

23 August 2018

South32 Limited
(Incorporated in Australia under the *Corporations Act 2001* (Cth))
(ACN 093 732 597)
ASX / LSE / JSE Share Code: S32 ADR: SOUHY
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WORSLEY ALUMINA ORE RESERVES UPDATE

South32 Limited (ASX, LSE, JSE: S32; ADR: SOUHY) (South32) is pleased to announce changes to its estimates of Ore Reserves for Worsley Alumina.

- 43 Mt¹ of Ore Reserves added from the Marradong West Area

Worsley Alumina is an integrated bauxite mine and alumina refinery which is 86% owned by South32. It is located 130 kilometres (kms) south east of Perth, in Western Australia.

Full details of this update are contained in the attached report.

About South32

South32 is a globally diversified mining and metals company. We produce bauxite, alumina, aluminium, energy and metallurgical coal, manganese, nickel, silver, lead and zinc at our operations in Australia, Southern Africa and South America. We are also the owner of a high grade zinc, lead and silver development option in North America and have several partnerships with junior explorers with a focus on base metals. Our purpose is to make a difference by developing natural resources, improving people's lives now and for generations to come, and to be trusted by our owners and partners to realise the potential of their resources.

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Further information on South32 can be found at www.south32.net.

JSE Sponsor: UBS South Africa (Pty) Ltd
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¹ Dry million metric tonnes.

Update on estimates of Ore Reserves for Worsley Alumina

South32 confirms an addition of 43 Mt to its Ore Reserves estimate as at 30 June 2018 for Worsley Alumina. The increase relates to the first time reporting of Ore Reserves from the Marradong West area of the Worsley Alumina project.

The Mineral Resources and Ore Reserves estimates as at 30 June 2018, are presented in Appendix 1, Table 1 and Table 3. A comparison to previously published Mineral Resources and Ore Reserves estimates (as at 30 June 2017) are presented in Appendix 1, Table 2 and Table 4.

The estimates of Mineral Resources and Ore Reserves have been reported in accordance with the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves, 2012 (JORC Code) and the Australian Securities Exchange Listing Rules.

The breakdown of the total estimates of Mineral Resources and Ore Reserves into the specific JORC Code categories is contained in the Appendix 1 Tables. This report also summarises the information contained in the JORC Code Table 1, which is included in Appendix 2 of this report.

Estimate of Ore Reserves

The declared Ore Reserves estimates are based on the Worsley Alumina Mineral Resource estimates as at 30 June 2018.

Material and economic assumptions

Worsley Alumina's Boddington Bauxite Mine (BBM) has been operating since 1984. The run-of-mine (ROM) ore is crushed onsite before being transported by conveyor to the Worsley Alumina Refinery near Collie, in Western Australia.

Sufficient studies have been undertaken to enable the Mineral Resource to be converted to Ore Reserve on the basis of current operating methods and practices.

The capital costs are based on the expected future development of the mine, refinery, tailings facilities and sustaining capital requirements. The costs have been accounted for in the operation's valuation models.

- Operating costs are estimated as part of the South32 internal budgeting process, which also considers transport costs including current truck, conveyor and contractor rates.
- Other economic assumptions used for the valuation reflect South32's internal views of demand, supply, volume forecasts and competitor analysis, and are commercially sensitive.

Ore Reserve classification

Proved and Probable Ore Reserve are derived from the respective Mineral Resource classification in accordance with the JORC Code other than as noted below.

Approximately 4 Mt of Measured Mineral Resource was converted to a Probable Ore Reserve. This ore is subject to contractual co-operation arrangements with Newmont's Boddington Gold Mine and is under or in close proximity to existing key infrastructure. Internal and planned dilution within ore reserve pit shells represents <10.8% of the total Ore Reserve by mass and are considered to have the same level of confidence as the reported Mineral Resource.

The Reserve Life reported as of 30 June 2018 reflects the scheduled extraction period in years for the total Ore Reserves in the current approved life of operation plan.

Mining method and assumptions

The BBM mining operations are centred on existing crushing and conveying hubs in the Saddleback and Marradong mining areas.

Shallow, multi-pit, open-cut mining techniques (drill, blast, load and haul) are used by BBM and have been developed over the last thirty-four years to efficiently extract bauxite from the discrete pods. This mining method is used to model and report the 30 June 2018 Ore Reserve estimate.

The Ore Reserve is reported within mine design shells, generated using mine design assumptions, including limiting factors (i.e. heritage sites, protected areas, thickness and mining constraints etc.), which are applied to the resource model.

Processing method and assumptions

The Worsley Alumina Refinery produces alumina from bauxite exclusively sourced from BBM utilising the Bayer refining process. This refining process is the industry standard used to produce alumina from gibbsitic bauxite ores.

- Predicted recoveries at the refinery are derived using a historic recovery model over the life of the operation.
- Metallurgical recovery is assumed at 94.1%.
- Allowances have been made for deleterious elements in the life of operation plan valuation.

Cut-off grade

A variable cut-off grade ranging from 22.5-25% for $A.Al_2O_3$ and $\leq 3.5\%$ $R.SiO_2$ is considered in the pit design shells used for reporting the Ore Reserves. The Marradong West area is mined under a third-party access agreement, which specifies a cut-off grade for individual pits. This pit scale cut-off grade is applied directly when reporting the Marradong West Ore Reserve.

Estimation methodology

The Ore Reserve as at 30 June 2018 was estimated using updated mine design shells for ore and waste, applying the current mining parameters, constraints, and exclusions, which were then confirmed in an economic mine schedule.

Material modifying factors

The reported Ore Reserve is within the mine design shells, using current mining methods and practices. These are fully contained within South32 mining tenements. The Ore Reserve is scheduled to be extracted within the expected expiration date of all mining leases.

Worsley Alumina is an operating asset which has all the required infrastructure and environmental approvals required to operate its existing mine sites. The requirement for future infrastructure and its expected approvals have been considered in the mine schedule which assumes no outstanding or foreseeable issues with material legal agreements or regulatory approvals. Long-term marketing arrangements are in place.

Competent Person Statement

The information in this report that relates to estimates of Mineral Resources for Worsley Alumina is presented on a 100% basis and represents an estimate as at 30th June 2018. It is based on information compiled by Jessica Binoir and Rodney Brown.

The information in this report that relates to estimates of Ore Reserve for Worsley Alumina is presented on a 100% basis and represents an estimate as at 30th June 2018. It is based on information compiled by Glen Burnham.

Ms. Binoir and Mr. Burnham are full time employees of South32. Mr. Brown is employed by SRK Consulting. All three individuals are members of the Australasian Institute of Mining and Metallurgy. Each Competent Person has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activities being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Each Competent Person consents to the inclusion in this report of the matters based on their information in the form and context in which it appears.

Additional information is contained in Appendix 1 and Appendix 2.

Appendix 1

Table 1: Mineral Resources for Worsley Alumina as at 30 June 2018 in 100% terms

Ore Type	Measured Mineral Resources			Indicated Mineral Resources			Inferred Mineral Resources			Total Mineral Resources			% South32 Interest
	Mt*	% A.Al ₂ O ₃	% R.SiO ₂	Mt*	% A.Al ₂ O ₃	% R.SiO ₂	Mt*	% A.Al ₂ O ₃	% R.SiO ₂	Mt*	% A.Al ₂ O ₃	% R.SiO ₂	
Laterite	356	28.3	1.5	408	29.2	2.0	405	28.7	2.1	1,170	28.7	1.9	86

* Million dry metric tonnes, %A.Al₂O₃- Percent available alumina, % R.SiO₂- Percent reactive silica.

Notes:

1. Cut-off grade: Variable ranging from 22-25% A.Al₂O₃, <= 3.5% R.SiO₂ and >= 1m thickness.
2. Measured and Indicated Mineral Resource information is inclusive of Mineral Resources that have been modified to produce Ore Reserves.
3. All volumes are reported as dry metric tonnes.
4. All tonnes and grade information have been rounded to reflect relative uncertainty of the estimate, hence small differences may be present in the totals.
5. Increase in estimates of Mineral Resources from the position as at 30 June 2017 is due to the addition of the Marradong West area.

Table 2: Mineral Resources for Worsley Alumina as at 30 June 2017 in 100% terms

Ore Type	Measured Mineral Resources			Indicated Mineral Resources			Inferred Mineral Resources			Total Mineral Resources			% South32 Interest
	Mt*	% A.Al ₂ O ₃	% R.SiO ₂	Mt*	% A.Al ₂ O ₃	% R.SiO ₂	Mt*	% A.Al ₂ O ₃	% R.SiO ₂	Mt*	% A.Al ₂ O ₃	% R.SiO ₂	
Laterite	350	28.0	1.5	371	29.1	2.2	395	28.8	2.2	1,120	28.6	2.0	86

* Million dry metric tonnes, %A.Al₂O₃- Percent available alumina, % R.SiO₂- Percent reactive silica.

