

## Opencut Coal Reserves Update - Isaac Plains Complex

### HIGHLIGHTS

- Total Coal Reserves (referenced to the JORC Code, 2012) of 14.9 Million tonnes (Mt)<sup>1</sup> updated as at 30 June 2018.
- 81% of the total opencut Coal Reserve is categorised as Proved and 19% is categorised as Probable.
- Marketable Coal Reserves total 11.5 Mt<sup>2</sup> of which 10.9 Mt is semi-soft coking coal and 0.6 Mt is thermal coal.
- An exploration programme and mine planning activities have been planned at the Isaac Downs Project (Wotonga South area) and the results will be used to generate further Coal Reserves for the Isaac Plains Complex in 2019.

Stanmore Coal Limited (**Stanmore** or the **Company**) (**ASX: SMR**) is pleased to announce that the Coal Reserves for the Isaac Plains Complex have been updated in August 2018, in line with new business planning cycle reporting practices adopted by the Company. The Coal Reserves have been reported to the standard required by the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves ('the JORC Code, 2012').

The updated Coal Reserve estimate includes both the Isaac Plains Mine (**IPM**) and Isaac Plains East (**IPE**), which commenced mining operations in Q1 FY19 after the granting of the mining leases in March 2018. The updated Coal Reserve estimate is in addition to, and wholly separate from, the Isaac Plains Underground Coal Reserve announced on 28 May 2018.<sup>3</sup>

Isaac Plains Mine extracted a total of 2.145 Mt of coal from the northern pits at the Isaac Plains Mine during the period 1 April 2017 (the cut-off date used for the last Coal Reserve estimate) to 30 June 2018. This amount can be termed 'mining depletion'. A further 2.72 Mt of open-cut Coal Reserve remains in the Isaac Plains Mine plan.

In the Isaac Plains East mining area, an additional mining pit has been included in the updated Coal Reserve estimate for June 2018. Pit 5 South (**5S**), which is located between Pit 4 and Pit 5 at IPE, has been assessed as economic and able to be mined using current mining methods.

<sup>1</sup> Refer Competent Person (CP) Statements August 2018 JORC Isaac Plains Opencut Coal Reserves Estimate for the Isaac Plains Complex completed by Measured Group Pty Ltd.

<sup>2</sup> As above

<sup>3</sup> ASX announcement 28 May 2018 – Maiden JORC Reserve Isaac Plains Underground

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A summary of the Coal Reserve estimate by area and reserve category is contained in Table 1 and Table 2 below. Note that in some cases, totals may not sum correctly due to the rounding of sub-totals.

**Table 1: Isaac Plains Complex Open-Cut Coal Reserves**

	<b>Coal Reserve (ROM)</b>	<b>LHD/LHU (Mt)</b>	<b>LHL (Mt)</b>	<b>Total (Mt)</b>
<b>Isaac Plains Mine</b>	Proved	1.74	0.05	<b>1.79</b>
	Probable	0.85	0.08	<b>0.93</b>
	<b>Total</b>	<b>2.58</b>	<b>0.13</b>	<b>2.72</b>
<b>Isaac Plains East</b>	Proved	10.27	0.00	<b>10.27</b>
	Probable	1.88	0.00	<b>1.88</b>
	<b>Total</b>	<b>12.15</b>	<b>0.00</b>	<b>12.15</b>
<b>Isaac Plains Complex</b>	<b>Proved</b>	<b>12.01</b>	<b>0.05</b>	<b>12.06</b>
	<b>Probable</b>	<b>2.73</b>	<b>0.08</b>	<b>2.81</b>
	<b>Total</b>	<b>14.74</b>	<b>0.13</b>	<b>14.87</b>

Notes:

1. Seam nomenclature for the Leichhardt Seam as follows: LHD = Leichhardt, LHU = Leichhardt Upper, LHL = Leichhardt Lower.

