METALLICA MINERALS LIMITED
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ASX RELEASE
24 June 2014

POSITIVE FEASIBILITY STUDY & MAIDEN INDEPENDENT ORE RESERVE RECEIVED FOR URQUHART POINT HMS PROJECT, FAR NORTH QUEENSLAND

KEY POINTS

- Positive Feasibility Study received from IMC Mining Pty Ltd ("IMC") on Metallica's 100% owned Urquhart Point Heavy Mineral Sands (HMS) Project near Weipa in Far North Queensland.
- Estimated project $NPV_{10\%}$ is AU$4.9M, IRR is 69%.
- Supports economics for a 5 year mine life based on current Ore Reserves. Required project capital is approximately AU$6.5 million with a one year payback period from the start of operations.
- Simple shallow (<3m) dry sand mining (240,000 ore tonnes per year) and conventional wet gravity separation plant operation (using spirals with no chemicals required) to produce a mixed heavy mineral concentrate (HMC) product for sale.
- Proved and Probable Ore Reserve estimated by IMC is 1.18Mt at 9.5% Heavy Minerals (HM), 8% oversize and 1% slimes. The HM mineral assemblage is estimated to be 11.7% zircon, 13.6% rutile and 13.1% ilmenite. The HMS Reserves (see Table 2) are at surface, averaging between 1.5-2m in thickness.
- Estimated concentrate production of 87,000 tonnes with an average Valuable Heavy Mineral (VHM) assemblage of 14.8% zircon, 17.3% rutile and 16.2% ilmenite with the balance comprising predominately iron oxide sands.
- Key financial metrics are summarised in Table 1, these provide a sound basis on which to proceed with Urquhart Point's project financing and development.

Table 1: Key Financial Metrics

Parameter	Quantity
NPV10%	AU$4.9M
IRR	69%
Mine life	4.9 years
CAPEX estimate	AU$6.5M
Undiscounted cash-flow (after CAPEX)	AU$7.3M

- Quotes and estimates for the processing plant and related equipment alternatives have been obtained.
- Metallica is continuing with negotiations for partnerships, funding and off-take for project development as well as exploration funding on the regional exploration tenements. Subject to finalisation of funding (negotiations at an advanced stage) project pre-construction works can commence within two months, with the project commencing production one year thereafter.
- The maiden Ore Reserves declared for the Urquhart Point Heavy Mineral Sands (HMS) Project are in Table 2.

Table 2: Maiden Urquhart Point Ore Reserve Statement (June 2014)

		Head Grade						HM Tonnage & Mineral Assemblage			
Ore Reserve Category	Tonnes (kt)	HM %	OS %	Slimes %	Zircon %	Rutile %	Ilmenite %	HM (kt)	Zircon % of HM	Rutile % of HM	Ilmenite % of HM
Proved	967	10.6	8.1	1.0	1.2	1.4	1.4	102	11.1	13.7	12.9
Probable	210	4.8	6.7	1.2	0.9	0.6	0.7	10	17.7	13.2	14.4
Total	**1,177**	**9.5**	**7.9**	**1.0**	**1.1**	**1.3**	**1.2**	**112**	**11.7**	**13.6**	**13.1**

- The Project is fully approved with a granted Mining Lease (ML) 20669 (366Ha) and Environmental Authority. A small adjoining ML Application 20737 (5Ha) expected to be fully permitted by late in 2014.

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OVERVIEW

Metallica Minerals Limited (ASX:MLM) ("Metallica" or The Company) is pleased to announce it has received its maiden Independent Ore Reserve Report and completed Feasibility Study for the Urquhart Point HMS Mineral Sands Project (The Project), located near Weipa on the western flank of Cape York, Far North Queensland (see Figure 11). The report and study findings follows the recent release of the upgraded Independent Mineral Resource Estimate for the Project-*refer to ASX Release dated 20 May 2014.*

Photo 1: Photo looking from above the Embley River, Weipa Port and Township and Rio Tinto's bauxite mining and shipping operations.

The key inputs and forecasts used by IMC in calculating the Project NPV and IRR are:

- During the life of the project, the concentrate is estimated to be valued between US$250/t to US$330/t FOB depending on the mineral composition and spot price of the minerals at the time of sale. Recent forecasts (May 2014) supplied by respected industry expert TZ Mineral International (TZMI) were used in determining the concentrate price;
- Estimated concentrate production of 87,000 tonnes with an average Valuable Heavy Mineral (VHM) assemblage of 14.8% zircon, 17.3% rutile and 16.2% ilmenite, with the balance comprising predominately iron oxide sands;
- A long term exchange rate between the US$ and the AU$ of $0.85 was used for the Ore Reserve estimate and financial model;
- Total operating costs are estimated at AU$11.02 (direct) and AU$12.52 (inclusive of off-site overheads) per tonne of material mined, equating to between AU$2.5M and AU$3.0M per year;
- The net revenue for the Urquhart Point project is estimated to be higher in the first 18 months of operation (estimated net cash flow of over AU$10M) due to the high grades mined in the first mining areas allowing for early capital payback; and
- Metallica has substantial carried forward tax losses (approximately AU$15M) and therefore, the pre-tax and post-tax project returns are effectively the same.

As with most commodity projects, the Urquhart Point project is most sensitive to changes in commodity prices and exchange rates. For example, a 20% increase in exchange rate (from 0.85 to 1.02 AU$:US$), which also equates to a 20% decrease in concentrate price, is estimated to reduce the project NPV from AU$4.9M to $1.3M. Similarly, a 20% increase in commodity prices, is estimated to change the project NPV from AU$4.9M to $9.1M, an increase of 89%. The project is less sensitive to changes in capital and operating cost – see Tables 12-13 and Figure 10.

EXECUTIVE SUMMARY OF FEASIBILITY STUDY

Introduction

Oresome Australia Pty Ltd (Oresome), a wholly owned subsidiary of Metallica is proposing to develop the Urquhart Point Heavy Mineral Sands (HMS) deposit.

IMC Mining Pty Ltd (IMC) completed the mining studies, the Ore Reserve estimate and the financial modelling plus collated and compiled the earlier studies by other consultants involved in the Urquhart Point mineral sands project, to complete a cohesive and complete Feasibility Study report. The studies and reports on which this Feasibility Study was largely based on, include:

- a previous draft feasibility study by Calder Maloney Pty Ltd
- an Environmental Impact Statement (EIS) submission and the Environmental Management Plan (EMP) from EcOz Pty Ltd
- a Geology and Mineral Resource report by CoxsRocks Pty Ltd
- a marketing analysis by TZ Minerals International Pty Ltd (TZMI)
- mineral processing reports by Robbins Metallurgical Pty Ltd
- process plant design and cost estimations by R.J Robbins Engineering Pty Ltd
- mine planning and Ore Reserves by IMC Mining Pty Ltd

Project Location

The Urquhart Point Mineral Sands Project (the Project) is located approximately 3km south-west of Weipa in North Queensland (see Figure 11). The granted and proposed mining leases are ML20669 (366.1Ha) and MLA20737 (5.4Ha), respectively and represent a total contiguous area of 371.5Ha within EPM15268 (7,675Ha).

The Urquhart Point Project covers a low-lying sand mass deposit identified as a coastal strandline and sand spit-style HMS deposit with very low slimes (clay) and a HM assemblage composed of zircon, rutile, ilmenite and iron oxides. The highest grade HM zones are located in the northern and eastern end of the deposit area, see Figure 2 and Table 7.

Tenement, Tenure and Permitting

The entire granted Mining Lease (ML) 20669 is within an area where Native Title has been determined to be held by the Wik and Wik Way People. Native Title Freehold is held by their prescribed body corporate, the Ngan Aak Kunch Aboriginal Corporation.

An EIS was submitted to the Queensland Department of Environment and Heritage Protection (DEHP) and approved. The project has received final permitting and an Environmental Authority (EA). A Mining Lease Application (MLA 20737) covers a small but high grade portion of the deposit. No impediments are expected for the conversion of this lease application into a mining lease.

The Urquhart Point project is therefore fully permitted with an approved EA, a granted Mining Lease and a Plan of Operations.

Native Title and Access

The tenements are largely within Aboriginal freehold land (Wik and Wik Way Peoples) and agreements are in place to address both landowner compensation and requirements of the Native Title Act 1993 (Cth) to have both a Section 31 Deed and an Ancillary Agreement in place. The Ancillary Agreement covers the confidential components which comprise of; setting out land access arrangements, conduct and compensation arrangements and the protection of native title rights and interests and Aboriginal Cultural Heritage with respect to the land covered by the permits.

An access agreement is also in place with the Queensland Bulk Ports Corporation (QBPC) for access to the tenements through Lot 14, SP120446 (Weipa Port).

Photo 2: Oresome General Manager Stewart Hagan (centre) with employee Tom Hall (RHS) with Wik and Wik Way peoples on-site at Urquhart Point

Product Marketing

TZ Minerals International Pty Ltd (TZMI) was consulted by Oresome to provide an in-depth review of the mineral sands market, both current and forecast.

TZMI's comments on the quality of the Urquhart Point HM concentrate are as follows:

> *TZMI would describe the Urquhart Point primary rutile as a premium grade product, while the secondary rutile product does not meet the criteria for a rutile product due to the low TiO2 content and elevated levels of Fe_2O_3 and SiO_2.*
>
> *Given the low output volume, it appears that the best option is to sell these products into niche markets such as the welding electrode sector or titanium sponge manufacturers as a bagged or bulk-in-container product. For valuation purposes, TZMI recommends using TZMI's base case price forecast for rutile for both the primary and secondary rutile products.*
>
> *In terms of zircon product quality, the Urquhart Point primary zircon product would be classified as a premium grade zircon while the secondary zircon can be classified as standard grade. The U+Th levels are favourable, except for the secondary zircon product which is slightly above the accepted threshold limit of 500 ppm established by many countries for zircon imports. However, as the planned products are in the form of rutile/zircon concentrate, this should not pose an issue in the transport of the product.*

The Zircon and Rutile market has been subdued over the past two years and an updated pricing forecast was provided to Oresome in May 2014. It is noted that in 2011-2012, zircon was priced at over US$2,000/t FOB.

TZMI provided guidelines for the concentrate pricing mechanism based on the contained minerals in the mixed concentrate. Concentrate pricing was based on 75% of the contained mineral value to allow for shipping and downstream processing. The Urquhart Point concentrate is estimated to be valued between US$250/t and US$330/t FOB.

Mineral Resource Model

The heavy minerals (HM) consist of a variable suite of both VHM (ilmenite, zircon and rutile) and also approximately 60% iron oxides. The HM are located within a low slime mineral strand style deposit on a base of partly cemented shelly limestone (coquina).

CoxsRocks Pty Ltd prepared a JORC 2012 Mineral Resource estimate based on all of the new data collected and to estimate the likely mineral assemblage of the HM within the deposit. A block model was constructed based on a nominal 2.0% HM cut off and used an in-situ bulk density of 1.60t/bcm. *For further information on the Resource, see ASX release dated 20 May 2014.*

The revised JORC 2012 total global Mineral Resource Estimate, at a 0% HM cut-off grade based on 420 drill holes, is shown in Table 3.

Table 3 : Urquhart Point Mineral Resource Estimate (Global) – 0% HM Cut-Off

Resource Category	Tonnes	HM %	HM Tonnes	OS %	Slimes %	Zircon %	Rutile %	Ilmenite %
Measured	1,945,360	6.92	134,529	13.83	1.07	10.2%	12.5%	12.5%
Indicated	1,365,440	4.60	62,746	15.33	1.15	11.4%	10.9%	13.2%
Total	**3,310,800**	**5.96**	**197,275**	**14.45**	**1.11**	**10.6%**	**12.0%**	**12.7%**

(OS = oversize)

It is recognised that the application of any environmental buffer zones and also the mining lease boundary will reduce the potential mineable tonnages.

The application of the existing mining lease and buffer zones to the resource results in a small reduction to the tonnes and is documented below. This resource figure includes the new MLA which covers the high grade north eastern sliver of mineralisation.