Notes:

1. Cut-off grade: Variable ranging from 20-25% A.Al₂O₃, <= 3.5% R.SiO₂ and >= 1m thickness.
2. Measured and Indicated Mineral Resource information is inclusive of Mineral Resources that have been modified to produce Ore Reserves.
3. All volumes are reported as dry metric tonnes.
4. All tonnes and grade information have been rounded to reflect relative uncertainty of the estimate, hence small differences may be present in the totals.

Table 3: Ore Reserves for Worsley Alumina as at 30 June 2018 in 100% terms

Ore Type	Proved Ore Reserves			Probable Ore Reserves			Total Ore Reserves			Years Reserve Life	% South32 Interest
	Mt*	% A.Al ₂ O ₃	% R.SiO ₂	Mt*	% A.Al ₂ O ₃	% R.SiO ₂	Mt*	% A.Al ₂ O ₃	% R.SiO ₂		
Laterite	268	27.6	1.8	30	29.5	1.4	298	27.8	1.7	17	86

* Million dry metric tonnes, %A.Al₂O₃- Percent available alumina, % R.SiO₂- Percent reactive silica.

Notes:

1. Cut-off grade: Variable ranging from 22.5-25% A.Al₂O₃, <= 3.5% R.SiO₂ except for the Marradong West area which includes a pit scale cut-off grade.
2. All volumes are reported as dry metric tonnes.
3. All tonnes and grade information have been rounded to reflect relative uncertainty of the estimate, hence small differences may be present in the totals.
4. Ore delivered to the process plant.
5. Increase in estimates of Ore Reserves from the position as at 30 June 2017 is due to additional drilling and an updated resource model for the Marradong West area.

Table 4: Ore Reserves for Worsley Alumina as at 30 June 2017 in 100% terms

Ore Type	Proved Ore Reserves			Probable Ore Reserves			Total Ore Reserves			Years Reserve Life	% South32 Interest
	Mt*	% A.Al ₂ O ₃	% R.SiO ₂	Mt*	% A.Al ₂ O ₃	% R.SiO ₂	Mt*	% A.Al ₂ O ₃	% R.SiO ₂		
Laterite	285	27.3	1.8	5.9	27.8	2.0	291	27.3	1.8	16	86

* Million dry metric tonnes, %A.Al₂O₃- Percent available alumina, % R.SiO₂- Percent reactive silica.

Notes:

1. Cut-off grade: Variable ranging from 22.5-25% A.Al₂O₃, <= 3.5% R.SiO₂ and >= 1m thickness.
2. All volumes are reported as dry metric tonnes.
3. All tonnes and grade information have been rounded to reflect relative uncertainty of the estimate, hence small differences may be present in the totals.
4. Ore delivered to the process plant.

Appendix 2

JORC Code Table 1

Worsley Alumina

The following table provides a summary of the important assessment and reporting criteria used at Worsley Alumina for reporting of Mineral Resources and Ore Reserves in accordance with the Table 1 checklist in The Australasian Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves (The JORC Code, 2012 Edition) on an 'if not, why not' basis.

Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections.)

Criteria	Commentary
<i>Sampling techniques</i>	<ul style="list-style-type: none">• Vacuum drilling is used to obtain either 0.5m or 1m samples from which 300-500g of material is collected for analysis.• On commissioning newly built in-house drill rigs, an in-house study recommended (based on Gy's formula) that the minimum weight for a representative sample of the main mineralised horizons is 0.3kg. For gravel material, the ideal sample weight is 1.5kg, however with the small percentage of gravel ore feed ($\leq 5\%$), a sample size of 0.3kg was not deemed a material risk to the Mineral Resource.
<i>Drilling techniques</i>	<ul style="list-style-type: none">• Drilling is carried out with purpose-built drill rigs. Vacuum drilling is an open hole method whereby the sample is extracted with vacuum through hollow drill rods using a 50mm diameter 2-blade drill bit. The vast majority of holes are vacuum holes, with aircore drill holes constituting less than 1% of drill holes.• The average drill hole depth varies with location. The laterite profile is generally thicker in areas underlain by greenstone and thins over granite underlain areas. The laterite profile also generally thickens from south to north over the tenement area. From south to north, average drill hole depth over greenstone areas range from 6m to 22m. From south to north, average drill hole depth over granite areas range from 3m to 5m.• Drilling is conducted in the dry season to minimise impacts of weather on sample quality as drilling and sampling through wet material and basement rock are ineffective with the vacuum drilling method.
<i>Drill sample recovery</i>	<ul style="list-style-type: none">• Recovery data had not been routinely recorded until 2014. A trial was completed in 2003/2004 and it was found that recovery is related to both the bit size (decreasing as it wears) and the competence of the drill hole wall material.• In 2003, independent industry consultants observed and audited the drilling processes for two drill holes and noted high sample recovery for all sample intervals.• In January 2014, recording of recoveries was introduced as part of routine logging. Percentage recoveries (in 25% increments) are recorded by the off-sider for each drilled interval. Average recoveries are approximately 150% (after an adjustment of 30% for "bulking" of material). The over recovery is thought to be the result of "over break" of the drill hole walls.• Work is currently in progress to establish whether over recoveries will result in biased grade results. Twin vacuum, aircore and diamond triple tube drilling has been completed, with analysis of results expected by end CY2018.
<i>Logging</i>	<ul style="list-style-type: none">• Logging of lithology takes into consideration sample colour and texture, drilling properties and position in the lateritic profile.• Logging is done by off-siders who are trained to collect and record samples and identify the lateritic profile horizons.• Historically logging was done on paper logs and digitally captured afterwards, but since 2005 has been captured electronically using data loggers.• The current logging protocol is considered by the Competent Person to be adequate to support the preparation of a geological model when combined with analytical results.
<i>Sub-sampling techniques and sample preparation</i>	<ul style="list-style-type: none">• Drill holes on a 100m by 100m grid or greater are sampled in 0.5m increments with infill holes sampled at 1m increments.• Until 2004, samples were riffle split 2 to 3 times to reduce the sample size to less than 500g. Independent industry consultants noted a 12 chute, single tier riffle splitter in their 2003 review. It is unknown if this type of riffle splitter was used for all historical sample splitting.• Since 2005, cone splitters have been used for sample splitting. Approximately 10% of the sample is retained (usually between 300g and 500g).• Sample preparation for the period 2002 to current is as follows:<ul style="list-style-type: none">○ drying at either 110°C for 8 hours or 90°C for 48 hours;○ grinding to 95%, -150µm using ring or puck pulveriser; and

Criteria	Commentary
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- sub-sampling of approximately 100g.
- Sample preparation for the period preceding 2002 is not well documented, but highly likely to be the same.
- Field duplicates were introduced in the 2004 drilling season as a trial. This was adopted as routine, with 1:20 duplicate sampling since 2005. Resource classification was downgraded where quality control data was inadequate to support reasonable confidence in sampling quality.
- Grade reproduction of the majority of duplicate samples is considered adequate by the Competent Person to give reasonable confidence in the precision of results for A.Al₂O₃ and R.SiO₂ based on Absolute Mean Paired Relative Difference (AMPRD).
- No record exists of work undertaken to determine the appropriate sample and subsampling sizes in relation to grain size. This is considered a low risk when taking into consideration the low nugget (generally ≤15%) of both A.Al₂O₃ and R.SiO₂; the concentration of A.Al₂O₃ and R.SiO₂ not being trace amounts as well as reasonable grade reproduction of field duplicates.

