Resource Estimates

West Pilbara Iron Ore Project – Stage 1 (RHIOJV)

Mineral Resource estimates for the CIDs within the RHIOJV total 816 Mt at 56.5% Fe (Table 2).



Table 2. WPIOP - Stage 1 Mineral Resource estimates summarised by Joint Venture (52% Fe cut-off).

Joint Venture	Class (JORC 2012)	Mt	Fe %	SiO₂ %	Al ₂ O ₃ %	Mn %	LOI %	MgO %	P %	S %
WPIOP - Stage 1 RHIOJV	Measured	263.5	57.17	5.71	3.67	0.03	8.24	0.08	0.081	0.015
	Indicated	448.7	56.32	6.31	3.85	0.03	8.64	0.11	0.07	0.017
	Inferred	103.7	55.19	6.82	4.21	0.03	9.37	0.11	0.064	0.019
	TOTAL	815.9	56.45	6.18	3.84	0.03	8.61	0.1	0.073	0.017

Resource Classification

The tighter drill spacing completed at the Trixie West and infill drilling of the Red Hill Creek West Deposit has resulted in an increase of the Mineral Resource classified within the Measured category (JORC, 2012). Table 3 summarises the change in resource classification following the completion of infill and extensional drilling.

Table 3. Comparison of 2015 - 2016 RHIOJV Mineral Resource estimates

	Previou Jun 52% I	us Estimate ne 2015 Fe cut-off	Current Estimate October 2016 52% Fe cut-off			
Measured	247	30%	263.5	32%		
Indicated	460	57%	448.7	55%		
Inferred	107	13%	103.7	13%		
TOTAL	813	100%	815.9	100%		

The total combined Measured / Indicated resources defined within the RHIOJV stands at 712.2 Mt, representing an increase of 5.2 Mt to the comparable 2015 position.

Changes by deposit are;

- Trixie West identified and drilled target deposit resulting in maiden resource of 2.7 Mt (all of which is in the Measured / Indicated categories).
- Red Hill Creek West the updated Mineral Estimate includes infill RC drilling resulting in the upgrade of approximately 4Mt of Inferred material into the Measured / Indicated categories with minimal changes to overall tonnes and grade.

Yours sincerely,

Michael Wall Manager Exploration API Management Pty Limited



Attachment A – RHIOJV Mineral Resource Estimates

<u>Attachment B – Drill Hole Location Plans and Geological Sections (Cardo Bore West,</u> <u>Red Hill Creek West and Trixie West)</u>

<u>Attachment C – Golder Associates Mineral Resource Statement for WPIOP Stage 1</u> <u>Channel Iron Deposits; Cardo Bore West, Cardo Bore East, Cardo Bore North,</u> <u>Cochrane, Jewel, Trinity Bore, Trixie West, Upper Cane, Kens Bore, Catho Well, and</u> <u>Red Hill Creek West</u>



Attachment A – RHIOJV Mineral Resource Estimates (52% Fe Block Cut-Off Grade)

	Classification	Tonnage	Fe	SiO ₂	Al ₂ O ₃	Mn	LOI	MgO	Р	S
Deposit	(JORC, 2012)	Mt	%	%	%	%	%	%	%	%
	Measured	-	-	-	-	-	-	-	-	-
Cardo Bore	Indicated	-	-	-	-	-	-	-	-	-
West BUIOW	Inferred	0.1	52.34	7.91	7.15	0.08	9.21	0.17	0.054	0.009
KHIOJV	Total	0.1	52.34	7.91	7.15	0.08	9.21	0.17	0.054	0.009
Cardo Bore	Measured	-	-	-	-	-	-	-	-	-
East	Indicated	45.1	57.92	5.34	3.99	0.06	7.04	0.12	0.072	0.016
	Inferred	14.2	56.28	6.27	4.13	0.03	8.31	0.10	0.064	0.024
RHIOJV	Total	59.3	57.53	5.56	4.03	0.05	7.35	0.12	0.070	0.018
Cardo Bore	Measured	-	-	-	-	-	-	-	-	-
North	Indicated	6.0	56.16	6.42	4.27	0.03	8.34	0.05	0.070	0.022
	Inferred	4.8	54.69	6.72	4.82	0.02	9.55	0.05	0.068	0.026
KUIOJA	Total	10.8	55.51	6.55	4.52	0.02	8.87	0.05	0.069	0.024
				-		-				
	Measured	-	-	-	-	-	-	-	-	-
Cochrane	Indicated	52.4	56.30	6.22	4.3	0.02	8.23	0.12	0.077	0.020
RHIOJV	Inferred	3.7	55.96	6.44	4.09	0.02	8.65	0.13	0.051	0.017
	Total	56.1	56.28	6.23	4.29	0.02	8.26	0.12	0.075	0.020
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	Measured	-	-	-	-	-	-	-	-	-
Jewel	Indicated	26.3	55.89	6.41	4.03	0.02	9.11	0.06	0.060	0.020
RHIOJV	Inferred	10.6	56.32	6.20	3.92	0.02	8.86	0.06	0.070	0.020
	Total	36.9	56.01	6.35	4.00	0.02	9.04	0.06	0.060	0.020
	T							1		
	Measured	-	-	-	-	-	-	-	-	-
Trinity Bore	Indicated	109.1	54.67	7.44	4.01	0.03	9.74	0.11	0.057	0.022
RHIOJV	Inferred	28.5	54.38	7.16	4.44	0.02	9.98	0.10	0.060	0.024
	Total	137.6	54.61	7.38	4.10	0.03	9.79	0.11	0.058	0.022
								1		
Linner Cone	Measured	57.7	58.58	5.15	3.04	0.02	7.47	0.05	0.077	0.021
Opper Cane	Indicated	26.0	56.81	6.79	3.55	0.04	7.76	0.07	0.094	0.018
RHIOJV	Inferred	3./	54.44	8.84	4.06	0.07	8.32	0.09	0.115	0.013
	lotal	87.4	57.88	5.80	3.23	0.03	7.59	0.05	0.084	0.020
Catho Well	Measured	-	-	-	-	-	-	-	-	-
North	Indicated	11.5	54.66	7.48	2.98	0.11	10.38	0.24	0.039	0.016
RHIOIV	Inferred	2.8	53.91	7.86	3.26	0.17	10.64	0.25	0.037	0.012
	Total	14.3	54.51	7.56	3.03	0.13	10.43	0.24	0.038	0.015
	Measured	178.1	56.75	5.9	3.93	0.03	8.39	0.09	0.078	0.014
Kens Bore	Indicated	169.6	57.08	5.7	3.63	0.02	8.44	0.10	0.074	0.013
RHIOJV	Inferred	35.2	55.25	6.69	4.15	0.03	9.52	0.12	0.064	0.012
	Total	382.9	56.76	5.88	3.82	0.02	8.52	0.10	0.075	0.014



