



ASX Announcement



# Ardmore Phosphate Rock Project

## August 2021 Updated Definitive Feasibility Study

12<sup>th</sup> August 2021

ASX Code: CXM

Issued Capital:

Shares	367M
Share Price	A\$0.041
Market Cap.	A\$15.1m
Cash (30 Jun)	A\$2.699M

Board of Directors:

Mr Peter Hunt

*Non-Executive Chairman*

Mr Graham Crisp

*Non-Executive Director*

Dr A John Parker

*Non-Executive Director*

**CEO**

Mr Robert Mencil

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## Highlights

- ▶ August 2021 Updated Definitive Feasibility Study (DFS) confirms Ardmore Phosphate Rock Project profitability and robustness.
- ▶ Project Net Present Value (NPV) of A\$207m using a 7% discount factor
- ▶ Pre-tax IRR of 52% and a payback period of less than 2 years.
- ▶ Project gross revenue of A\$1.453 bn, total cost A\$965m and free cash of A\$429m.
- ▶ Capital Cost increased by 13.6% to reflect increased costs of construction material, labour rates, updated vendor quotations and recent project benchmarking.
- ▶ Operating costs increased by 10% to reflect recent increases in industry labour rates.
- ▶ Simple low risk sale assumption - Free on Board (FOB) Townsville.
- ▶ Conservative sale price USD\$135- - Average June/July 2021 North Africa FOB Benchmark Price, adjusted for grade.

Centrex Metals Limited (“Centrex”) is pleased to announce the results from its August 2021 DFS Update (Table 1) for its flagship Ardmere Phosphate Rock Project (“Ardmore”) in Northwest Queensland.

The August 2021 update confirms the project’s profitability and robustness.

**TABLE 1:** Key August 2021 Updated DFS results.

Parameter		Result	
Study accuracy		+/- 15%	
Project life		10 years	
Annual production		800,000 wet tonnes	
Pre-production capital cost		A\$ 78 million	US\$ 58 million
Average FOB operating cost ex-royalties		A\$ 125/dmt	US\$ 92/dmt
Static FOB sales price		A\$ 182/t	US\$ 135/t
A\$:US\$ exchange rate assumption <sup>(2)</sup>		0.74	
<b>Pre-tax results (nominal) <sup>(3)</sup></b>			
	Unleveraged NPV <sub>7</sub>	A\$ 207 million	US\$ 153 million
	Unleveraged NPV <sub>10</sub>	A\$ 166 million	US\$ 123 million
	Unleveraged IRR	52 %	
	Net cash flow	A\$ 429 million	US\$ 317 million
	Pay Back Period	< 2 years	

The original Centrex Ardmere DFS was completed in October 2018. In February 2019 the company released the results of an Optimised DFS (ASX Release 28 February 2019). This Optimised DFS study has been used as the baseline for the August 2021 Update.

As previously the above project financil model makes no assumptions about the sources of funding and has been prepared on a 100% equity finance basis. However, the future source of funding will likely be a mix of debt and equity.

#### Updated Capital & Operating Costs

GR Engineering Services Limited were engaged to update the capital cost estimate. Plant design, site layout, construction material quantities and erection/ installation hour estimate were all unchanged.

Total Capital Cost estimate increased by 13.6%. This increase reflects-

- Increased costs of construction materials and labour rates.
- Key mechanical and electrical equipment costs updated based upon re-validation of vendor quotations or recent project benchmarking.
- The A\$78m Total Capital Cost includes an 8% contingency as per 2018 DFS.

TABLE 2: Updated Capital Costs

	Result	
Overall estimate accuracy	+/- 15%	
<b>Pre-production capital costs</b>		
<b>Area</b>	<b>A\$ million</b>	<b>US\$ million</b>
Mining	4.01	2.97
Processing	48.30	35.74
Road	2.42	1.79
Rail siding	8.80	6.51
EPCM	6.01	4.45
Owners Costs (administration)	3.12	2.31
<b>Sub-total pre-production capital</b>	<b>72.66</b>	<b>53.77</b>
Growth & contingency - 8%	5.81	4.30
<b>Total pre-production capital</b>	<b>78.47</b>	<b>58.07</b>

Operating costs were updated by Centrex. Mining, processing, and transport physical assumptions were all unchanged.

Total Operating costs were increased by approximately 10% to reflect demand for industry specific labour and subsequent increased labour rates. It's noted for the period March 2018 to July 2021, the Consumer Price Index (CPI) price rise was 5.5%.

TABLE 3: Updated Operating Costs

	Result	
Overall estimate accuracy	+/- 15%	
<b>Average LOM operating costs / DMT of concentrate</b>		
<b>Area</b>	<b>A\$/DMT</b>	<b>US\$/DMT</b>
Mining	13.31	9.85
Processing	11.05	8.18
G & A	6.03	4.47
Rail	60.21	44.55
Port Costs	20.74	15.35
Haulage	10.91	8.07
Lease costs	2.28	1.68
<b>Total FOB</b>	<b>124.53</b>	<b>92.15</b>

Unlike the 2018 Feasibility study, the point-of-sale assumption for the August 2021 update is Free on Board (FOB) Townsville, Australia, rather than an end customer Cost and Freight (CFR) price.

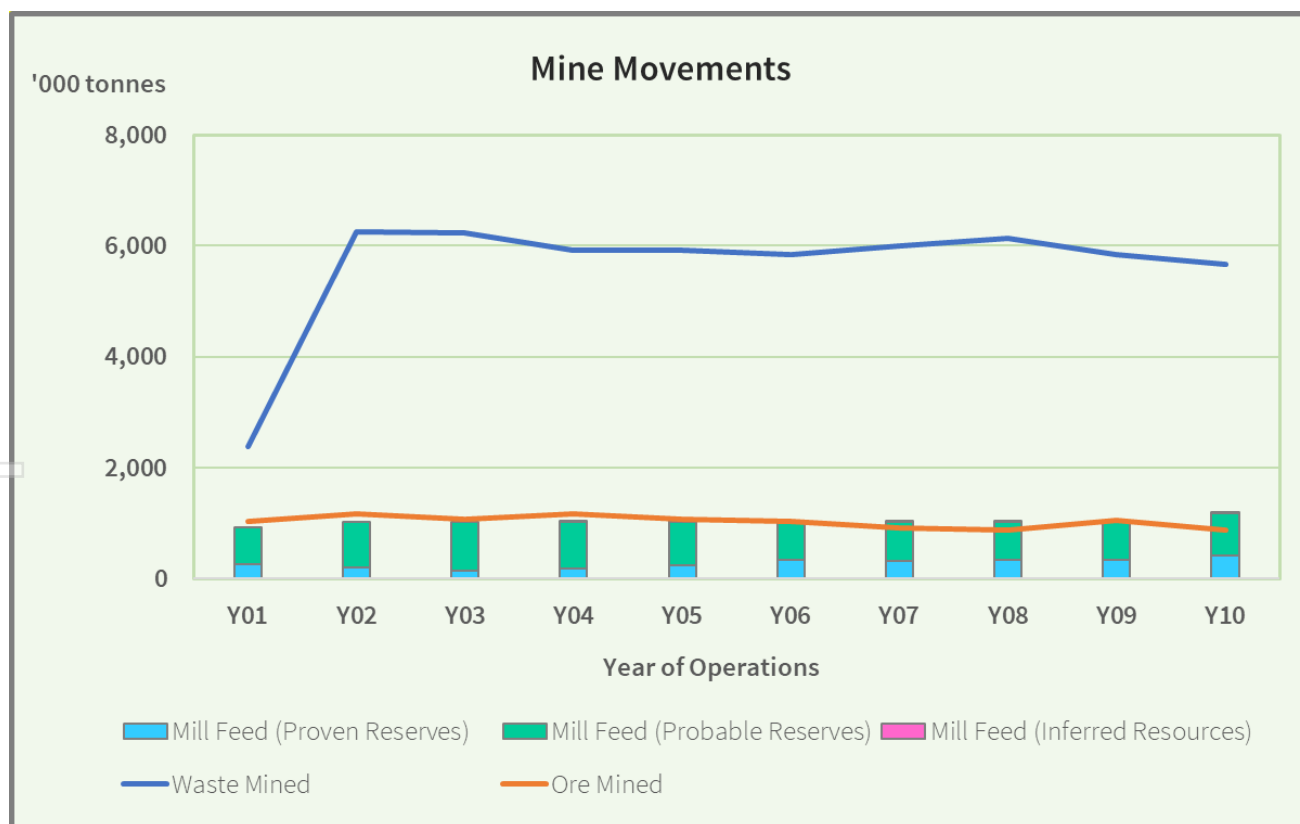
This change recognises the fact that most of Centrex’s future customers will arrange their own shipping. By developing the project on a FOB basis, it simplifies the business and limits the company’s exposure to freight fluctuations and foreign exchange.