**Table 2: Isaac Plains Complex Open-Cut Marketable Coal Reserves**

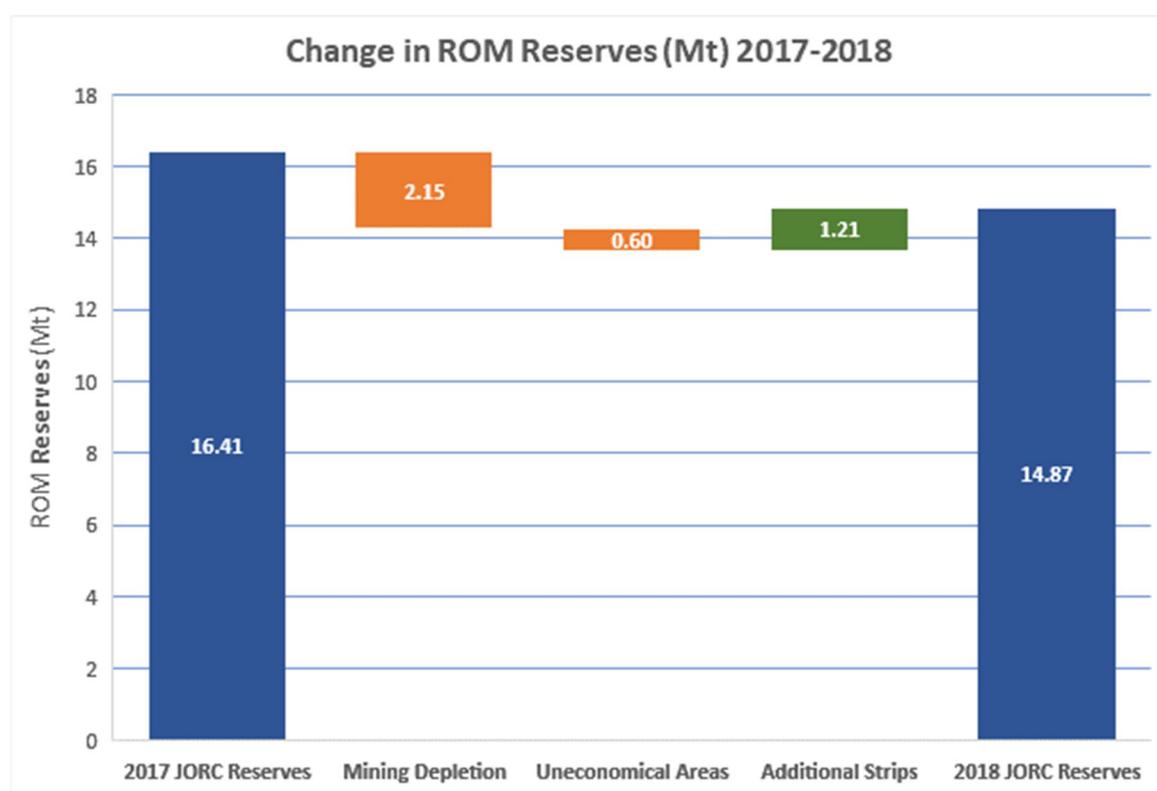
	<b>Marketable Reserves (Product)</b>	<b>Semi-Soft Coking Coal (Mt)</b>	<b>Thermal Coal (Mt)</b>	<b>Total (Mt)</b>
<b>Isaac Plains Mine</b>	Proved	0.97	0.34	<b>1.31</b>
	Probable	0.55	0.15	<b>0.70</b>
	<b>Total</b>	<b>1.52</b>	<b>0.49</b>	<b>2.01</b>
<b>Isaac Plains East</b>	Proved	7.90	0.13	<b>8.02</b>
	Probable	1.46	0.02	<b>1.48</b>
	<b>Total</b>	<b>9.36</b>	<b>0.14</b>	<b>9.50</b>
<b>Isaac Plains Complex</b>	<b>Proved</b>	<b>8.87</b>	<b>0.46</b>	<b>9.33</b>
	<b>Probable</b>	<b>2.02</b>	<b>0.17</b>	<b>2.19</b>
	<b>Total</b>	<b>10.88</b>	<b>0.63</b>	<b>11.51</b>

Table 3 and Figure 1 below provide a summary of changes in Coal Reserve estimates between August 2017 and August 2018, noting that 2.145 Mt has been mined (depleted) from Isaac Plains Mine since the last Coal Reserve estimate.

Table 3: Isaac Plains Open-Cut Reserves – Comparison to Previous Estimate

	Reserves	2017 (Mt)	2018 (Mt)	Difference (Mt)
Isaac Plains Mine	ROM (Proved + Probable)	5.32	2.72	(2.60)
	Marketable (Proved + Probable)	3.90	2.01	(1.89)
Isaac Plains East	ROM (Proved + Probable)	11.09	12.15	1.06
	Marketable (Proved + Probable)	8.99	9.50	0.51
Isaac Plains Complex	ROM (Proved + Probable)	<b>16.41</b>	<b>14.87</b>	<b>(1.54)</b>
	Marketable (Proved + Probable)	<b>12.89</b>	<b>11.51</b>	<b>(1.38)</b>

Figure 1: Waterfall Chart Comparison to Previous Estimate



### Coal Reserve Estimate Process and Assumptions

The process and assumptions adopted for completing the 2018 Isaac Plains Complex JORC Coal Reserve estimate is described below:

- Geological models were prepared by Xenith Consulting Pty Ltd and Coal Resources were updated and published in May 2018<sup>4</sup> for both IPM and IPE.
- Pit designs for IPM and IPE were completed by Measured Group Pty Ltd (**Measured Group**) and Optimal Mining Solutions Pty Ltd (**Optimal Mining Solutions**).

<sup>4</sup> ASX Announcement 28 May 2018 – Updated JORC Resource for Isaac Plains Complex

