Appendix A: CVs

Person	Role
Manish Garg (Director - Consulting)	
Qualification	B. Eng. (Hons), MAppFin
Prof. Membership	MAusIMM; MAICD
Contribution	Overall Supervision, Economic Assessment (VALMIN 2015)
Experience	Manish has more than 25 years' experience in the Mining Industry. Manish has worked for mining majors including Vedanta, Pasminco, WMC Resources, Oceanagold, BHP Billiton - Illawarra Coal and Rio Tinto Coal. Manish has been in consulting roles for past 10 years predominately focusing on feasibility studies, due diligence, valuations and M&A area. A trusted advisor, Manish has qualifications and wide experience in delivering due diligence, feasibility studies and project evaluations for banks, financial investors and mining companies on global projects, some of these deals are valued at over US$5 billion.
Sonik Suri (Principal Consultant - Geology)	
Qualification	B. Sc. (Hons), M.Sc. (Geology)
Prof. Membership	MAusIMM
Contribution	Geology, Resource (JORC 2012)
Experience	Sonik has more than 25 years of experience in most aspects of geology including exploration, geological modelling, resource estimation and mine geology. He has worked for coal mining majors like Anglo American and consulting to major mining companies for both exploration management and geological modelling. As a consultant, he has worked on audits and due diligence for companies within Australia and overseas. He has strong expertise in data management, QA/QC and interpretation; reviews/audits of geological data sets; resource models and resource estimates.
Dr Ross Halatchev (Principal Consultant - Mining)	
Qualification	B. Sc. (Mining), M.Sc., PhD (Qld)
Prof. Membership	MAusIMM
Contribution	Mine Scheduling, Reserve (JORC 2012)
Experience	Ross is a mining engineer with 30 years' experience in the mining industry across operations and consulting. His career spans working in mining operations and as a mining consultant primarily in the mine planning & design role which included estimation of coal reserves, DFS/FS, due diligence studies, techno-commercial evaluations and technical inputs for mining contracts. Prior to joining Salva Mining, Ross was working as Principal Mining Engineer at Vale. To date, Ross has worked on over 20 coal projects around the world, inclusive of coal projects in Australia, as well as in major coalfields in Indonesia, Mongolia and CIS.

Appendix B: SGX Mainboard Appendix 7.5

Cross-referenced from Rules 705(7), 1207(21) and Practice Note 6.3

Summary of Mineral Reserves and Resources

Name of Asset / Country: PT WRL / Indonesia

Category	Mineral Type	Gross (100% Project)		Net AttribuFigure to GEAR**		Remarks
		Tonnes (millions)	Grade	Tonnes (millions)	Grade	
Reserves						
Proved	Coal	34	Subbituminous B	23	Subbituminous B	
Probable	Coal	53	Subbituminous B	36	Subbituminous B	
Total	Coal	87	Subbituminous B	58	Subbituminous B	
Resources*						
Measured	Coal	55	Subbituminous B	37	Subbituminous B	
Indicated	Coal	100	Subbituminous B	67	Subbituminous B	
Inferred	Coal	161	Subbituminous B	108	Subbituminous B	
Total	Coal	316	Subbituminous B	212	Subbituminous B	

** Mineral Resources are reported inclusive of the Mineral Reserves.*

*** GEAR holds 66.9998% of PT WRL Indirectly.*

Appendix C: JORC Table 1

Criteria	Explanation	Comment
Sampling techniques	Nature and quality of sampling (e.g. cut channels, random chips etc.) and measures taken to ensure sample representivity. Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used. Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (e.g. 'reverse circulation drilling was used to obtain 1m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information.	Chip samples were collected at every 1m for lithology logging. Sampled all cored coal, sampled separately any bands, and taken 10cm of roof and floor for non-coal samples.
Drilling techniques	Drill type (e.g.. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka etc.) and details (e.g.. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc.).	Drilled pilot hole to ascertain coal seams and then drilled a cored drill hole.
Drill sample recovery	Whether core and chip sample recoveries have been properly recorded and results assessed. Measures taken to maximise sample recovery and ensure representative nature of the samples. Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.	After the completion of each core run, core loss is determined by the on-site geologist and recorded in the drill hole completion sheet. If recovery is found to be less than 90% within a coal seam intersection, the hole is re-drilled in order to re-sample this seam with greater than 90% core recovery. All samples with less than 90% core recovery over the width of the seam intersection were excluded from the coal quality database. Followed drilling SOP's for loose and carbonaceous formations to achieve full sample recovery.
Logging	Whether core and chip samples have been logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies. Whether logging is qualitative or quantitative in nature. Core (or costean, channel etc.) photography. The total length and percentage of the relevant intersections logged.	Detailed logging of chips and core. Core photographs were taken.

Criteria	Explanation	Comment
Sub-sampling techniques and sample preparation	If core, whether cut or sawn and whether quarter, half or all core taken. If non-core, whether riffled, tube sampled, rotary split etc. and whether sampled wet or dry. For all sample types, the nature, quality and appropriateness of the sample preparation technique. Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples. Measures taken to ensure that the sampling is representative of the in situ material collected. Whether sample sizes are appropriate to the grainsize of the material being sampled.	No sub-sampling of the core
Quality of assay data and laboratory tests	The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total. For geophysical tools, spectrometers, handheld XRF instruments, etc., the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc. Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.	PT Geoservices laboratories are accredited to ISO 17025 standards. Coal quality laboratory adheres to internal QAQC and inter-laboratory QAQC checks. Australian Standards have been used for RD and American Society for testing and materials (ASTM) methods have been used for all other quality variables. Geophysical traces were observed to be generally of good quality.
Verification of sampling and assaying	The verification of significant intersections by either independent or alternative company personnel. The use of twinned holes. Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols. Discuss any adjustment to assay data.	Coal quality sampling was undertaken by PT. WRL No twin hole sampling was used, only pilot holes with partial coring zones where coal seam depth was predicted. Checked for agreement of seam intersection depths and in most of the cases there was good agreement.
Location of data points	Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation. Specification of the grid system used. Quality and adequacy of topographic control.	Borehole collars have been surveyed using standard total station techniques employed by the survey contractors. PT. WRL survey staff has validated surveys. The surveyed borehole locations for WRL match well with topographic data. The topography was generated by PT Airborne informatics across the WRL project area using LIDAR remote sensing data.
Data spacing and Distribution	Data spacing for reporting of Exploration Results. Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied. Whether sample compositing has been applied.	Data spacing sufficient to establish continuity in both thickness and coal quality. Data sets include topography and base of weathering as well as seam structure and coal quality. Ply sampling methodology use. Sample compositing has been applied.
Orientation of data in relation to	Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.	Ply by Ply sampling used therefore the orientation of sampling not seen to introduce bias as all drilling is vertical.