The sell price assumption for the August 2021 Update is based upon the June/July 2021 average North African 70%BPL benchmark sale price, adjusted for grade. This is a conservative estimate, as it doesn’t include any sales premium for an Australian supplier when servicing domestic, New Zealand and North Asian customers.

A 0.74 A\$:US\$ exchange rate was used in the August 2021 update. Exchange rate assumptions were based on the most recent forecasts from the four major Australian Banks.

Underlying mine designs and resulting Ore Reserves remained unchanged from the 10.1 million tonnes at 30.2% P2O5 reported DFS. This recognises their relative insensitivity to mining costs due to the orebody’s low waste strip ratio and shallow dipping nature. These Ore Reserves support the production forecasts as outlined in table 4 and the production schedule in figure 1.

**FIGURE 1:** Production Schedule.



The announcement in relation to the Ore Reserve was made on 8<sup>th</sup> October 2018 and can be found at the following link and the JORC Table at the end of this release:

<https://www.asx.com.au/asxpdf/20181008/pdf/43z1q8nvm95k58.pdf>

The results were reported under JORC 2012 and Centrex is not aware of any new information or data that materially affects the information contained within the release. All material assumptions and technical parameters underpinning the estimates in the announcement continue to apply and have not materially changed.

**TABLE 4:** Resource and Reserves Table.

Mineral Resource Category	Million Tonne	P <sub>2</sub> O <sub>5</sub> %
Measured	3.3	29.8
Indicated	11.1	27.4
Inferred	1.7	26.8
<b>Total Mineral Resources</b>	<b>16.2</b>	<b>27.8</b>
Ore Reserve Category	Million Tonne	P <sub>2</sub> O <sub>5</sub> %
Probable	7.3	30.2
Proven	2.8	30.3
<b>Total Ore Reserves</b>	<b>10.1</b>	<b>30.2</b>

The update provides Centrex with confidence to commence project financing discussions and progress product sales.

Outside of the DFS baseline, additional optimisation studies will continue with the aim of further improving the project's value. These include-

- Investigating value-adding opportunities to our Direct Application Phosphate Rock (DAPR) product. These include package sizing options and microbial inoculant treatments.
- The use of reverse flotation to increase reserves, simplify mining and create a premium +37% P<sub>2</sub>O<sub>5</sub> product.
- Optimising the commercial plant's location. Potentially 100% of what is processed will be sold. As a result, the project isn't sensitive to the plant's location. Alternative plant locations may result in lower capital and operating costs.
- Adopting bulk road haulage, rail and storage solutions have the potential to significantly reduce logistics costs.
- By-product value-adding opportunities. Potentially the by-product could be used to create a high phosphorus low-cost soil conditioners and as an input into animal feeds.

Centrex's CEO Robert Mencil said *"It's the right project at the right time. We have an opportunity to help Australian farmers produce more food, do it in a more environmentally friendly and sustainable way and at the same time provide a decent return to shareholders."*

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#### Competent Persons Statement

*The information in this report that relates to Ore Reserves and Production Targets is based on information compiled by Ben Brown, a Competent Person who is a Member of The Australasian Institute of Mining and Metallurgy. Ben Brown is employed by Optima Consulting and Contracting Pty Ltd, an external independent consultancy. Ben Brown 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 'Australian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Ben Brown consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.*

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Ardmore Phosphate Rock Project JORC Table 1  
SECTION 1: Sampling techniques and data.

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul style="list-style-type: none"> <li>• <i>Nature and quality of sampling.</i></li> <li>• <i>Sample representivity.</i></li> <li>• <i>Determination of mineralisation.</i></li> </ul>	<p>Water bores and monitoring bores were not sampled and used for lithology logging only.</p> <p>Drill holes were mainly (99% of the data) sampled at a nominal 0.5m interval.</p> <p>Historical rotary percussion drill holes were completed using a 6" tri-cone blade. Samples were collected via a venturi system with a rubber seal over a PVC cased hole collar into a cyclone. Sample intervals were split by hand using a 16 pocket splitter and re-split to achieve average sample weights of 1kg.</p> <p>Reverse circulation ("RC") drilling by Centrex drilling was completed with a 4 ¼ inch hammer with a 900 psi compressor, and an auxiliary compressor for sampling below the water table. Samples were split to a target 1kg using a rig mount cone splitter.</p> <p>Rotary percussion drilling was completed by Centrex using an 89mm diameter drill bit and utilised a rig mounted cyclone with a single tier riffle splitter placed beneath to produce a 2-3kg sample split.</p> <p>The sampling method for the three historical diamond core holes has not been verified and these holes were not specifically targeting phosphate but other commodities in the overlying shale.</p> <p>For the drilling all original samples logged visually as containing phosphorite were sent for analysis as well as a number of intervals either side or where the lithology indeterminate.</p> <p>Centrex samples were sent to Bureau Veritas in Adelaide for sample preparation and assays. Samples were crushed to -3mm and then split for a sub-sample to be pulverised in a tungsten carbide bowl. Samples were then analysed using lithium borate fusion followed by ICP.</p> <p>Historical rotary percussion samples were sent to a dedicated sample preparation facility in Mount Isa owned by BH South for crushing and pulverising. 100g splits of the pulps were sent to Amdel in Adelaide for</p>



Criteria	JORC Code explanation	Commentary
		<p>original assays. Secondary 100g pulps splits were kept in Mount Isa and were later re-assayed (93% of original pulps) in 2010 via lithium metaborate fusion followed by inductively coupled plasma mass spectrometry at Bureau Veritas in Adelaide.</p> <p>PQ diamond drilling was completed for metallurgical purposes and drill holes were used for lithology reference and in-situ dry bulk density density only. All PQ drill holes were twin holes of rotary percussion drill holes.</p> <p>The PQ diamond core was for metallurgical testwork purposes. For each drill hole the mineralised interval was divided into further intervals down hole and packaged into 20-30kg plastic bags with cable ties for manual handling reasons. The interval of each bag was recorded and bags were weighed wet and dry at Bureau Veritas in Adelaide. There were 49 bags in total of mineralised intervals. From each dried bag interval, two representative approximately 20cm pieces were taken for in-situ dry bulk density determination. Each piece was wrapped in cling wrap and weighed in air and in water to determine the dry bulk density.</p>
<i>Drilling techniques</i>	<ul style="list-style-type: none"> <li><i>Drill type.</i></li> </ul>	<p>RC drilling was completed with a 4 1/4" hammer by Kelly Drilling using a Schramm 450 with a 900 psi compressor, and an auxiliary compressor was used for drilling below the water table.</p> <p>PQ diamond drilling was completed by Kelly Drilling using a Longyear GK850 multi-purpose rig.</p> <p>Historical rotary percussion holes AMRB2-28 were completed with a Schramm Rotadrill P42 and holes AMRB29-326 with a Drillmatic using a 6" tri-cone blade.</p> <p>Historical diamond drilling was a mix of NQ and HQ using a Mindrill M10L (AMDD1) and VKI (AMDD2-3) rigs.</p> <p>Centrex rotary percussion drilling was completed by JDR Mining &amp; Civil Pty Ltd using a Tamrock Ranger 700 tracked rig with an 89mm diameter drill bit.</p>
<i>Drill sample recovery</i>	<ul style="list-style-type: none"> <li><i>Method of recording and assessing sample recoveries.</i></li> </ul>	<p>Drill sample recoveries were monitored during the drilling process. An auxiliary compressor was used below the water table to increase sample recovery for</p>