Donosit	Classification	Tonnage	Fe	SiO ₂	AI_2O_3	Mn	LOI	MgO	Р	S
Deposit	(JORC, 2012)	Mt	%	%	%	%	%	%	%	%
Rod Hill Crook	Measured	25.5	57.06	5.54	3.29	0.02	8.87	0.07	0.116	0.009
Red Hill Creek	Indicated	2.2	56.24	6.42	3.39	0.02	9.05	0.06	0.115	0.011
RHIOIV	Inferred	0.1	53.74	9.03	3.60	0.02	9.51	0.11	0.156	0.005
KIIIOJV	Total	27.8	56.98	5.62	3.30	0.02	8.89	0.07	0.116	0.010
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	Measured	2.2	55.23	7.63	3.66	0.02	9.25	0.05	0.068	0.027
Trixie West	Indicated	0.5	55.63	7.24	4.16	0.02	8.62	0.06	0.073	0.019
RHIOJV	Inferred	-	-	-	-	-	-	-	-	-
	Total	2.7	55.30	7.56	3.75	0.02	9.13	0.05	0.069	0.026
	Measured	263.5	57.17	5.71	3.67	0.03	8.24	0.08	0.081	0.015
RHIOJV	Indicated	448.7	56.32	6.31	3.85	0.03	8.64	0.11	0.070	0.017
TOTAL	Inferred	103.7	55.19	6.82	4.21	0.03	9.37	0.11	0.064	0.019
	Total	815.9	56.45	6.18	3.84	0.03	8.61	0.10	0.073	0.017



<u>Attachment B – Drill Hole Location Plans and Geological Sections (Cardo Bore West,</u> <u>Red Hill Creek West and Trixie West)</u>



Figure 1 - Mineralisation envelopes and drill hole locations for Cardo Bore (MSIOJV) and Cardo Bore West (RHIOJV) Deposits. The Cardo Bore East (RHIOJV) deposit was not updated in the current resource estimate.





Figure 2 – Cardo Bore Geological Cross Sections





Figure 3 - Mineralisation envelopes and drill hole locations for Red Hill Creek (APIJV) and Red Hill Creek West (RHIOJV) Deposits





Figure 4 – Red Hill Creek Geological Cross Sections





Figure 5 - Mineralisation envelopes and drill hole locations for Trixie (APIJV) and Trixie West (RHIOJV) Deposits





Figure 6 – Trixie Geological Cross Sections



22 November 2016

Project No. 1648592-001-L-Rev2

Mr Michael Wall API Management Pty Ltd Level 1, 1 Preston Street COMO WA 6152

MINERAL RESOURCE STATEMENT FOR CHANNEL IRON DEPOSITS IN THE RED HILL IRON ORE JOINT VENTURE (RHIOJV): CARDO BORE WEST, TRIXIE WEST, RED HILL CREEK WEST AND UPDATED RHIOJV WPIOP STAGE 1 MINERAL RESOURCE ESTIMATE

Dear Michael

Golder Associates Pty Ltd (Golder) completed Mineral Resource estimates for three deposits on behalf of APIM Management Pty Ltd (APIM). The Mineral Resource estimate updates were completed for Cardo Bore (CB), Trixie (TX) and Red Hill Creek (RHC) deposits. This letter reflects the portion of the Mineral Resources attributed to the RHIOJV.

CB (of which Cardo Bore West is in the RHIOJV) reflects an area of the Cardo Bore deposits not previously modelled. TX is a maiden resource estimate. RHC is an update of the 2015 resource estimate to reflect additional infill drilling and a new area, RHC Extension, drilled in late 2015. Mineral Resource estimates from Cardo Bore East, Cardo Bore North, Catho Well, Cochrane, Jewel, Kens Bore, Trinity Bore and Upper Cane were not updated (from August 2015); however, a new global RHIOJV Mineral Resource Statement has been calculated and included in this letter.

The Mineral Resource estimates are based on a 52% Fe cut-off mineralisation envelope and stratigraphic domains interpreted, modelled and provided by APIM. The Mineral Resources are classified in accordance with "the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code, 2012 Edition)". Classification of resources was completed by Golder, based principally on geological confidence, data density and estimation performance. The *in situ* Mineral Resources are constrained to the mineralisation domain boundaries.

The Mineral Resources were prepared under the supervision of Mr Richard Gaze, of Golder Associates Pty Ltd (Golder). Mr Richard Gaze is a member of the Australasian Institute of Mining and Metallurgy and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the JORC Code.

GEOLOGY

In the West Pilbara Iron Ore Project (WPIOP) area, the principal type of iron ore occurs as secondary channel iron deposits (CIDs), also known as Robe Pisolite. The CIDs occur as partly dismembered, topographically inverted palaeochannel deposits preserved along major palaeodrainage lines.

A plan view map of the deposit locations is provided in Figure 1. The interpreted mineralisation envelopes, geology, drill hole collar locations and where relevant, tenement boundaries for each deposit are shown in Figure 2 to Figure 4.