Table 4 : Urquhart Point Mineral Resource Estimate (Inside ML/MLA and Excluding Buffers) – 0% HM Cut-Off

Resource Category	Tonnes	HM %	HM Tonnes	OS %	Slimes %	Zircon %	Rutile %	Ilmenite %
Measured	1,882,960	6.57	123,716	14.17	1.07	9.7%	12.0%	12.4%
Indicated	1,345,840	4.60	61,930	15.41	1.16	11.4%	10.9%	13.2%
Total	**3,228,800**	**5.75**	**185,646**	**14.68**	**1.11**	**10.3%**	**11.6%**	**12.7%**

Table 5 : Urquhart Point Mineral Resource Estimate (Inside ML/MLA and Excluding Buffers) – 2.0% HM Cut-Off

Resource Category	Tonnes	HM %	HM Tonnes	OS %	Slimes %	Zircon %	Rutile %	Ilmenite %
Measured	1,781,360	6.85	122,090	12.5	1.0	9.8	12.0	12.4
Indicated	1,305,680	4.70	61,335	14.4	1.2	11.4	10.9	13.2
Total	**3,087,040**	**5.94**	**183,425**	**13.3**	**1.1**	**10.3**	**11.6**	**12.7**

Recoverable Mining Model

A recoverable mining model has been constructed to apply mining and economic factors to the Mineral Resource model. The Mineral Resource model was created using 20mx20mx1m parent blocks sub-celled to 10mx10mx0.5m within the mineralisation wireframe boundaries.

The Mineral Resource model was composited to 20mx20m columns of blocks for mine planning purposes. Additionally, it was recognised that in many instances the lowest 1-2m of the profile tended to have a lower grade than the upper 1-2m. It was determined that this was likely due to the final sample(s) being 1m in length 'punching' through the cemented coquina layer at the basement of the mineralisation. This would have introduced a high level of shelly oversize dilution into the lower samples.

It is noted that the Mineral Resource model wireframes were constrained using a 2% HM cut-off grade and that, in some areas of low zircon and rutile assemblage, led to the introduction of negative margin material at the bottom of the profile.

The mining model was created on the basis of finding the lowest block in the profile above the marginal cut-off grade and compositing all the blocks above this lowest block. Effectively, any negative margin material was therefore left in the pit floor as shown in Figure 1.

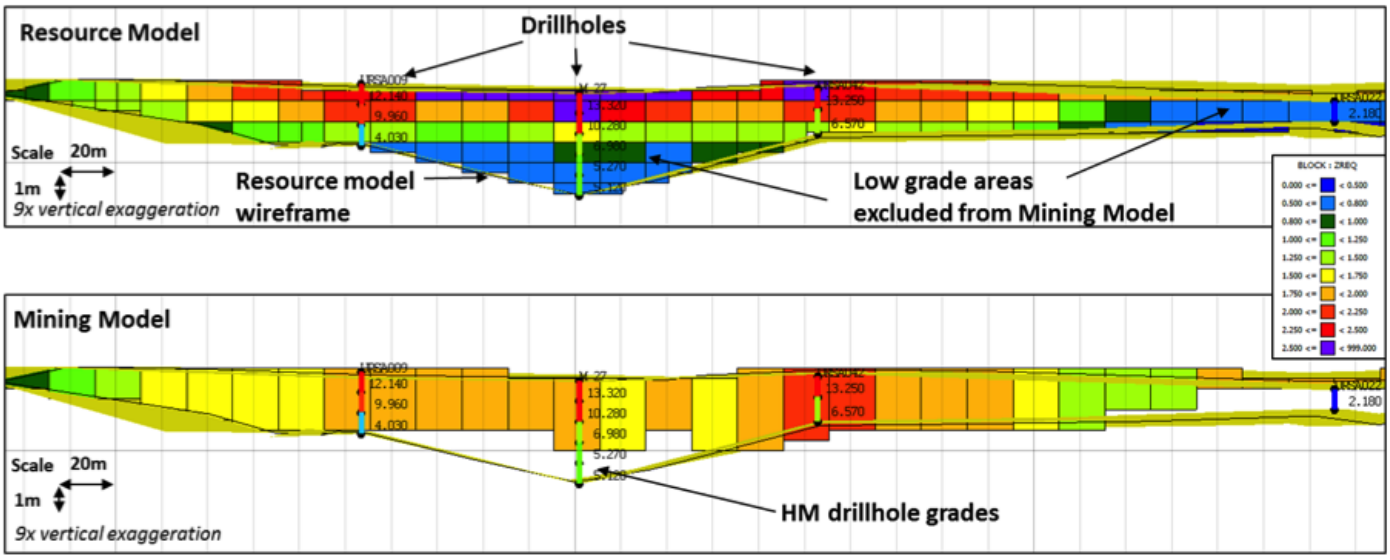


Figure 1 : Mineral Resource and Mining Model Cross-Section (8598700N)

Cut-Off Grade and Zircon Equivalent

The mining model was based on the concept of a zircon equivalent grade (ZrEq) to take into account, not only the HM% but also the total assemblage. The zircon equivalent grade is measured as an in-ground value rather than as a percentage of HM%.

The zircon equivalence is described by the following equation:

The ZrEq grade was used to simplify the mine planning and cut-off grade strategy for Urquhart Point. The cut-off grade estimate calculation is shown in Table 6. A cut-off grade of 0.9% ZrEq has been used in the mine planning studies.

$$ZrEq = Zircon\% + Rutile\% \times \frac{Rutile\ Price}{Zircon\ Price} \times \frac{Rutile\ Recovery}{Zircon\ Recovery} + Ilmenite\% \times \frac{Ilmenite\ Price}{Zircon\ Price} \times \frac{Ilmenite\ Recovery}{Zircon\ Recovery}$$

$$ZrEq = Zircon\% + Rutile\% \times \left(\frac{1{,}200}{1{,}500}\right) \times \left(\frac{98.0}{98.2}\right) + Ilmenite\% \times \left(\frac{200}{1{,}500}\right) \times \left(\frac{95.8}{98.2}\right)$$

$$\boldsymbol{ZrEq = Zircon\% + 0.8 \times Rutile\% + 0.13 \times Ilmenite\%}$$

Table 6 : Cut-Off Grade Estimate

Cut-Off Grade Estimate	Units	Quantity	Comment
Pricing Assumptions			
Bulk Zircon	US$/t	1,500	Average of 2018-2020 long term price forecast from TZMI May 2014
Bulk Rutile	US$/t	1,200	
Sulfate Ilmenite	US$/t	200	
Bulk Concentrate Discount	%	25%	
Unit Revenue			
AU$/% Zircon in ground	AU$/% Zircon	1,202	Inclusive of concentrate discount, royalties, exchange rate and recovery
AU$/% Rutile in ground	AU$/% Rutile	960	
AU$/% Ilmenite in ground	AU$/% Ilmenite	156	
Equivalence			
Rutile Equivalence to Zircon		0.80	
Ilmenite Equivalence to Zircon		0.13	
Cut-Off Estimate			
Operating Cost estimate	$/t ROM	11.02 (direct) 12.52 (inclusive of off-site overheads)	The operating cost is inclusive of mining and ship loading
Marginal Cut-Off Grade (COG)	Zircon Eq %	0.92%	Grade in ground excl. dilution
Zircon Equivalent (ZrEq) Formula		=Zircon%+0.8 x Rutile% + 0.13 x Ilmenite%	

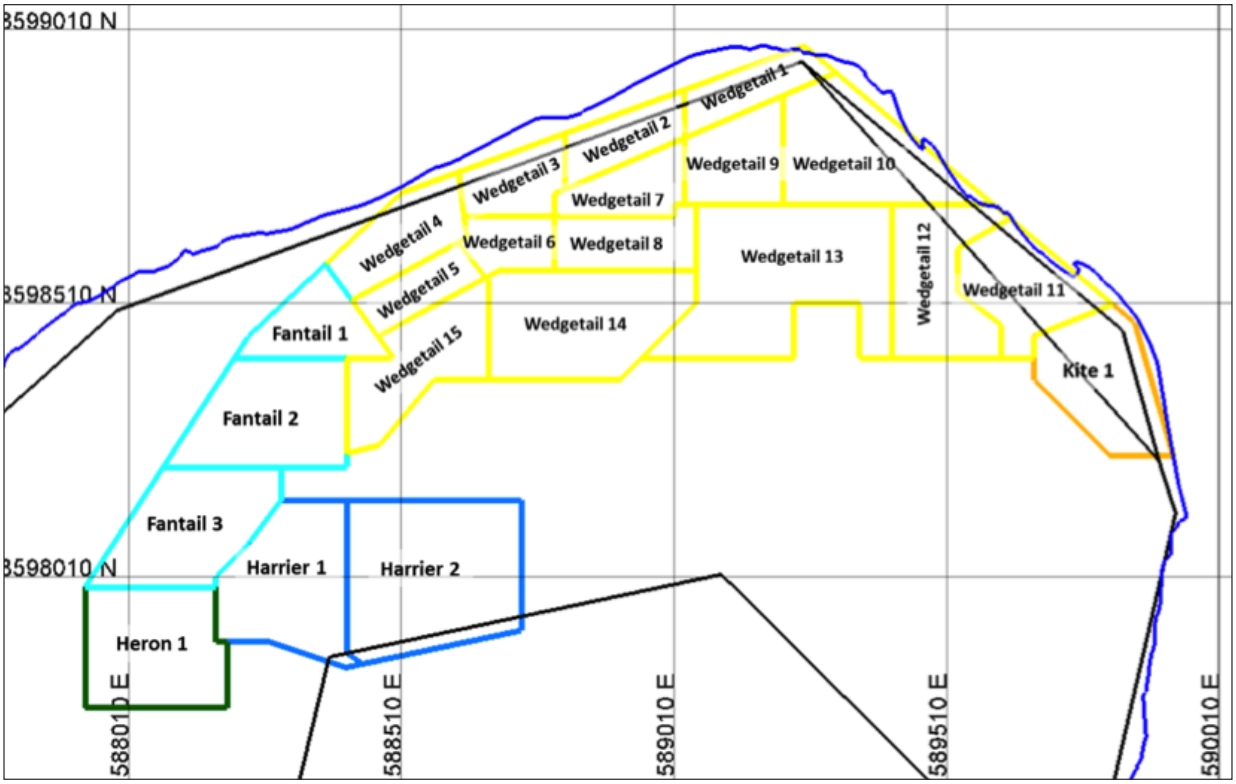
Mine Production Schedule

The mine planning work has focused primarily on the northern section of Urquhart Point. This area was further subdivided into mining pits for scheduling purposes as shown in Figure 2.

The plant and other infrastructure is proposed to be built at the Wedgetail 5 pit location.

It is noted that Egret, Heron and Harrier are classified as Indicated Resources whilst the rest of the pit areas are classified as Measured Resources.

Figure 2 : Pit Area Names



A useful way of assessing in which order pit areas should be mined is by reviewing the margin per ore tonne in each pit area. Barring any other constraints, pit stages which have a high margin should be mined first to ensure an optimal mining sequence.

A simple and relative margin rank was estimated for each scheduling pit. The estimated cash flow from each pit was calculated based on the zircon, rutile and ilmenite revenue whilst taking mining and processing costs into account. The margin rank is expressed as a $/t ore cash flow. It follows that scheduling pits with higher margins (in terms of $/t ore) generate more revenue when mined and processed. Ideally, the pits should be mined in decreasing margin rank order, see Table 7 and Figure 3.

The margin rank calculation is shown below:

Margin Rank = (zircon revenue + rutile revenue + ilmenite revenue - mining costs — process costs)/ore tonnes

The margin rank, ore quantity and grade inventory in each pit area is summarised in Table 7.

The Kite mining pit is clearly the highest grade and highest margin area followed by the northern coastal strip at Wedgetail.