Criteria	JORC Code explanation	Commentary
	<ul style="list-style-type: none"> <li>Measures taken to maximise sample recovery.</li> </ul>	the RC. RC and rotary percussion sample weights were consistent against the set interval volume.
Logging	<ul style="list-style-type: none"> <li>Geological and geotechnical logging.</li> <li>Whether logging is qualitative or quantitative.</li> <li>Total length and percentage of the relevant intersections logged.</li> </ul>	Geological logging was qualitative based on visual field observations and conducted on all samples. Logging included lithology, hardness, colour, stratigraphy, grain size, moisture, and weathering. 0.5m RC and rotary percussion samples were wet sieved for observation. Diamond core was logged to 10 cm resolution. Diamond core was geotechnically logged by consultant geotechnical engineers.
Sub-sampling techniques and sample preparation	<ul style="list-style-type: none"> <li>Nature, quality and appropriateness of the sample preparation technique.</li> <li>Quality control.</li> <li>Sample representivity.</li> <li>Sample sizes.</li> </ul>	<p>Historical rotary percussion samples were collected via a Venturi system with a rubber seal over a PVC hole collar into a cyclone. Samples were split by hand using a 16 pocket riffle splitter and then re-split to achieve average sample weights of 1kg. Samples were sent to a dedicated sample preparation facility in Mount Isa owned by BH South for crushing and pulverising. 100g splits of the pulps were sent to Amdel in Adelaide for original assays in the 1970s. Secondary 100g pulps splits were kept in Mount Isa which were later re-assayed (93% of original pulps) in 2010.</p> <p>RC intervals were run through a rig-mounted cone splitter. 0.5m RC samples were crushed to -3mm and split for pulverising prior to analysis. Samples were generally 0.5 to 1kg. Field duplicates were taken on average every 20<sup>th</sup> sample. Blanks and standards were submitted to the laboratory on average every 20<sup>th</sup> sample respectively. Field duplicates showed acceptable variation.</p> <p>21 of the 2017 RC holes were twin holes of historical rotary percussion holes completed from 1968 to 1974. The original sample pulps from the historical holes were re-assayed in 2010 using lithium borate fusion followed by ICP. Comparison of the twin pair data showed comparable results.</p> <p>Centrex rotary percussion intervals were riffle split via a single tier riffle splitter placed beneath the rig mounted cyclone. 0.5m RP samples were crushed to -3mm and split for pulverising prior to analysis. Samples were generally 2.0-3.0 kg. Field duplicates were taken on average every 40<sup>th</sup> sample. Blanks and standards were</p>

Criteria	JORC Code explanation	Commentary
		<p>submitted to the laboratory on average every 30<sup>th</sup> sample respectively. Field duplicates showed acceptable variation.</p> <p>Diamond holes were for metallurgical purposes and so were not routinely assayed. The holes were twins of historical percussion holes completed from 1968 and 1974. Comparison of lithological logging between twin pairs showed good correlation.</p> <p>For each diamond drill hole the mineralised interval was divided into further intervals down hole and packaged into 20-30kg plastic bags with cable ties for manual handling reasons. The down hole interval of each bag was recorded and bags were weighed wet and dry at Bureau Veritas in Adelaide. There were 49 bags in total of mineralised intervals. From each dried bag interval, two representative approximately 20cm pieces were taken for in-situ dry bulk density determination. Each piece was wrapped in cling wrap and weighed in air and in water to determine the dry bulk density.</p>
Quality of assay data and laboratory tests	<ul style="list-style-type: none"> <li>Nature of quality control procedures.</li> </ul>	<p>For the Centrex RC, field duplicates were taken on average every 20<sup>th</sup> sample from the cone splitter mounted on the drill rig. Blanks and two separate standards (sedimentary phosphorite certified reference material) were submitted to the laboratory on average every 20<sup>th</sup> sample respectively. Field duplicates showed acceptable variation. Blanks and standard results showed no concerns.</p> <p>21 of the 2017 RC holes were twin holes of historical rotary percussion holes completed from 1968 to 1974. The original sample pulps from the historical holes were re-assayed in 2010 using lithium borate fusion followed by ICP. Comparison of the twin pair data showed comparable results.</p> <p>Diamond holes were for metallurgical purposes and so were not routinely assayed. The holes were twins of historical percussion holes completed from 1968 and 1974. Comparison of lithological logging between twin pairs showed good correlation.</p> <p>For each of the PQ diamond core density intervals the average of the dry bulk density from the two pieces tested per interval was compared to the dry bulk density</p>

Criteria	JORC Code explanation	Commentary
		<p>determined by the core-length-weight method which assumes 100% core recovery, which was very close to being achieved in the majority of intervals. The two methods of dry bulk density determination showed strong correlation indicating the pieces selected to be representative of the interval.</p> <p>For the Centrex rotary percussion field duplicates were taken on average every 40th sample from the one tier riffle splitter. Blanks and two separate standards (sedimentary phosphorite certified reference material) were submitted to the laboratory on average every 30th sample respectively. Field duplicates showed acceptable variation. Blanks and standard results were within acceptable limits.</p> <p>Historical rotary percussion programs were undertaken in conjunction with programs by BH South at Duchess approximately 70km east in the same stratigraphy and style of mineralisation. Quality control programs were undertaken on the initial drilling at Duchess and with no issues shown, no further quality control programs were undertaken at the subsequent Ardmore drilling campaigns. Quality control at the Duchess program included twin holes plus sampling of dust from the cyclones. The nature of the quality control procedures used in the laboratory has not been verified.</p>
<p><i>Verification of sampling and assaying</i></p>	<ul style="list-style-type: none"> <li>• <i>The verification of significant intersections by either independent or alternative company personnel.</i></li> <li>• <i>The use of twinned holes.</i></li> <li>• <i>Documentation of primary data, data entry procedures, data verification, data storage protocols.</i></li> <li>• <i>Any adjustment to assay data.</i></li> </ul>	<p>Data and results collected by field geologists was reviewed and audited by alternative company geologists via site visits and database reviews.</p> <p>21 of the 2017 RC holes and 12 of the Centrex rotary percussion holes were twin holes of historical rotary percussion holes (plus each other in some cases) completed from 1968 to 1974. The original sample pulps from the historical holes were re-assayed in 2010 using lithium borate fusion followed by ICP. Comparison of the twin pair data showed comparable results across all three drill types.</p> <p>Diamond holes were for metallurgical purposes and so were not routinely assayed. The holes were twins of historical percussion holes completed from 1968 and 1974. The diamond holes were also twinned in some cases with the RC and the Centrex rotary percussion holes. Comparison of lithological logging between twin</p>

Criteria	JORC Code explanation	Commentary
		<p>pairs showed good correlation.</p> <p>Historical sampling procedures were outlined in discussions by Centrex with the Exploration Manager in charge of the historical Ardmore drilling at the time. Historical information on the documentation of primary data, data entry procedures, data validation, data storage protocols and adjustments to assay data has not been verified.</p>
<i>Location of data points</i>	<ul style="list-style-type: none"> <li>• <i>Accuracy and quality of surveys.</i></li> <li>• <i>Specification of the grid system used.</i></li> <li>• <i>Quality and adequacy of topographic control.</i></li> </ul>	<p>Centrex drill hole collar coordinates were collected by a licensed surveyor using DGPS. Field surveys by Centrex identified many of the historical drilling steel collar pegs to be in place and these were also surveyed with DGPS. Where historical collar pegs could not be found, original coordinates based on aerial survey were used.</p> <p>Topography was further confirmed using a high-resolution 1m contour LIDAR survey of the mining lease. All coordinates were reported in MGA94 Zone 54. All drill hole collars were “snapped” to the LIDAR survey prior to wireframe interpretation.</p>
<i>Data spacing and distribution</i>	<ul style="list-style-type: none"> <li>• <i>Data spacing for reporting of Exploration Results.</i></li> <li>• <i>Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource.</i></li> <li>• <i>Whether sample compositing has been applied.</i></li> </ul>	<p>Drill spacing was generally on an 80m grid with some areas down to 40m and even 20m grids. The hole spacing is considered sufficient to establish the degree of geological and grade continuity appropriate for estimation of a Mineral Resource. For each PQ diamond core interval, two core pieces were selected for in-situ dry bulk density determination, the results were averaged for the interval.</p> <p>No downhole compositing was undertaken. This is considered suitable given that 99% of the data are 0.5 m in length.</p>
<i>Orientation of data in relation to geological structure</i>	<ul style="list-style-type: none"> <li>• <i>Whether the orientation of sampling achieves unbiased sampling.</i></li> </ul>	<p>The holes were drilled vertically, which is considered appropriate for a shallow-dipping sedimentary unit.</p>
<i>Sample security</i>	<ul style="list-style-type: none"> <li>• <i>The measures taken to ensure sample security.</i></li> </ul>	<p>Samples were collected in calico bags, transferred into plastic bags, and transported in batches in bulk bags to the laboratory.</p> <p>Diamond core metallurgical samples were collected in</p>

Criteria	JORC Code explanation	Commentary
		plastic bags and packaged in steel drums for transport.
<i>Audits or reviews</i>	<ul style="list-style-type: none"> <li><i>The results of any audits or reviews of sampling techniques and data.</i></li> </ul>	RPM reviewed the sampling techniques and data.