Figure 1: Plan of WPIOP Stage 1 deposit locations displaying CID mineral resources and tenement boundaries (after APIM)





Figure 2: Mineralisation envelopes and drill hole locations for CB (MSIOJV) and CBW (RHIOJV) deposits with tenement boundaries. Note that the CBE deposit was not updated in the current resource estimate



Figure 3: Mineralisation envelopes and drill hole locations for TX (APIJV) and TX West (RHIOJV) deposits with tenement boundaries





Figure 4: Mineralisation envelopes and drill hole locations for RHC West (RHIOJV) and RHC (APIJV) deposits with tenement boundaries

ASSUMPTIONS AND METHODOLOGY

The Mineral Resources are based on a number of factors and assumptions:

- Stratigraphy and mineralisation domains were interpreted and modelled by APIM and reviewed by Golder. APIM geologists completed the sectional string interpretation and generated the stratigraphy and mineralisation wireframes based on the sectional strings. Golder reviewed the wireframes prior to the resource estimation.
- A nominal 52% Fe mineralisation cut-off grade was used to define mineralised domains. "Sub-grade" material (below 52% Fe) was also incorporated in certain areas to maintain continuity. Both stratigraphy and mineralisation domains were used to flag the sample data for statistical analysis and to constrain the grade estimation. A summary of the geological domains which typically apply to each of the deposits is provided in Table 1.
- The most recent topographical surface provided by APIM was used to define the surface topography. Mineralisation domains were extended to the edge of the mesa defined by the topographic surface where considered appropriate.
- The Mineral Resource estimates are based on all available information provided to Golder as of 17 August 2016.
- Golder has previously completed a review of the QAQC data provided by APIM. No significant issues with the QAQC aspects of sampling and assaying were found. Golder were supplied with field duplicate and reference standard data reflecting the additional drilling for CB, TX and RHC. Golder has undertaken a high-level review of the QAQC data provided and has observed that similar standards of QAQC controls apply.
- The survey control for collar positions was considered by Golder to be adequate for the purposes of resource estimation and accepted with no further modifications.



Variable	Code	Description
	10	Zpw – Hardcap Zone
	20	Zph – Hematite Rich Hard Zone
	30	Zpm – Mixed Zone
	40	Zpb – Basal Clay Zone
	50	Zpc – Clay Zone
MINSTR (stratigraphy)	60	JK/Zpk – Basal Conglomerate or Gravel Zone
	70	Bsm – Basement Lithology
wind in (stratigraphy)	80	Otr – Transported Overburden
	90	Zpg – Goethite Rich Hard Zone
	100	Dhc – Canga Detrital Unit
	110	Dsi – Silica Detrital Unit
	120	Zpl – Lithic Zone
	130	Dsh – Silica Detrital (haematitic) unit
	140	HC –Basement Hardcap Zone
DOMAIN (Equiporalization)	1	Mineralised (>52% Fe)
	0	Non-Mineralised

Table 1: Geological domains for all deposits

- For each deposit, statistical and geostatistical analysis was carried out on drilling data composited to 2 m downhole and constrained to the mineralisation and stratigraphy domains.
- In situ bulk density values were assigned to each model based on stratigraphy and mineralisation type. The bulk density values are summarised in Table 2. Density values for the WPIOP Stage 1 Deposits were provided by APIM and are based on 1335 wet and dry (non-waxed) density determinations from 1054 PQ diamond drill core samples and 281 winze stockpile samples collected between May 2008 and February 2015.
- Using parameters derived from modelled variograms, the interpolation method of Ordinary Kriging (OK) was used to estimate Fe, SiO₂, Al₂O₃, Mn, LOI (1000°c), MgO, P, S, CaO, K₂O and TiO₂.
- The Mineral Resource is reported using *in situ* tonnes and estimated grades at the 52% Fe cu-off grade, with no dilution/ore loss factors applied or any specific selectivity assumptions other than that implied by the block model parent cell size.

DOMAIN	MINSTR	Density Assignment
	10 (Zpw)	2.85
	20 (Zph)	2.85
1 (>52% Fe)	30 (Zpm)	2.65
	90 (Zpg)	2.75
	100 (Dhc)	2.85
	10 (Zpw)	2.80
	20 (Zph)	2.60
	30 (Zpm)	2.60
0 (Monto)	40 (Zpb)	2.60
0 (Waste)	50 (Zpc)	2.60
	60 (Zpk)	2.60
	70 (Bsm)	2.60
	80 (Otr)	2.60

Table 2: In Situ bulk density values used for the WPIOP Stage 1 deposits



DOMAIN	MINSTR	Density Assignment
	90 (Zpg)	2.60
	100 (Dhc)	2.60
	110 (Dsi)	2.60
	120 (Zpl)	2.60
	130 (Dsh)	2.60
	140 (HC)	2.60

MINERAL RESOURCE STATEMENT

Mineral Resource estimates were classified in accordance with guidelines provided in the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code, 2012 Edition). The classification was based principally on geological confidence, drill hole spacing and grade continuity from available drilling data. Table 3 provides a summary of the Mineral resources at the 52% Fe cut-off grade applied for CB, TX RHC for the RHIOJV. Table 4 provides a summary of the Mineral Resources at the 52% Fe cut-off grade for the RHIOJV deposits.

Deposit	Joint Venture	Class	Mt	Fe	SiO ₂	Al ₂ O ₃	Mn	LOI1000	MgO	Р	S
		Measured	-	-	-	-	-	-	-	-	-
Cardo		Indicated	-	-	-	-	-	-	-	-	-
DepositNCardo Bore WestRITrixie WestRITrixie WestRIRed Hill 		Inferred	0.1	52.34	7.91	7.15	0.08	9.21	0.17	0.054	0.009
		Total	0.1	52.34	7.91	7.15	0.08	9.21	0.17	0.054	0.009
		Measured	2.2	55.23	7.63	3.66	0.02	9.25	0.05	0.068	0.027
Trixie		Indicated	0.5	55.63	7.24	4.16	0.02	8.62	0.06	0.073	0.019
West	NHIOJ V	Inferred	-	-	-	-	-	-	-	-	-
		Total	2.7	55.30	7.56	3.75	0.02	9.13	0.05	0.069	0.026
		Measured	25.5	57.06	5.54	3.29	0.02	8.87	0.07	0.116	0.009
Red Hill Crook		Indicated	2.2	56.24	6.42	3.39	0.02	9.05	0.06	0.115	0.011
West		Inferred	0.1	53.74	9.03	3.60	0.02	9.51	0.11	0.156	0.005
		Total	27.8	56.98	5.62	3.30	0.02	8.89	0.07	0.116	0.010
		Measured	27.7	56.91	5.71	3.32	0.02	8.90	0.07	0.112	0.011
A 11	Combined	Indicated	2.7	56.12	6.57	3.53	0.02	8.97	0.06	0.107	0.012
A11	Combined	Inferred	0.2	53.23	8.62	4.90	0.04	9.40	0.14	0.119	0.006