Criteria	Explanation	Comment
geological structure	If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.	
Sample Security	The measures taken to ensure sample security.	Proper measures for sample security was taken.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	PT Geo Search conducted a review of the drill hole database in 2016 for the historical data set and found it to be satisfactory. Standard database checks also performed by Salva Mining as outlined in Chapter 4 prior to resource modelling and found it to be satisfactory.
Mineral tenement and land tenure status	Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings. The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.	All tenure are secured and currently available.
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	No exploration by other parties.
Geology	Deposit type, geological setting and style of mineralisation.	See Section 4 of this Report.
Drill hole	A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: • easting and northing of the drill hole collar • elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar • dip and azimuth of the hole • down hole length and interception depth • hole length. If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.	This Report pertains to resource estimation, not exploration results. As such the details of the drill holes used in the estimate are too numerous to list in this Table.

Criteria	Explanation	Comment
Data aggregation methods	In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations and cut-off grades are usually material and should be stated. Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail. The assumptions used for any reporting of metal equivalent values should be clearly stated.	All samples have been composited over full seam thickness and reported using Minescape modelling software. No metal equivalents used.
Relationship between mineralisation widths and intercept lengths	These relationships are particularly important in the reporting of Exploration Results. If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported. If it is not known and only the down-hole lengths are reported, there should be a clear statement to this effect (e.g. 'downhole length, true width not known').	Ply sampling methodology prevents samples from crossing ply boundaries. Therefore, the orientation of sampling not seen to introduce bias as all drilling is vertical and seams mostly gently dipping.
Diagrams	Where possible, maps and sections (with scales) and tabulations of intercepts should be included for any material discovery being reported if such diagrams significantly clarify the report.	See the figures in the Report.
Balanced reporting	Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practised to avoid misleading reporting of Exploration Results.	No reporting of exploration results.
Other substantive exploration data	Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	Geotechnical and Hydrogeological aspects to the IUP area will help find the best mine plan and design options.
Further work	The nature and scale of planned further work (e.g.. tests for lateral extensions or depth extensions or large-scale step-out drilling).	Further work will be necessary to improve the confidence in the continuity of both seam thickness and key coal quality attributes. In addition to this information, the in-situ moisture content of the seams needs to be collected in order to allow for a Preston Sanders conversion of air-dried density to in-situ density. Further work will be necessary to improve the confidence in the coal quality estimate if Indicated and Inferred resources are present in areas planned for mining. No proposed exploration plan has been proposed in this Report.

Criteria	Explanation	Comment
Database integrity	Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes. Data validation procedures used.	The database for WRL block is considered an acceptable standard to report a Coal Resource. Drill hole data used to construct Minescape model. Checks against original downhole geophysics (las) files used to verify data during modelling.
Site Visits	Site Visits undertaken by the Competent Person and the outcome of these visits. If no site visits have been undertaken, indicate why this is the case	Salva Mining consultants has frequently visited the site between 2015 to 2017. Last site visit was conducted at end of 2017. No material groundwork activity has been completed since 2017.
Geological interpretation	Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit. Nature of the data used and of any assumptions made. The effect, if any, of alternative interpretations on Mineral Resource estimation. The use of geology in guiding and controlling Mineral Resource estimation. The factors affecting continuity both of grade and geology.	A high degree of confidence in seam picks made using downhole geophysical data. The WRL geological model created by Salva Mining is considered to accurately represent the deposits. No major faults have been reported within the tenement concerned. Current Minescape model tonnes agree with the previous model developed by PT. Geo Search to within 5% error margin range.
Dimensions	The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.	See the figures in the Report.
Estimation and modelling techniques	The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data. The assumptions made regarding recovery of by-products. Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation). In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed. Any assumptions behind modelling of selective mining units. Any assumptions about correlation between variables. Description of how the geological interpretation was used to control the resource estimates. Discussion of basis for using or not using grade cutting or capping.	Planar interpolator used for thickness and trend. FEM interpolator used for surface elevation. Inverse distance squared used for coal quality throughout. Based on experienced gained in the modelling of over 40 coal deposits around the world, inverse distance is the most appropriate for coal quality. The grid cell size of 50 m for the topographic model and for the structural model. Table 5:1 contains additional model construction parameters. Visual validation of all model grids performed. Sulphur is below 1% on average for all seams.

Criteria	Explanation	Comment
	The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.	
Moisture	Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	All Resource tonnages estimated on air-dried basis.
Cut-off parameters	The basis of the adopted cut-off grade(s) or quality parameters applied.	The coal resources contained in this report are confined within the concession boundary. The resources were limited to 100m below topography. A minimum ply thickness of 30cm and maximum thickness of 30cm was used for coal partings.
Mining factors or assumptions	Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It may not always be possible to make assumptions regarding mining methods and parameters when estimating Mineral Resources. Where no assumptions have been made, this should be reported.	The WRL block is proposed to be mined as open-pit excavations by truck and shovel method by contractors.
Metallurgical factors or assumptions	The basis for assumptions or predictions regarding metallurgical amenability. It may not always be possible to make assumptions regarding metallurgical treatment processes and parameters when reporting Mineral Resources. Where no assumptions have been made, this should be reported.	N/A in situ air dried tonnes quoted.
Environmental	Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfield project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.	Salva Mining is not aware of any environmental factors that may impact on eventual economic extraction.
Bulk density	Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.	See discussion on density with regard to moisture basis.
Classification	The basis for the classification of the Mineral Resources into varying confidence categories. Whether appropriate account has been taken of all relevant factors i.e. relative confidence in tonnage/grade computations, confidence in continuity of geology and metal values, quality, quantity and distribution of the data. Whether the result appropriately reflects the Competent Person(s)' view of the deposit.	Classification distances based on an assessment of the variability of critical variables through statistical analysis and by an assessment of the degree of geological complexity. Classification radii for the three resource categories are: Measured: 350m Indicated: 700m Inferred: 1500m

Criteria	Explanation	Comment
Audits or reviews	The results of any audits or reviews of Mineral Resource estimates.	Check between Minescape and surpac model shows high agreement.
Discussion of relative accuracy/confidence	Where appropriate a statement of the relative accuracy and/or confidence in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors which could affect the relative accuracy and confidence of the estimate. The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages or volumes, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.	Spacing ranges for the three resource categories are considered to adequately reflect the degree of confidence in the underlying estimate on a global basis. Local variation to estimated values may arise and will be addressed by adequate grade control procedures during mining operations.
Mineral Resource Estimate for conversion to Ore Reserves	Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve. Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.	Basis of the estimates is "WRL JORC Resource Statement" as of 31 December 2020. Coal resources are inclusive of Coal reserves.
Site Visits	Comment on any site visits undertaken by the Competent Person and the outcome of those visits. If no site visits have been undertaken indicate why this is the case.	Salva Mining consultants has frequently visited the site between 2015 to 2017. Last site visit was conducted at end of 2017. No material groundwork has been completed after 2017. Salva Mining's consultants are well versed in the localised mining settings and have reviewed and discussed the available data in company's offices in October 2019.
Study Status	The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves. The Code requires that a study to at least Pre-Feasibility Study level has been undertaken to convert Mineral Resources to Ore Reserves. Such studies will have been carried out and will have determined a mine plan that is technically achievable and economically viable, and that material Modifying Factors have been considered.	Pre-Feasibility Study for WRL has been carried out by Pt Prasetya Abdi Persada (PAP) in May 2016. The PFS study has dealt in detail with mining method, geotechnical investigations, hydrology & hydro-geological, logistics and economic issues for the WRL pits. Environmental Study (AMDAL) has been completed in 2010.
Cut-off parameters	The basis of the cut-off grade(s) or quality parameters applied	Refer Table 7:1 – Modifying factors for pit optimisation and Table 7:12, Break-even Stripping Ratio analysis.