## Ardmore Phosphate Rock Project JORC Table 1 Report

## SECTION 2: Reporting of Exploration Results.

Criteria	JORC Code explanation	Commentary
<i>Mineral tenement and land tenure status</i>	<ul style="list-style-type: none"> <li><i>Type, reference name/number, location and ownership including agreements.</i></li> <li><i>The security of the tenure held at the time of reporting.</i></li> </ul>	<p>The project is located on Mining Lease ML 5542 held by Centrex Phosphate Pty Ltd, a 100% subsidiary of Centrex Metals Limited. The Ardmore Mining Lease (ML 5542) has been renewed in October 2017 for a further 21-year term. Southern Cross Fertilisers Pty Ltd holds a 3% revenue royalty on production.</p> <p>Compensation agreements for exploration and mining with all relevant landowners over the Mining Lease are in place.</p>
<i>Exploration done by other parties</i>	<ul style="list-style-type: none"> <li><i>Exploration by other parties.</i></li> </ul>	BH South and Queensland Phosphate Limited (Mines Exploration Pty Ltd) completed a significant amount of exploration from 1968 through to 1980, including 300 RP and 3 DD holes. Six excavations were also dug for detailed geological mapping and metallurgical test work.
<i>Geology</i>	<ul style="list-style-type: none"> <li><i>Deposit type, geological setting and style of mineralisation.</i></li> </ul>	<p>The Ardmore phosphate deposit was discovered in September 1966 and is located within the 'Ardmore Outlier' of the Georgina Basin.</p> <p>The Cambrian-aged sedimentary phosphate deposit consists predominantly of pelletal phosphorites with small bands of colophane mudstone. The small (approx. 100-200 micron) sized pellets of carbonate-fluorapatite are thought to have formed in a shallow shelf environment.</p> <p>Within the 'Ardmore Outlier', the single phosphate bed occurs within the Simpson Creek Phosphorite Member (SCPM) of the Beetle Creek Formation.</p> <p>The SCPM is essentially flat-lying with a gentle-to-moderate dip (&lt;20 degrees) to the east, and occurs spatially within two main separate areas: the Northern Zone and the Southern Zone.</p> <p>The SCPM has an approximate average thickness of 5 m in the Southern Zone and is located from surface to greater than</p>



Criteria	JORC Code explanation	Commentary
		<p>15 m depth.</p> <p>The Northern Zone has an approximate average thickness of 3 m and is deeper than the Southern Zone, with depths starting from near-surface in the west before dipping away to the east and extending to depths greater than 20 m.</p>
<i>Drill hole Information</i>	<ul style="list-style-type: none"> <li><i>A summary of all information material to the understanding of the exploration results.</i></li> </ul>	<p>Full drilling results have previously been reported. For full details of reported drilling results see announcements on the 2<sup>nd</sup> February 2017, 23<sup>rd</sup> October 2017, 3<sup>rd</sup> &amp; 13<sup>th</sup> of November 2017, and 3<sup>rd</sup> &amp; 26<sup>th</sup> of April 2018;</p> <p><a href="http://www.asx.com.au/asxpdf/20170202/pdf/43fr772d32lgt0.pdf">http://www.asx.com.au/asxpdf/20170202/pdf/43fr772d32lgt0.pdf</a></p> <p><a href="http://www.asx.com.au/asxpdf/20171023/pdf/43ngkq74j0qgrd.pdf">http://www.asx.com.au/asxpdf/20171023/pdf/43ngkq74j0qgrd.pdf</a></p> <p><a href="http://www.asx.com.au/asxpdf/20171103/pdf/43ny85wh5prq0m.pdf">http://www.asx.com.au/asxpdf/20171103/pdf/43ny85wh5prq0m.pdf</a></p> <p><a href="http://www.asx.com.au/asxpdf/20171113/pdf/43p5hf47zpn tff.pdf">http://www.asx.com.au/asxpdf/20171113/pdf/43p5hf47zpn tff.pdf</a></p> <p><a href="https://www.asx.com.au/asxpdf/20180403/pdf/43sx1j0jx3h475.pdf">https://www.asx.com.au/asxpdf/20180403/pdf/43sx1j0jx3h475.pdf</a></p> <p><a href="https://www.asx.com.au/asxpdf/20180426/pdf/43thbnkbfx6wq4.pdf">https://www.asx.com.au/asxpdf/20180426/pdf/43thbnkbfx6wq4.pdf</a></p> <p>The results were reported under JORC 2012 and Centrex is not aware of any new information or data that materially affects the information contained within the release. All material assumptions and technical parameters underpinning the estimates in the announcement continue to apply and have not materially changed.</p>
<i>Data aggregation methods</i>	<ul style="list-style-type: none"> <li><i>Weighting averaging techniques and grade cuts.</i></li> <li><i>Aggregation procedure.</i></li> <li><i>The assumptions used for any reporting of metal equivalent values should be clearly stated.</i></li> </ul>	<p>Reported assay results for public reporting were composited by weighted average interval for consecutive intervals above and below 19% P<sub>2</sub>O<sub>5</sub> for ease of reporting.</p>
<i>Relationship between</i>	<ul style="list-style-type: none"> <li><i>Geometry of the mineralisation with</i></li> </ul>	<p>The mineralised unit is sub-horizontal to shallow dipping at</p>



Criteria	JORC Code explanation	Commentary
<i>mineralisation widths and intercept lengths</i>	<i>respect to the drill hole angle.</i>	between 0° to 20°, meaning true thickness of mineralisation may be slightly less than the down hole intervals reported.
<i>Diagrams</i>	<ul style="list-style-type: none"> <li><i>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.</i></li> </ul>	See figures included in this announcement.
<i>Balanced reporting</i>	<ul style="list-style-type: none"> <li><i>Representative reporting of both low and high grades and/or widths.</i></li> </ul>	All sampled intervals were reported with weighted average compositing of consecutive intervals above and below 19% P <sub>2</sub> O <sub>5</sub> for ease of reporting.
<i>Other substantive exploration data</i>	<ul style="list-style-type: none"> <li><i>Other exploration data.</i></li> </ul>	No other exploration data results have been received at this time.
<i>Further work</i>	<ul style="list-style-type: none"> <li><i>The nature and scale of planned further work.</i></li> </ul>	The Mineral Resource will be utilised for mine designs and cost estimation to allow the completion of a Feasibility Study by Centrex that is currently underway.