- Design stage outputs were 3-dimensional solids in Deswik. Mine designs included pit wall batters, berm offsets and subdivisions into mining benches in truck and shovel waste. Solids were subdivided into the appropriate pits, strips and blocks.
- Insitu coal solids were interrogated against the latest geological model, including qualities for all coal solids.
- Details for each solid were imported into Spry for processing, analysis and scheduling.
- In Spry, minimum mining thicknesses, coal losses and dilution factors were applied to the coal solids. Moisture adjustments, ROM ash cut off and coal recovery assumptions were also applied to convert the insitu values to ROM values.
- Product tonnes, for both semi-soft and thermal, were calculated for all coal solids based on the modelled in-seam yield and ROM moisture values. A yield adjustment was applied for the IPM coal solids based on reconciliation work undertaken at IPM.
- Unit cost values were applied to all mining, processing, raiing and shipping processes to calculate the total cost for each solid.
- Forecast sale prices were applied to the product tonnage to calculate the overall revenue generated by each coal solid. Total margin for each mining block and strip was calculated and then used to determine the economic limits for each pit.
- The Coal Resource category polygons (published in May 2018) were overlaid on positive cash flow strips, and then Inferred or unclassified tonnes were excluded from the Coal Reserve estimate.
- The Coal Reserve has been categorised as Proved or Probable based on Coal Resource confidence, the level of detail in the mine planning and considering all relevant modifying factors to quantify the risks surrounding the project.
- Checks of all quantities and qualities quoted in this report have been undertaken and all work has been peer reviewed internally by Measured Group and Optimal Mining Solutions.

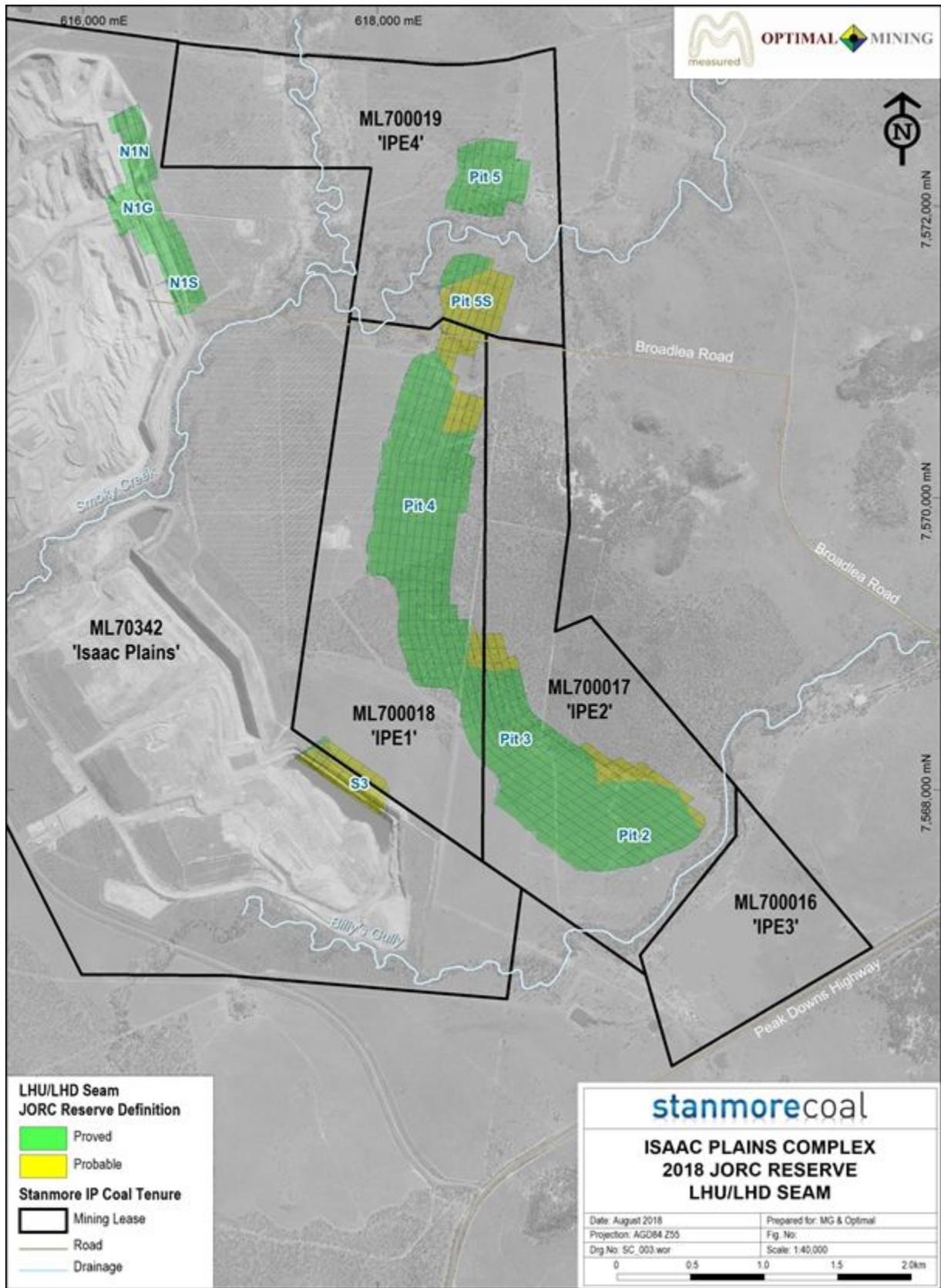
The Isaac Plains Complex is covered by Mining Leases ML70342, ML700016, ML700017, ML700018, and ML700019 held by Stanmore IP Coal Pty Ltd (Table 4).

Figure 2 shows the mine plan layout for the Isaac Plains Complex and the location of the Coal Reserve area and Coal Reserve categories.