Quality of assay data and laboratory tests

- Analytical techniques are partial and aim to quantify extractable Al₂O₃ as well as SiO₂ which reacts in the extraction process.
 - Prior to October 2001, analysis was undertaken utilising American Bayer Extractable Alumina (ABEA) conditions.
 - From October 2001 to February 2012, analysis was undertaken at the higher temperature, Worsley Design Indicated Extraction (WDIE) conditions, to match Worsley Alumina plant conditions.
 - Since February 2012, analysis is routinely undertaken at Worsley Laboratory Available Alumina (WLAA) conditions, implemented to better reflect recoveries achieved in the Worsley Alumina refinery.
- ABEA is a standard method for analysis of A.Al₂O₃ and R.SiO₂ under the standard Bayer process. The WDIE and WLAA methods utilise a modified flux and different digestion temperature to better match Worsley Alumina's modified Bayer process in the refinery.
- Both the WDIE and WLAA methods were designed by Worsley Alumina and commercially certified reference material is therefore not available for these methods. Worsley Alumina maintains internal bauxite reference materials to monitor analytical precision at contract laboratories. Internal reference materials are prepared by an external contractor. Expected values are determined from routine QAQC analytical results. A subset of reference material is made available to contract laboratories for internal use.
- Laboratory internal QAQC is documented from 1993 onwards.
- Since 2005, reference samples were inserted at a frequency of 1:100 and from 2012 at 1:20.
- Pulps are submitted at a frequency of 1:20 for repeat analysis.
- Since 2005, 1:20 samples are sieve tested for appropriate pulverising.
- Umpire laboratory assays were not undertaken in the past due to WDIE and WLAA methods being Worsley Alumina specific. Since 2017, umpire samples have been submitted at a frequency of 1:20 to the internal Worsley Alumina laboratory. Results show a slight R.SiO₂ bias (≤1%), attributed to differences in analytical equipment.
- Detailed QAQC reports are prepared by the Worsley Alumina's database administrator and the assessment taken into consideration in the resource classification.
- Resource classification was downgraded where quality control data were found inadequate to support reasonable confidence in analytical quality. Resource classification was not modified where data are well supported by quality control (from 2005 onwards) or are supported by historical reconciliation results.

Verification of sampling and assaying

- Specific intersections were not independently verified due to the vast number of drill holes (195,000), as well as bauxite being a bulk commodity where a single or small number of drill holes are very unlikely to influence the local resource estimates.
- A considerable number of twinned holes (defined as within 5m of each other) exist in the database. Comparison of the twinned results shows a reasonable correlation of the populations, with no bias being evident.
- Analytical results are directly imported from digital laboratory reports into the acQuire database. Digital reports are stored on a server. Logging information is directly imported from digital data loggers into the acQuire database. The database is backed up daily and server back-ups are stored off-site.
- ABEA and WDIE sample results were transformed to a WLAA basis using 1st degree polynomials. All but one model was estimated on a WLAA basis utilising these transformed sample results.

Criteria	Commentary
	<ul style="list-style-type: none"> The remaining model was estimated on a WDIE analytical basis. In this case, estimated WDIE values were translated to WLAA values also using 1st degree polynomials developed from the relationship between samples with both WDIE and WLAA assay results. The effect, if any, of a change of support in applying a sample derived regression to block data was not investigated.
<i>Location of data points</i>	<ul style="list-style-type: none"> Two survey grid systems were used. A local grid was used for the four models that cover the Primary Bauxite Area (PBA). For the remaining seven models, MGA94 coordinates, GDA94 datum with local zone 50 UTM was used. The topographic surface for much of the greenstone area was generated from Lidar data acquired from an airborne survey flown in late 2008 by Fugro Spatial Solutions. Data accuracy is 0.15m horizontal and 0.1m vertical. The 15cm data points were re-sampled to 20m for topographic surface construction. The topographic surface for the remainder of the resource area was generated from 5m contour data obtained from the Department of Land Administration (DOLA) in 1995. No documentation or metadata could be found relating to the accuracy of this topography data. In the past, a number of different survey instruments with varying levels of accuracy have been used for collar peg positioning. Currently, drill rigs are fitted with high precision differential Global Positioning System (GPS) instruments and navigate to pre-determined collar positions uploaded into the GPS system. In the past, completed holes were not re-surveyed and the original pegged co-ordinates were recorded in the database unless an offset was recorded. In this case, collar co-ordinates were adjusted. Since 2016, drill rigs have been fitted with a high precision GPS and actual collar locations are routinely recorded. Collars were draped onto the topography surface to ensure the relative positions of laterite horizons are consistent. Where holes were drilled from a disturbed surface (i.e. not from the original topographical surface) the surveyed elevations were used. All holes were drilled vertically although rigs are not levelled on slopes and holes may be slightly inclined. Significant hole deviations are not expected over short drilling lengths and consequently downhole surveys are not conducted.
<i>Data spacing and distribution</i>	<ul style="list-style-type: none"> Exploration drilling was undertaken initially on a 200m by 200m square drill grid pattern. The next phase of infill drilling is typically on a 200m by 100m staggered or 100m by 100m square grid pattern. Subsequent infill drilling is undertaken on a 100m by 50m staggered or 50m by 50m square pattern, and finally down to a 25m by 25m square grid. Variography indicates reasonable lateral continuity of both A.Al₂O₃ and R.SiO₂ with short range structures generally being 100-200m and accounting for roughly half of the total sill. Long range structures are generally 100-1,000m. Classification is supported by appropriate slope of regression values, thereby demonstrating appropriate data spacing and distribution for the Mineral Resource classification. Samples were composited based on length of the majority (≥80%) of samples for each area. Samples were composited to 1m for greenstone areas and 0.5m for granite areas.
<i>Orientation of data in relation to geological structure</i>	<ul style="list-style-type: none"> The bauxite profile is gently undulating and generally follows the topographic surface. The vertical holes therefore intersect the bauxite horizons perpendicular or close to perpendicular. The intersection widths are therefore close to true mineralisation widths and no material bias is expected due to the orientation of drill holes.
<i>Sample security</i>	<ul style="list-style-type: none"> Samples are delivered daily to the Worsley Alumina geology sample shed by the drill contractor/operator. The sample shed is situated within the mining area and access is restricted to authorised personnel only. Samples are stored at the shed until dispatched directly from the mine premises to the contract laboratory. Coarse reject material is discarded at the contract laboratory. Pulp reject material is transported from the contract laboratory and stored by a commercial transport and storage contractor. Access is restricted to contractor personnel.
<i>Audits or reviews</i>	<ul style="list-style-type: none"> The sampling and analysis process was audited by independent consultants (Snowden in 2003 and Golder Associates in 2008). <ul style="list-style-type: none"> Golder's concluded that Worsley Alumina comprehensively monitored sampling and assaying but that additional dry bulk densities would be useful in evaluating density variability. Since then densities for each lithology have been determined for granite underlain bauxite. Snowden found drilling and sampling protocols and laboratory analytical procedures to be of industry standard and well documented and analytical precision of A.Al₂O₃ and R.SiO₂ very high. Procedural adjustments were recommended for sample splitting to

Criteria	Commentary
	<p>avoid potential grade bias and riffle splitters were consequently phased out by 2005. Snowden also recommended that blind sample duplicates be submitted in sequence with routine sample batches which has since been implemented.</p> <ul style="list-style-type: none"> • A 2016 South32 internal audit found: <ul style="list-style-type: none"> ○ The same drill hole database is used for resource and grade control modelling, but rejection criteria are different resulting in different set of drill holes being considered for resource and grade control modelling. A drill hole rejection procedure has since been implemented. ○ The vacuum drilling method results in significant over recovery. The method of sampling has the potential to smear geological contacts up to 0.25m to 0.5m. Aircore, reverse circulation and triple tube diamond drilling has since been trialled. Recommendations will be made once outstanding analytical results are received. ○ Drill spacing for modelling is not optimised. Since then a drill hole spacing study was completed that confirmed current drill spacing. ○ The WLAA method has an undefined level of uncertainty in results above 40% and below 10% A.Al₂O₃. Since then a high grade internal standard was made up and are monitored through the routine QAQC process. • Internal audit findings are being addressed through a formal drill hole rejection procedure, trialling of different drilling method, a drill hole spacing study and the monitoring of a high grade internal standard. • The annual internal Resource Risk Review resulted in an assessment and confirmation that downgrading of resource classification in certain areas with limited historical QAQC is appropriate.

Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

Criteria	Commentary																																	
<i>Mineral tenement and land tenure status</i>	<ul style="list-style-type: none"> • A brief summary of Worsley Alumina Pty Ltd (WAPL) mining tenements is shown below. PBA is the area of WAPL's mining leases that has State Government environmental approval to mine. It is based on an area defined in 1995. New proposed mining areas outside of this PBA were defined in 2005 which included broad areas of known mineralisation within M258SA. These mining areas were conditionally approved by the State Government in April 2006. • Worsley Alumina's tenure is managed by the Worsley Alumina Joint Venture on behalf of the joint venture partners (South32 Aluminium (RAA) Pty Ltd, South32 Aluminium (Worsley Alumina) Pty Ltd, Japan Alumina Associates (Australia) Pty Ltd and Sojitz Alumina Pty Ltd). Tenure includes a State Agreement Act lease, Mining Act tenements and several sublease agreements (Alcoa). Bauxite from different tenure categories is managed and reported (including Royalty payments) consistent with the Worsley Alumina State Agreement. <table border="1"> <thead> <tr> <th>Tenement</th> <th>Granted</th> <th>Expiry</th> </tr> </thead> <tbody> <tr> <td>ML258SA</td> <td>16 Aug 1983</td> <td>15 Aug 2025</td> </tr> <tr> <td>M70/21-25</td> <td>9 Apr 1986</td> <td>8 Apr 2028</td> </tr> <tr> <td>M70/26</td> <td>28 Nov 2014</td> <td>27 Nov 2035</td> </tr> <tr> <td>M70/110-116</td> <td>3 Feb 1989</td> <td>2 Feb 2031</td> </tr> <tr> <td>M70/554</td> <td>6 Apr 2004</td> <td>5 Apr 2025</td> </tr> <tr> <td>M70/564</td> <td>27 Apr 1990</td> <td>26 Apr 2032</td> </tr> <tr> <td>M70/799</td> <td>21 Sep 1993</td> <td>20 Sep 2035</td> </tr> <tr> <td>ML1SA Sublease (Saddleback)</td> <td>14 Feb 2001</td> <td>24 Sep 2024</td> </tr> <tr> <td>ML1SA Sublease (Southern)</td> <td>31 Aug 2001</td> <td>24 Sep 2024</td> </tr> <tr> <td>ML1SA Sublease (Western Marradong)</td> <td>13 Sep 2016</td> <td>24 Sep 2024</td> </tr> </tbody> </table>	Tenement	Granted	Expiry	ML258SA	16 Aug 1983	15 Aug 2025	M70/21-25	9 Apr 1986	8 Apr 2028	M70/26	28 Nov 2014	27 Nov 2035	M70/110-116	3 Feb 1989	2 Feb 2031	M70/554	6 Apr 2004	5 Apr 2025	M70/564	27 Apr 1990	26 Apr 2032	M70/799	21 Sep 1993	20 Sep 2035	ML1SA Sublease (Saddleback)	14 Feb 2001	24 Sep 2024	ML1SA Sublease (Southern)	31 Aug 2001	24 Sep 2024	ML1SA Sublease (Western Marradong)	13 Sep 2016	24 Sep 2024
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ML1SA Sublease (Western Marradong)	13 Sep 2016	24 Sep 2024																																

Exploration done by other parties

- Darling Range bauxite was first recognised as commercially viable in 1957. Initial exploration was undertaken by Bauxite Holdings Pty Ltd in the 1960's but this data is not available. Exploration drilling was undertaken by Alwest Pty Ltd in the early 1970's followed by increased drilling by Reynolds Metals Company from 1978 into the early 1980's. In 1984 the first alumina was produced. Exploration drilling outside the PBA was undertaken in the

Criteria	Commentary
	1990's, with expanded exploration activities from 2006. In recent years exploration drilling has been limited to infill drilling within current mining areas.
<i>Geology</i>	<ul style="list-style-type: none"> • Darling Range (WA) lateritic bauxite occurs as mineralised zones ranging in mass of less than one hundred thousand tonnes to several million tonnes. Laterite has been derived from the weathering of the Archaean rocks of the Western Gneiss Terrane of the Yilgarn Craton. The Western Gneiss Terrane is composed of granitic gneiss, paragneiss, metagranite, granite and a single greenstone belt. • Figure 1 shows a schematic section through the laterite profile. The bauxite horizon is on average 2m to 3m thick over the granitic terrain and on average 4m to 6m over the greenstone terrain. It consists of two distinct layers, a top cemented hardcap layer and a bottom friable B-zone layer. The laterite is generally overlain by a pisolitic gravel layer of variable thickness. The laterite is underlain by clays up to 70m thick.
<i>Drill hole Information</i>	<ul style="list-style-type: none"> • Individual drill hole information is not included due to the large quantity of information supporting the Mineral Resource. • Mineralisation has been defined by approximately 195,000 drill holes over an area of approximately 150km by 80km. • Exploration results are not reported, and this section is not material to the reporting of the Mineral Resource.
<i>Data aggregation methods</i>	<ul style="list-style-type: none"> • Refer to Estimation and Modelling Techniques - Section 3 for discussion of grade truncations. • Metal equivalent values are not reported.
<i>Relationship between mineralisation widths and intercept lengths</i>	<ul style="list-style-type: none"> • The bauxite profile is gently undulating and follows the topographic surface. Vertical holes therefore intersect the bauxite horizons perpendicular or at a high angle and intercept lengths are expected to be close to true mineralisation widths.
<i>Diagrams</i>	<ul style="list-style-type: none"> • Individual drill hole information is not included due to the large quantity of information informing the Mineral Resource. • Exploration results are not reported, and this section is not material to the reporting of the Mineral Resource.
<i>Balanced reporting</i>	<ul style="list-style-type: none"> • Mineralisation is delineated by regular drill patterns and sample intervals that inform the Mineral Resource estimate. • Exploration results are not reported and this section is not material to the reporting of the Mineral Resource.
<i>Other substantive exploration data</i>	<ul style="list-style-type: none"> • No other substantive exploration work has been undertaken.
<i>Further work</i>	<ul style="list-style-type: none"> • No exploration work is currently undertaken or planned in the near future. All drilling is infill.

Section 3 Estimation and Reporting of Mineral Resources

(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

Criteria	Commentary
<i>Database integrity</i>	<ul style="list-style-type: none"> • Data are stored in an acQuire database with a single manager access and is backed up daily. • Analytical results are directly imported from digital laboratory reports. • Logging information is directly imported from digital data loggers. • Validation of data was undertaken in Vulcan. The following checks were included: <ul style="list-style-type: none"> ○ Unique collar location. ○ Holes with missing collar records. ○ Consistent total hole depth for collar and geology tables. ○ Overlapping intervals. ○ Unique sample numbers. ○ Sequence order of downhole lithology. ○ Assays sum to total <100%. ○ Individual assay values fall between 0% and <100%.

Criteria	Commentary
<i>Site visits</i>	<ul style="list-style-type: none"> The Mineral Resource Competent Persons are employed by South32 and SRK Consulting. The Competent Person from South32 undertakes weekly visits to the site to monitor drilling, sampling and laboratory performance.
<i>Geological interpretation</i>	<ul style="list-style-type: none"> Worsley Alumina has been mining Darling Range Bauxite since 1984 and the geology is well known and understood. The geological model is based on lithology and hardness logs as well as analytical information such as $A.Al_2O_3$, $R.SiO_2$ and magnetic susceptibility. The definition of geological domains differs slightly between models. In the first method, geological domains are modelled based on a combination of logging and analytical information but focusses on domaining of specific grade ranges. In the second method, geological domains are based on the estimated prevalence of hydrous to anhydrous minerals and then further subdivided based on discontinuities in the $R.SiO_2$ population. In the third method, geological domains are based on $A.Al_2O_3$ and $R.SiO_2$ grade thresholds that approximately correspond to the resource reporting cut-off criteria. This approach results in fewer and more continuous estimation domains. The risk to reported global tonnes and grades associated with different approaches are deemed very low as updated models compare well with previous model tonnes and grades. Mineralisation roughly parallels the surface topography. This trend was incorporated in the geological models by superimposing the topographical trend on the interpreted geological surfaces.
<i>Dimensions</i>	<ul style="list-style-type: none"> Mineralisation occurs as discontinuous “pods” over a 4,000km² area. The pods have a lens-like geometry, being thickest towards the centre and tapering off towards the edges. Generally larger pods tend to be thicker than smaller pods. The thickness of mineralisation can vary significantly within pods as well as between pods ranging from <1m to as much as 25m. The average thickness over greenstone areas is 4m to 6m and over granite areas 2m to 3m. The total Worsley Alumina resource is made up of 11 individual models spread over an area of 4,000km². Greenstone underlays 240km² of the area whilst the remainder is underlain by granite.
<i>Estimation and modelling techniques</i>	<ul style="list-style-type: none"> Generally, capping of grades was not warranted as coefficients of variation were low (generally <2). In some instances, limited grade capping was used to restrict the influence of outliers, identified from a distinct change in the slope of log-probability plots. Capped grades constitute <1% of the sample data. Domaining was based on geological domains (as discussed above). No further sub-domains were used for estimation. Experimental variography was undertaken for all variables and used to prepare theoretical 3D models of grade continuity. Ordinary Kriging (OK) interpolation was used to estimate $A.Al_2O_3$ and $R.SiO_2$ grades. Kriging Neighbourhood Analysis (KNA) was undertaken to optimise Kriging parameters. The slope of regression, sum of negative kriging weights and kriging efficiency were used to assist with estimation parameter selection. For most deposits, known deleterious elements and compounds, (C, $Na_2C_2O_4$ and Na_2SO_4) are estimated using Inverse Distance Squared interpolation (ID^2) with OK used for the remainder. Deleterious elements were not considered in the Mineral Resource definition because the concentration within the mineralised zone are not deemed to be significant. Estimation was completed for each domain separately. Parent block size selection was based on a combination of drill spacing, sample length and the KNA results. Greenstone areas are predominantly covered by 25m by 25m by 1m drilling and the block size is 12.5m by 12.5m by 1m. Granite areas are generally covered by 50-200m by 50-200m by 0.5m drilling and the block size is 50m by 50m by 1m. Estimation was in 2 to 3 passes, with the first pass corresponding to variogram ranges. Subsequent estimation passes with relaxed constraints were used to ensure an estimate where needed. Generally, $A.Al_2O_3$ and $R.SiO_2$ are broadly inversely correlated although comparison shows a reasonable scatter. Assessment of the correlation between estimated $A.Al_2O_3$ and $R.SiO_2$ was not undertaken due to the scatter observed in raw data. Geological modelling and estimation was carried out in Vulcan or Datamine software. Variography was carried out in Supervisor software. The relative accuracy and confidence of the global estimates is supported by acceptable comparison between dataset and kriged statistics, as observed in visual inspection of plan and section overlays and in swath and scatter plots.