Table 3: *In Situ* mineral resources for RHIOJV at a 52% Fe cut-off grade (CB, TX, and RHC)

Table 4: In Situ mineral resources for RHIOJV at a 52% Fe cut-off grade (RHIOJV)

Deposit	Joint Venture	Class	Mt	Fe	SiO ₂	Al ₂ O ₃	Mn	LOI1000	MgO	Р	S
		Measured	-	-	-	-	-	-	-	-	-
Cardo		Indicated	-	-	-	-	-	-	-	-	-
West	кпюју	Inferred	0.1	52.34	7.91	7.15	0.08	9.21	0.17	0.054	0.009
		Total	0.1	52.34	7.91	7.15	0.08	9.21	0.17	0.054	0.009
		Measured	-	-	-	-	-	-	-	-	-
Cardo		Indicated	45.1	57.92	5.34	3.99	0.06	7.04	0.12	0.072	0.016
Bore Fast	кпюју	Inferred	14.2	56.28	6.27	4.13	0.03	8.31	0.10	0.064	0.024
		Total	59.3	57.53	5.56	4.03	0.05	7.35	0.12	0.070	0.018



Deposit	Joint Venture	Class	Mt	Fe	SiO ₂	Al ₂ O ₃	Mn	LOI1000	MgO	Ρ	S
		Measured	-	-	-	-	-	-	-	-	-
Cardo		Indicated	6.0	56.16	6.42	4.27	0.03	8.34	0.05	0.070	0.022
North	кпюју	Inferred	4.8	54.69	6.72	4.82	0.02	9.55	0.05	0.068	0.026
DepositCardo Bore NorthCochraneJewelJewelTrinity BoreUpper 		Total	10.8	55.51	6.55	4.52	0.02	8.87	0.05	0.069	0.024
		Measured	-	-	-	-	-	-	-	-	-
Coobrana		Indicated	52.4	56.30	6.22	4.3	0.02	8.23	0.12	0.077	0.020
Cochrane		Inferred	3.7	55.96	6.44	4.09	0.02	8.65	0.13	0.051	0.017
DepositICardo Bore NorthRCochraneRJewelRTrinity BoreRQupper CaneRCatho Well NorthRCatho Well NorthRRed Hill Creek WestRTrixie MestR		Total	56.1	56.28	6.23	4.29	0.02	8.26	0.12	0.075	0.020
		Measured	-	-	-	-	-	-	-	-	-
lowel		Indicated	26.3	55.89	6.41	4.03	0.02	9.11	0.06	0.060	0.020
Jewei	кпюју	Inferred	10.6	56.32	6.20	3.92	0.02	8.86	0.06	0.070	0.020
		Total	36.9	56.01	6.35	4.00	0.02	9.04	0.06	0.060	0.020
		Measured	-	-	-	-	-	-	-	-	-
Trinity		Indicated	109.1	54.67	7.44	4.01	0.03	9.74	0.11	0.057	0.022
Bore		Inferred	28.5	54.38	7.16	4.44	0.02	9.98	0.10	0.060	0.024
		Total	137.6	54.61	7.38	4.10	0.03	9.79	0.11	0.058	0.022
		Measured	57.7	58.58	5.15	3.04	0.02	7.47	0.05	0.077	0.021
Upper	RHIOJV	Indicated	26.0	56.81	6.79	3.55	0.04	7.76	0.07	0.094	0.018
Cane		Inferred	3.7	54.44	8.84	4.06	0.07	8.32	0.09	0.115	0.013
Cane		Total	87.4	57.88	5.80	3.23	0.03	7.59	0.05	0.084	0.020
	Jpper Cane RHIOJV	Measured	-	-	-	-	-	-	-	-	-
Catho		Indicated	11.5	54.66	7.48	2.98	0.11	10.38	0.24	0.039	0.016
CochraneRJewelRTrinity BoreRUpper CaneRCatho Well 		Inferred	2.8	53.91	7.86	3.26	0.17	10.64	0.25	0.037	0.012
		Total	14.3	54.51	7.56	3.03	0.13	10.43	0.24	0.038	0.015
		Measured	178.1	56.75	5.9	3.93	0.03	8.39	0.09	0.078	0.014
Cardo Bore NorthRHIOCochraneRHIOJewelRHIOTrinity BoreRHIOUpper CaneRHIOCatho Well NorthRHIOKens BoreRHIOKens MorthRHIOKens MorthRHIOKens BoreRHIOKens MorthRHIOKens MorthRHIOKens MorthRHIOKens MorthRHIOKens MorthRHIOKens MorthRHIO		Indicated	169.6	57.08	5.7	3.63	0.02	8.44	0.10	0.074	0.013
		Inferred	35.2	55.25	6.69	4.15	0.03	9.52	0.12	0.064	0.012
		Total	382.9	56.76	5.88	3.82	0.02	8.52	0.10	0.075	0.014
		Measured	25.5	57.06	5.54	3.29	0.02	8.87	0.07	0.116	0.009
Red Hill		Indicated	2.2	56.24	6.42	3.39	0.02	9.05	0.06	0.115	0.011
West	кпюју	Inferred	0.1	53.74	9.03	3.60	0.02	9.51	0.11	0.156	0.005
		Total	27.8	56.98	5.62	3.30	0.02	8.89	0.07	0.116	0.010
		Measured	2.2	55.23	7.63	3.66	0.02	9.25	0.05	0.068	0.027
Trixie		Indicated	0.5	55.63	7.24	4.16	0.02	8.62	0.06	0.073	0.019
West	кпюју	Inferred	-	-	-	-	-	-	-	-	-
		Total	2.7	55.30	7.56	3.75	0.02	9.13	0.05	0.069	0.026
		Measured	263.5	57.17	5.71	3.67	0.03	8.24	0.08	0.081	0.015
A 11	Combined	Indicated	448.7	56.32	6.31	3.85	0.03	8.64	0.11	0.070	0.017
All	Combined	Inferred	103.7	55.19	6.82	4.21	0.03	9.37	0.11	0.064	0.019
		Total	815.9	56.45	6.18	3.84	0.03	8.61	0.10	0.073	0.017



The JORC Code assessment criteria

The JORC Code, 2012 Edition describes a number of criteria, which must be addressed in the Public Reporting of Mineral Resource estimates. These criteria provide a means of assessing whether or not parts of or the entire data inventory used in the estimate are adequate for that purpose. The Mineral Resource estimates stated in this document were based on the criteria set out in Table 1 of that Code. These criteria are discussed in Table 5 as follows.