Table 4: Isaac Plains Complex Mining Tenements

Tenure	Tenement Holder	Grant/Lodge Date	Expiry Date	Area (Ha)
ML70342	Stanmore IP Coal Pty Ltd	1-Dec-2005	31-Dec-2025	2,143
ML700016	Stanmore IP Coal Pty Ltd	3-Jan-2018	31-Mar-2030	138
ML700017	Stanmore IP Coal Pty Ltd	3-Jan-2018	31-Mar-2030	387
ML700018	Stanmore IP Coal Pty Ltd	3-Jan-2018	31-Mar-2030	369
ML700019	Stanmore IP Coal Pty Ltd	3-Jan-2018	31-Mar-2030	353

Figure 2: Isaac Plains Complex Pit Shells and Coal Reserve Areas



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## Coal Quality

The following table provides a summary of raw coal quality for the Isaac Plains Complex.

**Table 5: Summary of Leichhardt Seam Raw Coal Quality for Isaac Plains Complex**

Area	RD Insitu (g/cc)	Ash (%ad)	Inherent Moisture (%ad)	Volatile Matter (%ad)	Fixed Carbon (%ad)	Total Sulphur (%ad)	Specific Energy kcal/kg (ad)
<b>IPM</b>	1.42	16.6	2.5	24.4	56.2	0.39	6666
<b>IPE</b>	1.40	13.8	2.3	24.1	59.7	0.48	7005

Notes:

1. Values sourced from Xenith Consulting Pty Ltd Resource Estimate Reports for IPM and IPE (May 2018).
2. IPM = Isaac Plains Mine.
3. IPE = Isaac Plains East.

A summary of forecast product coal yields for semi-soft coking and thermal coal product types for IPM and IPE for the economic pit are provided in Table 6 below:

**Table 6: Summary of Product Coal Yields for Isaac Plains Complex**

Area	Semi-Soft Coking Coal (wet %)	Thermal Coal (wet %)	Total (wet %)
<b>IPM</b>	56%	18%	74%
<b>IPE</b>	77%	1%	78%
<b>IPC</b>	73%	4%	77%

Notes:

1. Values sourced from Measured Group Pty Ltd Reserve Estimate (August 2018).
2. IPM = Isaac Plains Mine.
3. IPE = Isaac Plains East.
4. IPC = Isaac Plains Complex.

Attached to this ASX announcement is the Table 1, Section 4 extracted from the formal JORC Coal Reserve report for the Isaac Plains Opencut mines.

Yours faithfully

**Ian Poole**

Chief Financial Officer & Company Secretary

### **FOR FURTHER INFORMATION, PLEASE CONTACT:**

**Dan Clifford**  
Managing Director  
07 3238 1000

**Ian Poole**  
Chief Financial Officer & Company Secretary  
07 3238 1000

## COMPETENT PERSON STATEMENT

The information in this report relating to Coal Reserves for Isaac Plains Mine and Isaac Plains East is based on information compiled by Mr Gary Benson who is a Principal Mining Consultant with Measured Group Pty Ltd. Mr Benson is a qualified Mining Engineer (BE (Mining Engineering), University of Queensland), a member of the Australian Institute of Mining and Metallurgy and with over 30 years' experience, has sufficient relevant experience to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking, 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 Benson consents to the inclusion in the report of the matters based on the information, in the form and context in which it appears.

## JORC COAL RESERVES NOTE – ISAAC PLAINS COMPLEX

The Isaac Plains Complex opencut Marketable Reserve of 11.51 Mt is derived from a run-of-mine (ROM) opencut Coal Reserve estimate of 14.87 Mt, with an estimated overall yield for IPM and IPE of 77%. The Coal Reserve is included in the current JORC Resource estimate for IPC as shown in Table 7 below:

Table 7: Isaac Plains Complex – JORC Coal Resource Estimate (Xenith, May 2018)

Resource Category	IPM	IPE	Total (IPC)
Measured (Mt)	22.2	12.9	35.1
Indicated (Mt)	21.3	8.8	30.1
Inferred (Mt)	9	8	17
<b>Total (Mt)</b>	<b>52.5</b>	<b>29.7</b>	<b>82.2</b>

## ABOUT STANMORE COAL LIMITED (ASX CODE: SMR)

Stanmore Coal operates the Isaac Plains coking coal mine in Queensland's prime Bowen Basin region. Stanmore Coal owns 100% of the Isaac Plains complex which includes the original Isaac Plains Mine, the adjoining Isaac Plains East (now a new open cut mine that commenced operations in July 2018), and the Isaac Plains Underground Mine (currently being assessed in a Bankable Feasibility phase). The company is focused on the creation of shareholder value via the efficient operation of Isaac Plains, timely development of Isaac Plains East and identification of further development opportunities (such as the Isaac Plains Underground Mine and the Wotonga Coking Coal Resource) within the region. In addition, Stanmore Coal holds a number of high quality development assets (both coking and thermal coal resources) located in the Queensland's Bowen and Surat Basins.

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## APPENDIX A: JORC CODE, 2012 – Table 1 for Isaac Plains Complex Coal Reserves

This Appendix details Section 4 of the JORC Code 2012 Edition Table 1. Section 5 Estimation and Report of Diamonds and Other Gemstones' has been excluded as they are not applicable to this deposit and estimation.