Criteria	Commentary
<i>Moisture</i>	<ul style="list-style-type: none"> Tonnages were estimated on a dry basis. Bulk dry densities were applied to the estimated volumes and moisture is not a reportable parameter. For granite areas, moisture content was determined by the difference between original sample weight and dry sample weight. For greenstone areas, moisture content is based on a long-term average of bauxite delivered to the refinery.
<i>Cut-off parameters</i>	<ul style="list-style-type: none"> Reporting cut-off parameters are based on the current refinery feed grade specification. To meet refinery feed grade specification, cut-off grades for individual models vary from >22-25% A.Al₂O₃ and ≤3.5% R.SiO₂. A minimum thickness of 1m above cut-off grade was applied on all models except for one model that was prepared using a parent cell height of 1m.
<i>Mining factors or assumptions</i>	<ul style="list-style-type: none"> It is assumed that future mining and processing will follow the current methods, and the current minimum thickness constraints (1m) and minimum area constraints (0.01km²) have been applied Cut-off grades were selected to achieve current refinery A.Al₂O₃% feed grade specification. Mineral Resources are not reported for areas that are considered inaccessible or uneconomic due to previous mining activities, infrastructure, proximity to town sites, or buffers at lease and property limits. Dilution has not been incorporated into the Mineral Resource estimates.
<i>Metallurgical factors or assumptions</i>	<ul style="list-style-type: none"> The majority of bauxite that is currently being processed, and has been over the last 30 years, is greenstone underlain bauxite. Larger proportions of granite-derived bauxite will be mined in future resulting in a gradual increase in R.SiO₂ grades.
<i>Environmental factors or assumptions</i>	<ul style="list-style-type: none"> Long-term or permanent waste dumps are not utilised at the bauxite mine because waste material is backfilled into mined-out areas as mining progresses. Process residue at the refinery is stored in the existing Bauxite Residue Disposal Areas (BRDA's) that are of sufficient capacity to support operations, at current production rate, for another decade. It is assumed, and reasonably expected, that environmental approvals will be obtained for BRDA expansion to support operations beyond 2030. The following areas were excluded from the Mineral Resource due to environmental considerations: <ul style="list-style-type: none"> National parks, nature reserves and conservation parks, breakaway landscape features which are highly visible and valued landscape features to Aboriginal peoples, sites designated by the Department of Planning, Lands and Heritage. other protected areas including vegetation complexes that have special value.
<i>Bulk density</i>	<ul style="list-style-type: none"> The overall undifferentiated mean dry bulk density for greenstone underlain areas is 2.05t/m³ based on historic long-term reconciliation. This density was calculated using reliable and comprehensive long-term survey data and truck load data with average trucking factors. Differentiated in-situ bulk densities, obtained from sonic drill samples over granitic areas were applied to the granite underlain models. Differentiated densities were: <ul style="list-style-type: none"> 2.30t/m³ for gravel 2.40t/m³ for hardcap 1.82t/m³ for B-zone 1.64t/m³ for B-zone/clay transition 1.56t/m³ for clay
<i>Classification</i>	<ul style="list-style-type: none"> For Mineral Resource definition, extrapolation distances were limited to approximately half of the widest spacing (200m by 200m). Classification of the Mineral Resource took into consideration: <ul style="list-style-type: none"> quality of estimated tonnages and grades; certainty in the geological model and certainty in sample quality. The classifications are primarily based on combination of drillhole spacing and slope of regression estimates (SoR) for A.Al₂O₃ and R.SiO₂ with the following criteria initially applied: <ul style="list-style-type: none"> Measured: Nominal drill spacing of up to 50 x 50m, and SoR > 80% Indicated: Nominal drill spacing of up to 100 x 100m, and SoR > 60% Inferred: Nominal drill spacing of up to 200 x 200m Downgrades to the classification were subsequently applied to: <ul style="list-style-type: none"> areas of greater uncertainty in the geological model due to absent or limited magnetic susceptibility data and

Criteria	Commentary
	<ul style="list-style-type: none"> ○ areas of higher uncertainty in sample quality due to absent or limited quality assurance. ● The Competent Persons are satisfied that the Mineral Resource classification reflects the confidence in the Mineral Resource estimates.
<i>Audits or reviews</i>	<ul style="list-style-type: none"> ● 2 of the current 11 models were reviewed by external consultants. ● One greenstone model was reviewed by Xstract Mining Consultants (2014). No material flaws were identified. ● Coombes Capability (2015) reviewed one of the greenstone underlain models and identified the following areas for improvement (other than the findings listed above): <ul style="list-style-type: none"> ○ Sub-domaining caused bimodality in one domain but grades at which this occurred were below economic cut-off conditions. Since the audit finding, the domaining approach was modified to prevent bimodality and the process implemented for all new model updates. ○ Soft boundary parameters do not appear to be having an effect during estimation. Since this audit finding, hard domain boundaries have been implemented for all updated models. ○ There has been no external laboratory audit since 2007 and while it is not anticipated any major issues would arise with an external audit, it would be judicious to ensure no systematic bias is present in the assaying process. ○ Downgrade in classification based on absent or sparse quality assurance. Coombes Capability recommended that data should be analysed to establish whether a bias exists between pre-2005 and post-2005 data. Subsequent to the finding, samples with and without QAQC protocols for the same area were compared and no bias was found for A.Al₂O₃. A small bias was found for R.SiO₂ at economic cut-off conditions. Based on this assessment, resource classification was not downgraded. ● South32 conducted an internal audit in 2016. Findings regarding estimating and reporting of Mineral Resources were: <ul style="list-style-type: none"> ○ Geological domains are estimated using gradational contacts following the results from contact analysis. This approach not only has the potential to underestimate the ore zone but also have the potential to overestimate the waste zone. Subsequent to the finding hard geological contacts are utilised in all model updates. Currently only one model still incorporates gradational contacts. ○ Mineralogy and physical properties of ore are not available for the granite areas. A geo-metallurgical study started in July 2018.
<i>Discussion of relative accuracy/ confidence</i>	<ul style="list-style-type: none"> ● The classifications have been assigned on a regional basis and there is reduced confidence in the estimates for individual blocks. The overall confidence in estimated tonnes and grades is supported by: <ul style="list-style-type: none"> ○ The long history of Darling Range bauxite mining as well as a good understanding of the controls on bauxite mineralisation provides a high level of confidence in the geological model. ○ Experimental variography indicating practical grade continuity of ~150m. ○ Mineral resource estimates prepared using conventional estimation techniques, with validation results indicating an acceptable match between input drill hole data and model estimates. ● The long processing history of greenstone underlain bauxite at Worsley Alumina as well as the processing of granite underlain bauxite by a nearby competitor. ● The classification of granite underlain areas, having at best Indicated Mineral Resource status, reflect the uncertainty associated with future Worsley Alumina plant modification to economically process a high percentage of granitic bauxite.

Section 4 Estimation and Reporting of Ore Reserves

(Criteria listed in section 1, and where relevant in sections 2 and 3, also apply to this section.)

Criteria	Commentary
<i>Mineral Resource estimate for conversion to Ore Reserves</i>	<ul style="list-style-type: none"> ● The Ore Reserve estimate as at 30 June 2018 is based on the Mineral Resource estimate as at 30 June 2018. ● The 30 June 2018 Mineral Resource estimates are reported inclusive of Ore Reserve estimates.
<i>Site visits</i>	<ul style="list-style-type: none"> ● The Ore Reserve Competent Person is based in Perth and regularly visits the site. The last site visit was in April 2018. Meetings on site (Marradong, Saddleback and Hotham North) included the following: mining access and capital projects; the reconciliation process; and the Life of Operation Plan (LoOP). No material issues were identified.
<i>Study status</i>	<ul style="list-style-type: none"> ● WAPL's Boddington Bauxite Mine (BBM) and refinery has been operating since 1984. The Saddleback and Marradong mining areas are operating mines. The Hotham North mining

Criteria

Commentary

area is a further extension of the Marradong mining area. The capital costs for the Hotham North mining area and other technical assumptions are based upon the Marradong expansion project actual costs (2011) and from the current Hotham West and Nullaga Pre-Feasibility Studies (2018).