Table 7: Margin by Pit (decreasing order)

Pit	Ore tonnes	HM %	OS %	Slimes %	Zircon % in ground	Rutile % in ground	Ilmenite % in ground	ZrEq % in ground	HM tonnes	Zircon % of HM	Rutile % of HM	Ilmenite % of HM	Margin A$/t
Kit_01	93,402	34.15	5.18	1.83	5.78	7.30	4.79	12.24	31,896	16.92	21.37	14.04	133.4
Wdg_01	21,235	8.66	13.48	1.14	1.09	1.17	1.14	2.18	1,839	12.61	13.53	13.14	15.3
Wdg_02	34,634	9.26	9.96	0.86	1.03	1.09	1.16	2.05	3,209	11.16	11.72	12.50	13.8
Wdg_11	35,920	6.51	1.80	0.81	0.98	0.99	0.81	1.87	2,337	15.01	15.22	12.43	11.9
Wdg_07	81,166	8.67	10.74	0.75	0.92	0.99	1.16	1.86	7,033	10.58	11.41	13.42	11.5
Wdg_03	50,231	9.13	8.88	0.94	0.85	1.01	1.30	1.83	4,586	9.36	11.07	14.25	11.2
Wdg_09	76,830	8.24	13.96	0.98	0.89	0.94	0.96	1.76	6,327	10.79	11.38	11.64	10.4
Har_01	65,924	4.50	3.14	1.17	1.05	0.67	0.63	1.67	2,966	23.43	14.85	14.11	9.6
Har_02	82,088	4.76	2.83	1.14	1.00	0.66	0.67	1.61	3,904	21.00	13.85	14.11	8.9
Wdg_10	30,465	7.88	8.31	0.73	0.82	0.81	0.87	1.58	2,401	10.37	10.30	11.08	8.3
Wdg_04	63,646	8.47	6.19	0.65	0.58	0.93	0.94	1.45	5,390	6.89	10.98	11.13	6.7
Fnt_01	47,021	10.72	7.94	1.48	0.51	0.80	1.38	1.33	5,042	4.72	7.48	12.87	5.1
Wdg_05	31,456	8.12	8.31	0.70	0.42	0.93	0.93	1.29	2,555	5.21	11.47	11.42	4.8
Wdg_08	56,499	6.65	5.77	0.49	0.58	0.72	0.81	1.26	3,758	8.77	10.80	12.18	4.6
Fnt_03	84,163	7.26	11.32	1.07	0.64	0.60	0.97	1.24	6,108	8.76	8.20	13.41	4.2
Fnt_02	103,059	9.49	7.18	1.22	0.53	0.61	1.27	1.18	9,777	5.58	6.45	13.34	3.4
Wdg_06	33,499	6.82	7.20	0.71	0.49	0.71	0.80	1.17	2,284	7.20	10.47	11.69	3.4
Wdg_13	29,374	5.86	8.01	0.67	0.58	0.61	0.66	1.16	1,723	9.87	10.47	11.31	3.4
Wdg_14	56,481	6.26	5.45	0.57	0.47	0.73	0.69	1.14	3,536	7.46	11.66	11.07	3.2
Wdg_12	14,106	5.41	5.22	0.71	0.55	0.53	0.60	1.05	763	10.21	9.72	11.07	2.1
Her_01	68,560	5.24	14.83	1.41	0.46	0.57	0.78	1.01	3,594	8.69	10.92	14.85	1.7
Wdg_15	17,039	7.08	5.02	0.97	0.34	0.75	0.62	1.02	1,206	4.78	10.65	8.71	1.7
Total	**1,176,796**	**9.54**	**7.88**	**1.02**	**1.12**	**1.30**	**1.25**	**2.32**	**112,236**	**11.72**	**13.62**	**13.08**	**17.0**

Mine Production Schedule

The objective of the mine production schedule is to mine the Urquhart Point pit areas in decreasing value order whilst also maintaining a reasonably contiguous mining sequence and honouring wet season mining constraints.

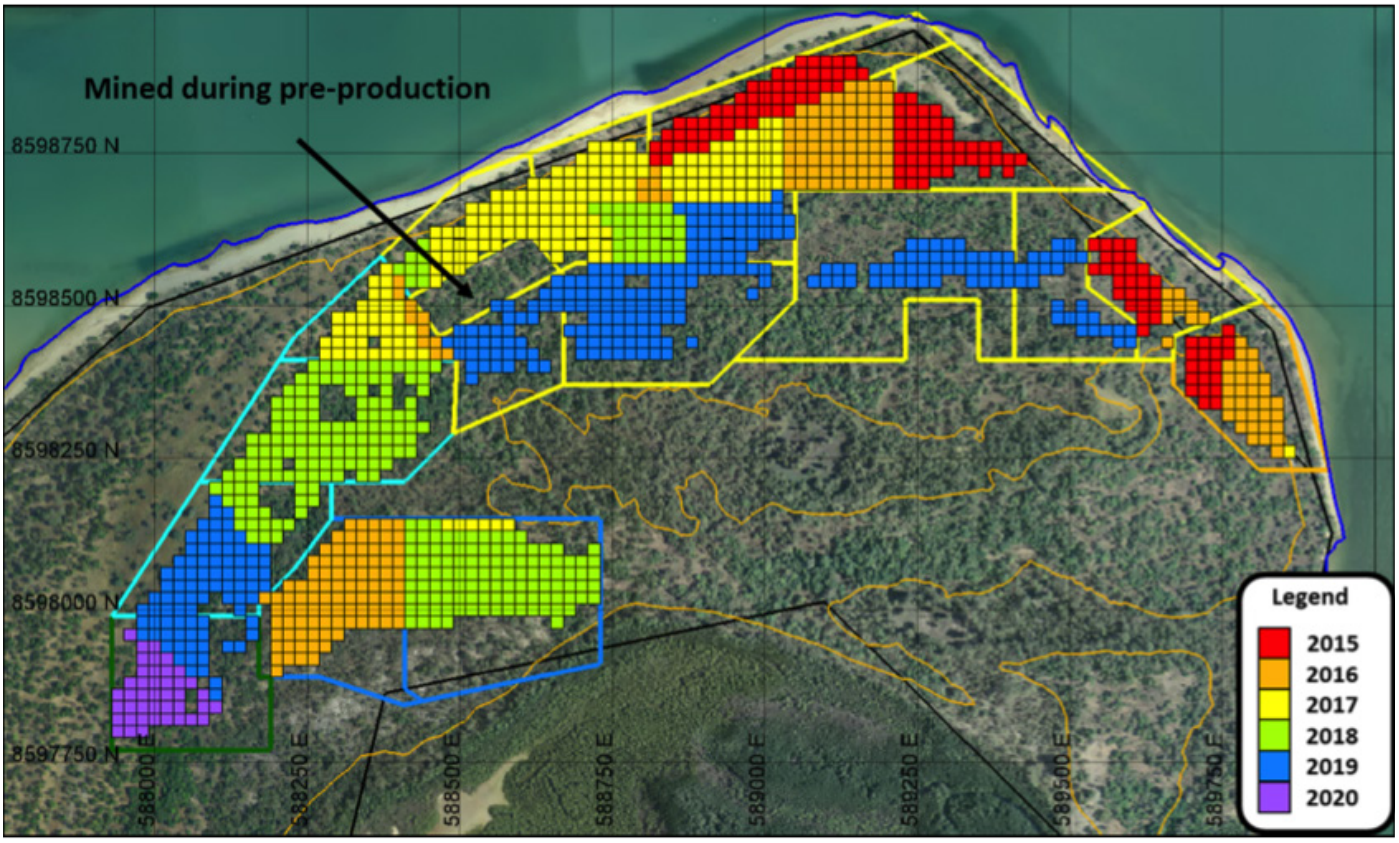


Figure 3: Mine Production Schedule – Ore to Plant by year

The mine production scheduled HM grades, assemblage and concentrate volumes are shown in Figures 4, 5 and 6 respectively.