### Section 4 Estimation and Reporting of Ore Reserves

(Criteria listed in Section 1, and where relevant in Sections 2 and 3, also apply to Section 4)

Criteria	JORC Code Explanation	Commentary																				
<b>Mineral Resource estimate for conversion to Ore Reserves</b>	<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>The JORC Coal Resource for Isaac Plains Mine (<b>IPM</b>) (April 2018) and Isaac Plains East (<b>IPE</b>) (April 2018) were estimated by Troy Turner, a full-time employee of Xenith Consulting Pty Ltd.</li> <li>Mr Turner is a qualified geologist and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking, to qualify as Competent Person as defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves."</li> <li>The Coal Resource Estimate for the Isaac Plains Complex (<b>IPC</b>) is: <table border="1"> <thead> <tr> <th>Resource Category</th> <th>IPM</th> <th>IPE</th> <th>Total (IPC)</th> </tr> </thead> <tbody> <tr> <td>Measured (Mt)</td> <td>22.2</td> <td>12.9</td> <td>35.1</td> </tr> <tr> <td>Indicated (Mt)</td> <td>21.3</td> <td>8.8</td> <td>30.1</td> </tr> <tr> <td>Inferred (Mt)</td> <td>9</td> <td>8</td> <td>17</td> </tr> <tr> <td><b>Total (Mt)</b></td> <td><b>52.5</b></td> <td><b>29.7</b></td> <td><b>82.2</b></td> </tr> </tbody> </table> </li> </ul>	Resource Category	IPM	IPE	Total (IPC)	Measured (Mt)	22.2	12.9	35.1	Indicated (Mt)	21.3	8.8	30.1	Inferred (Mt)	9	8	17	<b>Total (Mt)</b>	<b>52.5</b>	<b>29.7</b>	<b>82.2</b>
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Criteria	JORC Code Explanation	Commentary
		<ul style="list-style-type: none"> <li>Mr Turner's estimates have been used as the basis for the estimate of Coal Reserves for the Isaac Plains Complex.</li> <li>Coal Resource estimates are inclusive of Coal Reserve estimates.</li> </ul>
<b>Site visits</b>	<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, Mr Gary Benson, has not visited the site recently, however, Mr Tony O'Connell who assisted Mr Benson with the Coal Reserves Estimate has visited IPC twice in the last 2 years.</li> <li>The site visits, reports and a review of mining, production and reconciliation data confirms the mining methods used at IPM and proposed for IPE are suitable for current and planned open-cut mining operation; and are being well managed by the IPC operations teams.</li> </ul>
<b>Study status</b>	<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 determined a mine plan that is technically achievable and economically viable, and that material Modifying Factors have been considered.</i></li> </ul>	<ul style="list-style-type: none"> <li>Mine planning for IPM has been undertaken to a high level of detail to support current open-cut mining operations. Stanmore maintains an in-house mine planning function for mid to long term planning, and the current mining contractor (Golding) maintains a mine planning function to manage the short term open-cut mining operation.</li> <li>Mine planning for IPE has been undertaken to a Bankable Feasibility Study (<b>BFS</b>) Level standard, with the completion of the BFS in October 2017. The BFS mine planning process leveraged considerable site knowledge and experience gained from IPM operations conducted over the last 8 years.</li> <li>The mining parameters and modifying factors are similar between the existing IPM and IPE. Modifying factors are consistent with other mines of similar geological structure.</li> </ul>



Criteria	JORC Code Explanation	Commentary
<b>Cut-off parameters</b>	<ul style="list-style-type: none"> <li>The basis of the cut-off grade(s) or quality parameters applied.</li> </ul>	<ul style="list-style-type: none"> <li>The pit designs for IPC were developed to cover all coal production that is expected to be economic.</li> <li>Forecast sale prices were applied to product tonnages to calculate the overall revenue generated by each coal solid.</li> <li>A total margin for each mining block and strip was calculated, which was then used to determine the economic limits for each pit.</li> </ul>
<b>Mining factors or assumptions</b>	<ul style="list-style-type: none"> <li>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).</li> <li>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.</li> <li>The assumptions made regarding geotechnical parameters (eg pit slopes, stope sizes, etc), grade control and pre-production drilling.</li> <li>The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate).</li> <li>The mining dilution factors used.</li> <li>The mining recovery factors used.</li> <li>Any minimum mining widths used.</li> <li>The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.</li> <li>The infrastructure requirements of the selected mining methods.</li> </ul>	<ul style="list-style-type: none"> <li>The following mining methodology was considered for the Coal reserve estimate: <ul style="list-style-type: none"> <li>a combination of cast, doze, dragline or truck &amp; excavator to move waste into the adjacent strip or dump. The strip width selected is nominally 55 m.</li> <li>Drilling and Blasting (<b>D&amp;B</b>) of the insitu waste.</li> <li>A maximum horizon of 50 m of waste is allocated to the dragline.</li> <li>Remaining waste is removed by dozer or truck and excavator.</li> <li>Coal mining using excavators and rear dump trucks haul the coal to the Isaac Plains Coal Preparation Plant (<b>IPM CHPP</b>) for washing.</li> <li>Parting &gt; 0.3 m thick is stripped separately.</li> </ul> </li> <li>The stripping methodology is the same as that currently used at IP.</li> <li>The following batter allowances were considered: <ul style="list-style-type: none"> <li>Highwall (hard): 65° (IP), 70 °(IPE)</li> <li>Softwall (IP): 45°</li> <li>Spoil Lowwall &amp; Angle of Repose: 37°</li> </ul> </li> <li>The following Loss and Dilution factors were used: <ul style="list-style-type: none"> <li>Roof Loss: 0.075 m</li> <li>Floor Loss: 0.025 m</li> </ul> </li> </ul>