## Ardmore Phosphate Rock Project JORC Table 1 Report

**SECTION 3:** Estimation and Reporting of Mineral Resource.

Criteria	JORC Code explanation	Commentary
<i>Database Integrity</i>	<ul style="list-style-type: none"> <li><i>Measures taken to ensure that data has not been corrupted.</i></li> <li><i>Data validation procedures used</i></li> </ul>	<p>Historically, random cross-checks were conducted of databases relative to original hand-written logs. Approximately 20% of the assays were cross checked with no issues identified. Further checks were conducted in 2018 showing no errors between original and input data.</p> <p>All drill hole collars were verified against original data and against topographic LIDAR survey. Before estimation, all drill holes were “snapped” to the detailed LIDAR surface.</p> <p>A correlation analysis was undertaken for the previous estimate on the re-assays versus original assay results for approximately 20% of the assay database. Q-Q plots were produced and the re-assay data and the original</p>

Criteria	JORC Code explanation	Commentary
		data were observed to correlate well, with P <sub>2</sub> O <sub>5</sub> R <sup>2</sup> =99.66, Fe <sub>2</sub> O <sub>3</sub> R <sup>2</sup> =98.4, and Al <sub>2</sub> O <sub>3</sub> R <sup>2</sup> =96.3.
<i>Site Visits</i>	<ul style="list-style-type: none"> <li>• <i>Comment on any site visits undertaken by the Competent Person.</i></li> <li>• <i>If no site visits have been undertaken indicate why in this case.</i></li> </ul>	Mark Burdett, an associate consultant for RPM, visited the site in May 2017 and inspected the main drilling areas and associated historical drill collars, costeans, and outcropping geological units.
<i>Geological Interpretation</i>	<ul style="list-style-type: none"> <li>• <i>Confidence in the geological interpretation.</i></li> </ul>	The data spacing and distribution is considered sufficient to establish the degree of geological and grade continuity appropriate for a Mineral Resource. The geological interpretation demonstrates lateral continuity of the mineralised horizons. Recent infill drilling (2017/2018) has confirmed lateral continuity and horizontal consistency.
<i>Dimensions</i>	<ul style="list-style-type: none"> <li>• <i>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.</i></li> </ul>	<p>The target high-grade phosphorite occurs as a single, generally flat lying unit within two separate areas, the Northern Zone with a strike extent of approximately 4.0 km (N-S) and the Southern Zone with a strike extent of approximately 1.6 km (E-W).</p> <p>The target phosphorite unit is generally shallow-dipping, with the average depths of the hanging wall and footwall contacts being 8.0 m and 12.0 m respectively based on drilling to date. On a localized scale (less than 10m) the dip of the mineralised unit can be observed to be angled, due to local structures, however is considered generally flat lying or shallow dipping on a larger scale</p>
<i>Estimation and modelling techniques</i>	<ul style="list-style-type: none"> <li>• <i>The nature and appropriateness of the estimation technique(s) applied and key assumptions.</i></li> <li>• <i>The availability of check estimates.</i></li> </ul>	<p>The mineralised zone was represented by interpreted three-dimensional strings and wireframes. A “high-grade” zone was interpreted using a nominal 21% P<sub>2</sub>O<sub>5</sub> cut-off and a “low-grade” halo was interpreted, where present, using a nominal 12% P<sub>2</sub>O<sub>5</sub>. These interpretations were used to develop a cellular model and to the flag drill hole samples.</p> <p>No compositing was undertaken because more than 99% of the data within the mineralised zones was sampled at 0.5m intervals.</p> <p>Grade estimation was undertaken using Ordinary Kriging methods. The following nine (9) components were estimated: P<sub>2</sub>O<sub>5</sub>, Al<sub>2</sub>O<sub>3</sub>, CaO, Fe<sub>2</sub>O<sub>3</sub>, K<sub>2</sub>O, MnO, MgO, Na<sub>2</sub>O, and SiO<sub>2</sub>. In addition, density was estimated using ID2, as was percentage indurated.</p>

Criteria	JORC Code explanation	Commentary
		<p>Variography was undertaken for the high grade mineralised zone on all components for the 2 main lateral domains: South and North.</p> <p>Variograms were generally robust, however due to a lack of sample data in the low grade domains, the more robust high grade variograms were applied.</p> <p>The orientation of the search ellipse was controlled using a process referred to as 'dynamic anisotropy' in which surfaces that represent the dip and strike of the interpreted mineralised units are used to define a search ellipse bearing and dip for each cell in the model. In general variograms were isotropic in the lateral extents and this was reflected in the search ellipse dimensions</p>
<i>Moisture</i>	<ul style="list-style-type: none"> <li>Whether the tonnages are estimated on a dry basis or with natural moisture.</li> </ul>	The tonnages are estimated on a dry basis.
<i>Cut-off parameters</i>	<ul style="list-style-type: none"> <li>The basis of the adopted cut-off grade(s) or quality parameters applied.</li> </ul>	<p>A "high-grade" zone was interpreted using a nominal 21% P<sub>2</sub>O<sub>5</sub> cut-off and a "low-grade" halo was interpreted, where present, using a nominal 12% P<sub>2</sub>O<sub>5</sub>. Both these cut-offs were determined statistically and geologically to best represent high and low grade zones.</p> <p>No high-grade or low-grade cuts were applied to P<sub>2</sub>O<sub>5</sub> data as the population distribution did not identify any significant unexplained outliers.</p> <p>Minor high-grade cuts were applied to gangue elements where required although were always limited to only minor samples sitting close to or above the 99<sup>th</sup> percentile.</p>
<i>Mining factors or assumptions</i>	<ul style="list-style-type: none"> <li>Assumptions made regarding reasonable prospects for eventual economic extraction.</li> </ul>	Because of the flat-lying orientation and shallowness of the mineralisation, it is considered conducive to open cut mining methods however localized changes in dip from flat to angled may require reasonably selective open cut mining methods.
<i>Metallurgical factors or assumptions</i>	<ul style="list-style-type: none"> <li>The basis for assumptions or predictions regarding metallurgical amenability.</li> </ul>	The estimated grades of the mineralisation shows a potential direct shipping ore without further beneficiation.
<i>Environmental factors or assumptions</i>	<ul style="list-style-type: none"> <li>Assumptions made regarding possible waste and process residue disposal options.</li> </ul>	For a direct ship ore option, there would be no process tailings only mine waste, to be stored in a conventional tailings storage facility.
<i>Bulk density</i>	<ul style="list-style-type: none"> <li>Whether assumed or determined.</li> </ul>	From the recent PQ diamond drilling program, a total of 98 core samples were sent for laboratory in-situ dry

Criteria	JORC Code explanation	Commentary
		bulk density determination based on the weight in air-weight in water method. Based on the results the average in-situ dry bulk density of the ore was 1.91 (g/cm <sup>3</sup> ) with a standard deviation of 0.3 (g/cm <sup>3</sup> ). The majority of bulk density determinations were taken from the Southern Zone. Bulk density determinations from only 3 drill holes have been collected from the Northern Zone.
<i>Classification</i>	<ul style="list-style-type: none"> <li><i>The basis for the classification of the Mineral Resource into varying confidence categories</i></li> </ul>	<p>Mineral Resources were classified in accordance with the Australasian Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC, 2012). The Mineral Resource was classified on the basis of data quality and quantity, sample spacing, and mineralisation continuity. As a result, the interpreted and estimated mineralisation is considered to have sufficient confidence to be classified as a Mineral Resource:</p> <ul style="list-style-type: none"> <li>- There is a significant quantity of data in the historical and recent database. Recent drilling from both 2017 and 2018 has fully aligned with the earlier interpretation.</li> <li>- The historical documentation is of a very high quality and remains available for review. Furthermore, the reviews and replication checks have provided high confidence in the historical data.</li> <li>- Recent collar surveys of located historical drill hole collars have verified the presence of the collars in the expected locations. Not all historical drill holes could be located for re-survey however comparisons of located holes (historical location to new survey location) are minimal and therefore immaterial to the interpretation.</li> <li>- The 2010 re-assay programme shows very good reproducibility of the original 1968–1980 data and provides alignment with 2017/2018 assay procedures.</li> <li>- The geological interpretation demonstrates continuity within each of the two main (North and South) lateral spatial domains for the majority of estimated variables. Recent infill drilling from late 2017 to 2018 has aligned well with historical drilling and estimations.</li> <li>- The geostatistical assessment yielded robust variograms to support to interpreted continuity.</li> </ul>