Criteria	Explanation	Comment
Mining factors or assumptions	The method and assumptions used as reported in the Pre-Feasibility or Feasibility Study to convert the Mineral Resource to an Ore Reserve (i.e. either by application of appropriate factors by optimisation or by preliminary or detailed design). The choice, nature and appropriateness of the selected mining method(s) and other mining parameters including associated design issues such as pre-strip, access, etc. The assumptions made regarding geotechnical parameters (eg pit slopes, stope sizes, etc.), grade control and pre-production drilling. The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate). The mining dilution factors used. The mining recovery factors used. Any minimum mining widths used. The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion. The infrastructure requirements of the selected mining methods.	Refer Table 7:1 Modifying Factors and Pit Optimisation Parameters and Section 7:3 on Notes on Modifying Factors. Pre-feasibility studies have been completed for WRL concession in May 2016. These studies were accepted as part of the AMDAL approval process from the Govt. of Indonesia prior to being given mining operations approval (IUPOP). For the greenfield project like WRL block, modifying factors at Pre-Feasibility study level is expected to contain information appropriate for the whole range of inputs to meet the requirement in Clause 29 for the Ore Reserve to continue that classification. Salva Mining has used the modifying factors based on the Pre-Feasibility study level for the WRL Mine which were independently verified by the Salva Mining's subject specialist. In Salva Mining's opinion, the Modifying Factors at WRL concession are appropriately defined at WRL.
Metallurgical Factors or assumptions	The metallurgical process proposed and the appropriateness of that process to the style of mineralisation. Whether the metallurgical process is well-tested technology or novel in nature. The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied. Any assumptions or allowances made for deleterious elements. The existence of any bulk sample or pilot scale test work and the degree to which such samples are considered representative of the ore body as a whole. For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications.	The coal is to be sold unwashed so no processing factors have been applied. Other than crushing to a 50 mm top size no other beneficiation will be applied.
Environmental	The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterisation and the consideration of potential sites, status of design options considered and, where applicable, the status of approvals for process residue storage and waste dumps should be reported.	Amdal (EIS) in place with a rehabilitation program and environmental monitoring program in place -Mining approval is in place -The land acquisition not yet finalized covering the pit, dump and other mine infrastructure,
Infrastructure	The existence of appropriate infrastructure: availability of land for plant development, power, water, transportation (particularly for bulk commodities),	The area is very accessible from the provincial highway from Palembang and the nearby Musi River

Criteria	Explanation	Comment
	labour, accommodation; or the ease with which the infrastructure can be provided, or accessed.	-Water is available in abundance -Labour can be sourced locally including some skilled labour for machine operation
Costs	The derivation of, or assumptions made, regarding projected capital costs in the study. The methodology used to estimate operating costs. Allowances made for the content of deleterious elements. The derivation of assumptions made of metal or commodity price(s), for the principal minerals and co-products. The source of exchange rates used in the study. Derivation of transportation charges. The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc. The allowances made for royalties payable, both Government and private.	Discussed in Cost and Revenue factors.
Revenue Factors	The derivation of, or assumptions made regarding revenue factors including head grade, metal or commodity price(s) exchange rates, transportation and treatment charges, penalties, net smelter returns, etc. The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products	Discussed in Section 9:6:3 Cost and Revenue factors
Market Assessment	The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future. A customer and competitor analysis along with the identification of likely market windows for the product. Price and volume forecasts and the basis for these forecasts. For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.	Discussed in Marketing & Pricing Factors
Economic	The inputs to the economic analysis to produce the net present value (NPV) in the study, the source and confidence of these economic inputs including estimated inflation, discount rate, etc. NPV ranges and sensitivity to variations in the significant assumptions and inputs	Economic analysis (NPV) done based on long term price outlook and the cost estimates (Contractor mining operation)
Social	The status of agreements with key stakeholders and matters leading to social licence to operate	Land acquisition has not yet commenced covering the pit, dump and other mine infrastructure. The total area required would be approx 900Ha. Most of this land is covered by small local rubber and palm oil farmers which will require compensation.

Criteria	Explanation	Comment
Other	To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves: Any identified material naturally occurring risks. The status of material legal agreements and marketing arrangements. The status of governmental agreements and approvals critical to the viability of the project, such as mineral tenement status, and government and statutory approvals. There must be reasonable grounds to expect that all necessary Government approvals will be received within the timeframes anticipated in the Pre-Feasibility or Feasibility study. Highlight and discuss the materiality of any unresolved matter that is dependent on a third party on which extraction of the reserve is contingency.	Discussed under Section 7:6:Other Factors
Classification	The basis for the classification of the Ore Reserves into varying confidence categories. Whether the result appropriately reflects the Competent Person's view of the deposit. The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).	Discussed under Reserve Classification
Audit & Reviews	The results of any audits or reviews of Ore Reserve estimates.	Discussed under Section 7:9, Audits & Reviews.
Discussion of Relative accuracy/confidence	Where appropriate a statement of the relative accuracy and confidence level in the Ore Reserve estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the reserve within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors which could affect the relative accuracy and confidence of the estimate. The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used. Accuracy and confidence discussions should extend to specific discussions of any applied Modifying Factors that may have a material impact on Ore Reserve viability, or for which there are remaining areas of uncertainty at the current study stage. It is recognised that this may not be possible or appropriate in all circumstances. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.	Sufficient points of observation and sampling distribution to assess coal resource and reserves with a high level of confidence. Statistical analysis was carried out for observations, sampling, core recovery & survey accuracy were assessed including geostatistical assessment over the deposit which further increased the confidence level of the estimate.

APPENDIX B — SELECTED STANMORE JORC REPORTS

See next page.

measured

Coal Resource Estimate 2020

Isaac Downs Project
Stanmore Coal Limited

In Situ Coal Resources within MDL 137, EPC 728 and EPC 755

Report No: MG502_Report_2020_01

June 2020

DOCUMENT ISSUE AND APPROVALS

Document Information

Project:	Isaac Downs Project
Document Number:	MG502_Report_2020_01
Title:	Coal Resource Estimate
Client:	Stanmore Coal Limited
Date:	June 2020

Contributors

	Name	Position	Signature
Prepared by:	Toby Prior	Director and Principal Geologist	
Reviewed by:	Peter Handley	Principal Geologist	
Approved by:	James Knowles	Director and Principal Geologist	

Distribution

Company	Attention	Hard Copy	Electronic Copy
Stanmore Coal Limited	Jon Romcke	No	Yes

PURPOSE OF REPORT

Measured Group Pty Ltd (**Measured**) has prepared a report on the Coal Resources at Isaac Downs Project for the Directors of Stanmore Coal Limited. The Coal Resources are estimated as at the end of **June 2020**.