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		<ul style="list-style-type: none"> <li>Edge Loss: 0.25 m</li> <li>Global Loss (for faults): 3% for both IPM and IPE</li> <li>Roof Dilution: 0.05 m</li> <li>Floor Dilution: 0.05 m</li> <li>Edge Dilution: 0.25 m</li> <li>Dilution density: 2.42 t/bcm</li> <li>Dilution ash: 85%</li> <li>The existing infrastructure at IPM is suitable for the methodology described.</li> <li>Assumptions relating to the various mining factors have been reconciled with actual mining performance.</li> </ul>																
<b>Metallurgical factors or assumptions</b>	<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 and the corresponding metallurgical recovery factors applied.</i></li> <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>	<ul style="list-style-type: none"> <li>The existing IPM CHPP is suitable to process the target seams.</li> <li>Two products are planned, a primary product semi-soft coking coal and a secondary product thermal coal.</li> <li>The CHPP yield predictions for IPE are based on recent lab results that incorporated testing for dilution effects on theoretical yield, with plant efficiency factors applied to predict plant performance.</li> <li>This is considered an improved methodology when compared to the yield estimates used to estimate the 2017 Marketable Coal Reserve.</li> <li>Forecast yields for the two coal types at IPM and IPE for the economic pit are:</li> </ul> <table border="1"> <thead> <tr> <th>Area</th> <th>Semi-Soft Coking Coal (wet %)</th> <th>Thermal Coal (wet %)</th> <th>Total (wet %)</th> </tr> </thead> <tbody> <tr> <td>Isaac Plains Mine</td> <td>56%</td> <td>18%</td> <td>74%</td> </tr> <tr> <td>Isaac Plains East</td> <td>77%</td> <td>1%</td> <td>78%</td> </tr> <tr> <td>Isaac Plains Complex</td> <td>73%</td> <td>4%</td> <td>77%</td> </tr> </tbody> </table>	Area	Semi-Soft Coking Coal (wet %)	Thermal Coal (wet %)	Total (wet %)	Isaac Plains Mine	56%	18%	74%	Isaac Plains East	77%	1%	78%	Isaac Plains Complex	73%	4%	77%
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<p><b>Environmental</b></p>	<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>All Mining Leases within the IPC are subject to environmental authority (<b>EA</b>) EPML00932713.</li> <li>An EA amendment application covering all mining leases for IPE was submitted to the Department of Environment and Heritage Protection (<b>EHP</b>) in October 2016 and was approved on 24 January 2018.</li> <li>Stanmore’s onsite activities at IPM are managed in accordance with the following:                         <ul style="list-style-type: none"> <li>Environmental Management Strategy;</li> <li>Environmental management procedures for complaints, stakeholder interaction, water management, dams, air quality/dust, land (including permit to disturb, weed and pest control, and spills management), waste, blasting and safety;</li> <li>IPM environmental management plan; and</li> <li>contractor’s environment management plans.</li> </ul> </li> <li>Strategies, procedures and plans are amended as required.</li> <li>Environmental risk assessments for the following aspects have been undertaken for IPC, in conjunction with relevant specialists:                         <ul style="list-style-type: none"> <li>Groundwater;</li> <li>Flood modelling;</li> <li>Water management;</li> <li>Air quality;</li> <li>Noise;</li> <li>Terrestrial ecology; and</li> <li>Aquatic ecology.</li> </ul> </li> <li>Stanmore assesses and monitors environmental and approvals risks on an ongoing basis.</li> </ul>



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<p><b>Infrastructure</b></p>	<ul style="list-style-type: none"> <li><i>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.</i></li> </ul>	<ul style="list-style-type: none"> <li>Existing Infrastructure supporting IPM operations includes:                             <ul style="list-style-type: none"> <li>Mine Infrastructure Area;</li> <li>Workshop including surrounding laydown areas;</li> <li>Light vehicle maintenance igloo;</li> <li>Boilermakers area;</li> <li>Fuel storage and distribution;</li> <li>Administration Office (including parking areas);</li> <li>Warehouse;</li> <li>Emergency Response Facilities Equipment;</li> <li>Fuel and Lubrication Facilities; and</li> <li>Water Infrastructure (Raw, Potable &amp; Process)</li> </ul> </li> <li>The original design criteria for the Isaac Plains mine was 3.5 Mtpa run-of-mine coal production and the existing infrastructure capacity is currently surplus to requirements.</li> <li>Future infrastructure requirements for IPE will need to include:                             <ul style="list-style-type: none"> <li>Heavy vehicle haul roads to connect new pit ramps to the existing haulage network;</li> <li>new overhead power to support the dragline;</li> <li>sediment dams to collect runoff from out of pit dumps;</li> <li>pump and pipework to transfer water that may collect in the new pits to existing in-pit water storages; and</li> <li>clean water drains to divert unnecessary water from entering the pit and dragline walk routes to be able to move the dragline between pits.</li> </ul> </li> <li>Allowances have been made for replacement and sustaining capital to maintain production capacity to the end of the mine life.</li> </ul>