Table 5: JORC Code table 1				
JORC Code Assessment Criteria	Comment			
Section 1 Sampling Techniques and Data	-			
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 downhole 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. 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.	 RC drill samples for analysis were collected every 2 m down hole directly from the cyclone after passing through a three-tier riffle splitter or cone splitter mounted on the RC drilling rig. Each sample represents approximately 12% (by volume) of the drilling interval with an average weight of 4 kg for a 2 m interval. Sample analysis was completed by SGS Laboratories in Welshpool, WA. Samples were sent direct to the laboratory, sorted, dried and pulverised using a ring mill. All drilling was sampled in accordance with APIM sampling procedures. 			
Drilling Techniques	The majority of the downhole samples were collected from DC drilling utilizing a 51/2 from acmpling			
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.).	 HQ3 and PQ3 diamond drilling has been completed for QAQC, geotechnical and beneficiation purposes across the majority of the WPIOP Stage 1 Deposits (excluding Cardo Bore and Trixie). All diamond drilling was completed using triple tube methods. 			
Drill Sample Recovery	 RC sample recoveries and quality were recorded for 			
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.	 each sampling interval by the geologist. Samples were classified as dry, damp or wet. Sample recoveries were based on estimates of the size of drill spoil piles and were recorded as a percentage of the expected total sample volume. The majority of drilling was completed above the water table and sample recovery estimates of 100% were the norm. The cyclone in the RC rig was cleaned in between drill holes to minimise sample contamination. Previous twinned hole studies (diamond vs RC) at APIM project areas indicate minimal sample bias using RC drilling techniques. Diamond core recoveries were recorded for every run. 			



JORC Code Assessment Criteria	Comment
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.	 All geological logging was conducted using APIM procedures and standardised coding. Data is entered directly into ruggedised laptops at the drill site using software that validates data as the geologist logs. Logging data is then emailed to Perth where it undergoes further validation as it is uploaded and stored into the APIM SQL-based geological database. All diamond core from the WPIOP Stage 1 area has been photographed.
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.	 RC samples were collected in pre-labelled calico bags via a cone splitter mounted directly below the cyclone on the rig. Wet and dry samples were collected via the same technique. Samples were stored on-site prior to being transported to the laboratory. Wet samples were allowed to dry before being processed. Samples were sorted, dried and weighed at the laboratory where they were then crushed and riffle split to obtain a sub-fraction for pulverisation. The pulverised sample was reduced further and combined with various reagents prior to oven fusion to create a fused disc for analysis.
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.	 Sample analysis was completed by SGS Laboratories in Welshpool, WA. Standards and duplicates were inserted into the sample sequence at the rate of 1 in 50 samples, i.e. every 25th sample was a standard or a duplicate. These samples were used to test the precision and accuracy of the sampling method and laboratory analysis. APIM conducts monthly checks of all QAQC data. APIM has previously conducted external reviews (undertaken by Optiro and Geostats) of the geological and assay database. Audit results show an acceptable level of accuracy and precision.
Verification of Sampling and Assaying	 Comparison of RC and twinned diamond hole assay data distributions show that the drilling methods have
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.	 and distributions show that the dining methods have similar grade distributions, verifying the suitability of RC samples in the Mineral Resource estimate. APIM periodically conducts round robin studies on assay results to verify sample analysis. No concerns were highlighted and no adjustments to data have been made. APIM has retained laboratory sample pulps for all samples since 2005.



JORC Code Assessment Criteria	Comment
Location of Data Points Accuracy and quality of surveys used to locate drill holes (collar and downhole surveys), trenches, mine workings and other locations used in Mineral Resource estimation. Specification of the grid system used. Quality and adequacy of topographic control.	 All drill holes are initially surveyed by handheld GPS and later surveyed by differential GPS utilising an independent contractor. Drill hole collar coordinates were verified in ArcGIS and/or MapInfo software utilising aerial photography as part of APIM's monthly QA/QC procedures. Topographic coverage of all APIM deposits has been established by aerial survey (LIDAR) with a vertical accuracy of ±0.15 m. APIM projects fall within the MGA Zone 50 or 51 (GDA 1994 based) for horizontal data and AHD for vertical data.
Data Spacing and Distribution	 Nominal drill spacing varies from 100 m × 100 m at Cardo Bore to 100 m × 50 m spacing at Trixie and Red Hill Creek. For other Stage 1 Deposits, nominal drill hole
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.	 spacing ranges from typically 100 m × 50 m × 200 m × 100 m Cardo Bore North has been drilled at 100 m × 50 m. Areas of Kens Bore have been drilled to 50 m × 50 m drill and 25 m × 25 m spacing. Short scale trial grade control drilling has also been conducted at Upper Cane and Catho Well on 5 m × 5 m spacing. Diamond hole samples were composited for metallurgical testwork however these samples were not included in the Mineral Resource estimate. No sample compositing has been undertaken for RC samples as all samples are on uniform 2 m lengths. Resource drilling was designed along grid lines dominantly orientated in the north-south direction (360 °-180 °).
Orientation of Data in Relation to Geological Structure	 All drill holes in the WPIOP Stage 1 area, apart from seven RC holes at Upper Cane, and two RC holes at
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.	 Catho Well and 6 DD holes at Buckland Hills were drilled vertically. These angled holes were drilled at 60° in order to test the CID where topography restricts access to the limits of the mesa and for geotechnical testwork. Due to the shallow depth of drill holes and the horizontal stratigraphy of the CID it was not considered a requirement to complete downhole orientation surveys. To support this assumption downhole surveys were conducted on 62 drill holes at the Kens Bore, Red Hill Creek, Cochrane, Jewel, Catho Well and Cardo Bore deposits. The average absolute deflection recorded in all drill holes was negligible. The orientation of sampling achieves unbiased sampling of stratigraphic domains.
Sample Security	APIM and SGS communicate on a regular basis and
The measures taken to ensure sample security.	standard chain of custody paperwork is used. Samples are despatched and transported to the laboratory on a regular basis.
Audits and Reviews	 QA/QC procedures and rigorous database validation
The results of any audits or reviews of sampling techniques and data.	rules ensures sampling and logging data is validated prior to being used by APIM Geologists.