Criteria	JORC Code explanation	Commentary
		<p>- The classification of the Mineral Resource has benefited from recent infill drilling, which the historical drilling (including 2017) and previous estimations.</p> <p>Based on the points outlined above, Measured Resources have been defined in areas of 20m to 40m drill spacing and where mineralisation displays strong continuity over these distances between drill holes and all relevant data is considered sufficient in quality and quantity. Grade continuity is supported by variogram ranges where for P205 in the Southern Zone the total range in the lateral extent is approximately 300m. A range of 40m represents approximately 70% of the total sill and approximately 15% of the total range. Several regions in the deposit, consisting of 40m or less drill spacing were not classified as Measured Resources where geological continuity was compromised by local structural changes or supporting data was not sufficient.</p> <p>Indicated Resources are generally defined with by a drill spacing between 40m to 80m however still dependent on mineralisation continuity and data quality. Inferred resources have been defined largely in peripheral areas where the drill spacing is larger or mineralisation is less continuous.</p>
<i>Audits or reviews</i>	<ul style="list-style-type: none"> <li><i>The results of any audits or reviews of Mineral Resource estimates</i></li> </ul>	Internal audits have been completed by RPM which verified the technical inputs, methodology, parameters and results of the estimate.
<i>Discussion of the relative accuracy/confidence</i>	<ul style="list-style-type: none"> <li><i>Statement of the relative accuracy and confidence level in the Mineral Resource estimate</i></li> </ul>	<p>The Mineral Resource estimate has been reported to a confidence reflected in the Mineral Resource statement classification. A high confidence is achieved in areas of closer spaced drilling that defines mineralisation continuity and consistency. Grade continuity is supported by observed variogram ranges. The data quality is high and historical data has undergone significant re-assay and checks.</p> <p>The Mineral Resource statement relates to global estimates of tonnes and grade. Approximately 89% of the estimated Mineral Resource is classified as Indicated and Measured (69% Indicated, 20% Measured). The remaining (11%) of the mineralisation remains in the Inferred category – this is largely in peripheral areas where the drill spacing is larger or mineralisation is less</p>

Criteria	JORC Code explanation	Commentary
		continuous. No mining activities have been undertaken therefore reconciliation could not be conducted.

## Ardmore Phosphate Rock Project JORC Table 1 Report

## SECTION 4: Estimation and Reporting of Ore Reserves

Criteria	JORC Code explanation	Commentary
<i>Mineral Resource estimate for conversion to Ore Reserves</i>	<ul style="list-style-type: none"> <li><i>Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve</i></li> <li><i>Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves</i></li> </ul>	<ul style="list-style-type: none"> <li>Measured and Indicated Mineral Resources from the resource model contained in mine designs and scheduled in the Ardmore Phosphate project feasibility study were converted to Proven and Probable Reserve respectively.</li> <li>Mineral Resources are reported inclusive of the Ore Reserves.</li> </ul>
<i>Site visits</i>	<ul style="list-style-type: none"> <li><i>Comment on any site visits undertaken by the Competent Person and the outcome of those visits</i></li> <li><i>If no site visits have been undertaken indicate why this is the case</i></li> </ul>	<ul style="list-style-type: none"> <li>The Competent Person, Ben Brown, visited site in December 2017, observing trial mining of bulk samples. This enabled verification of the free digging potential of lithologies encountered at the project site.</li> </ul>
<i>Study status</i>	<ul style="list-style-type: none"> <li><i>The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves</i></li> <li><i>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</i></li> </ul>	<ul style="list-style-type: none"> <li>Centrex produced a Feasibility Study as the basis to convert Mineral Resources to Ore Reserves and to provide the basis and confidence to advance the project to execution phase based on the mine plan contained in the feasibility study.</li> <li>The mine plan includes modifying factors and only economically viable mining blocks with a cut-off grade applied are sent to the processing plant and included in Ore Reserves.</li> </ul>



Criteria	JORC Code explanation	Commentary
	<i>determined a mine plan that is technically achievable and economically viable, and that material Modifying Factors have been considered</i>	
<i>Cut-off parameters</i>	<ul style="list-style-type: none"> <li><i>The basis of the cut-off grade(s) or quality parameters applied</i></li> </ul>	<p>The optimal cut-off grade was determined with the following constraints:</p> <ul style="list-style-type: none"> <li>• Minimum mine life of 10 years</li> <li>• Average life of mine product grade of 34% P<sub>2</sub>O<sub>5</sub></li> </ul> <p>By reducing recovery of phosphate with a 150mm mining loss skin on the foot wall and hanging wall contacts and varying the cut-off grade to 26.5% P<sub>2</sub>O<sub>5</sub> a 10-year mine life could be met at the required product grade. The idea of using the undercut skin minimises dilution and aims to realise the resource modelled grade, keeping in mind that free digging material enables this method to be possible. Low grade material falls between a grade of greater than 16% but less than 26.5% P<sub>2</sub>O<sub>5</sub>.</p>
<i>Mining factors or assumptions</i>	<ul style="list-style-type: none"> <li><i>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)</i></li> <li><i>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.</i></li> <li><i>The assumptions made regarding geotechnical</i></li> </ul>	<ul style="list-style-type: none"> <li>• Detailed mine design was used to convert Mineral Resources to Ore Reserves contained in the mine designs.</li> <li>• Strip mining with conventional truck and shovel operation was considered the most appropriate mining method since this enables shorter haulage distances and best suits the tabular flat lying nature of mineralisation.</li> <li>• Pit walls were constrained to an overall slope wall angle of 50 degrees based on independent geotechnical analysis. Grade control drilling is carried out on a 5m x 5m grid with boreholes scanned to log the hangingwall and footwall contacts. These points are then used to create a digital terrain model to guide mine production with spotters where required.</li> <li>• The Mineral Resource model was reblocked to 10mx10mx1m for pit optimisation using Whittle™. This is done to reduce the time taken to carry out pit optimisation. The reblocked model is split into a possible ore component and waste component to not dilute mineralisation with a fixed cut-off grade of 26.5% P<sub>2</sub>O<sub>5</sub>.</li> <li>• No dilution is applied, but ore losses since an undercut of 150mm is applied on the mineralised foot wall and hanging wall boundaries at a cut-off grade of 26.5% P<sub>2</sub>O<sub>5</sub>.</li> <li>• No recovery factor is applied since the undercut skin of 150mm creates an overall recovery of around 89%.</li> <li>• A minimum mining width of 20m is applied.</li> <li>• Inferred material is used in the feasibility study and makes</li> </ul>



Criteria	JORC Code explanation	Commentary
	<p><i>parameters (eg pit slopes, stope sizes, etc), grade control and pre-production drilling.</i></p> <ul style="list-style-type: none"> <li>• <i>The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate).</i></li> <li>• <i>The mining dilution factors used</i></li> <li>• <i>The mining recovery factors used</i></li> <li>• <i>Any minimum mining widths used</i></li> <li>• <i>The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion</i></li> <li>• <i>The infrastructure requirements of the selected mining methods</i></li> </ul>	<p>up around 0.1% of processing plant feed and ROM inventory having virtually no effect on the economic analysis of this project.</p> <ul style="list-style-type: none"> <li>• The infrastructure required for the mining method is only haul road access from the mining area to the processing plant stockpiles.</li> </ul>
<i>Metallurgical factors or assumptions</i>	<ul style="list-style-type: none"> <li>• <i>The metallurgical process proposed and the appropriateness of that process to the style of mineralisation</i></li> <li>• <i>Whether the metallurgical process is well-tested technology or novel in nature</i></li> <li>• <i>The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied</i></li> </ul>	<ul style="list-style-type: none"> <li>• The metallurgical process is to crush to a p90 of -2mm, wet screening, de-sliming, attrition of de-slimed material, de-slimming of attrition product, filter and then drying with de-slimed overflow going to tailings.</li> <li>• This is well tested and common in phosphate processing throughout the world for high grade phosphate processing of over 25% P<sub>2</sub>O<sub>5</sub> feed grade.</li> <li>• Bench scale test work and three bulk pilot programs have been carried out. Phosphate recovery is relatively consistent from friable ore to indurated ore except that throughput rate is slower with indurated ore. Most ore is friable and one major ore-type hence no domaining was necessary and indurated is blended into the plant feed to limit the effect on throughput rate to negligible. Many sub-ore-types exist, and further test work or operational experience will determine if these require domaining in the resource model. For the feasibility study only flagging and monitoring of indurated and chemical composition was deemed necessary.</li> <li>• Deleterious elements are carried through the process and</li> </ul>