- The material modifying factors are based on information collected during mining and are considered higher than pre-feasibility level of study for Ore Reserve estimate.
- The Ore Reserve is supported by a mine schedule with a positive net present value (NPV). The mine schedule costs and assumptions are based on BBM's current and the forecast estimates.

Cut-off parameters

- A cut-off grade (COG) is used as one of the inputs in delineating the mining limits of the ore reserve pit shells (solids) that define the mineable bauxite portion of the laterite profile. The Ore Reserve pit shells COG is aligned with the alumina enriched portion of the laterite profile.
- Marradong West is mined under a third-party access agreement. The agreement specifies a COG for individual pits. The pit scale COG is applied directly when reporting the Marradong West Ore Reserve.

Mining factors or assumptions

- Open-cut mining currently takes place in Saddleback and Marradong using methods developed over the years at the BBM. These methods are designed to efficiently extract the bauxite from the discrete pod-like deposits and is appropriate for this style of mineralisation. Figure 3 shows the mine site layout.
- Table below shows major mining factors and assumptions for the Ore Reserve.

Major Mining Factors and Assumptions - Summary Table		
Assumption	Value	Comment
Level of study	Operating	Saddleback
	Operating	Marradong
	Extension of Marradong - Pre-feasibility equivalent	Hotham North
Mining Method	Drill-blast-load-haul	Is appropriate
Steep slope limit	17°	Limit of equipment stability
Resource definition drilling	Is complete for Resource and Reserve Estimate	
Grade control	Will be completed to 25m spacing prior to mining	
Moisture	8.30%	
Planning factor	None	
In-situ density	2.05 and 2.22 wet	In Saddleback, Marradong and Hotham North
Geotechnical Parameters	None	Not required for shallow ore bodies
Hydrological Parameters	None	Not required for shallow ore bodies
Pit design Parameters	None	Not required for shallow ore bodies
SMU	25m in the X,Y and 1m in Z direction	
Dilution (Calculated)	10.80%	Calculated within Ore Reserve design solids
Mining Recovery	100%	
Inferred Resources	Not used in mine plan schedule	
Infrastructure	Capital assumptions included in the mine plan	LoOP assumptions used

- The Marradong West mining area is reported as other mining areas except for certain assumptions to align with a third-party agreement.
- The Selective Mining Unit (SMU) used for the Ore Reserve is, a minimum 25m x 25m in the horizontal and 1m in the vertical direction. The minimum SMU was chosen based on the production rate, size of mining equipment and bench width.
- Geotechnical parameters and pit slope angles are assessed but given the shallow nature of the orebody, these factors do not play a significant role in Ore Reserve estimates.
- Preliminary mine design shells are generated for ore and waste for the major material types. The mine design shells closely match the final mine design process and are considered appropriate.
- The existing major mine mobile equipment is modelled in the mine schedule and constrained by the available operating hours. The mine schedule also models the future truck fleet requirements and capital (as required) and accounts for the sustaining capital cost of the other major pieces of mining equipment.
- The annual mine ore production is aligned to the capacity of the refinery.
- The total material movements will change over time and the mining fleet is altered to suit the material movement. In FY18, the BBM produced 16.93Mt of bauxite and the equipment productivities used in the mine schedule use the current assumptions or are estimated.
- All future mining, bauxite transport and other associated infrastructure are considered in the mine schedule and financial modelling.

Metallurgical factors or assumptions

- Worsley Alumina produces alumina from bauxite exclusively sourced from WAPL's mines utilising the Bayer refining process. The Bayer refining process is the industry standard process for the production of alumina from gibbsitic bauxite ores.
- Key bauxite factors that impact on the performance of the processing plant are accounted for in the mine schedule and are as follows;

Criteria	Commentary
	<ul style="list-style-type: none"> ○ Available Alumina grade (A.AI₂O₃) - The Available Alumina grade impacts the quantity of ore that needs to be mined and fed into the processing plant for a given output of alumina production and therefore the amount of Tailings that is produced per tonne of alumina. ○ Reactive Silica Grade (R.SiO₂) - The presence of reactive silica in the ore increases the consumption of caustic soda as it reacts in the process. The chemical soda losses are modelled as a function of reactive silica and available alumina grade. ○ Organic impurities - The presence of organic impurities in the bauxite impacts precipitation yield, if not removed from the process. ● The refinery capacity for alumina production used in the optimisation process is 4.6Mtpa of smelter grade alumina (SGA), which is the current nameplate production rate. ● Worsley Alumina is an operating refinery and therefore bulk samples or pilot tests are only carried out for areas where there is a material change in chemistry or mineralogy.
<i>Environmental</i>	<ul style="list-style-type: none"> ● Environmental approval to commence the Worsley Alumina's Bauxite–Alumina Project was originally granted in 1980 with subsequent environmental approvals in 1995 and 2005 granted over the life of operation. ● The majority (92%) of the Ore Reserve is reported within the existing environmental approvals and the remaining Ore Reserve has reasonable grounds to expect future approvals within the expected time frames. ● Environmental approvals take into consideration all potential environmental and social impacts associated with Worsley Alumina mining and refining activities. <ul style="list-style-type: none"> ○ BBM has no issues associated with Acid Mine Drainage. ○ Long term waste dumps are not utilised at BBM, as waste material is returned to mined out areas as part of progressive rehabilitation activities. ○ The current Bauxite Residue Disposal Areas (BRDA) at the Refinery are located within lease boundaries and are expected to support the operation under current production rates until approximately 2030. ○ Beyond 2030, additional environmental approvals will be required. There is a reasonable expectation that the required studies will be completed, and environmental approvals obtained when required.
<i>Infrastructure</i>	<ul style="list-style-type: none"> ● The existing Marradong and Saddleback mining operations are located around two crushing and conveying hubs that are sufficient to support the current operations. ● The requirement for future infrastructure and its expected approval have been considered in the mine schedule. ● The mine schedule that supports this Ore Reserve assumes road haulage to the southern portion of the Hotham North mining area via a bridge across the Hotham River. The LoOP infrastructure involves a gradual increase in the conveying network with a mixture of dump-truck and road train haulage.
<i>Costs</i>	<ul style="list-style-type: none"> ● The Worsley Alumina financial model includes all mining, refining, production costs, other raw materials, freight, marketing, carbon tax, overhead costs and closure costs. ● Mining operation costs are based on the mining cost model for BBM which incorporates the physical activities, budgeted unit costs and assumptions, equipment productivities and cost of labour. ● The royalty applied is the Western Australian Government Royalty for Worsley Alumina. ● The costs of mining, refining, transportation, royalties and administration was modelled in the scheduling software to optimise the mine schedule.
<i>Revenue factors</i>	<ul style="list-style-type: none"> ● The mine schedule was evaluated on an NPV basis, considering the estimated total revenue and costs throughout the Ore Reserve mine schedule. ● The estimated alumina production in the mine plan included a total recovery factor and product purity, based on actual performance. ● The alumina price and exchange rate forecast assumptions are based on a South32 internal protocol and assumptions and are commercially sensitive.
<i>Market assessment</i>	<ul style="list-style-type: none"> ● Worsley Alumina is an existing operation with a well-defined consumer base. ● The South32 price protocols reflect the company's view on demand, supply and stock situation's, including customer analysis, competitor analysis, identification of major market windows and volume forecasts.
<i>Economic</i>	<ul style="list-style-type: none"> ● The methodology to derive the financial assumptions and outcomes are based on internal South32 protocols and assumptions and are commercially sensitive. ● The Worsley Alumina valuation has a positive NPV based on internal South32 assumptions. The valuation is most sensitive to alumina price and exchange rates and even at their lower ranges, Worsley Alumina's NPV remains positive.