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<b>Costs</b>	<ul style="list-style-type: none"> <li>The derivation of, or assumptions made, regarding projected capital costs in the study.</li> <li>The methodology used to estimate operating costs.</li> <li>Allowances made for the content of deleterious elements.</li> <li>The derivation of assumptions made of metal or commodity price(s), for the principal minerals and co-products.</li> <li>The source of exchange rates used in the study.</li> <li>Derivation of transportation charges.</li> <li>The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.</li> <li>The allowances made for royalties payable, both Government and private.</li> </ul>	<ul style="list-style-type: none"> <li>Costs have generally been developed and built up from a first principles basis and checked against actual costs.</li> <li>All unit cost rates are in Australian Dollars.</li> <li>Royalty charges were applied as follows:                             <ul style="list-style-type: none"> <li>up to and including \$100 per tonne: 7.0%</li> <li>over \$100 up to including \$150 per tonne: 12.5%</li> <li>above \$150 per tonne: 15.0%</li> </ul> </li> <li>A private royalty for IPE is included.</li> <li>The unit costs are built up from actual costs developed on site for budgeting purposes using actual contractor rate where applicable. In summary for IPE:</li> </ul> <table border="1"> <thead> <tr> <th>Unit Cost Item</th> <th>Unit</th> <th>Amount</th> </tr> </thead> <tbody> <tr> <td>Rehab</td> <td>\$/Ha</td> <td>30,699</td> </tr> <tr> <td>Topsoil</td> <td>\$/bcm</td> <td>5.97</td> </tr> <tr> <td>Excavator Drill and Blast</td> <td>\$/bcm</td> <td>0.91</td> </tr> <tr> <td>Dragline Drill and Blast</td> <td>\$/bcm</td> <td>1.33</td> </tr> <tr> <td>Excavator Waste</td> <td>\$/bcm</td> <td>3.88</td> </tr> <tr> <td>Dozer Waste</td> <td>\$/bcm</td> <td>1.55</td> </tr> <tr> <td>Dragline Waste</td> <td>\$/total bcm</td> <td>0.96</td> </tr> <tr> <td>Coal Mining</td> <td>\$/ROM t</td> <td>6.4</td> </tr> <tr> <td>CHPP Feed</td> <td>\$/ROM t</td> <td>1.12</td> </tr> <tr> <td>Coal Processing</td> <td>\$/ROM t</td> <td>6.27</td> </tr> <tr> <td>Reject Handling</td> <td>\$/Reject t</td> <td>1.03</td> </tr> </tbody> </table>	Unit Cost Item	Unit	Amount	Rehab	\$/Ha	30,699	Topsoil	\$/bcm	5.97	Excavator Drill and Blast	\$/bcm	0.91	Dragline Drill and Blast	\$/bcm	1.33	Excavator Waste	\$/bcm	3.88	Dozer Waste	\$/bcm	1.55	Dragline Waste	\$/total bcm	0.96	Coal Mining	\$/ROM t	6.4	CHPP Feed	\$/ROM t	1.12	Coal Processing	\$/ROM t	6.27	Reject Handling	\$/Reject t	1.03
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<b>Revenue factors</b>	<ul style="list-style-type: none"> <li>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.</li> <li>The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.</li> </ul>	<ul style="list-style-type: none"> <li>Forecast coal prices for semi-soft coking coal (<b>SSCC</b>) and thermal coal is based on pricing adopted by Stanmore as at 10 July 2018.</li> <li>Stanmore's adopted pricing is based on Wood Mackenzie, Platts forward/swap assessments and Broker consensus ranges.</li> <li>The table below shows Stanmore's adopted pricing in US\$: <table border="1"> <thead> <tr> <th>Product</th> <th>2019</th> <th>2020</th> <th>2021</th> <th>2022</th> <th>Long Term</th> </tr> </thead> <tbody> <tr> <td>SSCC (US\$/t)</td> <td>113.75</td> <td>100</td> <td>100</td> <td>98</td> <td>98</td> </tr> <tr> <td>Thermal (US\$/t)</td> <td>87.5</td> <td>75</td> <td>75</td> <td>75</td> <td>75</td> </tr> <tr> <td>FX Rate</td> <td>0.75</td> <td>0.75</td> <td>0.76</td> <td>0.76</td> <td>0.75</td> </tr> </tbody> </table> </li> </ul>	Product	2019	2020	2021	2022	Long Term	SSCC (US\$/t)	113.75	100	100	98	98	Thermal (US\$/t)	87.5	75	75	75	75	FX Rate	0.75	0.75	0.76	0.76	0.75
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<b>Market assessment</b>	<ul style="list-style-type: none"> <li>The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future.</li> <li>A customer and competitor analysis along with the identification of likely market windows for the product.</li> <li>Price and volume forecasts and the basis for these forecasts.</li> <li>For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.</li> </ul>	<ul style="list-style-type: none"> <li>Three product coal types are produced by IPM and by IPE in future. These coal products have been successfully marketed by IPM and sold into export markets for the past 8 years (approximately).</li> <li>It would be reasonable to expect that the IPM and IPE will have no difficulty in successfully marketing future coal tonnes produced (SSCC Weak Coking Coal, and Thermal).</li> <li>Based on work completed to date, it is expected that the primary coal product produced by IPE will be superior to the current IPM product specifications.</li> </ul>																								