Criteria	JORC Code explanation	Commentary
	<p><i>and the corresponding metallurgical recovery factors applied</i></p> <ul style="list-style-type: none"> <li>• <i>Any assumptions or allowances made for deleterious elements</i></li> <li>• <i>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</i></li> <li>• <i>For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications?</i></li> </ul>	<p>like indurated material are flagged in the resource model and controlled by blending of throughput.</p> <ul style="list-style-type: none"> <li>• Three bulk pilot programs have been carried out and with reconciliation have slightly higher grades than the resource model, hence proven to represent the orebody.</li> <li>• The testwork has demonstrated that a saleable product can be produced using a 26.5% P<sub>2</sub>O<sub>5</sub> cut-off grade as used in the reserve estimation.</li> </ul>
<i>Environmental</i>	<ul style="list-style-type: none"> <li>• <i>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</i></li> </ul>	<ul style="list-style-type: none"> <li>• Environmental impact assessment studies have been completed for the start-up operation and are currently being undertaken for the full-scale operation. Waste rock characterisation indicates the material is non-acid forming (NAF), is acid consuming (AC) and has low potential for metalliferous drainage. The overburden will be used for backfill during mining operations.</li> </ul>
<i>Infrastructure</i>	<ul style="list-style-type: none"> <li>• <i>The existence of appropriate infrastructure: availability of land</i></li> </ul>	<ul style="list-style-type: none"> <li>• Centrex has landholder agreements in place over the projects Mining Lease for construction of a mine and the associated process plant.</li> <li>• Water for the project will primarily be supplied from a</li> </ul>

Criteria	JORC Code explanation	Commentary						
	<i>for plant development, power, water, transportation (particularly for bulk commodities), labour, accommodation; or the ease with which the infrastructure can be provided, or accessed</i>	<p>bore field within an aquifer located within the Mining Lease and supplemented with a new water capture dam.</p> <ul style="list-style-type: none"> <li>• Power for the site will be provided by diesel generators with diesel supplied from a depot at the town of Cloncurry.</li> <li>• Accommodation for staff will be via a new mining village to be built on the Mining Lease.</li> <li>• Labour will be sourced both locally where possible from Mount Isa and Cloncurry, with FIFO out of Brisbane to supplement where needed. FIFO would be to Mount Isa with a bus service for staff from Mount Isa to the mine.</li> <li>• Product will be hauled on road 90km on existing roads to the existing rail line at Duchess. Product will be railed into Townsville for shipping. Centrex has received numerous proposals from third parties for rail, storage and shipping using existing facilities.</li> </ul>						
<i>Costs</i>	<ul style="list-style-type: none"> <li>• <i>The derivation of, or assumptions made, regarding projected capital costs in the study</i></li> <li>• <i>The methodology used to estimate operating costs</i></li> <li>• <i>Allowances made for the content of deleterious elements</i></li> <li>• <i>The source of exchange rates used in the study</i></li> <li>• <i>Derivation of transportation charges</i></li> <li>• <i>The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.</i></li> <li>• <i>The allowances made for royalties payable, both Government and private</i></li> </ul>	<ul style="list-style-type: none"> <li>• Experienced contractors and consultants provided capital costs from vendor quotes, actual costs from similar projects and cost databases.</li> <li>• Operating costs were built up from first principles, from service providers and benchmarked where possible for validation. These services were provided in-house, by experienced contractors and consultants.</li> <li>• Deleterious elements such as iron and aluminium in their oxide form attract penalty rates and are blended through the mine to mill plan to below penalty levels in the feasibility study.</li> <li>• The exchange rates were based on the average of current forecasts from the four major Australian banks. Major capital items have short lead times limiting exposure to exchange rate fluctuations for components sourced internationally.</li> <li>• Transportation charges were derived by freight logistics services and port services provider quotes.</li> <li>• Prices for the study were forecast independently by Integer with adjustments made for the quality of the product against the existing suppliers based on historical phosphate rock pricing premiums and discounts. A 3% royalty rate is payable to Southern Cross Phosphate Pty Ltd while a variable royalty is payable to the Queensland government as detailed in Revenue factors below.</li> </ul>						
<i>Revenue factors</i>	<ul style="list-style-type: none"> <li>• <i>The derivation of, or assumptions made regarding revenue factors including head grade, metal or</i></li> </ul>	<ul style="list-style-type: none"> <li>• Revenue is calculated as product price less royalties less costs to produce and transport the product to the point of sale.</li> </ul> <table border="1"> <thead> <tr> <th>Parameter</th> <th>Value</th> </tr> </thead> <tbody> <tr> <td>Average FOB Cost</td> <td>AUD\$125*Product Tonnes</td> </tr> <tr> <td>Processing</td> <td>P<sub>2</sub>O<sub>5</sub>*0.9916+3.8156</td> </tr> </tbody> </table>	Parameter	Value	Average FOB Cost	AUD\$125*Product Tonnes	Processing	P <sub>2</sub> O <sub>5</sub> *0.9916+3.8156
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	<p><i>commodity price(s) exchange rates, transportation and treatment charges, penalties, net smelter returns, etc.</i></p> <ul style="list-style-type: none"> <li><i>The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products</i></li> </ul>	<table border="1"> <tr> <td>Recovered grade</td> <td></td> </tr> <tr> <td>Mass Recovery</td> <td>76.60%</td> </tr> <tr> <td>Cut-Off</td> <td>26.50%</td> </tr> <tr> <td>Revenue</td> <td>AUD\$182*Product Tonnes</td> </tr> <tr> <td>Exchange Rate USD:AUD</td> <td>0.74</td> </tr> <tr> <td>Government Royalty</td> <td> <p>The higher value of:</p> <p>(a) \$0.80/t;</p> <p>(b) <math>R = \\$1*(G/32.3)*(P_{curr}/\\$72.50)</math></p> <p>Where G is the average P<sub>2</sub>O<sub>5</sub> content of the phosphate rock for the return period.</p> <p>P<sub>curr</sub> is the average price for the return period, converted to Australian dollars at the average hedge settlement rate for the return period, of Moroccan phosphate rock with 32.3% P<sub>2</sub>O<sub>5</sub> content.</p> </td> </tr> <tr> <td>Royalty to Southern Cross Fertiliser Pty Ltd</td> <td>3% of sale price</td> </tr> </table> <ul style="list-style-type: none"> <li>The metal price is assumed based on average nominal spot prices</li> </ul>	Recovered grade		Mass Recovery	76.60%	Cut-Off	26.50%	Revenue	AUD\$182*Product Tonnes	Exchange Rate USD:AUD	0.74	Government Royalty	<p>The higher value of:</p> <p>(a) \$0.80/t;</p> <p>(b) <math>R = \\$1*(G/32.3)*(P_{curr}/\\$72.50)</math></p> <p>Where G is the average P<sub>2</sub>O<sub>5</sub> content of the phosphate rock for the return period.</p> <p>P<sub>curr</sub> is the average price for the return period, converted to Australian dollars at the average hedge settlement rate for the return period, of Moroccan phosphate rock with 32.3% P<sub>2</sub>O<sub>5</sub> content.</p>	Royalty to Southern Cross Fertiliser Pty Ltd	3% of sale price
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Market assessment	<ul style="list-style-type: none"> <li><i>The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future</i></li> <li><i>A customer and competitor analysis along with the identification of likely market windows for the product</i></li> <li><i>Price and volume forecasts and the basis for these forecasts</i></li> <li><i>For industrial minerals the customer specification,</i></li> </ul>	<ul style="list-style-type: none"> <li>Global phosphate rock demand is forecast to rise by 18% over Ardmore's mine life. To remain in balance additional supply capacity is required to be online prior to 2025.</li> <li>Ardmore phosphate rock will be sold into the Asia-Pacific region where it has a freight advantage over the current suppliers located outside the region. Demand for the major importers in the region is forecast to rise by 7 million tonnes over the next 5 years. Ardmore's proposed 776ktpa production represents just 12% of the incremental demand growth.</li> <li>Ardmore's high phosphate grade combined with ultra-low cadmium levels provide a competitive advantage along with its lower freight over the current suppliers to the region in North Africa, the Middle East and South America.</li> <li>Traded phosphate rock benchmarks range anywhere from 27% to 34% P<sub>2</sub>O<sub>5</sub> with Ardmore at the top of this range. KemWorks undertook fertiliser conversion test work on the Ardmore product showing excellent results for SSP and phosphoric acid production.</li> <li>Centrex has completed two 400 tonne paid trials with two customers. Southern Cross Fertilisers Pty Ltd a subsidiary of fertiliser manufacturer Incitec Pivot hold a first right of refusal over 20% of the planned production.</li> </ul>														