Criteria	Commentary																
<i>Social</i>	<ul style="list-style-type: none"> Progression of current agreements with relevant stakeholders has made minor adjustments to the Mineral Resource. Once agreements are finalised or there is a reasonable expectation of an agreement, the areas that they cover will be included in the Ore Reserve. 																
<i>Other</i>	<ul style="list-style-type: none"> All major Ore Reserve estimation and classification risks are assessed to ensure that overall value is optimised. 																
<i>Classification</i>	<ul style="list-style-type: none"> The Competent Person is satisfied that the Ore Reserve classification reflects the underlying technical and economic studies. Ore Reserve converted from a Measured Mineral Resource is reported as Proved Ore Reserve. Ore Reserve converted from an Indicated Mineral Resource is reported as Probable Ore Reserve. Approximately 4Mt of Measured Mineral Resource was converted to a Probable Ore Reserve due to a recovery risk, as the downgraded ore is under, or in close proximity to, existing key infrastructure, or is subject to contractual cooperation arrangements with the Newmont Boddington Gold Mine. 14% of the total Probable Ore Reserve is from Measured Mineral Resources. 																
<i>Audits or reviews</i>	<ul style="list-style-type: none"> An independent audit of the Ore Reserves was undertaken by SRK Consulting in May 2018 and concluded the Ore Reserve estimate is reported in accordance with JORC Code (2012 edition). 																
<i>Discussion of relative accuracy/ confidence</i>	<ul style="list-style-type: none"> The CY2017 reconciliation and the overall development timing of the long-term mine plan shows that the Ore Reserve estimate is reliable. The Ore Reserve is a global estimate however, in many areas where grade control drilling is used in the estimate, it is a local estimate and used for medium term planning. The confidence in the Ore Reserve located around the Newmont Boddington Gold mine infrastructure has reduced but is not material. Reconciliation for CY2017 <table border="1" data-bbox="395 1014 1326 1176"> <thead> <tr> <th>Reconciliation CY 2017</th> <th>Tonnes</th> <th>A.Al₂O₃</th> <th>R.SiO₂</th> </tr> </thead> <tbody> <tr> <td>Grade control / Reserve (% basis) F1</td> <td>107%</td> <td>101%</td> <td>85%</td> </tr> <tr> <td>Process feed / Grade control (% basis) F2</td> <td>101%</td> <td>100%</td> <td>105%</td> </tr> <tr> <td>Market sales / Reserve (% basis) F3</td> <td>110%</td> <td></td> <td></td> </tr> </tbody> </table>	Reconciliation CY 2017	Tonnes	A.Al ₂ O ₃	R.SiO ₂	Grade control / Reserve (% basis) F1	107%	101%	85%	Process feed / Grade control (% basis) F2	101%	100%	105%	Market sales / Reserve (% basis) F3	110%		
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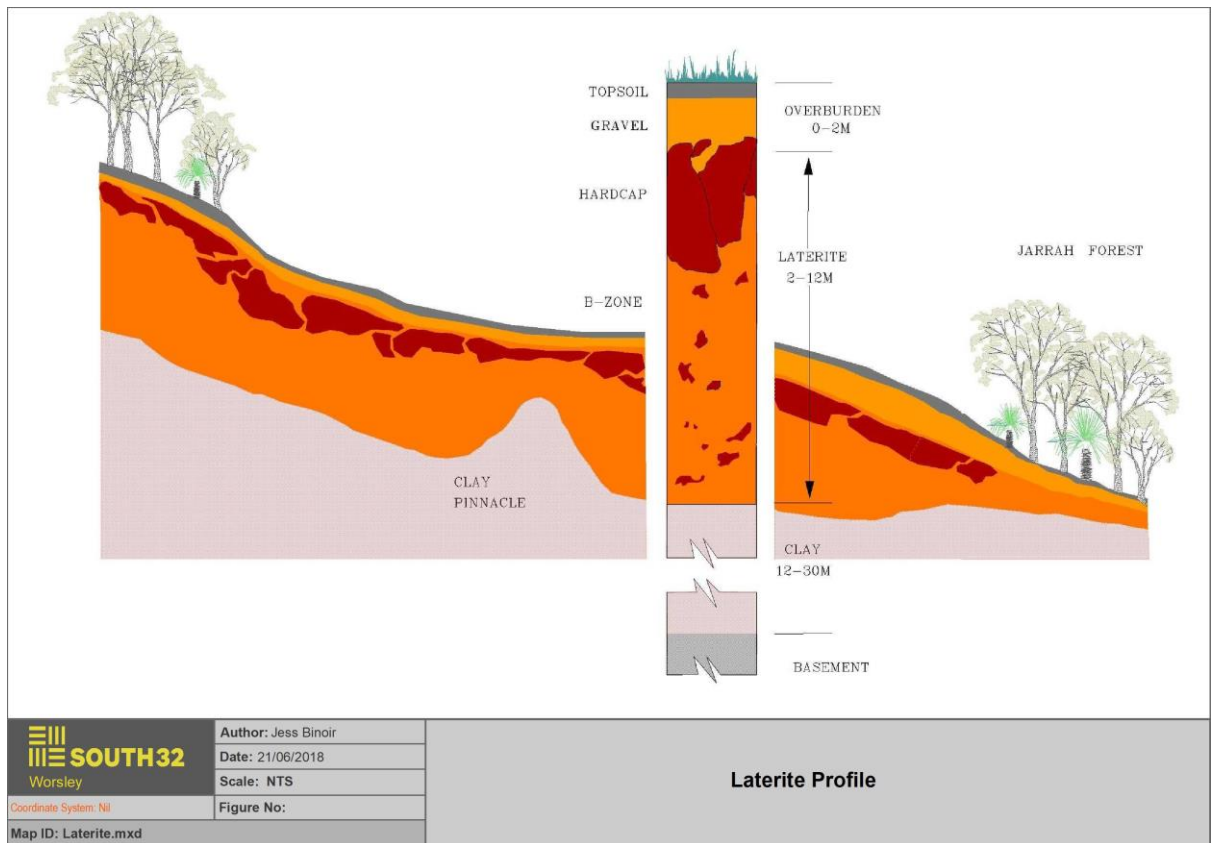