JORC Code Assessment Criteria	Comment				
	 APIM conducts reference stand Independent at and QA/QC ass Sampling proce consistent with 	monthly QA/Q0 dards and field o udits of APIM's s say data have b edures and the o industry standa	C data chec duplicates. sampling teo een underta drill hole dat rds.	ks on chniques aken. abase is	
Section 2 Reporting of Exploration Results					
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.	 The Australian between Aquila the Red Hill Iro between APIM Stuart Iron Ore APIM and Culle Yalleen Project collectively con Ore Project (W managed by Al There are no kn heritage matter development or relevant approv 	Premium Iron J a Steel Pty Ltd a n Ore Joint Ven and Red Hill Iro Joint Venture (I en Exploration F t (Helix Resourc nprise the broad PIOP), with eac PIM Manageme nown environme s that would imp f the resource a vals).	oint Venture ind AMCI (IC ture (RHIO, on Limited) a MSIOJV – b Pty Ltd) and es – royalty ler West Pill h joint ventu nt Pty Ltd (<i>A</i> ental or cultu pact on the reas (subject	e (APIJV - D) Pty Ltd), IV - and the Mt between the) oara Iron ure APIM). ural	
Exploration Done by Other Parties	 Exploration wo 	rk completed by	APIM or ot	her parties	
Acknowledgment and appraisal of exploration by other parties.	prior to this report has been summarised in previou ASX releases or are publically available via the Department of Mines and Petroleum online system			n previous a the e systems.	
Geology	The Mineral Resources are from Channel Iron			Iron	
Deposit type, geological setting and style of mineralisation.	 Deposits (CID) with mineralisation present as Tertiary Robe Pisolite. CID has been formed by the alluvial and chemical deposition of iron rich sediments in palaeo-river channels after erosion and weathering of lateratised Hamersley Group sediments. Basement varies from Members of the Wyloo Group to Hamersley Group and includes dolomites, chert, volcanoclastics, and basalt (Wyloo Group), and shales to dolomites of the Wittenoom Formation, Mount McRae Shale, and Mt Sylvia Formation (Hamersley Group). 				
	The Mineral Re	esource estimate	es are hase	d on all	
	available drilling as of 17 August 2016. A summary of number of drill holes and drilling meterage by deposit is provided below:				
	Prospect	No. of holes	Metres		
	Catho Well	1 097	29 749		
Drill halo information	Cardo Bore	330	12 021		
	Cardo Bore East	118	4 737	737	
	Cardo Bore North 89 4 594				
	Cochrane	173	8 251		
	Jewel 60 3 880				
	Ken's Bore	1 273	67 065		
	Red Hill Creek 651 23 372				
	Trinity Bore	792	25 520		



JORC Code Assessment Criteria	Comment		
	Trixie	247	9 624
	Upper Cane	312	10 384
	Total	5 142	199 197
Data aggregation methods	No maximum of performed.	or minimum grac	le truncations were
Relationship between mineralisation widths and intercept lengths	 Mineralisation in each of the areas reported lying and only true mineralisation widths ar reported. 		reas reported are flat on widths are
Diagrams	 A plan view map showing the deposit location included in the body of the report. 		deposit locations is ort.
Balance reporting	 Not applicable been reported. the Mineral Re 	Exploration reaction This Table relaction source estimate	sults have previously ates to the reporting of s.
Other substantive exploration data	 Not applicable been reported. the Mineral Re 	Exploration res This Table rela source estimate	sults have previously ates to the reporting of s.
Further work	 Exploration we minimum, to m good standing. density testwoi and Cardo Bor 	rk will continue aintain the Expl Diamond drillin k is planned for e.	as required, and as a oration Licences in g for geotechnical and Trixie, Red Hill Creek
Section 3 Estimation and Reporting of Mineral F	Resources		
Database Integrity Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes. Data validation procedures used.	 All geological of a SQL database managed by A consultants. APIM uses Oc database. Cus to further valida samples, recei undertaken in of APIM has prev review the drill found to be ab 	data and drilling be in the APIM P PIM with suppor ris to import data stom-built config ate the data on i pting of assays, Ocris. iously engaged hole database. ove industry sta	information is stored in Perth office and is t from external a into its SQL ured imports are used mport. Despatching of and QA/QC is also external consultants to The database was ndard.
Site Visits			
Comment on any site visits undertaken by the Competent Person and the outcome of those visits. If no site visits have been undertaken indicate why this is the case.	 APIM Competent Persons have visited th Resource deposits. Golder has not undertaken any site visits current Mineral Resource estimation. 		e visited the Mineral / site visits for the nation.
Geological Interpretation	3D geological	and mineralisation	on modelling is
Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit. Nature of the data used and of any assumptions made. The effect, if any, of alternative interpretations on Mineral Resource estimation. The use of geology in guiding and controlling Mineral Resource estimation. The factors affecting continuity both of grade and geology.	 undertaken by method involve stratigraphy us lithological loge Working field s the geologist a account when mineralisation Golder reviewe reflecting the 5 Mineral Resou 	APIM using Mic es interpretation ing surface geo ging and downho ections are upd nd these commo creating or editin models. ed the mineralisa 2% Fe cut-off gur rce estimation.	promine software. The of downhole logical mapping, ole assay data. ated at the drill rig by ents are taken into ng geological and ation wireframes rade prior to use for