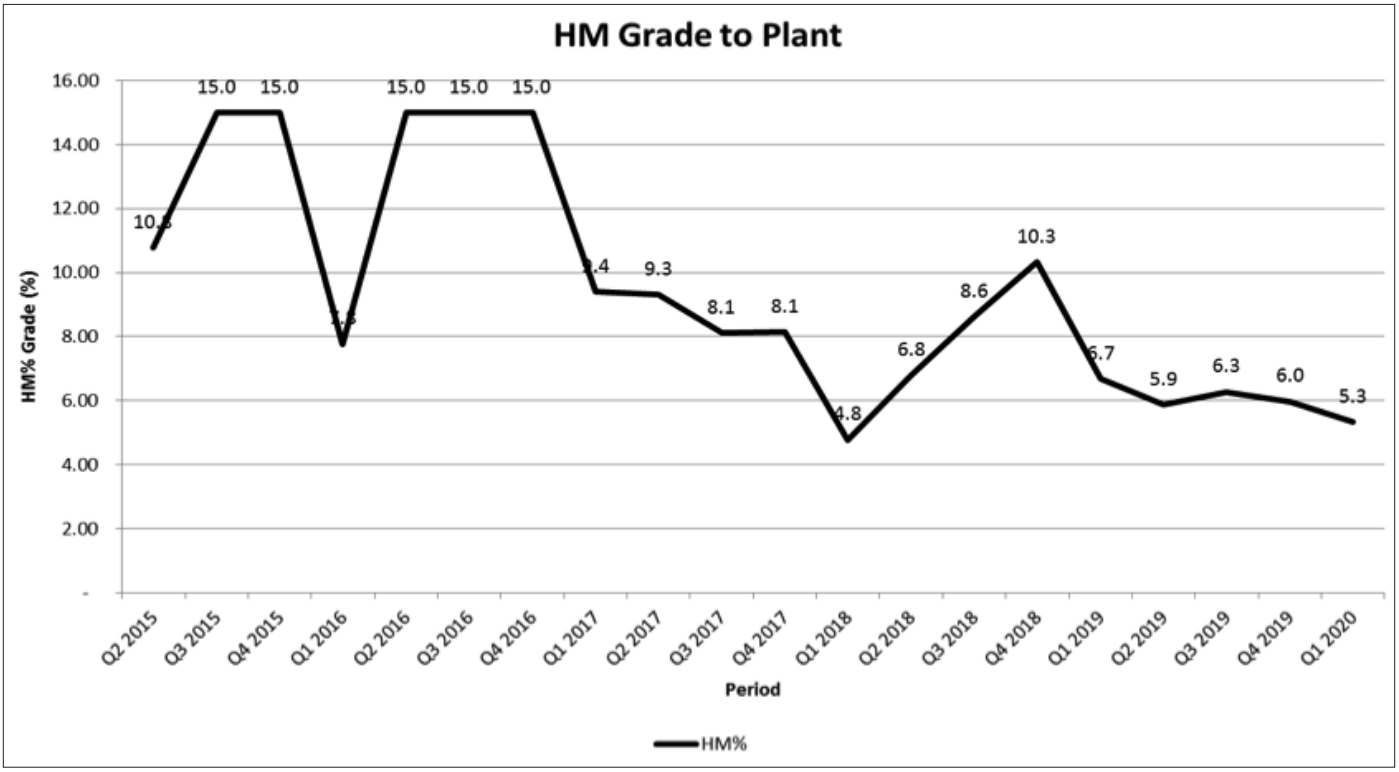


Figure 4: Mine Production Schedule – HM%

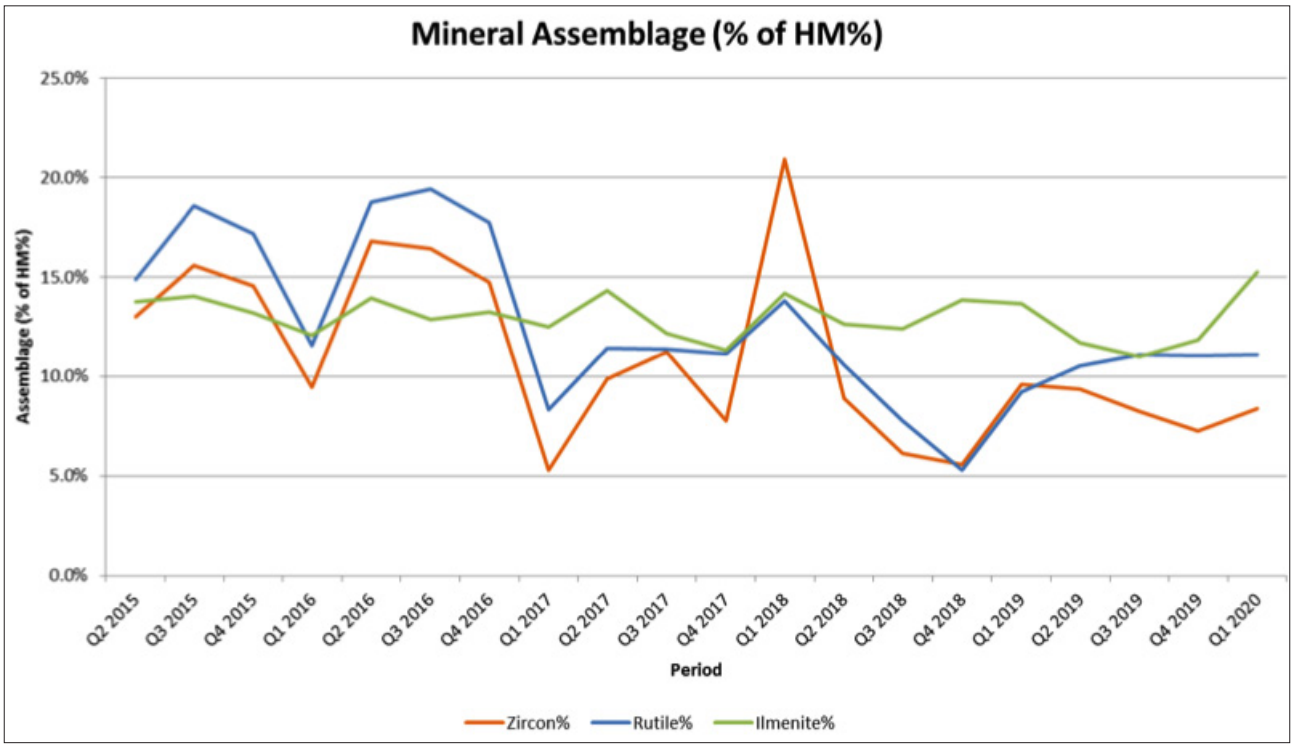


Figure 5: Mine Production Schedule – Mineral Assemblage

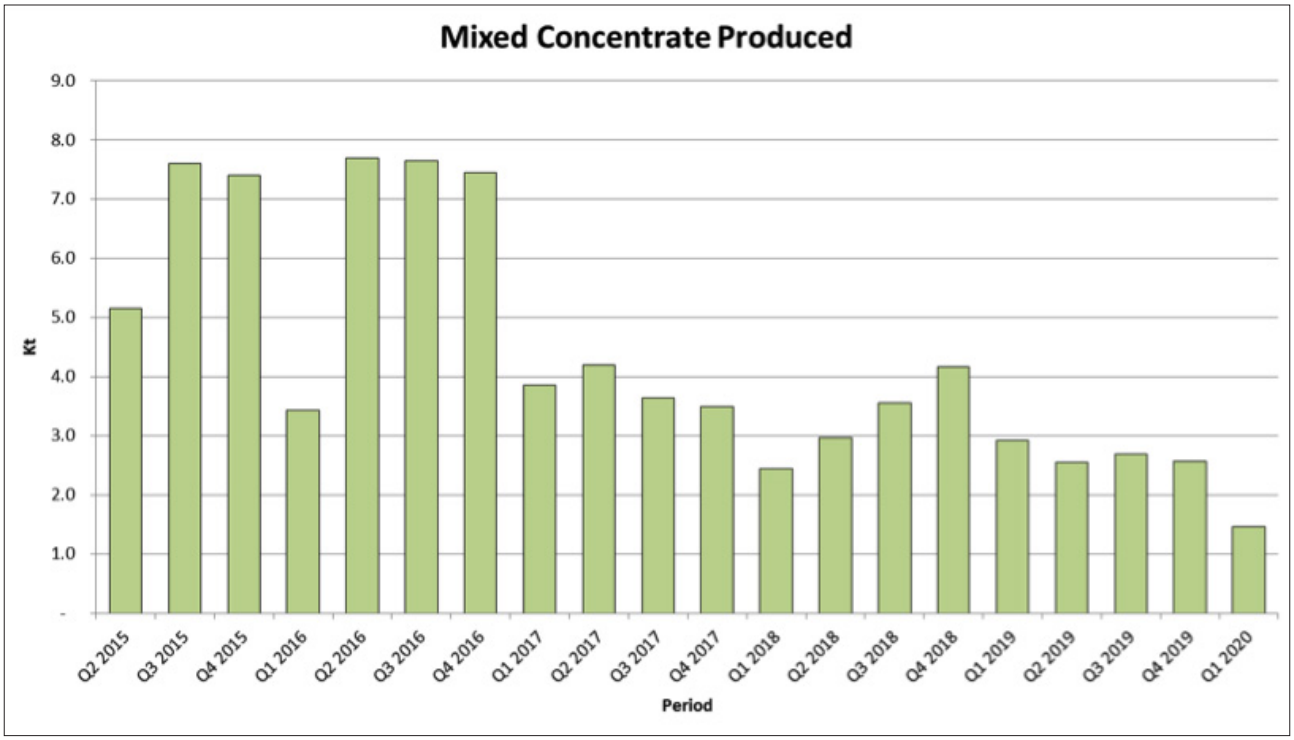


Figure 6: Mine Production Schedule – Tonnes of Concentrate Produced

Ore Reserve Estimate

The Urquhart Point Ore Reserve estimates are shown in Table 8 in accordance with the JORC 2012 guidelines.

The Ore Reserve has been estimated by taking into account the relevant modifying factors including:

- Environmental buffers
- Mining lease boundaries
- Loss and dilution
- Cut-off grade estimate

The Ore Reserves are based on the following long term nominal Free-on-Board (FOB) prices:

- Zircon US$1,500/t
- Rutile US$1,200/t
- Ilmenite US$200/t

Table 8 : Urquhart Point Ore Reserve Estimate (June 2014)

		Head Grade						HM Tonnage & Mineral Assemblage			
Ore Reserve Category	**Tonnes kt**	**HM %**	**OS %**	**Slimes %**	**Zircon %**	**Rutile %**	**Ilmenite %**	**HM kt**	**Zircon % of HM**	**Rutile % of HM**	**Ilmenite % of HM**
Proved	967	10.6	8.1	1.0	1.2	1.4	1.4	102	11.1	13.7	12.9
Probable	210	4.8	6.7	1.2	0.9	0.6	0.7	10	17.7	13.2	14.4
Total	**1,177**	**9.5**	**7.9**	**1.0**	**1.1**	**1.3**	**1.2**	**112**	**11.7**	**13.6**	**13.1**

The Ore Reserves are based on a Zircon equivalent cut-off grade (COG) of 0.90% taking into account the three saleable minerals; Zircon, Rutile and Ilmenite. The formula used for the Zircon Equivalent is as follows:

Zircon equivalent = zircon % + 0.8x rutile % + 0.13x ilmenite %.

The WCP recoveries used in the equivalence calculation are 98.2%, 98.0% and 95.8% for zircon, rutile and ilmenite respectively.

Capital Cost Estimate

The capital cost estimate for the Urquhart Point Feasibility Study has been completed by RJ Robbins on the basis of quotes from detailed drawings provided to Chinese suppliers. Oresome provided the capital cost estimate for the mining equipment and pre-production costs.

The capital costs have been prepared to a -10%/+20% accuracy level and are quoted in 2014 AU$.

The project capital cost is estimated to be AU$6.51M as summarised in Table 9 and Pie Chart in Figure 7.

The capital cost estimate includes the plant design, construction, commissioning and the training of operational personnel.

In addition to the establishment capital, $65,000 per year has been included in the financial model to account for sustaining capital.

Table 9 : Capital Cost Estimate Summary

Capital Item	**K AU$**
Mining equipment	300
Off-site overheads	544
Pre-Production cost estimate	728
Electrical equipment, critical spares	661
Process plant	1,450
Infrastructure (incl. bores)	769
Offshore assembly and freight	561
Design, construction, commissioning and training	1,297
Rehabilitation bond	200
Total	**6,510**

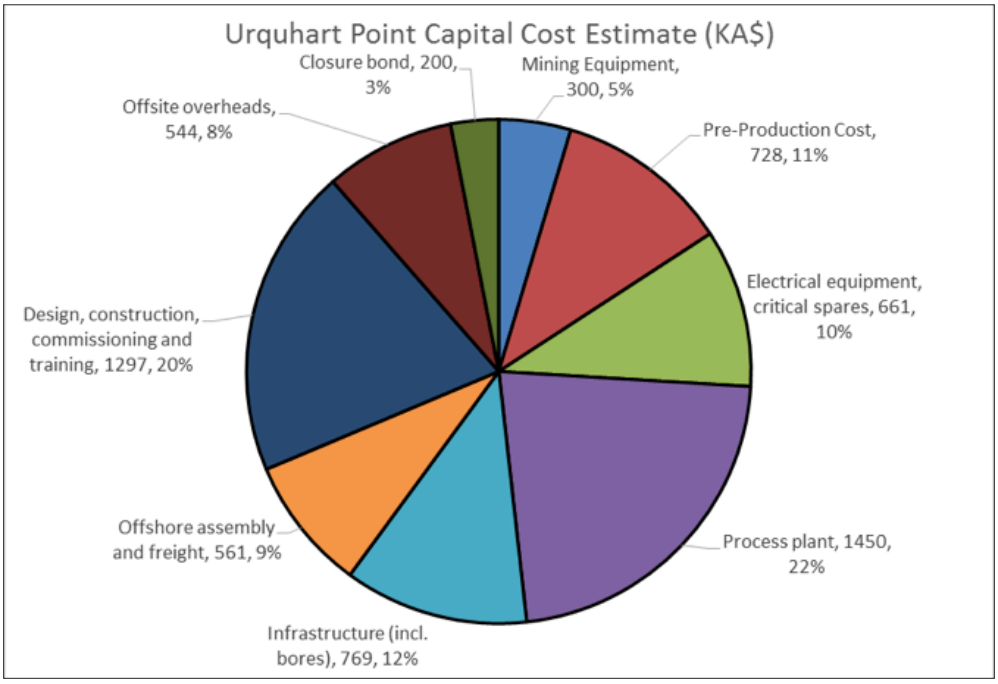


Figure 7 : Capital Cost Estimate - Summary

Operating Cost Estimate

The operating costs for the plant have been considered across various areas such as fuel, labour, maintenance, power, equipment hire and transport. The major cost to run the plant and mining equipment is in the fuel cost, with the major component of the consumption being the fuel required to provide power to the site via generators.

The operating cost has been estimated from first principles. The total operating cost is a mix of mining, processing, fixed and ship loading costs.

The operating costs have been prepared to -10%/+20% accuracy level and are quoted in 2014 AU$.

The operating cost summary by cost centre is summarised in Table 10.

Table 10 : Operating Cost Estimate

Parameter	Units	Quantity AU$/ROM t	Comment
Mining	AU$/ROM t	4.12	Mining fleet and fuel, Mining salaries, Equipment leasing
Processing	AU$/ROM t	3.64	Plant salaries, Generator, Plant consumables
Other	AU$/ROM t	1.98	Admin salary, Travel & accommodation
Ship loading	AU$/ROM t	0.93	Tug and barge rental, Barge loading and stevedores, Unit cost is $12.0/tonne of concentrate
Off-site overheads	AU$/ROM t	1.50	General manager and commercial manager
Diesel Fuel Rebate	A$/t ROM t	-0.41	Diesel fuel rebate of A$0.37 per litre
Tenement Expenses	AU$/t ROM	0.20	Tenement Rent, EPA Return and Permitting
Operating Cost Contingency	AU$/t ROM	0.56	Approximately 5% of OPEX
Total	**AU$/ROM t**	**11.02 (direct) 12.52 (inclusive of off-site overheads)**	**Total inclusive of estimated concentrate volume**

HUMAN RESOURCES
Workforce

It is likely that long lead items and off-site construction will be ordered in 2014, although this will be dependent on project approval and funding. During the construction stage of the project, the mining plant operators will be employed and will initially be engaged to prepare the site for the processing plant. During the commissioning stage of the project, the Wet Concentrate Plant (WCP) operators and management/administration staff will be engaged to be trained on the plant operations. When operational, the site will operate on a single shift basis, five days per week for the 5 year life of the project, after which the site will be under rehabilitation and monitored by Traditional Owners through the Ranger Station (as a remaining legacy).

Construction

Building and construction of the project will see the employment of a number of construction contractors for a period of approximately four months. The contractors will be required for the construction of:

- The Ranger Station;
- The Process Plant;
- Infrastructure for water and power; and
- Support infrastructure.

During this phase three permanent positions will be employed for preparation, pre-stripping, and Cultural Heritage Management. These positions will include:

- The Mine Manager
- Two operators (excavator and process; one will be the Environmental/Cultural Heritage Officer)

The Mine Manager will be secured to put in place the required systems and procedures prior to commencement of operations.

The remaining operations personnel will be locals and will be inducted through a training facility for three months prior to being involved in site pre-preparation and assisting in construction activities.

Operation

Prior to the completion of construction additional full time employees will be secured;

- One administration assistant;
- One plant superintendent;
- Two process plant operators;
- A second haul truck operators; and
- One front end loader operator.

The operations personnel will be locals and be inducted through a training facility for three months prior to being involved in site pre-preparation and assisting in construction activities.

The staff will be employed on a staggered roster basis to cover the 9 hour per day mining operation and the 12 hour per day processing operation. Staff will be multi-tasked for vegetation removal/replacement, topsoil removal/replacement, rehabilitation nursery/planting, product loading and other site-wide tasks outside routine operations.

Decommissioning

The project is expected to run for approximately 5 years, after which time plant and equipment will be decommissioned and removed from site. The only remaining infrastructure will be the site office, which will be refurbished to be utilised as a Ranger Station by the Traditional Owners. Decommissioning of the site is expected to take three months from shutdown.

Workforce Accommodation

Given the proximity of the site to Weipa and with the provision of a daily ferry service, it is envisaged that the workforce will be employed from existing residents of Weipa and nearby Napranum. As such, other than on-site security provision no camp or on-site accommodation is to be considered and workers will be transported to and from the site on a daily basis by water taxi.

Traditional Landowner Opportunities

Whilst the labour force will be small, operator positions and a traineeship will be offered first to Traditional Landowners and/or members of the Aurukun and Napranum communities. It will be Oresome's proposal that mine site preparation, mining operations, and rehabilitation will be carried out largely by traditional owners.