The purpose of the report is to provide an objective assessment of the Coal Resources contained within the Isaac Downs Project, that is compliant with the Australasian Code for Reporting of Exploration Results, Mineral Resources, and Ore Reserves, 2012 edition (**the JORC Code, 2012**).

COMPETENT PERSON STATEMENT

I, Toby Prior, confirm that I am the Competent Person for this Report and:

- I have read and understood the requirements of the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code, 2012 Edition).
- I am a Competent Person as defined by the JORC Code 2012 Edition, having at least five years of experience that is relevant to the style of mineralisation and type of deposit described in this Report, and to the activity for which I am accepting responsibility.
- I am a Member of *The Australasian Institute of Mining and Metallurgy* (AusIMM).
- I have reviewed the Report to which this Consent Statement applies.

I am a full-time employee of Measured Group Pty Ltd and have been engaged by Stanmore Coal Limited to prepare the documentation for the Isaac Downs Project on which the Report is based, for the period ended **June 2020**.

I have more than 20 years of experience in the estimation of Coal Resources, both in Australia and overseas. This expertise has been acquired principally through exploration and evaluation assignments at operating mines and exploration areas.

I have disclosed to the reporting company the full nature of the relationship between myself and the company, including any issue that could be perceived by investors as a conflict of interest.

I verify that the Report is based on and fairly and accurately reflects in the form and context in which it appears, the information in my supporting documentation relating to Coal Resources.

Pursuant to the requirements of ASX Listing Rules 5.6, 5.22 and 5.24 and Clause 9 of the JORC Code 2012 Edition, I consent to the release of this Report and this Consent Statement by the Directors of Stanmore Coal Limited.

……………………………………………………

Toby Prior

Member AusIMM – 221964

EXECUTIVE SUMMARY

Measured Group Pty Ltd has prepared this report for the Directors of Stanmore Coal Limited, to provide an objective assessment of the Coal Resources contained within the Isaac Downs Project as at the end of **June 2020**.

The Coal Resource estimate and report have been prepared following the principles of the Joint Ore Reserves Committee's Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (December 2012), The JORC Code, 2012 Edition (**the JORC Code, 2012**).

The Isaac Downs Project is located in the northern central Bowen Basin in Queensland, Australia, approximately 13 km southeast of the town of Moranbah. The project is immediately south-southeast of Stanmore Coal Limited's Isaac Plains Mining Complex and to the west of Peabody Energy's Millennium Coal Mine.

Coal Resources for the Isaac Downs Project are contained within Mineral Development Licence MDL 137 and portions of Exploration Permits for Coal EPC 728 and EPC 755, which are held by Stanmore IP South Pty Ltd (a 100% owned subsidiary of Stanmore Coal Limited).

The project area is located approximately 10 km south-southeast of the Goonyella–Hay Point Railway, the Isaac Plains Complex Rail Loop and the mine infrastructure area. The Hay Point/Dalrymple Bay Coal Terminal (**DBCT**) facilities are approximately 170 km by rail from the Isaac Plains Complex.

Coal Resources at Isaac Downs are contained within the Leichhardt and Vermont Upper seams, which form part of the Late Permian aged Rangal Coal Measures.

Coal Resources have been estimated using Maptek's Vulcan modelling software and are based on a geological model that was prepared in **June 2020**.

Coal Resources have been estimated for the Leichhardt and Vermont Upper seams of the Late Permian aged Rangal Coal Measures, that are contained within the Isaac Downs Project area, which includes the majority of the area covered by MDL 137 and parts of EPC 755.

The total Coal Resource estimate is 36 million tonnes (**Mt**), of which 25 Mt is classified as Measured Resources, 11 Mt is classified as Indicated Resources, and 0 Mt is classified as Inferred Resources.

A summary of the Coal Resource estimate is contained in the following (Table 1):

Table 1: Summary of Coal Resources by Seam

Seam	Ply	Measured (Mt)	Indicated (Mt)	Inferred (Mt)	Total (Mt)
Leichhardt	L	10.8	0.6		11.4
	LU	1.4	2.7		4.1
	LL3	1.1	2.2		3.3
	LL2	0.8	2		2.8
	LL1	1.9	1		2.9
Vermont Upper	VU1	7.4	0.6		8.0
	VU2	1.3	2		3.3
	VU3		0.4		0.4
Grand Total		25	11		36

Notes:
1. Coal Resources estimated at 4% in situ moisture.
2. Totals may not sum correctly due to rounding.

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1. Introduction

1.1 Location

The Isaac Downs Project is located in the northern central Bowen Basin in Queensland, Australia. It lies approximately 13 km southeast of the town of Moranbah, immediately south-southeast of Stanmore Coal Limited's (**Stanmore's**) Isaac Plains Mining Complex and to the west of Peabody Energy's Millennium Coal Mine (Figure 1-1).

1.2 Tenure and Ownership

Coal Resources for the Isaac Downs Project are contained within Mineral Development Licence (MDL) 137 and portions of Exploration Permits for Coal (EPC) 728 and EPC 755, as shown in Figure 1-2.

Tenure is held by Stanmore IP South Pty Ltd (100% owned subsidiary of Stanmore Coal Limited), and Table 1-1 provides a summary of the project tenure.

Table 1-1: Tenure Detail

Tenement	Lodge Date	Grant Date	Expiry Date	Sub-Blocks	Principal Holder
EPC 728	21/11/2000	17/04/2001	16/04/2021	7	STANMORE IP SOUTH PTY LTD
EPC 755	17/08/2001	4/10/2002	4/09/2023	21	STANMORE IP SOUTH PTY LTD
MDL 137	02/10/1993	07/06/1993	30/06/2023	652 ha	STANMORE IP SOUTH PTY LTD