JORC Code Assessment Criteria	Comment				
Dimensions	The dimensions of each block model (below) are			ow) are	
	adequate to cover the extent and variability of each				
	Dep.	Dir.	Min. (m)	Max. (m)	Ext. (m)
	СВ	Easting (X)	412 700	419 300	6 600
		Northing (Y)	7 540 600	7 546 800	6 200
		RL (Z)	75	305	230
	CBE	Easting (X)	419 200	422 400	3 200
		Northing (Y)	7 544 200	7 546 300	2 100
		RL (Z)	75	275	200
	CBN	Easting (X)	418 500	421 500	3 000
		Northing (Y)	7 549 700	7 552 000	2 300
		RL (Z)	150	400	250
	CCH	Easting (X)	409 000	413 000	4 000
		Northing (Y)	7 574 000	7 577 500	3 500
		RL (Z)	0	300	300
	JWL	Easting (X)	410 100	412 200	2 100
The extent and variability of the Mineral Resource		Northing (Y)	7 573 600	7 574 500	900
expressed as length (along strike or otherwise),		RL (Z)	75	275	200
plan width, and depth below surface to the upper	ТВ	Easting (X)	427 000	435 000	8 000
and lower limits of the Mineral Resource.		Northing (Y)	7 521 000	7 531 000	10 000
		RL (Z)	200	400	200
	UC	Easting (X)	422 500	426 000	3 500
		Northing (Y)	7 544 900	7 546 500	1 600
		RL (Z)	100	400	300
	CW	Easting (X)	421 500	428 200	6 700
		Northing (Y)	7 517 800	7 525 400	7 600
		RL (Z)	124	300	176
	KB	Easting (X)	412 000	424 000	12 000
		Northing (Y)	7 556 000	7 565 000	11 000
		RL (Z)	100	300	200
	RHC	Easting (X)	424 000	430 800	6 800
		Northing (Y)	7 555 500	7 559 500	4 000
		RL (Z)	180	400	220
	ТΧ	Easting (X)	413 700	417 900	4 200
		Northing (Y)	7 569 200	7 572 400	3 200
		RL (Z)	150	300	150
Estimation and Modelling Techniques The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters, and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used. The availability of check estimates, provious	 There is a constraint of the second se	ne estimation te esource estimate ostatistical me arameters were timate the ave DI (1000°C), Me the block. ock sizes were ominal drilling d	echnique use tion of all de thod of Ordin e derived fror rage grade fo gO, P, S, Ca selected wit lensities to e	ed for the Mir posits is the nary Kriging. n variograms or Fe, SiO ₂ , <i>I</i> O, K ₂ O and ⁻ h respect to nsure accept	teral to Al_2O_3 , Mn, TiO_2 for the cable local



JORC Code Assessment Criteria	Comment
estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data. The assumptions made regarding recovery of by-products. Estimation of deleterious elements or other non-grade variables of economic significance (e.g. sulfur for acid mine drainage characterisation). In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed. Any assumptions behind modelling of selective mining units. Any assumptions about correlation between variables. Description of how the geological interpretation was used to control the resource estimates. Discussion of basis for using or not using grade cutting or capping. The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.	 The block size selected for each deposit is 25 m (X) × 25 m (Y) × 2 m (Z). The sub-block size is 5 m (X) × 5 m (Y) × 2 m (Z). All samples were composited to 2 m for estimation purposes (essentially uncomposited due to 2 m raw sample support) The estimation was conducted in three passes with the search size increasing for each pass. In some domains, where the blocks were not fully estimated after three passes, blocks were assigned default grades. The default grades were based on the mean of the estimated blocks or samples grades in the same domain. Individual variables between each stratigraphy domain were compared for similarity to decide if grouping of MINSTR during Mineral Resource estimation was appropriate. The model was validated visually and statistically using comparisons to composite data statistics, swath plots and smoothing effect assessments.
Moisture Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	 All Mineral Resource tonnages are reported on a dry basis.
Cut-off Parameters The basis of the adopted cut-off grade(s) or quality parameters applied.	The resource model is constrained by assumptions about economic cut-off grades. The mineralisation is confined by a 52% Fe cut-off grade. The tabulated resources were reported using a cut-off grade of 52% Fe which was applied on a block by block basis.
Mining Factors or Assumptions	
Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.	 It has been assumed that the traditional open cut mining method of drill, blast, load and haul will be used. This is consistent with current practices at similar deposits in the Pilbara.
Metallurgical Factors or Assumptions	
The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an	Multiple phases of metallurgical test work have been undertaken. Results indicate a saleable product can be achieved via a simple crush and screen process. Higher clay zones may require beneficiation by wet process to remove clay.



JORC Code Assessment Criteria	Comment
explanation of the basis of the metallurgical assumptions made.	
Environmental Factors or Assumptions	
Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.	 All key Commonwealth and WA government on- tenement approvals for the development of the project have been obtained. More detailed studies regarding possible waste and process residue disposals options are ongoing.
Bulk Density	Density determinations were completed by AMMTEC and SGS on PO diamond core and by APIM field
Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples. The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity etc.), moisture and differences between rock and alteration zones within the deposit. Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.	 staff on Winze stockpiles. In situ bulk density values were assigned to each model based on stratigraphy and mineralisation type. Density values were provided by APIM and were based on 1335 wet and dry (non-waxed) density determinations from 1054 PQ diamond drill core samples and 281 winze stockpile samples collected between May 2008 and February 2015. 17% of the Wet and Dry (non-waxed) samples were re-tested at the lab using the waxed method for quality control (225 pairs). The difference between the mean of the waxed and the non-waxed samples is -3.5%. A correction factor of -3.5% has been applied to the Wet and Dry (non-waxed) measurements. The regional average density across all the deposits managed by APIM was applied by stratigraphic units for mineralised and waste domains. No diamond core density testwork is available from the Trixie or Cardo Bore and densities have been assumed based on rock type from nearby WPIOP Stage 1 Deposits.
Classification	Mineral Resources were classified in accordance
The basis for the classification of the Mineral Resources into varying confidence categories. Whether appropriate account has been taken of all relevant factors, i.e. relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data. Whether the result appropriately reflects the Competent Person(s)' view of the deposit.	 with the Australasian Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code, 2012 Edition). Continuous zones meeting the following criteria were used to define the resource classes: Measured Resource Strong evidence of geological continuity Strong evidence of grade continuity High levels of kriging performance quality Drill spacing of 100 m × 100 m or less Indicated Resource Evidence of geological continuity Evidence of grade continuity Moderate levels of kriging performance quality