Oresome will offer first right of refusal for contracts to suitably qualified Traditional Landowners.

Environmental Management Rehabilitation and Closure

Metallica rehabilitates disturbed areas to standards developed in agreement with landowners and State Government regulatory agencies.

Oresome Australia will have a rehabilitation and on-going monitoring commitment during and after operations in each area. It is intended that as much rehabilitation as possible will be undertaken progressively during the life of the mine. This will allow rehabilitation methods to be tested, refined and adapted to suit a successful method for final rehabilitation. Where operationally practicable, rehabilitation will be performed as soon as possible after disturbance.

Initial trials will also look at understanding environmental factors which have the potential to constrain rehabilitation success. Rehabilitation trials will begin before the onset of mining, with the rehabilitation of existing dredge spoil areas (deposited in early 1970's).

Photo 5: An example of rehabilitation of a HMS project soon after the completion of sand mining

Topsoil and vegetation from the area cleared for infrastructure will be utilised in rehabilitation of the dredge spoil dump. This rehabilitation will provide an opportunity to investigate the seed bank, germination and topsoiling methods. The pre-mining period will also be used to identify appropriate species for direct seeding, and establish seed collection and storage procedures.

The processed sand (with HM separated) would be returned directly to the mine void which, after settling and dewatering, would be progressively rehabilitated, ensuring overburden, subsoil and topsoil are replaced in their original sequence. , Rehabilitation will aim to reinstate pre-mining landforms and native vegetation.

Post mining it is expected that there will be a limited requirement for ongoing maintenance. Oresome has committed to funding indigenous rangers in the area and plan to utilise their services for annual weed control and fire prevention.

An ongoing monitoring program is being developed that will track progress towards sign off of the rehabilitation areas and identifying any remedial works required.

A rehabilitation management plan is developed to guide progressive rehabilitation during mining operations and mine closure.

Mine Closure

Mine closure activities at the end of the mine life are expected to be relatively simple. The fixed plant will be dismantled over a two week period and barged off site to most likely be sold. Similarly, the mobile plant will be either re-used in other projects or sold at auction with proceeds from the sale used to fund rehabilitation commitments.

Fuel tankage will be removed from site and barged back to the fuel management contractor's yard in Weipa.

The environmental bond for the project is estimated to reach $235k, before the start of operations, which on top of proceeds from the sale of the fixed and mobile plant is estimated to cover the mine closure costs.

The ranger station will be left on the site and traditional landowners engaged to assist with on-going monitoring commitments and as a legacy.

Project Evaluation

The Urquhart Point Project is modest in size but should provide reasonable investment returns.

The direct establishment cost for the project is estimated to be AU$6.51M and the operating cost, (inclusive of corporate overheads), is estimated to be AU$12.52 per tonne of material mined.

The Ore Reserve estimate is 1.18Mt at 9.5% HM with a mineral assemblage of 11.7% zircon, 13.6% rutile and 13.1% ilmenite – see Table 8.

It is estimated that the project will produce 87kt of concentrate at an average grade of 14.8% zircon, 17.3% rutile and 16.2% ilmenite.

During the life of the project, the concentrate is estimated to be valued between US$250/t to US$330/t FOB depending on the mineral composition and spot price of the minerals at the time of sale.

The project is required to pay two revenue based royalties, one to the Queensland Government and a second to the Wik and Wik Way trust.

A long term exchange rate between the US$ and the AU$ of 0.85 has been used to estimate the Ore Reserves and in the financial model.

The operating costs are estimated to be between AU$2.5M and $3.0M per year.

The net revenue for the Urquhart Point project is estimated to be high in the first year of the operation due to the high grades mined in the first mining areas. The net revenue is shown in Figure 8 and is based on the May 2014 TZMI price forecast.

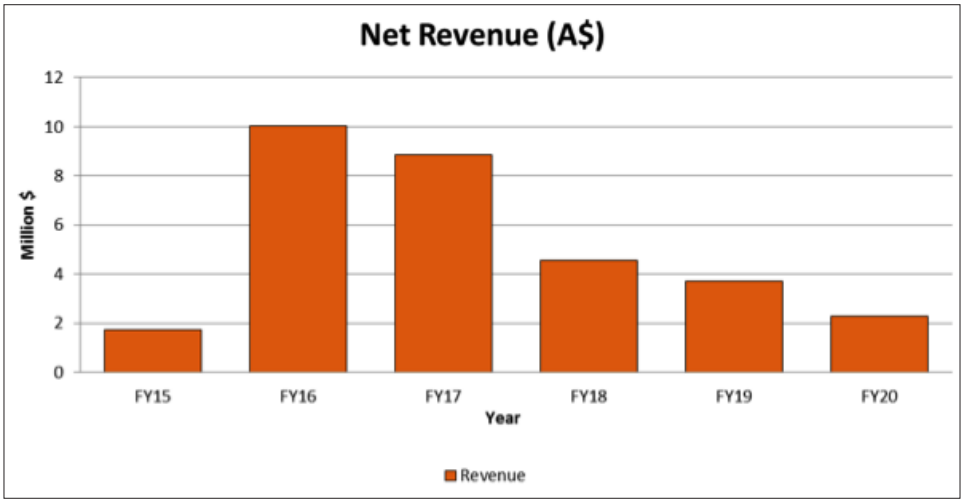


Figure 8: Net Revenue (A$)

The pre-tax cashflow estimate for the project is shown in Figure 9. This estimate includes royalties.

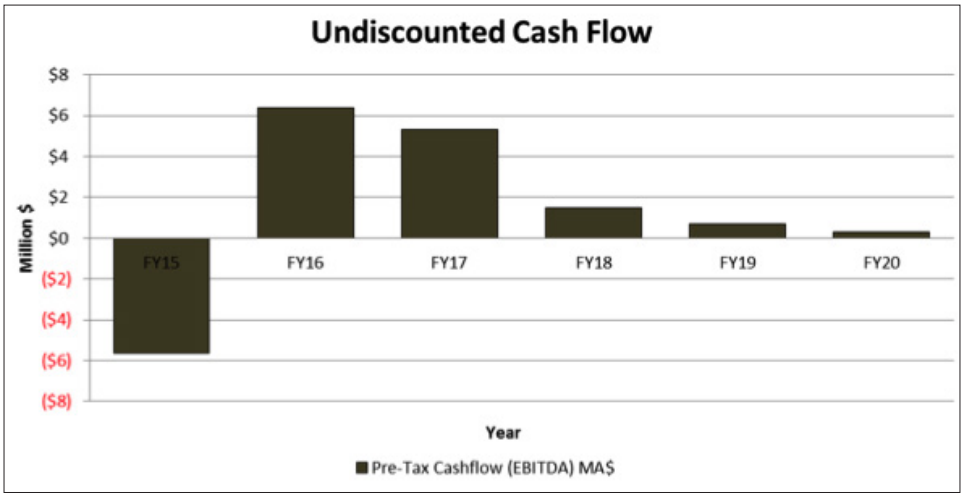


Figure 9: Pre-Tax Cashflow - EBITDA (A$)

The financial result of the Feasibility Study demonstrates an attractive project. The key financial metrics of this project (100% basis) are summarised in Table 11:

Table 11 : Key Financial Metrics

Parameter	Quantity
$NPV_{10\%}$	AU$4.9M
IRR	69%
Mine life	4.9 years
CAPEX estimate	AU$6.5M
Undiscounted cash-flow (after CAPEX). EBITDA	**AU$7.3M**

Sensitivity Analysis

A sensitivity analysis was undertaken on the Net Present Value (NPV) of the Urquhart Point Project. A discount rate of 10% was used to discount the future cashflows.

The effect of +20% to -20% changes in the AU$:US$ exchange rate, commodity prices and operating costs was estimated and is summarised in Tables 12 and 13 below and Figure 10.

As with most commodity projects, the Urquhart Point project is most sensitive to changes in commodity prices and exchange rate. For example, a 20% increase in exchange rate (from 0.85 to 1.02 AU$:US$) is estimated to reduce the project NPV from AU$4.9M to AU$1.3M. Similarly, a 20% increase in commodity prices, is estimated to increase the project NPV from AU$4.9M to AU$9.1M, an increase of 89%. The project is less sensitive to changes in capital and operating costs as shown in and Figure 10.

Table 12 : Project NPV Sensitivity (NPV10% MA$)

Adjustment	Commodity Price	Exchange Rate	Operating and Capital Cost	Operating Cost	Capital Cost
20%	9.1	1.3	1.5	2.8	3.6
10%	7.0	2.9	3.2	3.8	4.2
0%	**4.9**	**4.9**	**4.9**	**4.9**	**4.9**
-10%	2.7	7.2	6.5	5.9	5.5
-20%	0.6	10.2	8.2	6.9	6.1

Table 13 : Project NPV Sensitivity – Change from Base Case

Adjustment	Commodity Price	Exchange Rate	Operating and Capital Cost	Operating Cost	Capital Cost
20%	89%	-74%	-69%	-43%	-25%
10%	44%	-40%	-34%	-22%	-13%
0%	**0%**	**0%**	**0%**	**0%**	**0%**
-10%	-44%	49%	34%	22%	13%
-20%	-89%	111%	69%	43%	25%

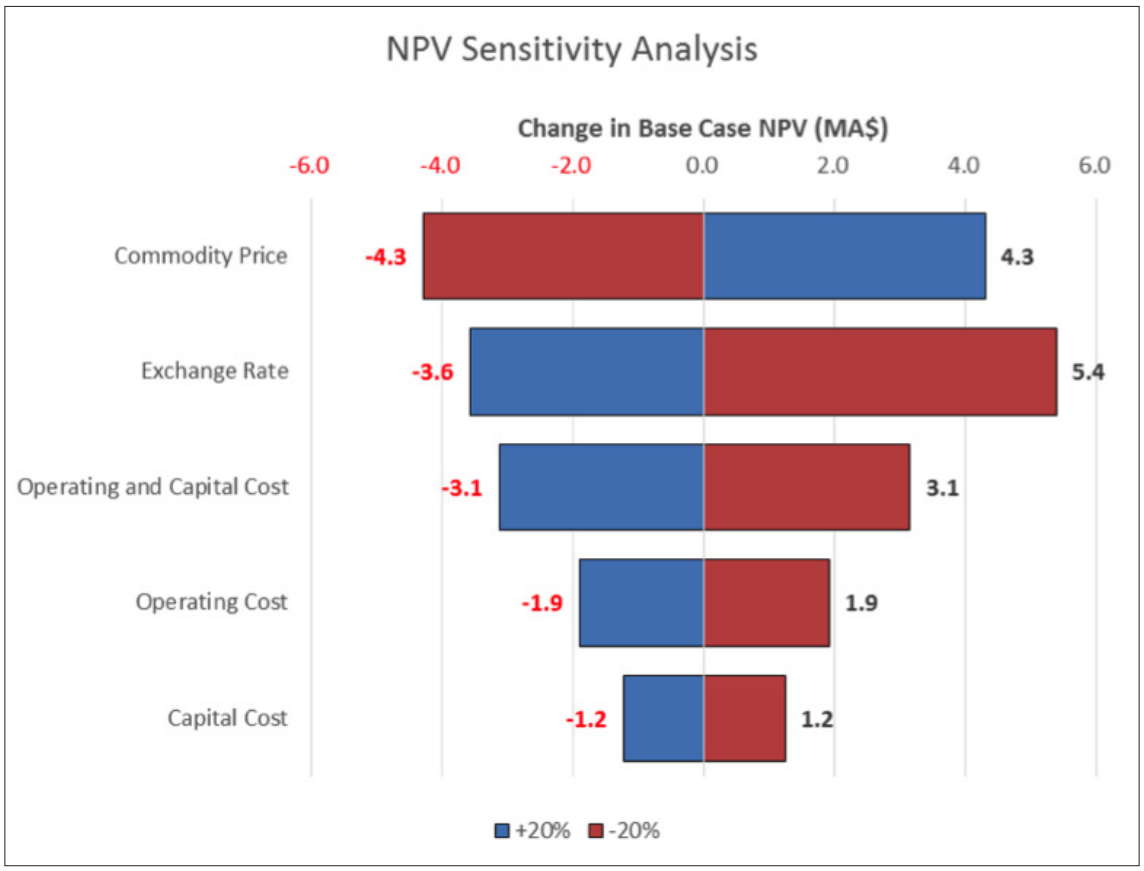


Figure 10: Change in Base Case NPV (+/- 20% Adjustment to Input Variable)

Opportunities

There are several enhancement opportunities for the Urquhart Point Project that have not been incorporated into this Feasibility Study.