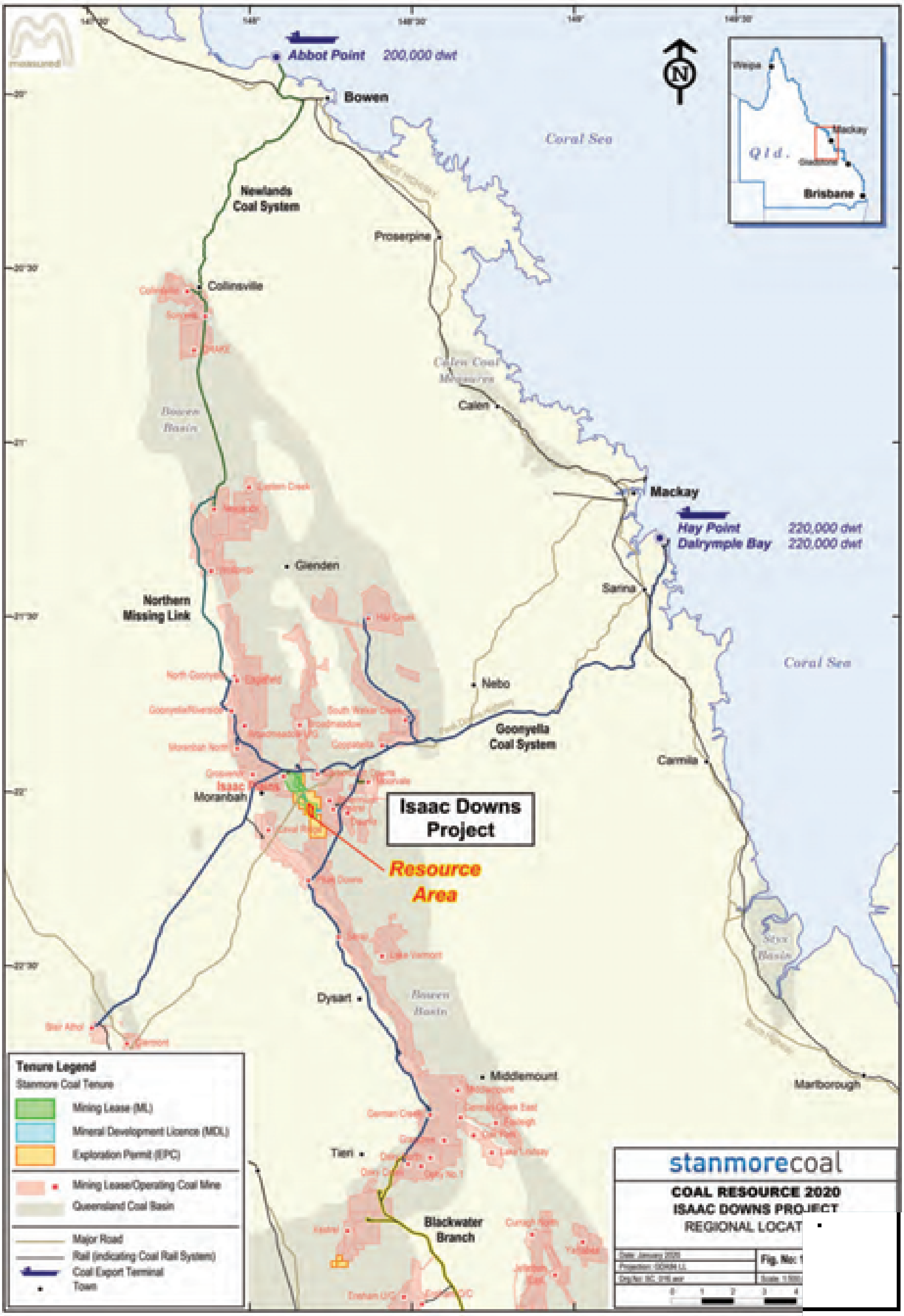
1.3 Access to Infrastructure

The project area is located approximately 10 km south-southeast of the Goonyella – Hay Point Railway and the Isaac Plains Rail Loop and mine infrastructure area. The Hay Point / Dalrymple Bay Coal Terminal (**DBCT**) facilities are some 170 kilometres by rail from the Isaac Plains mine.

Access to the Isaac Downs Project is via trafficable roads from the Peak Downs Highway, which sits immediately north of the northern extent of MDL 137.

1.4 Mining

Open cut coal mining has not yet commenced at Isaac Downs. Open-cut mining has been successful in neighbouring operations, including Isaac Plains and Isaac Plains East, both to the north of Isaac Downs lease area.



Abbot Point 200,000 dwt
Bowen
Coral Sea
Newlands Coal System
Proserpine
Collinsville
Bowen Basin
Calen
Mackay
Hay Point 220,000 dwt
Dalrymple Bay 220,000 dwt
Glenden
Northern Missing Link
Sarina
Nebo
Coral Sea
Goonyella Coal System
Carmila
Moranbah
Isaac Downs Project
Resource Area
Dysart
Bowen Basin
Middlemount
Marlborough
Tieri
Blackwater Branch
Tenure Legend
Stanmore Coal Tenure
Mining Lease (ML)
Mineral Development Licence (MDL)
Exploration Permit (EPC)
Mining Lease/Operating Coal Mine
Queensland Coal Basin
Major Road
Rail (indicating Coal Rail System)
Coal Export Terminal
Town
Weipa
Mackay
Qld.
Brisbane
stanmorecoal
COAL RESOURCE 2020
ISAAC DOWNS PROJECT
REGIONAL LOCAT