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<i>Economic</i>	<ul style="list-style-type: none"> <li><i>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.</i></li> <li><i>NPV ranges and sensitivity to variations in the significant assumptions and inputs</i></li> </ul>	<ul style="list-style-type: none"> <li>The project was economically evaluated (NPV) under the following price, exchange rate and inflation assumptions which are derived from general market consensus on long term prices: <ul style="list-style-type: none"> <li>7% discount rate.</li> <li>The static FOB Price over the life of mine of A\$182.</li> <li>The average 2021 forecast of 0.74 AUD:USD exchange rate from the four major Australian banks was used</li> <li>A diesel price of \$A0.76 per litre ex-GST and after off-road rebate of A\$0.41 per litre</li> <li>The Capital costs A\$78m have an 8% contingency</li> <li>The financial model assumes 100% equity finance for the purpose of this study and is therefore a project financial evaluation on an ungeared basis</li> </ul> </li> </ul> <table border="1"> <thead> <tr> <th>Parameter</th> <th colspan="2">Result</th> </tr> </thead> <tbody> <tr> <td>Study accuracy</td> <td colspan="2">+/- 15%</td> </tr> <tr> <td>Project life</td> <td colspan="2">10 years</td> </tr> <tr> <td>Annual production</td> <td colspan="2">800,000 wet tonnes</td> </tr> <tr> <td>Pre-production capital cost</td> <td>A\$ 78 million</td> <td>US\$ 58 million</td> </tr> <tr> <td>Average FOB operating cost ex-royalties</td> <td>A\$ 125/dmt</td> <td>US\$ 92/dmt</td> </tr> <tr> <td>Static FOB sales price</td> <td>A\$ 182/t</td> <td>US\$ 135/t</td> </tr> <tr> <td>A\$:US\$ exchange rate assumption <sup>(2)</sup></td> <td colspan="2">0.74</td> </tr> <tr> <td colspan="3"><b>Pre-tax results (nominal) <sup>(3)</sup></b></td> </tr> <tr> <td>Unleveraged NPV<sub>7</sub></td> <td>A\$ 207 million</td> <td>US\$ 153 million</td> </tr> <tr> <td>Unleveraged NPV<sub>10</sub></td> <td>A\$ 166 million</td> <td>US\$ 123 million</td> </tr> <tr> <td>Unleveraged IRR</td> <td colspan="2">52 %</td> </tr> <tr> <td>Net cash flow</td> <td>A\$ 429 million</td> <td>US\$ 317 million</td> </tr> <tr> <td>Pay Back Period</td> <td colspan="2">&lt; 2 years</td> </tr> </tbody> </table>	Parameter	Result		Study accuracy	+/- 15%		Project life	10 years		Annual production	800,000 wet tonnes		Pre-production capital cost	A\$ 78 million	US\$ 58 million	Average FOB operating cost ex-royalties	A\$ 125/dmt	US\$ 92/dmt	Static FOB sales price	A\$ 182/t	US\$ 135/t	A\$:US\$ exchange rate assumption <sup>(2)</sup>	0.74		<b>Pre-tax results (nominal) <sup>(3)</sup></b>			Unleveraged NPV <sub>7</sub>	A\$ 207 million	US\$ 153 million	Unleveraged NPV <sub>10</sub>	A\$ 166 million	US\$ 123 million	Unleveraged IRR	52 %		Net cash flow	A\$ 429 million	US\$ 317 million	Pay Back Period	< 2 years	
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<i>Social</i>	<ul style="list-style-type: none"> <li><i>The status of agreements with key stakeholders and matters leading to social licence to operate</i></li> </ul>	<ul style="list-style-type: none"> <li>Landowner compensation agreements have been completed with the key landowners and cultural heritage management agreements are being negotiated with aboriginal parties. An infrastructure agreement will be required with the relevant aboriginal party for the water supply dam.</li> </ul>																																										
<i>Other</i>	<ul style="list-style-type: none"> <li><i>To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves</i></li> <li><i>Any identified material naturally occurring risks</i></li> <li><i>The status of</i></li> </ul>	<ul style="list-style-type: none"> <li>No significant material naturally occurring risks have been identified both physically and chemically</li> <li>No marketing arrangements are formally in place but negotiations are at an advanced stage with customers in New Zealand, Australia and India</li> <li>Centrex Phosphate Pty Ltd is the authorised holder of ML 5542 on which the Ore Reserves are located. An application for an adjacent mining lease for infrastructure purposes (water supply dam) has yet to be made</li> <li>Centrex holds an Environmental Authority (EA BRMN0037) which authorises mineral exploration and</li> </ul>																																										



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	<p><i>material legal agreements and marketing arrangements</i></p> <ul style="list-style-type: none"> <li><i>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</i></li> </ul>	<p>small-scale mining activities on ML 5542. This EA will require amendment to allow mining and processing operations to proceed. Other key approvals required include :</p> <ul style="list-style-type: none"> <li>Water licences for 'non-associated' groundwater extraction and surface water capture</li> <li>Water licence for extraction and use of 'associated' ground water from pit dewatering</li> <li>An additional amendment to the EA for the water supply dam</li> <li>Approval for aquifer recharge</li> <li>Approvals relating to the realignment of the highway in the north of the mining lease (DTMR, Cloncurry Shire Council)</li> <li>Approval of a Road Use Management Plan with DTMR (Department of Transport and Main Roads) for concentrate haulage to Duchess</li> <li>Approvals for the construction and operation of a rail siding at Duchess (Queensland Rail)</li> </ul>
<i>Classification</i>	<ul style="list-style-type: none"> <li><i>The basis for the classification of the Ore Reserves into varying confidence categories</i></li> <li><i>Whether the result appropriately reflects the Competent Person's view of the deposit</i></li> <li><i>The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any)</i></li> </ul>	<ul style="list-style-type: none"> <li>Measured Resources inside the mine plan were converted to Proven Ore Reserves while Indicated Resources inside the mine plan were converted into Probable Ore Reserves. Direct conversion was applied due to the feasibility study level of confidence of <math>\pm 15\%</math> with no mining technical reason to not qualify the contained Mineral Resources as Ore Reserves.</li> <li>The result appropriately reflects the Competent Person's view of the deposit which is a flat lying tabular deposit like the nearby operating Phosphate Hill mine with a similar ore mining technique with similar mining equipment.</li> <li>No Probable Ore Reserves have been derived from Measured Mineral Resources.</li> </ul>
<i>Audits or reviews</i>	<ul style="list-style-type: none"> <li><i>The results of any audits or reviews of</i></li> </ul>	<ul style="list-style-type: none"> <li>MEC Mining, an independent mining consultancy conducted a review of the Ore Reserve estimates in</li> </ul>

Criteria	JORC Code explanation	Commentary
	<i>Ore Reserve estimates</i>	October 2018 concluding that the Ore Reserve is JORC compliant.
<i>Discussion of relative accuracy/ confidence</i>	<ul style="list-style-type: none"> <li><i>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</i></li> <li><i>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</i></li> <li><i>Accuracy and confidence</i></li> </ul>	<ul style="list-style-type: none"> <li>Following the completion of the definitive feasibility study, the competent person considers that there is a high degree of confidence in the Ore Reserves with a relative accuracy of <math>\pm 15\%</math>.</li> </ul>



Criteria	JORC Code explanation	Commentary
	<p><i>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</i></p> <ul style="list-style-type: none"> <li><i>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</i></li> </ul>	