These opportunities include:

- The two southern strands, Heron and Egret, have been almost entirely excluded from the current proposed mine production schedule and the Maiden Ore Reserves due to the sparse mineral assemblage data. Including this material could add approximately 0.6Mt (2.5 years) of ore feed to the plant at 5.6% HM with an estimated mineral assemblage of 10.6% zircon, 10.8% rutile and 11.6% ilmenite. Further drilling and mineral assemblage work should be carried out on these two strands.
- Current and ongoing exploration between Harrier and Kite. These areas are high in zircon%. This area was drilled in February 2014 but the HM% and mineral assemblage results were not ready to be included in the last Mineral Resource Estimate update (May 2014).
- Oresome has over 2,000km^2 of exploration tenements prospective for HMS and bauxite deposits in the region and the successful development of this project is seen as an opportunity to showcase Oresome's commitment to providing local employment in a safe and sustainable manner.
- The project location is also proximate to significant bauxite potential, located in the southern portion of the Urquhart Point EPM. There may be an opportunity to use the Urquhart Point infrastructure, established local relationships and existing permits to facilitate a company or third party bauxite mining, barging and shipping operation in addition to its HM concentrate barging and shipping capacity.

Photo 6: A local barge traveling via the deep protected water shipping channel adjacent to the Urquhart Point mining lease, about to unload a drilling rig and other equipment on the beach at Urquhart Point. Similar barges can be used in the future for barging HM concentrate and potential bauxite on to a nearby ship.

Regional HMS Potential

In addition to Urquhart Point, Oresome holds more than 2,000km^2 of prospective mineral sands tenements in the Western Cape York region. Several of these tenements also cover significant areas of Government mapped bauxite which will also be investigated during Metallica's exploration drill programs from next quarter onwards.

On 26 November 2013, Metallica announced that it had discovered significant new zircon-rich HMS mineralisation on the Company's regional exploration target, T16, located approximately 160km north of the Urquhart Point HMS Project – see Figure 11.

The Company completed 36 shallow holes over a small portion of the T16 Target. All 36 holes recorded significant HMS mineralisation (average 1.7% HM) covering a 1.8km by 800 m wide area with mineralisation open in most directions. The zircon-rich HM assemblage averaged 32% zircon, 6% rutile and 11% other titanium minerals comprising 49% of total HM. T16 was the first regional target to be tested and Metallica has identified at least 10 other priority regional exploration targets, suggesting there is considerable potential for additional HM discoveries within the >2,000 km^2 tenement area. Metallica is planning to resume exploration drilling activities in 3Q 2014.

Photo 7: Oresome General Manager Stewart Hagan undertaking regional HMS and bauxite reconnaissance sampling in an area south of the T16 HMS Discovery

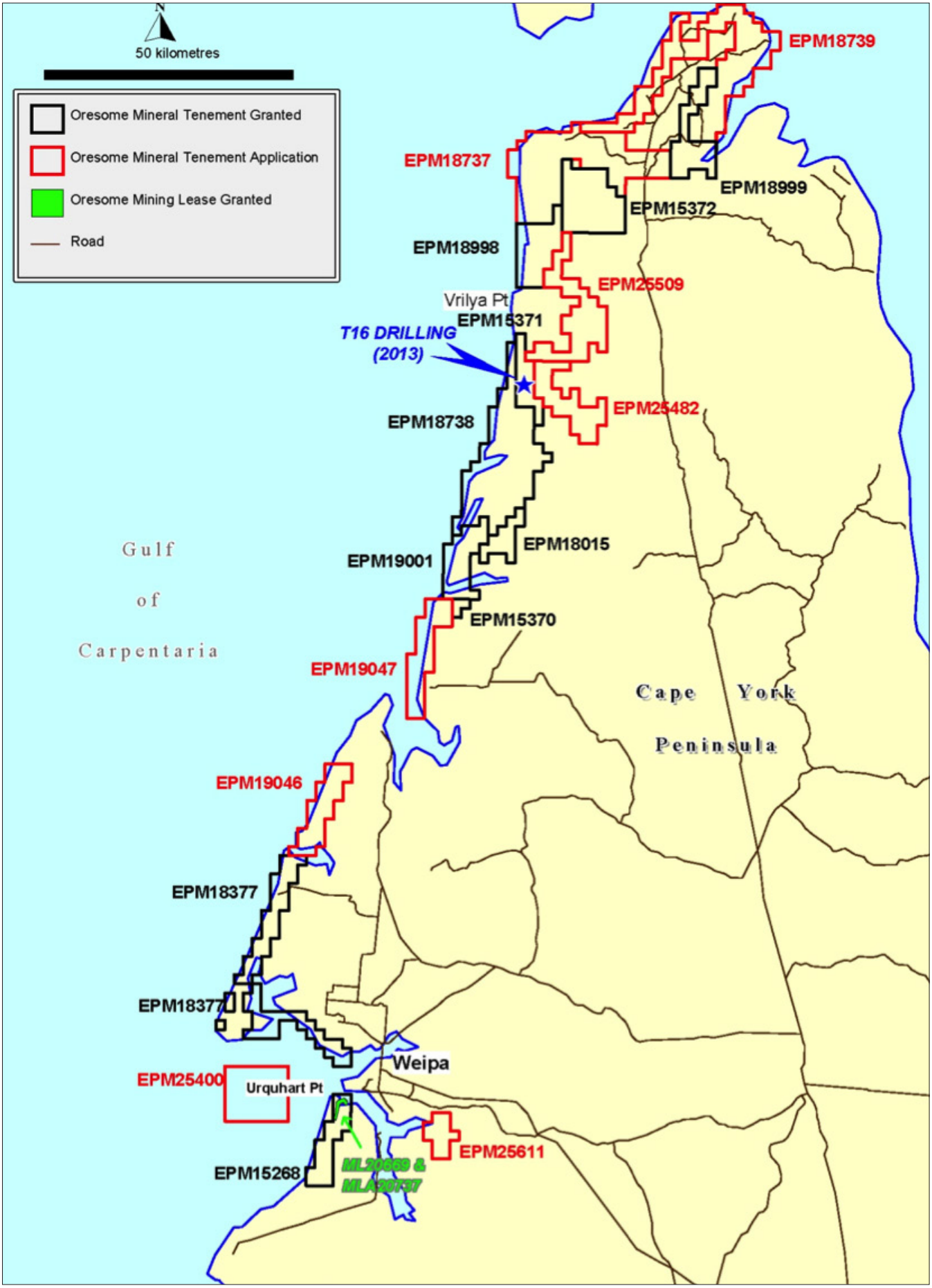


Figure 11: Urquhart Point HMS Project near Weipa and regional exploration tenure along western side of the Cape York Peninsula

Zircon and Titanium Mineral Products and Uses

Mineral sands are found along ancient shorelines. Mineral sands are mined and processed using gravity separation to produce Heavy Mineral Concentrate (HMC). HMC is further processed at a mineral separation plant to produce two main product streams.

- Zircon – used as whitening agent for ceramics (tiles etc), other applications such as sanitary ware and zirconium metal
- Rutile and ilmenite for titanium dioxide products – used in the manufacture of pigments for the manufacture of paint and other products, including titanium metal

Mineral Sands (zircon & titanium minerals) are predominately used in many household goods, in items, such as ceramics, paints, tiles, plastics and inks.

Introduction to Zircon ($ZrSiO_4$)

- Zircon is a principal mineral sand used primarily in glazing in ceramics and as refractory glass. Consumption is dominated by the used of milled zircon powder as an opacifier in ceramics applications for use in tiles, sanitary ware and tableware.
- Zircon also has a range of industrial uses, including refractories.
- Zirconium based chemicals are used in a multitude of high technology applications including auto catalysts, fuel cells, abrasives and electronics. Zirconium metal has a very high melting point, and has use in nuclear fuel rods and other alloys.
- Over half of the demand for zircon comes from the ceramics industry, with demand for housing titles in the construction industry a key driver of overall commodity demand.
- For this reason zircon demand has increased along with the progressive industrialisation of emerging economies such as China and India. There is a strong correlation between global economic growth rates and zircon demand.

Introduction to Titanium (Ti)

- Titanium is created through a number of different processes that take certain mineral sands (rutile, leucoxene and ilmenite) to create a titanium dioxide (TiO_2) pigment, titanium sponge or titanium metal.
- Titanium dioxide is pure white, highly refractive, and can absorb ultraviolet light and for these reasons is highly sought after in pigment form for use in paints, paper, plastics, rubber and various other materials.
- As titanium dioxide is also non-toxic, non-fibrogenic and biologically inert it can be used in cosmetics, foodstuffs and in pharmaceuticals.
- Titanium metal has a particularly high strength to weight ratio, is inert and highly resistant to corrosion, and for these reasons can be used in a range of common aeronautical applications, surgical applications, sporting equipment, jewellery and in desalination plants and corrosive chemical industries.

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Competent Persons Statement

The information in this report that relates to Ore Reserves is based on information compiled by François Bazin of IMC Mining Pty Ltd, a Competent Person who is a Chartered Professional Member of The Australasian Institute of Mining and Metallurgy.

François Bazin has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being 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'.

François Bazin consents to the inclusion in the report of the matters based on his information in the form and context in which it appears. François Bazin is a consultant to Metallica Minerals Limited and Oresome Australia Pty Ltd.

The Technical information contained in this report has been compiled and/or supervised by Mr Andrew Gillies B.Sci (Geology) M.AusIMM (Managing Director of Metallica Minerals Ltd) who is a Competent Person who is a Member of the Australasian Institute of Mining and Metallurgy (M.AusIMM). Mr Gillies has relevant experience in the mineralisation, exploration results and Resources estimates being reported on to qualify as Competent Person as defined in the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Gillies consents to the inclusion of this information in the form and context in which it appears in this release.

Caution regarding Forward Looking Statements

Certain statements made in this announcement contain or comprise certain forward-looking statements regarding the mineral price forecasts, exchange rates, capital cost, operating cost estimates, production and financial performance of the Urquhart Point Project. Although Metallica believes that the estimates and expectations reflected in such forward-looking statements are reasonable, no assurance can be given that such expectations will prove to have been correct. Accordingly, results could differ materially from those set out in the forward-looking statements as a result of, among other factors, changes in economic and market conditions, success of business and operating initiatives, changes in the regulatory environment and other government actions, fluctuations in commodity prices and exchange rates and business and operational risk management. Metallica undertakes no obligation to update publicly or release any revisions to these forward-looking statements to reflect events or circumstances after today's date or to reflect the occurrence of unanticipated events.

***See attached Table 1** (JORC Code, 2012) - Mineral Resources and Reserves*

JORC CODE (2012) TABLE 1 – RESOURCES AND RESERVES

Table 0-1: JORC (2012) 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.* • *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.*	• Samples of the Mineral Sand deposit were collected by systematic drilling and sampling methods on regular spaced sections orientated at right angles to the strike of the deposit. • All samples were either cone and quartered with approximately 1kg/sample/metre collected or all the material was collected per metre and – shipped to laboratory. Both procedures are appropriate for mineral sands sampling. • 1:30 separate field splits were taken and analysed to ensure representative sampling techniques. Duplicate holes were drilled and random duplicate samples were bagged. • Approximately 1kg of homogenized sample was collected per metre drilled. Recent sampling collected all the HMS sample per 1m interval, typically weighing 8 – 10kg. • Duplicate analysis confirmed the veracity of the sampling • One metre length samples were collected from the sampling and effectively quartered to provide representative samples of approximately 1 kilogram each, in the 2014 drill programme all the sample for each interval was collected and submitted for analysis.
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).*	• Shell Auger Sampling with a 100mm diameter shell bit (207 holes) • Spiral Auger Sampling with a 75mm diameter bit (75 holes) • 83 face sampling aircore and spiral holes for a total of 283 metres • 55 Wallis face sampling aircore holes for a total of 232 metres
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.*	• 100% recovery for the shell auger sampling • 90% for the spiral auger sampling • Aircore recovery qualitatively logged as excellent • Careful sampling techniques ensured comprehensive and representative sample was collected • No relationship between sample recovery and grade is known to exist.