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<b>Economic</b>	<ul style="list-style-type: none"> <li>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.</li> <li>NPV ranges and sensitivity to variations in the significant assumptions and inputs.</li> </ul>	<ul style="list-style-type: none"> <li>The deposit was assessed on a block-by-block basis with the total margin for each block calculated based on the unit costs and revenues detailed above.</li> <li>The total margin for each strip was calculated to ensure a positive cash flow was achieved on a strip-by-strip basis.</li> </ul>
<b>Social</b>	<ul style="list-style-type: none"> <li>The status of agreements with key stakeholders and matters leading to social licence to operate.</li> </ul>	<ul style="list-style-type: none"> <li>The mining tenure for IPM is Mining Lease (ML) 70342 and for IPE it is ML700016, ML700017, ML700018, ML700019 all held by Stanmore IP Coal Pty Ltd.</li> <li>All Mining Leases for IPM and IPE are current and are subject to environmental authority (EA) EPML00932713, which has been amended to cover the IPE Mining Leases.</li> <li>Stanmore has executed compensation agreements with private landholders covering IPE MLs. A draft compensation agreement has been provided to Isaac Regional Council for Broadlea Road.</li> <li>The compensation agreement relating to the private landholder covering ML700016 includes provisions that may result in mining not occurring in ML700016 (but not other MLs). For this reason, the Reserves calculated in Pit 1 have been excluded from the current JORC Reserves Estimate.</li> <li>Stanmore will continue to manage the IPC mining operations, which they have successfully done so to date, whilst developing and maintaining good relationships with key stakeholders and maintaining their social licence to operate.</li> </ul>
<b>Other</b>	<ul style="list-style-type: none"> <li>To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves:</li> </ul>	<ul style="list-style-type: none"> <li>There are no known issues that impact might impact on the Coal Reserve Estimate and classifications of the Coal Reserves.</li> <li>Stanmore has received the State and Commonwealth approvals</li> </ul>



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	<ul style="list-style-type: none"> <li>Any identified material naturally occurring risks.</li> <li>The status of material legal agreements and marketing arrangements.</li> <li>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.</li> </ul>	<p>required for mining operations in IPE and Stanmore commenced operations at IPE in June 2018.</p>
<b>Classification</b>	<ul style="list-style-type: none"> <li>The basis for the classification of the Ore Reserves into varying confidence categories.</li> <li>Whether the result appropriately reflects the Competent Person's view of the deposit.</li> <li>The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).</li> </ul>	<ul style="list-style-type: none"> <li>Measured, Indicated and Inferred Coal Resources are estimated for IPC. All of the Measured Coal Resources contained within the economic limit of the open-cut pit have been classified as Proved Coal Reserves, while all Indicated Coal Resources contained within the economic limit of the open cut pit have been classified as Probable Coal Reserves.</li> <li>The Coal Reserve Estimate and classification of Coal Reserves reflect the Competent Person's view and assessment of the deposit.</li> </ul>
<b>Audits or reviews</b>	<ul style="list-style-type: none"> <li>The results of any audits or reviews of Ore Reserve estimates.</li> </ul>	<ul style="list-style-type: none"> <li>Mr Tony O'Connell and Mr Michael Hooper (of Optimal Mining Solutions) completed a review of the mine planning and geological models that were used as the basis for the 2018 Coal Reserve estimate for IPC.</li> <li>Resultant feedback from this review was provided to Stanmore and issues identified as potentially having an impact on the current Coal Reserve estimate were resolved prior to the Coal Reserves estimate.</li> </ul>



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		<ul style="list-style-type: none"> <li>Coal Reserve estimates were reconciled back to previous estimates to ensure consistency.</li> </ul>
<p><b>Discussion of relative accuracy/confidence</b></p>	<ul style="list-style-type: none"> <li>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.</li> <li>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.</li> <li>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.</li> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>No statistical or geostatistical procedures have been used in the estimation of Coal Reserves themselves.</li> <li>The most significant areas of uncertainty in the Isaac Plains Complex open-cut reserve estimate relates to the coal pricing and foreign exchange rate. Stanmore's forecasts are based on estimates from a range of independent sources that are widely used in the mining industry (Wood Mackenzie, consensus broker etc.).</li> <li>Small differences in the totals for the Coal Reserve estimate may be present due to the tonnage information being rounded to reflect the uncertainty associated with the estimate.</li> <li>The in-seam yields for IPM have been adjusted using factors calculated from an ongoing detailed reconciliation process managed by Stanmore's site-based team.</li> <li>Due to the less complex geological structure at IPE, the yield adjustment factors used at IPM have not been applied to this area, rather the assumptions used in the BFS have been used.</li> <li>It is anticipated that separate yield adjustment factors may be calculated for IPE once sufficient coal tonnes have been mined and processed.</li> <li>The application of a yield adjustment factor for IPE in future is not expected to have a material impact on future Coal Reserve estimates.</li> </ul>