JORC Code Assessment Criteria	Comment
	 Drill spacing of 100 m × 100 m <u>Inferred Resource</u> Drill spacing wider than 100 m × 100 m Greater geological uncertainty. Limited grade continuity, or if mineralisation is discontinuous and occurs as thin lenses Belatively low kriging performance guality.
Audits or Reviews The results of any audits or reviews of Mineral Resource estimates.	 Optiro consultants conducted a review of the 2010 Mineral Resource estimates, although the current resource statement is for regions of the WPIOP not previously modelled in 2010. Only relatively minor changes to the geology and mineralisation interpretation approach have occurred since 2010, reflecting either new areas or infill drilling. However the mineralisation Fe cut-off grade used to define the 2015/2016 resources is lower than used for the 2010 estimates. Golder conducted a number of basic and geological interpretation reviews during the compilation of the current Mineral Resource estimates. All practices and methods observed are considered to be consistent with the resource classification applied to the deposits.
Discussion of Relative Accuracy/Confidence Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate. The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.	 Additional infill and extension drilling data has been added to the drill hole database supporting the Mineral Resource estimates since they were previously reported in 2015. Due to increase drilling density, there is a higher confidence in the Mineral Resource estimates. The Mineral Resource estimates represents an increase over the 2015 estimates for Red Hill Creek due to the new Extension to the east of the previous Red Hill Creek resource estimate. The increase in the total resource and improved resource confidence for Red Hill Creek is attributable to improved definition to mineralised zones and extension of the previously defined CID as a result of the completion of infill and extension RC drilling. Both Cardo Bore and Trixie represent new areas not previously modelled, however the same resource confidence parameters were applied for consistency with other resource estimates.

COMPETENT PERSON'S STATEMENTS

The information in this statement which relates to the Mineral Resources is based on information compiled by Mr Richard Gaze who is a full-time employee of Golder Associates Pty Ltd, and Member and Chartered Professional of the Australasian Institute of Mining and Metallurgy. Richard Gaze has sufficient relevant experience to the style of mineralisation and type of deposit under consideration and to the activity for which he is undertaking to qualify as a Competent Person as defined in the JORC Code (2012 Edition).



The Competent Person responsible for the geological interpretation and the drill hole data used for the resource estimation is Mr Michael Wall who is a full-time employee of APIM Management Pty Ltd, and Member of the Australasian Institute of Mining and Metallurgy. Michael Wall has sufficient relevant experience to the style of mineralisation and type of deposit under consideration and to the activity for which he is undertaking to qualify as a Competent Person as defined in the JORC Code (2012 Edition). Mr Wall consents to the inclusion in this report of the matters based on his information in the form and content in which it appears.

IMPORTANT INFORMATION

Your attention is drawn to the document titled – "Important Information Relating to this Report", which is included in Attachment A of this report. The statements presented in that document are intended to inform a reader of the report about its proper use. There are important limitations as to who can use the report and how it can be used. It is important that a reader of the report understands and has realistic expectations about those matters. The Important Information document does not alter the obligations Golder Associates has under the contract between it and its client.

Yours sincerely

GOLDER ASSOCIATES PTY LTD

Richard L. Gare

Richard Gaze Principal

RLG/SK/hn

Jorge Peres Senior Resource Geologist

Attachments: A – Important Information

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ATTACHMENT A Important Information





The document ("Report") to which this page is attached and which this page forms a part of, has been issued by Golder Associates Pty Ltd ("Golder") subject to the important limitations and other qualifications set out below.

This Report constitutes or is part of services ("Services") provided by Golder to its client ("Client") under and subject to a contract between Golder and its Client ("Contract"). The contents of this page are not intended to and do not alter Golder's obligations (including any limits on those obligations) to its Client under the Contract.

This Report is provided for use solely by Golder's Client and persons acting on the Client's behalf, such as its professional advisers. Golder is responsible only to its Client for this Report. Golder has no responsibility to any other person who relies or makes decisions based upon this Report or who makes any other use of this Report. Golder accepts no responsibility for any loss or damage suffered by any person other than its Client as a result of any reliance upon any part of this Report, decisions made based upon this Report or any other use of it.

This Report has been prepared in the context of the circumstances and purposes referred to in, or derived from, the Contract and Golder accepts no responsibility for use of the Report, in whole or in part, in any other context or circumstance or for any other purpose.

The scope of Golder's Services and the period of time they relate to are determined by the Contract and are subject to restrictions and limitations set out in the Contract. If a service or other work is not expressly referred to in this Report, do not assume that it has been provided or performed. If a matter is not addressed in this Report, do not assume that any determination has been made by Golder in regards to it.

At any location relevant to the Services conditions may exist which were not detected by Golder, in particular due to the specific scope of the investigation Golder has been engaged to undertake. Conditions can only be verified at the exact location of any tests undertaken. Variations in conditions may occur between tested locations and there may be conditions which have not been revealed by the investigation and which have not therefore been taken into account in this Report.

Golder accepts no responsibility for and makes no representation as to the accuracy or completeness of the information provided to it by or on behalf of the Client or sourced from any third party. Golder has assumed that such information is correct unless otherwise stated and no responsibility is accepted by Golder for incomplete or inaccurate data supplied by its Client or any other person for whom Golder is not responsible. Golder has not taken account of matters that may have existed when the Report was prepared but which were only later disclosed to Golder.

Having regard to the matters referred to in the previous paragraphs on this page in particular, carrying out the Services has allowed Golder to form no more than an opinion as to the actual conditions at any relevant location. That opinion is necessarily constrained by the extent of the information collected by Golder or otherwise made available to Golder. Further, the passage of time may affect the accuracy, applicability or usefulness of the opinions, assessments or other information in this Report. This Report is based upon the information and other circumstances that existed and were known to Golder when the Services were performed and this Report was prepared. Golder has not considered the effect of any possible future developments including physical changes to any relevant location or changes to any laws or regulations relevant to such location.

Where permitted by the Contract, Golder may have retained subconsultants affiliated with Golder to provide some or all of the Services. However, it is Golder which remains solely responsible for the Services and there is no legal recourse against any of Golder's affiliated companies or the employees, officers or directors of any of them.

By date, or revision, the Report supersedes any prior report or other document issued by Golder dealing with any matter that is addressed in the Report.

Any uncertainty as to the extent to which this Report can be used or relied upon in any respect should be referred to Golder for clarification.