CRITERIA	JORC CODE EXPLANATION	COMMENTARY
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 samples were systematically logged recording colour, grainsize, hardness, composition and estimated HM%. • Appropriate for a Measured and Indicated Resource estimate. • All one metre intervals logged by competent geologist • Logging is a combination of qualitative and quantitative data being collected and considered.
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.*	• N/A No Core. Not appropriate for HMS. • All material from each drilled metre bagged. Samples were moist. • Samples were cone and quartered with comprehensive mixing in between all stages of sampling. Duplicate sample analysis on a number of the holes/samples confirmed the reliability of sampling • No sub-sampling done in field, only at lab. • Sample sizes were appropriate for the medium grain nature of the particular sample and grade. • In February 2004 drill programme, all sample material from each metre of drilling collected and therefore representative.
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.*	• Assaying was carried out by Western Geolabs Pty Ltd of Perth and Robbins Metallurgical Labs in Brisbane, using the following procedure: • Dry for 5-8 hours: Disaggregate by hand • Split off approximately 120g via a riffle splitter • Deslime 120g split through 63µm screen (minus 63µm fraction is “% slimes”) • Dry and weigh plus 63µm fraction • Split off and weigh plus 1.00mm fraction (“%oversize”) • Stir +1.00mm -63µm fraction into TBE liquid in separation funnels. • Sinks wereare drained, washed, dried and weighed to give “%HM”.
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.*	• Verification between assay results an geologist HM% estimates from log sheets • A number of programs of drilling and sampling have been completed by different companies and individuals. • No significant differences between twinned holes have been apparent. • Data faxed to Maxwell Data Services where it was entered into validated Access Databases and updated by specialist data consultants for the aircore latest drilling.
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.*	• GPS survey (+/- 5m), appropriate for this type of deposit. (WGS 84), MGA Zone 54, GDA94 • Grid: MGA Zone 54, GDA94, RLs as per detailed aerial survey completed by Fugro in 2012

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.*	• Section spacing: 100-200m along strike, holes 20-30m across strike, considered to be appropriate for the strand style of the Urquhart Point Mineral Sand Deposit. • All samples represent 1m of drilling. • Composite samples were arranged at the analytical laboratory for most of the modal analysis work to define the HM assemblage.
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.*	• Sampling conducted with vertical drill holes on section lines, orientated at right angles to the strike of the deposit. Most holes only 4m deep, therefore limited chance of bias. • NA
Sample security	• *The measures taken to ensure sample security.*	• Samples were dispatched via courier service between site and Perth and Brisbane. • Visual estimates matched/compared to lab results to broadly confirm grades
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• No formal audits have been conducted. Discussion between all interested parties has confirmed that the drilling and analytical techniques used are appropriate. A review of the data and Mineral Resource by specialist mining consultants (IMC) has assisted in the estimate.

Table 0-2: JORC (2012) Section 2 Reporting of Exploration Results

CRITERIA	JORC CODE EXPLANATION	COMMENTARY
Mineral tenement and land tenure status	• *Mineral tenement and land tenure status* • *Exploration done by other parties* • *Geology* • *Drill hole Information* • *Data aggregation methods* • *Relationship between mineralisation widths and intercept lengths* • *Diagrams* • *Balanced reporting* • *Other substantive exploration data* • *Further work*	• Oresome Australia Pty Ltd (a 100% owned subsidiary of Metallica Minerals Limited) is the registered tenement holder of granted ML 20669, covering 367.5Ha. • Environmental Impact Assessments have been made and approval to commence mining has been given. Buffer Zones may reduce the accessible or mineable Mineral Resource by approximately 10-15%. • Mining Lease application ML20737, (5.42Ha) which covers a slice of the high grade mineralisation in the northeastern sector of the deposit and also portions of the environmental buffer zone, has not yet been granted. Approval to mine in this area will maximize the Mineral Resource estimate and therefore the economic potential of the deposit.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• Exploration has been conducted since the early 1960s. A reasonable proportion of the previous work was conducted by Matilda Minerals, between 2006-2008.
Geology	• *Deposit type, geological setting and style of mineralisation.*	• The deposit is a low slimes strand style of deposit with the heavy minerals comprised of zircon, rutile, ilmenite and iron oxides. The deposits consist of a series of strands parallel to the coast and inshore areas of Albatross Bay. The highest grade zones are located on the northern end of the deposit area and recent reworking by storms and currents have resulted in accumulations of heavy minerals on the active beach and extending inland at Urquhart Point.

CRITERIA	JORC CODE EXPLANATION	COMMENTARY

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.*
		• See Appendix One for a full listing of all drillholes drilled at Urquhart Point.

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 top cut adopted as is typical with a mineral sand homogenous style of deposit. • NA • NA
Relationship between mineralisation widths and intercept lengths	• *These relationships are particularly important in the reporting of Exploration Results.* • *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.* • *If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').*	• The deposit is a flat lying sand deposit averaging approximately 2.5m in thickness and extending over approximately 200Ha • Vertical Holes are drilled on regular sections throughout the deposit. Downhole lengths are true thickness intersections
Diagrams	• *Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.*	• See attached plan view of Mineral Resource, however because of the relatively large area extent of shallow mineralization mostly <4m a sectional view would be difficult without very high vertical exaggeration and this could be misinterpreted.
Balanced reporting	• *Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.*	• NA
Other substantive exploration data	• *Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.*	• Bulk samples collected for metallurgical test work has returned similar results to that obtained by the exploration and resource development drilling.

CRITERIA	JORC CODE EXPLANATION	COMMENTARY
Further work	• *The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).* • *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*	• Further work will be directed towards the development of a mining operation, following confirmation of the economic parameters of the project. • The company is confident that the deposit has been sufficiently drilled that there will be no additional significant HM zones within the Mining Lease areas.

Table 0-3: JORC (2012) Section 3 Estimation and Reporting of Mineral Resources

CRITERIA	JORC CODE EXPLANATION	COMMENTARY
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.*	• Data was managed by an external database management company which then provided Access exports available for use in Micromine Mining Software. Original analytical results electronically merged with the sample number. Data verified with sections/plans/database queries.
Site visits	• *Comment on any site visits undertaken by the Competent Person and the out-come of those visits.* • *If no site visits have been undertaken indicate why this is the case.*	• A total of 3 site visits have been made by the Competent Person.
Geological interpretation	• *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.*	• The confidence in the simple geometry of the resource is considered very good. • The HMS resource is classified as a Measured and Indicated Resource, com-mensurate with the work completed, the integrity of the data economic potential and drill hole density. • The deposit is consistent and little alternatives are present in the current geologi-cal understanding. • Drill logs/sections were coded by geology to ensure an accurate fit and interpre-tation.
Dimensions	• *The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.*	• The deposit occurs over a broadly orientated north –south direction over a 5km strike length. The width of the deposit is variable and ranges from 30-400m in width. Thickness varies between 1-3.5m.

CRITERIA	JORC CODE EXPLANATION	COMMENTARY
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, previous 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. sulphur 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.*	• Individual wireframes for different portions/orientations of the deposit was adopted. • Search ellipses were 2X the section spacing and 2 X the hole spacing, with a 1 metre search in the Z direction. • Previous estimates have been made and compare closely to this latest estimate. • No assumptions have been made for recovery of by-products • No deleterious elements of the project have been identified. • Block Sizes adopted for the modelling was 20 m X 20 m X 1 m, X, Y and Z dimensions, subcelled to wireframe volumes by 2. • Search Ellipses orientated parallel to the strike continuity of the deposits Inverse Distance Squared Interpolation Methods • Homogenous mineral sand deposits may be estimated without a topcut. The correlation between duplicate sample splits and twinned holes suggest no nugget effect to the sampling. • Only sand and material containing heavy minerals formed the wireframes • Validation, via comparison with wireframe average grade, verses interpolated OBM values.
Moisture	• *Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.*	• Dry Basis
Cut-off parameters	• *The basis of the adopted cut-off grade(s) or quality parameters applied.*	• NA
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.*	• Simple mineral sand mining operation with excavator and truck/Loader is envisaged. Dilution negligible.
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 explanation of the basis of the metallurgical assumptions made.*	• The deposit type is very similar to the Matilda Mineral Tiwi Island mineral sand project where recoveries of 90% was readily achieved, using a convention screening and spiral processing operation to produce a zircon/rutile premium product.

CRITERIA	JORC CODE EXPLANATION	COMMENTARY
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*	• Extraction of the HM% and tailings pumped back into the mined pit. • Environmental Impact Assessment completed and approvals received
Bulk density	• *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.*	• An insitu bulk density (ISBD) was estimated based on detailed work on site. A slightly conservative cubic metre to tonnage conversion factor of 1.6 tonnes per cubic metre was adopted. • The adopted bulk density takes into account the porosity of the sand • 1.6 >1.8 t/bcm is an accepted industry standard for similar deposits.
Classification	• *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.*	• The classification is based on drill hole density, GPS surveying measurements, geological knowledge of strandlines and modal analysis. • Appropriate account has been taken of all relevant factors. • The Mineral Resource estimate appropriately reflects the view of the Competent Person
Audits or reviews	• *The results of any audits or reviews of Mineral Resource estimates.*	• This 2014 estimate compares favourably with a 2008 and 2013 estimate.
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.*	• The relative accuracy of the Mineral Resource estimate is reflected in the reporting of the Mineral Resource as per the guidelines of the 2012 JORC code. Classification into Measured and Indicated categories is based on drill density and veracity of the sampling adopted and geological knowledge. • The statement relates to global estimates of tonnes and grade. No production data available

Table 0-4 JORC (2012) Section 4 Estimation and Reporting of Ore Reserves

CRITERIA	JORC CODE EXPLANATION	COMMENTARY
Mineral Resource estimate for conversion to Ore Reserves	• *Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve.* • *Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.*	• The Mineral Resource was estimated by Simon Coxhell of CoxsRocks Pty Ltd. The April 2014 revised model was used as the basis for the Ore Reserves. • The Mineral Resource contains Measured and Indicated Resources and is based on drilling completed between 2006 and 2008 by Matilda Minerals and by Oresome Australia in 2013 and 2014 in the Northern part of the deposit. • The Mineral Resource contains an estimate of volume, tonnage, HM% and mineral assemblage. The block size used in the Mineral Resource is 20mx20mx1m (XYZ). • The Measured and Indicated Mineral Resources are inclusive of those Mineral Resources modified to produce the Ore Reserves
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.*	• A site visit undertaken by the Competent Person (Mr Francois Bazin) on 19-20 March 2014. A general site inspection undertaken. Additionally, the Competent Person managed an in-situ density test program as well as a DGPS survey validation on selected drillhole collars and lease pegs during the site visit. • The density testwork validated the density used in the resource estimate and demonstrated that a relationship exists between the HM% and the in-situ bulk density of the sand. • The DGPS survey validation confirmed that the drillhole collars are accurate to +/- 5m in Easting and Northing. Given the flat topography, the elevation used in the model is considered to be of high accuracy as it is based on an aerial survey completed by Fugro Spatial Solutions Pty. Ltd in 2012.
Study status	• *The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.* • *The Code requires that a study to at least Pre-Feasibility Study level has been undertaken to convert Mineral Resources to Ore Reserves. Such studies will have been carried out and will have determined a mine plan that is technically achievable and economically viable, and that material Modifying Factors have been considered.*	• A Feasibility Study was managed by Oresome Australia and was completed in May 2014. The Feasibility Study team included the following specialist consultants: • Geology/Mineral Resources: CoxsRocks Pty Ltd • Processing and Metallurgy: Robbins Metallurgical Pty Ltd • Mining/Ore Reserves: IMC Mining Pty Ltd • Environmental: EcOz Environmental Services Pty Ltd • Product marketing: TZ Minerals International Pty Ltd
Cut-off parameters	• *The basis of the cut-off grade(s) or quality parameters applied.*	• A Zircon Equivalent cut-off grade of 0.90% (in-situ) was used to estimate the Ore Reserves, where Zircon Equivalent = Zircon % + 0.8xRutile % + 0.13xIlmenite % • The Zircon Equivalence includes Rutile and Ilmenite grades as all three minerals are considered to be saleable. • The long term FOB prices used in the equivalence calculation are US$1500/t, US$1200/t and US$200/t for Zircon, Rutile and Ilmenite respectively • The recoveries used in the equivalence calculation are 98.2%, 98.0% and 95.8% for Zircon, Rutile and Ilmenite respectively in line with the testwork completed by Robbins Metallurgical.