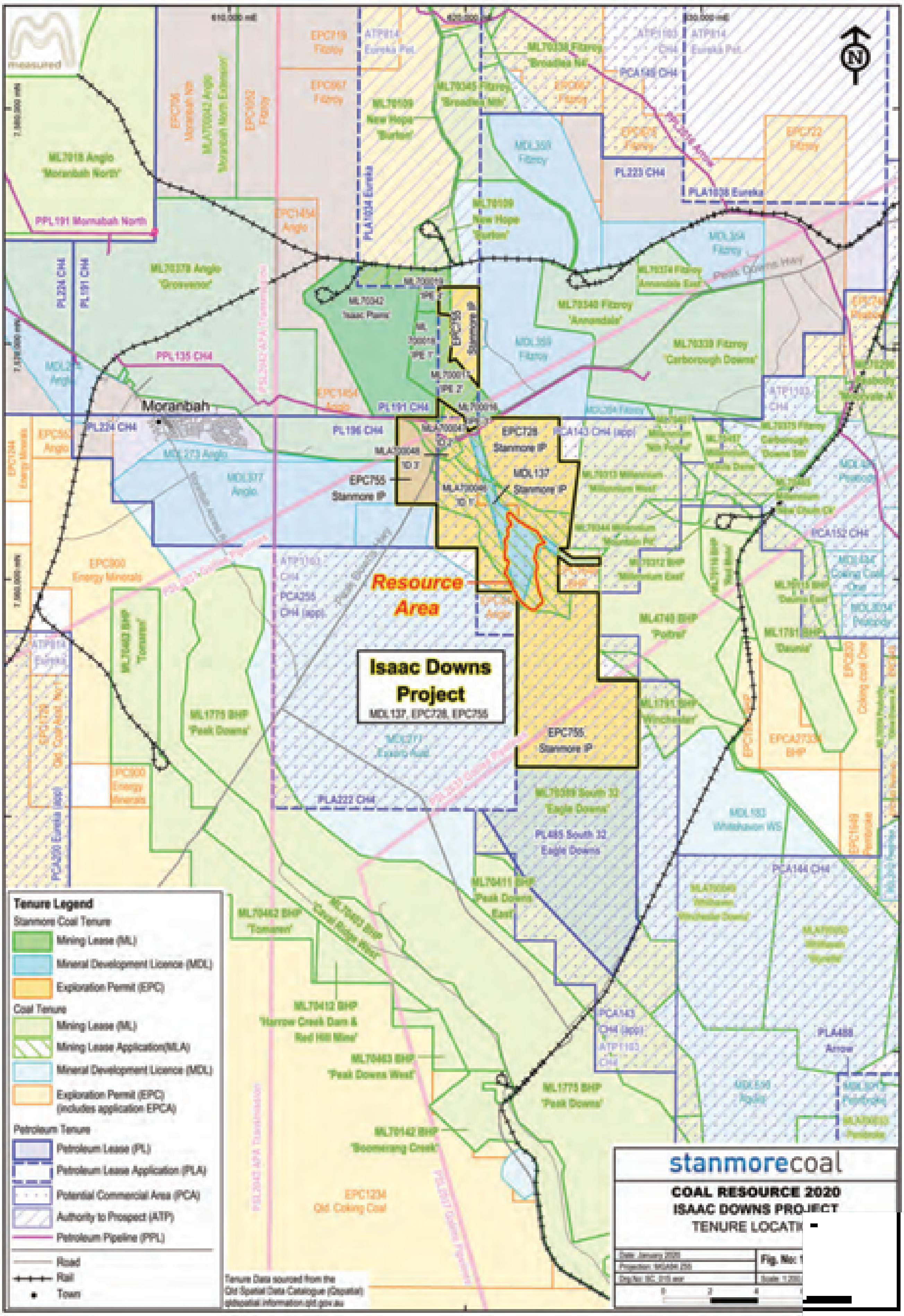

Moranbah
Resource Area
Isaac Downs Project
MDL137, EPC728, EPC755
EPC728
Stanmore IP
MDL137
Stanmore IP
EPC755
Stanmore IP
EPC755
Stanmore IP
PL191 CH4
PL196 CH4
PL224 CH4
PPL135 CH4
PPL191 Moranbah North
ML7018 Anglo
'Moranbah North'
ML70378 Anglo
'Grosvenor'
MDL377
Anglo
MDL359
Fitzroy
ML70340 Fitzroy
'Annandale'
ML70339 Fitzroy
'Carborough Downs'
ML4749 BHP
'Poitrel'
ML1775 BHP
'Peak Downs'
ML70389 South 32
'Eagle Downs'
PL485 South 32
Eagle Downs
ML70411 BHP
'Peak Downs East'
ML70462 BHP
'Tomaren'
ML70412 BHP
'Harrow Creek Dam & Red Hill Mine'
ML70463 BHP
'Peak Downs West'
ML70142 BHP
'Boomerang Creek'
EPC1234
Qld Coking Coal
PLA222 CH4
EPC900
Energy Minerals
MDL183
Whitehaven WS
PCA144 CH4
PLA488
Arrow
Tenure Legend
Stanmore Coal Tenure
Mining Lease (ML)
Mineral Development Licence (MDL)
Exploration Permit (EPC)
Coal Tenure
Mining Lease (ML)
Mining Lease Application(MLA)
Mineral Development Licence (MDL)
Exploration Permit (EPC)
(includes application EPCA)
Petroleum Tenure
Petroleum Lease (PL)
Petroleum Lease Application (PLA)
Potential Commercial Area (PCA)
Authority to Prospect (ATP)
Petroleum Pipeline (PPL)
Road
Rail
Town
Tenure Data sourced from the
Qld Spatial Data Catalogue (Qspatial)
qldspatial.information.qld.gov.au
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Fig. No:
measured

2. Exploration History

BHP Mitsui[#1] conducted the majority of exploration in MDL 137 before 2004. Appraisal of exploration drilling. The majority of this drilling occurred around 1981-82. This timing was prior to geophysical logging becoming industry best practice.

An initial resource estimate was undertaken in 1983, and an updated; using computer software; resource assessment was conducted by JB mining in 2002. The 2002 model and assessment encompassed the 9 coal quality holes and 38 chip holes that had been drilled in the tenure.

The majority of the holes were not geophysically logged and the topographic surface and collar relative levels were relatively inaccurate. Due to these issues, the majority of the deposit was classified as inferred.

Previous drilling in EPC 755 has primarily been conducted by Aquila Coal Pty Ltd and Bowen Central Coal. JB Mining conducted an appraisal of the exploration drilling in EPC 755 in 2018 as a part of the Isaac Resource Statement.

#1 – Depending on the year and joint venture arrangement ~ BHP Mitsui; Thiess Dampier Mitsui Coal Pty Ltd; BHP Coal Pty Ltd.

3. Geological Setting

3.1 Regional Geology

The Isaac Downs Project is located in the northern part of the Permo-Triassic Bowen Basin containing principally fluvial and some marine sediments of the marginal marine Back Creek Group; Late Permian coal-bearing, non-marine strata from the Blackwater Group; and overlying Tertiary basalts and sediments within the Suttor Formation (see Table 3-1 and Figure 3-1).

Table 3-1: Regional Stratigraphy of the Isaac Downs Area

Age	Group	Formation
TERTIARY		
TRIASSIC	Rewan Group	Rewan Formation
PERMIAN	Blackwater Group	Rangal Coal Measures
		Fort Cooper Coal Measures
		Moranbah Coal Measures
	Back Creek Group	Exmoor Formation
		Blenheim Formation
		Gebbie Formation
		Tiverton Formation

The Bowen Basin is part of a connected group of Permo-Triassic basins in eastern Australia which includes the Sydney and Gunnedah Basins. The Basins axis orientation is NNW-SSE roughly parallel to the Palaeozoic continental margin.

Tectonically, the basin can be divided into NNW-SSE trending platforms or shelves separated by sedimentary troughs. The units from west to east are the Springsure Shelf, Denison Trough, Collinsville Shelf/Comet Platform, Taroom Trough, Connors and Auburn Arches (interrupted by the Gogango Overfolded Zone) and the Marlborough Trough.

Development of the basin in the Early Permian was in the form of half grabens which subsequently became areas of regional crustal sag. Variations in depositional patterns and deformation styles occur along strike suggest the possibility of NE trending deep-seated crustal transfer faults evidence for such occurs at the neighbouring Isaac Plains Mine.

The Bowen Basin has undergone oriented NE-SW extensional and compressional events. Structurally, the tenure lies on the western boundary of the deformed Nebo Synclinorium immediately south-west of a regional thrust fault system- the Burton Range Thrust. Further to the west is the structurally simple Collinsville Shelf.

The economic seams are contained in the Late Permian Rangal Coal Measures which are approximately 100 m thick. The Rangal Coal Measures are underlain by the Fort Cooper Coal Measures and overlain by the Late Permian to Early Triassic Rewan Group.

Tertiary sediments rest unconformably on the coal measure sequences and consist predominantly of unconsolidated, poorly sorted fluviatile and well-bedded lacustrine quartzose sediments. Tertiary volcanism in the form of basaltic to basinitic plugs and associated flows occur throughout the area.

The Rangal Coal Measures comprise light grey, cross-bedded, fine to medium-grained labile sandstones, grey siltstones, mudstones and coal seams. Cemented sections are common in the sandstones. The transition from the Rangal Coal Measures to the Rewan Formation is generally difficult to define and is often based on the change from the green-grey colour of the Rewan sandstones to the blue-grey colour of the Rangal sandstones. The transition between the formations is 15 to 60 m above the first major seam of the Rangal Coal Measures.

The Fort Cooper Coal Measures comprise typically tuffaceous sandstones, siltstones, mudstones and coal seams. The transition between the Rangal Coal Measures and the Fort Cooper Coal Measures is generally clearly marked by the Yarrabee Tuff - a basin-wide marker bed comprised of weak, brown tuffaceous claystone.


Isaac Downs
Project

3.2 Local Geology

3.2.1 Tertiary

Tertiary sediments and soils occur across the lease area, ranging in thickness from 0 m to 8 m, reaching 27 m in some areas (Figure 3-2). They consist of unconsolidated sand and silts, derived mainly from the underlying Permian units.