Figure 1: Typical Laterite Section

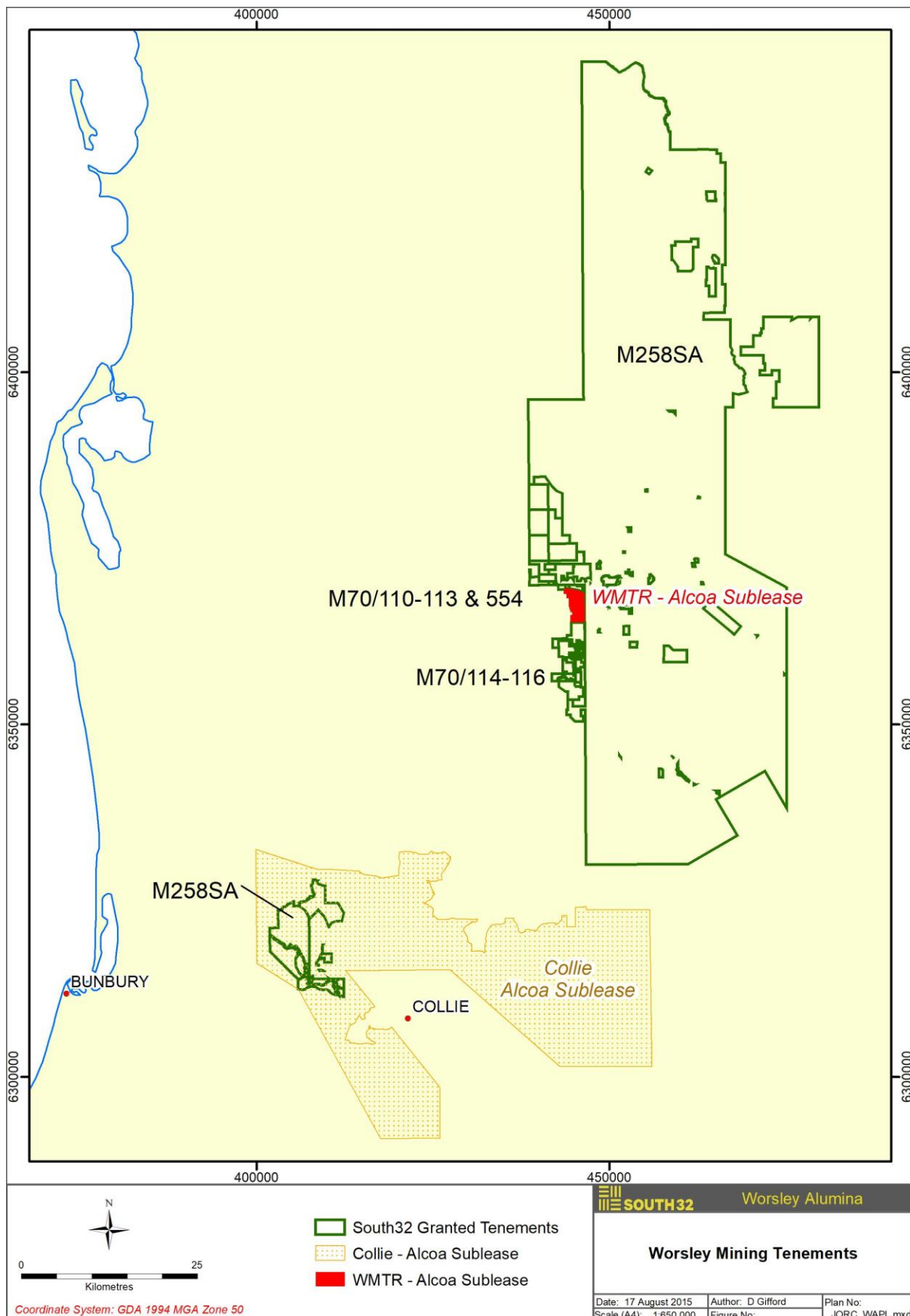


Figure 2: Regional Location Plan

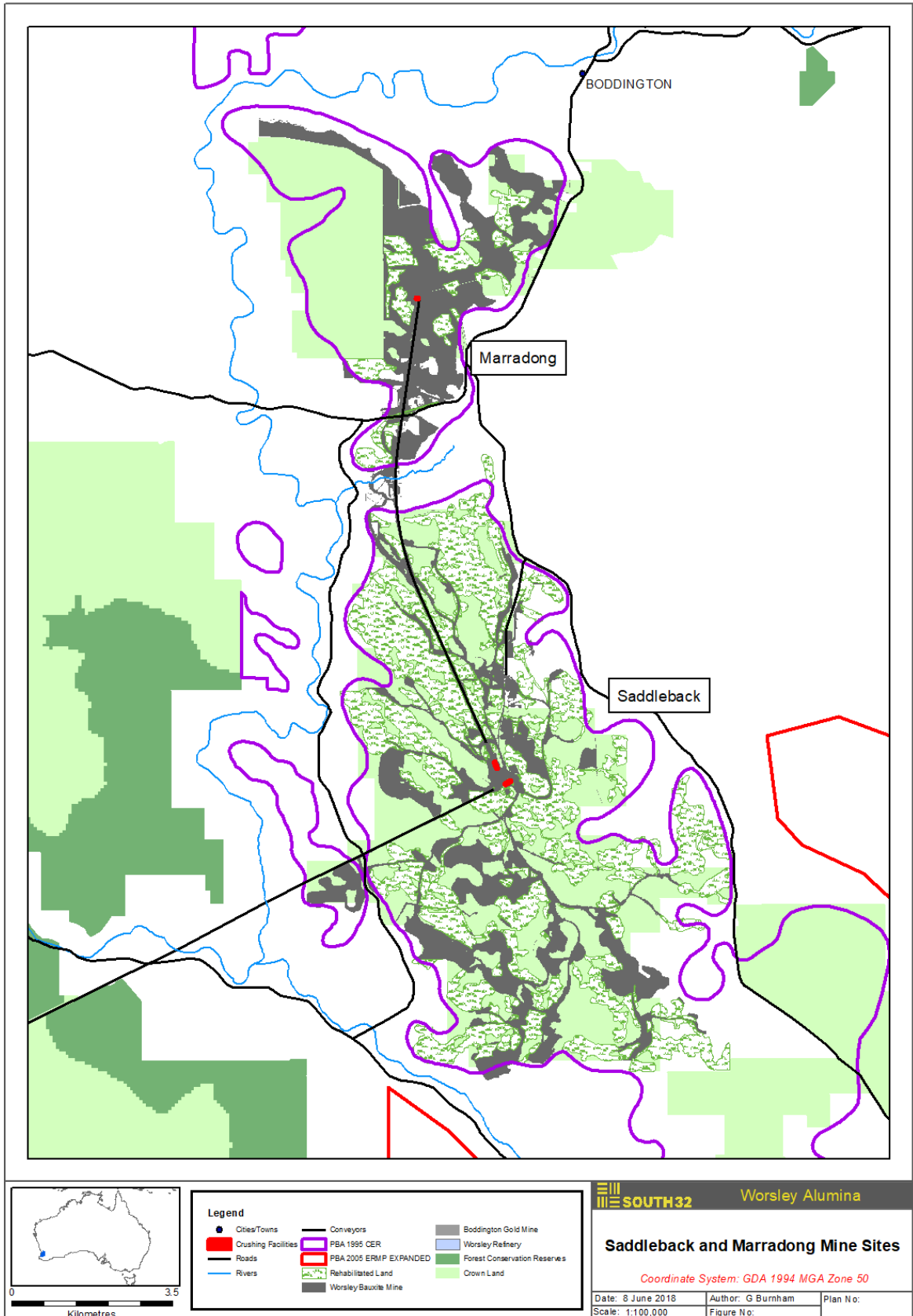


Figure 3: Mine Layout

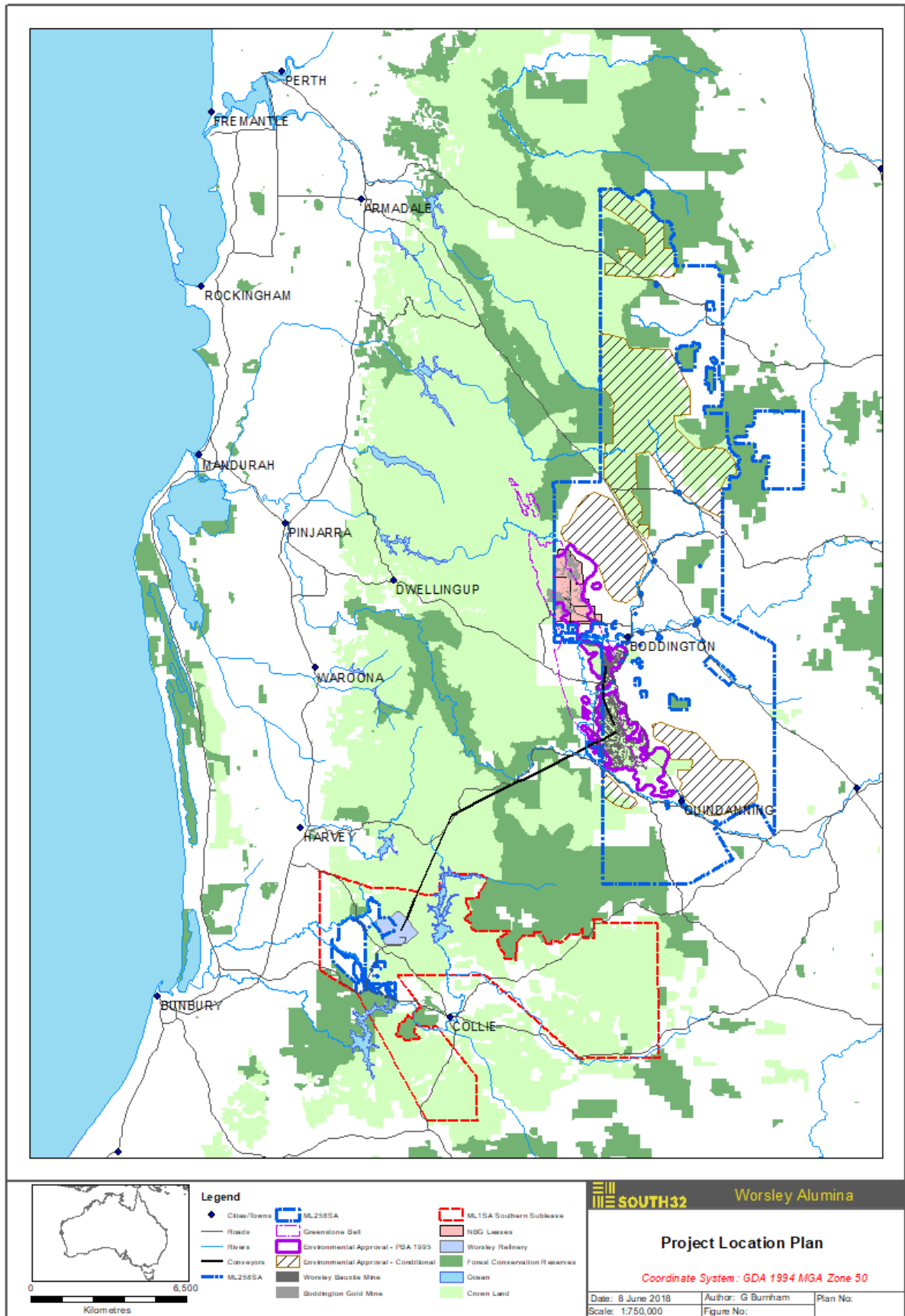


Figure 4: Project Overview