CRITERIA	JORC CODE EXPLANATION	COMMENTARY
Mining factors or assumptions	• *The method and assumptions used as reported in the Pre-Feasibility or Feasibility Study to convert the Mineral Resource to an Ore Reserve (i.e. either by application of appropriate factors by optimisation or by preliminary or detailed design).* • *The choice, nature and appropriateness of the selected mining method(s) and other mining parameters including associated design issues such as pre-strip, access, etc.* • *The assumptions made regarding geotechnical parameters (eg pit slopes, stope sizes, etc), grade control and pre-production drilling.* • *The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate).* • *The mining dilution factors used.* • *The mining recovery factors used.* • *Any minimum mining widths used.* • *The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.* • *The infrastructure requirements of the selected mining methods.*	• A simple slot mining approach with a 30 tonne excavator will be undertaken following the clearance of vegetation and topsoil. The production rate is estimated to be ~100 tonnes per hour for approximately 10 hours per day. Clean sand will be returned to the pit within approximately 30 minutes. This method is most appropriate given shallow (less than 3m). Flat topography enables easy access. • A variable in-situ bulk density estimate based on HM% has been modelled to estimate the Ore Reserves. This is based on the field testwork completed in March 2014 by IMC Mining and comprising of 16 samples. The results of this testwork demonstrated a strong relationship between HM% and density. The equation used is: Density = 1.643 + 0.007xHM% • Groundwater levels have been reviewed and taken into account during the sequencing to ensure a dry floor for the excavator. Groundwater levels are elevated during the wet season in a small portion of the mining areas. • No geotechnical issues are expected due to the shallow nature of mining (<3m) • The mine floor has been defined as the lowest block above 0.90% ZirconEq in each 20mx20m column of blocks in the resource model. All blocks above this floor are mined as one composited block between 1m and 4m thick. Blocks below this are left in the pit floor. No allowance has been made for benching or more selective mining within each mine block. • A 10cm dilution skin has been modelled at the base of the designed mine floor. The dilution grades are based on the grades of the material immediately below the mine floor. This material is typically a cemented coquina (high in OS% and low HM%). The 10cm dilution skin is equivalent to 7% dilution by volume at a grade of 4.33% HM. • A 95% mining recovery factor was applied to the ore tonnage to account for mining related loss such as poorly assigned trucks and spillage etc. • No Inferred Resources have been defined in the resource model and none have been included in the mining studies. • The infrastructure requirements for the mining method are minimal. A workshop, fuel farm and minor roads will be built during the pre-production period.

CRITERIA	JORC CODE EXPLANATION	COMMENTARY
Metallurgical factors or assumptions	• *The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.* • *Whether the metallurgical process is well-tested technology or novel in nature.* • *The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.* • *Any assumptions or allowances made for deleterious elements.* • *The existence of any bulk sample or pilot scale test work and the degree to which such samples are considered representative of the orebody as a whole.* • *For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications?*	• A simple and standard processing flowsheet has been designed for Urquhart Point. This includes a screen to remove the shelly grit and organic matter. The undersize is then pumped to the Wet Processing Plant (WCP) which consists of spirals that utilise the weight differential to separate the heavier sand from the lighter sand. The heavier sand can be collected, stored and loaded onto a ship. The lighter clean sand is then returned to the pit void for rehabilitation. • A 6 tonne composite bulk sample at the average grade was processed to produce a variety of concentrates and downstream products for further evaluation and testing. The metallurgical testwork included spiral, low intensity magnetic and high intensity magnetic, electrostatic, wet shaking table and magnetic separator work programs. • Based on the 6t bulk sample, a process flowsheet was determined to produce a simple mixed concentrate containing Zircon, Rutile, Ilmenite and other heavy minerals. • A low grade and high grade sample (1 tonne each) was subsequently tested to assess the variability of the ore processing method. No material issues were identified. • The recoveries in the WCP are estimated to be 98.2%, 98.0% and 95.8% for Zircon, Rutile and Ilmenite respectively in-line with the testwork completed by Robbins Metallurgical. • The simple nature of the ore processing method (water and gravity) and absence of any chemical processing means that the presence of deleterious elements is not a significant consideration. • The mixed concentrate is expected to have very low levels of Uranium and Thorium – no issues for transportation and export. • The mixed concentrate specifications have been reviewed by potential offtake customers and by TZMI to confirm that the product is saleable.
Environmental	• *The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterisation and the consideration of potential sites, status of design options considered and, where applicable, the status of approvals for process residue storage and waste dumps should be reported.*	• The Environmental Impact Statement is completed and approved. An Environmental Authority has also been granted and an Environmental Management Plan has been completed. • There will be no mining waste other than the topsoil and organic material. • The sand rejects from the Wet Processing Plant will be pumped back to the mining area and stockpiled to be used to reinstate the mined areas. The rejects will be a clean quartz sand. • Environmental buffers have been taken into account to estimate the Ore Reserves.

CRITERIA	JORC CODE EXPLANATION	COMMENTARY
Infrastructure	• *The existence of appropriate infrastructure: availability of land for plant development, power, water, transportation (particularly for bulk commodities), labour, accommodation; or the ease with which the infrastructure can be provided, or accessed.*	• There is currently no infrastructure on the site. Infrastructure to be developed for the project includes power generation (generators), process water supply (bore drawing from saline aquifer), access roads (no haul roads required) and buildings (administration building), fuel supplies and workshop. • All transport to and from site will be via a barge from Evans Landing in Weipa as there is no road access to the site. There will be no accommodation on site and personnel will be transported by barge from Evans Landing. • The project site is located approximately 3km South-West of the township of Weipa and is accessible by barge.
Costs	• *The derivation of, or assumptions made, regarding projected capital costs in the study.* • *The methodology used to estimate operating costs.* • *Allowances made for the content of deleterious elements.* • *The source of exchange rates used in the study.* • *Derivation of transportation charges.* • *The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.* • *The allowances made for royalties payable, both Government and private.*	• The project capital cost has been estimated to -10%/+20% based on detailed cost modelling and design work carried out in the Feasibility Study. • The operating costs were estimated from first principles and are based on a simple 100 tonne per hour operation with small mining equipment feeding a centrally located Wet Processing Plant. The operation will be a Monday-Friday dayshift operation with employees being residentially based in Weipa and barged to the project site every day. • A long term consensus view on the US$:AU$ exchange rate from major Australian banks was used in the financial modelling • The presence of deleterious elements is not a significant consideration in the context of this deposit and the proposed processing methods. • FOB revenue was modelled on the basis of a price forecast provided to Oresome Australia by TZMI. The concentrate value is based on the zircon, rutile and Ilmenite mineral content in the concentrate. • Barging and ship loading costs based on quoted daily hire rates by a local barging contractor and estimated loading and production rates. • An allowance has been made to account for Queensland State Government royalties (5%) and a royalty payable to the Wik and Wik Way Trust (2.5%)
Revenue factors	• *The derivation of, or assumptions made regarding revenue factors including head grade, metal or commodity price(s) exchange rates, transportation and treatment charges, penalties, net smelter returns, etc.* • *The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.*	• The long term FOB prices used in the derivation of the mining areas are US$1500/t, US$1200/t and US$200/t for zircon, rutile and ilmenite respectively. This is based the three year average of the price forecast between 2018 and 2020. • A US$:AU$ exchange rate of 0.85 was used in the financial model • The value of the concentrate was derived by discounting the value of the contained heavy minerals by 25% to account for required downstream processing and profit margins. • The forecasted revenues, rather than the long term average, have been used in the financial model.

CRITERIA	JORC CODE EXPLANATION	COMMENTARY
Market assessment	• *The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future.* • *A customer and competitor analysis along with the identification of likely market windows for the product.* • *Price and volume forecasts and the basis for these forecasts.* • *For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.*	• A detailed market assessment report was provided by TZ Minerals International Pty Ltd (TZMI) in 2012 and updated in May 2014. • Additionally, Oresome Australia has discussed offtake arrangements with potential project partners to validate the concentrate pricing assumptions. • The Zircon and Rutile products produced during the metallurgical testwork are classified as premium grade products. • The project is estimated to produce 4,300 tonnes of mixed concentrate per quarter grading 14.8%, 17.3% and 16.2% zircon, rutile and ilmenite respectively. This is a small amount compared to global demand and is not expected to influence the supply/demand dynamics.

Economic	• *The inputs to the economic analysis to produce the net present value (NPV) in the study, the source and confidence of these economic inputs including estimated inflation, discount rate, etc.*
	• *NPV ranges and sensitivity to variations in the significant assumptions and inputs.*
		• The estimated project pre-tax NPV of A$4.9M is based on the following key inputs:
		  • 100% ownership
		  • Discount rate of 10%
		  • US$:AU$ exchange rate of 0.85
		  • Zircon price forecasts between US$1125/t FOB in 2015 to US$1575/t FOB in 2020
		  • Rutile price forecasts between US$940/t FOB in 2015 to US$1220/t FOB in 2020
		  • Ilmenite price forecasts between US$160/t FOB in 2015 to US$205/t FOB in 2020
		  • Capital cost estimate of A$6.5M
		  • Operating cost estimate of A$12.52 per tonne mined
		• The project NPV is sensitive to changes in commodity prices:
		  • 20% reduction in commodity prices = NPV estimate of A$0.6M
		  • 20% increase in commodity prices = NPV estimate of A$9.1M
		  • The project NPV is sensitive to changes in USD:AUD exchange rate:
		  • 20% reduction in exchange rate = NPV estimate of A$1.3M
		  • 20% increase in exchange rate = NPV estimate of A$10.2M
		• The project NPV is less sensitive to changes in estimated operating costs:
		  • 20% reduction in operating costs = NPV estimate of A$6.9M
		  • 20% increase in operating costs = NPV estimate of A$2.8

Social	• *The status of agreements with key stakeholders and matters leading to social licence to operate.*	• This has been addressed in the EIS. In summary, the project has the support of local community and stakeholders. This has been determined through a stakeholder engagement process. The project currently maintains excellent relations with the local community and business and plans to employ local staff and service providers as much as possible.

CRITERIA	JORC CODE EXPLANATION	COMMENTARY
Other	• *To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves:* • *Any identified material naturally occurring risks.* • *The status of material legal agreements and marketing arrangements.* • *The status of governmental agreements and approvals critical to the viability of the project, such as mineral tenement status, and government and statutory approvals. There must be reasonable grounds to expect that all necessary Government approvals will be received within the timeframes anticipated in the Pre-Feasibility or Feasibility study. Highlight and discuss the materiality of any unresolved matter that is dependent on a third party on which extraction of the reserve is contingent.*	• The Mining Lease for the majority of the site is granted (ML 20669; 371.5Ha) and an additional MLA (MLA 20737; 5.4Ha) is expected to be granted by the end of 2014. There are no competing applicants for MLA 20737. The MLA covers a small but high grade area at Urquhart Point. • Other than the granting of MLA 20737 and project funding, there are no material unresolved matters upon which the extraction of the Ore Reserve is contingent. • It is not expected that the granting of MLA 20737 will be unreasonably withheld.
Classification	• *The basis for the classification of the Ore Reserves into varying confidence categories.* • *Whether the result appropriately reflects the Competent Person's view of the deposit.* • *The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).*	• The Urquhart Point project is fully permitted with an approved Environmental Authority (EA), a granted Mining Lease and a Plan of Operations. • The simple nature of mining and ore processing inherently reduces the operational risk. Further de-risking the project is the proximity to the existing township of Weipa and its services. • Proved and Probable Ore Reserves have been estimated after the application of loss, dilution and other modifying factors to the Mineral Resource. • The Proved Ore Reserves are the economically mineable portions of the Measured Mineral Resource. The Probable Ore Reserves are the economically mineable portions of the Indicated Mineral Resource. • The southern two strands at Urquhart Point, classified as Indicated Resources, have not been included as part of the Probable Ore Reserves due to the Competent Person's opinion that further drilling and mineral assemblage work should be carried out to adequately assess the modifying factors. • The Competent Person believes that the conversion of the Mineral Resource to Ore Reserves, as described above, is appropriate. • No Probable Reserves have been derived from Measured Resources.
Audits or reviews	• *The results of any audits or reviews of Ore Reserve estimates.*	• The Ore Reserve estimation methodology has been internally reviewed by IMC and Oresome Australia.

CRITERIA	JORC CODE EXPLANATION	COMMENTARY

Discussion of relative accuracy/ confidence	• *Where appropriate a statement of the relative accuracy and confidence level in the Ore Reserve 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 reserve within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors which 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.*
	• *Accuracy and confidence discussions should extend to specific discussions of any applied Modifying Factors that may have a material impact on Ore Reserve viability, or for which there are remaining areas of uncertainty at the current study stage.*
	• *It is recognised that this may not be possible or appropriate in all circumstances. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.*
		• The Ore Reserves are based on a recently completed Feasibility Study and as such the confidence in the Ore Reserve estimate is high as discussed below:
		• Considerations in favour of a high confidence in the Ore Reserves:
		  • The mineralised zones have simple shapes, tight depositional control, good continuity and no overburden
		  • Over 80% of the Ore Reserves are in the Proven category
		  • The mining and processing is simple, small scale and utilises proven technology
		  • The project is fully permitted
		• Considerations in favour of a lower confidence in the Ore Reserves:
		  • The Zircon and Rutile markets have been depressed in 2013 and 2014. Future price forecasts carry an inherent level of risk.
		  • The project requires funding
		  • All modifying factors have been applied at a local scale (e.g. loss and dilution, economic parameters and environmental buffers).