3.2.2 Stratigraphy

The economic coal seams located within the Isaac Downs Project area occur within the Permian Rangal Coal Measures. Locally, the Rangal Coal measures are unconformably overlain by Tertiary soils.

The Rewan Formation (Triassic) has not been observed in historical or recent drilling. As drilling progresses to deeper areas of the deposit, the overlying Rewan formation may be encountered.

The local stratigraphy is typical of the regional stratigraphy and is summarised in Table 3-2 below and shown in Figure 3-3.

Table 3-2: Local Stratigraphy

Unit	Description
Unconsolidated material (0-8m thick)	Tertiary soils and / or unconsolidated sand/silts derived from the underlying Permian sediments.
Rangal Coal Measures (RCM) overburden	Dominantly Medium grey siltstones and fine to medium-grained light grey sandstones
RCM Immediate coal roof (1-2m thick)	Dark grey carbonaceous siltstones with gradational contact to coal
RCM Leichhardt and Vermont Coal Seams (5-6 m thick)	Dull to bright coal plies separated by siltstone or carbonaceous siltstone beds. Occasional tuffaceous siltstone
RCM Immediate coal floor (3 m thick)	Dark grey siltstone, occasionally tuffaceous
Fort Cooper Coal Measures overburden	Dominantly medium grey fine to medium-grained sandstones with occasional siltstone beds
Fort Cooper Coal Seams	Dull to medium bright coal plies separated by tuffaceous sandstones, siltstones, mudstones and tuffs

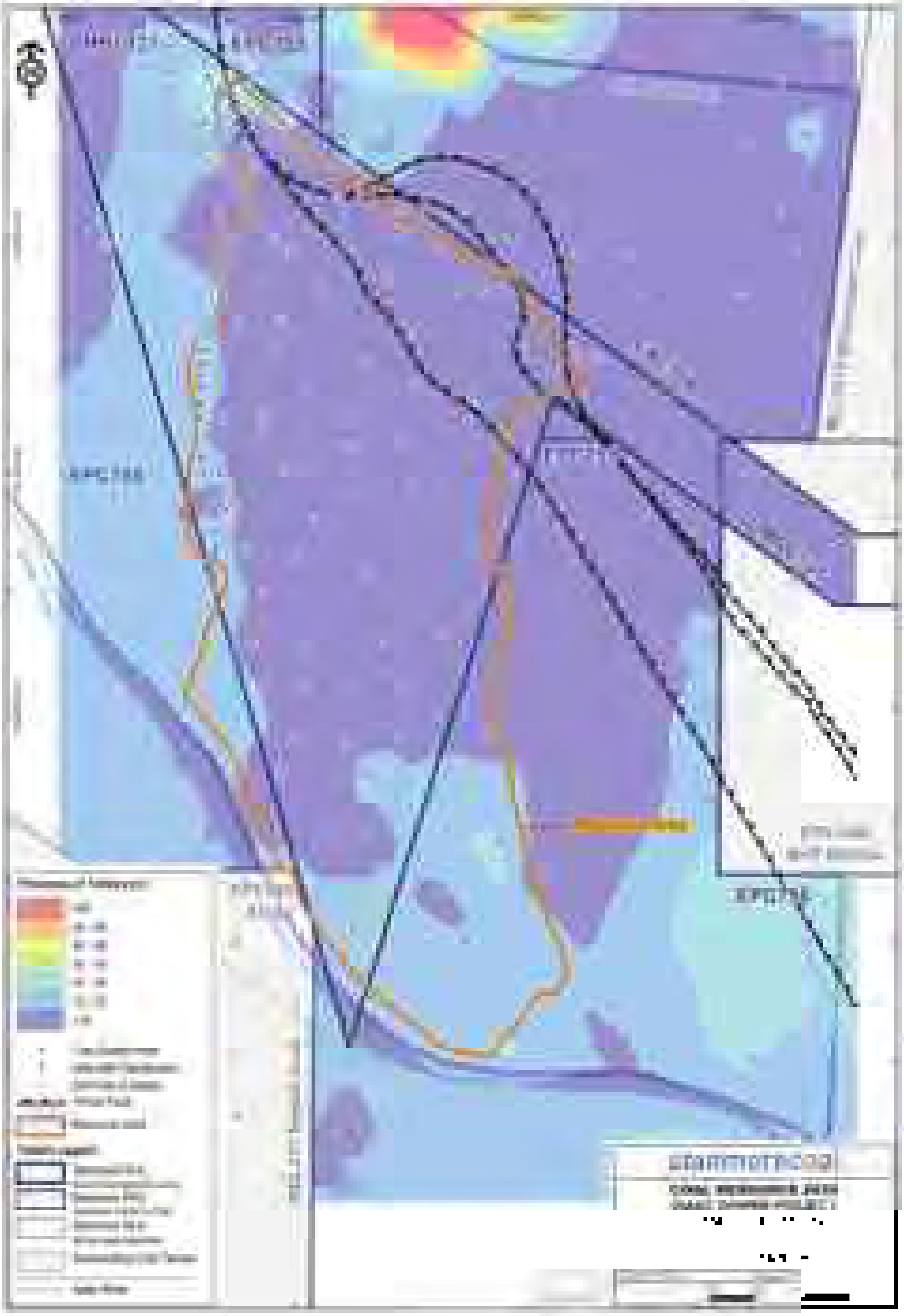
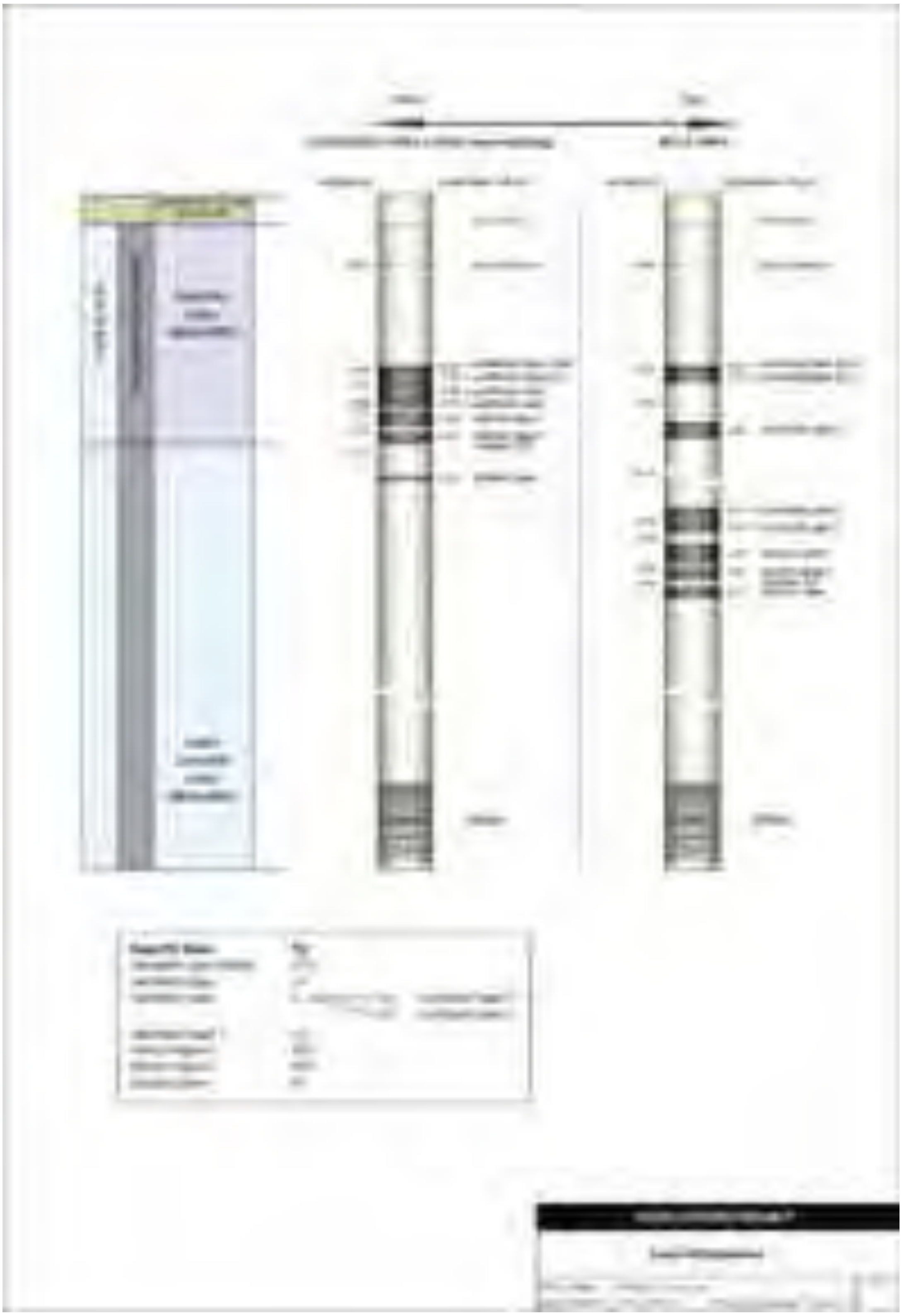


Figure 3-3: Local Stratigraphy



3.2.3 Structure

The project area generally has a laterally consistent seam dip of between 4 and 5 degrees down to the east.

The project area is bounded in the northeast by a major regional-scale reverse fault, as associated with the regional scale Burton Range Fault System. This fault is referred to locally as the "Isaac Fault", which is interpreted to have a displacement of >50 m. In parts, the fault is interpreted to present as a local scale en-echelon reverse fault geometry.

Evidence for localised minor thinning, seam offsets and steeper dips associated with faulting has been observed in exploration data but is not considered to materially impact on Coal Resource estimates.

Two-seam splits have been interpreted in the Leichhardt and Vermont seams. The splits develop as the seam package extends down dip, with the first split developing between the LL and LL1 plies reaching a thickness of up to 30 m. The second spilt develops between the LU and LL plies and reaches a thickness of up to 25 m. Both splits develop along a north to north-northwest orientation.

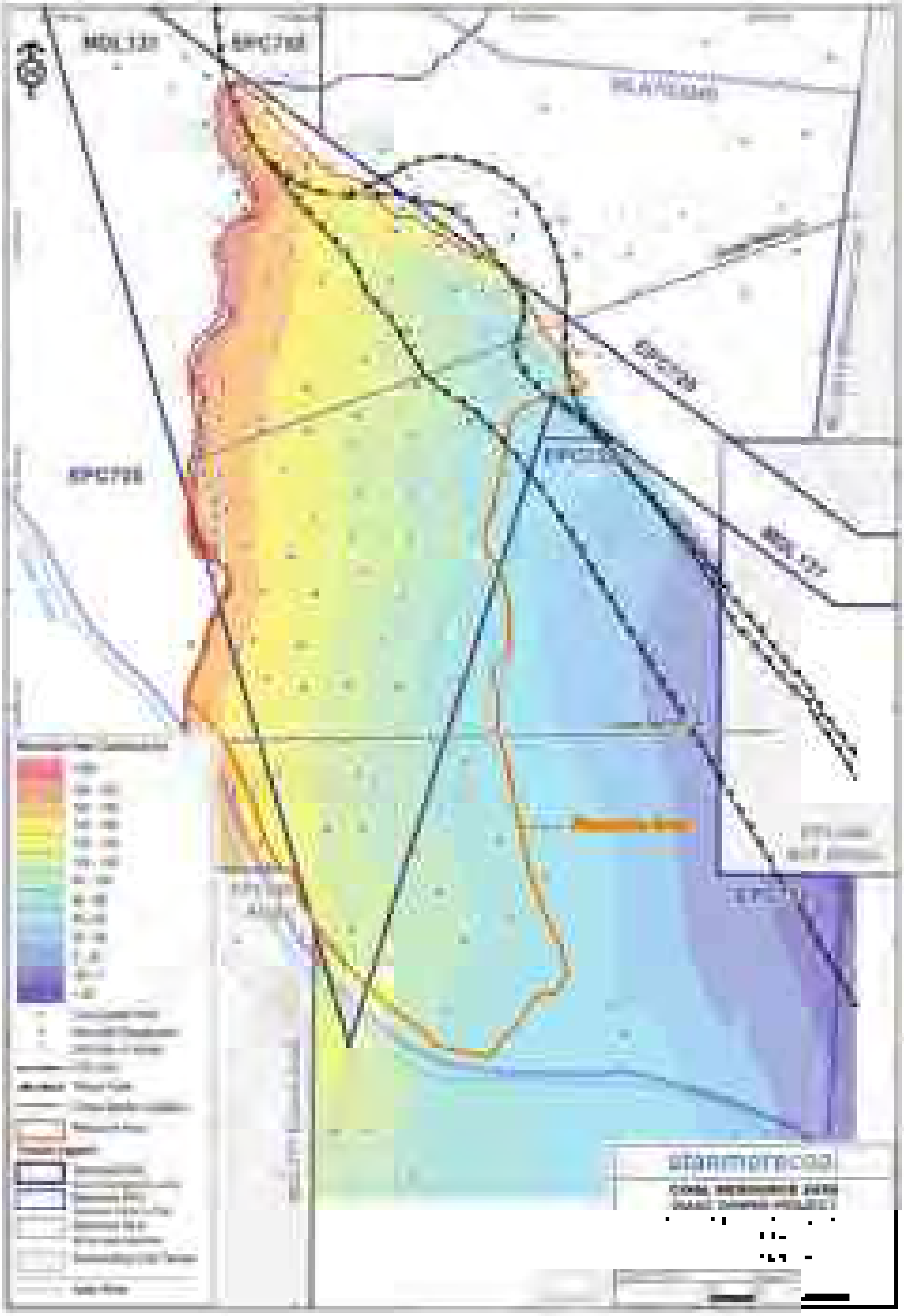
The geological features influencing coal seam geometry are shown in plan view in Figure 3-4, while a cross-section through the deposit is shown in Figure 3-5.

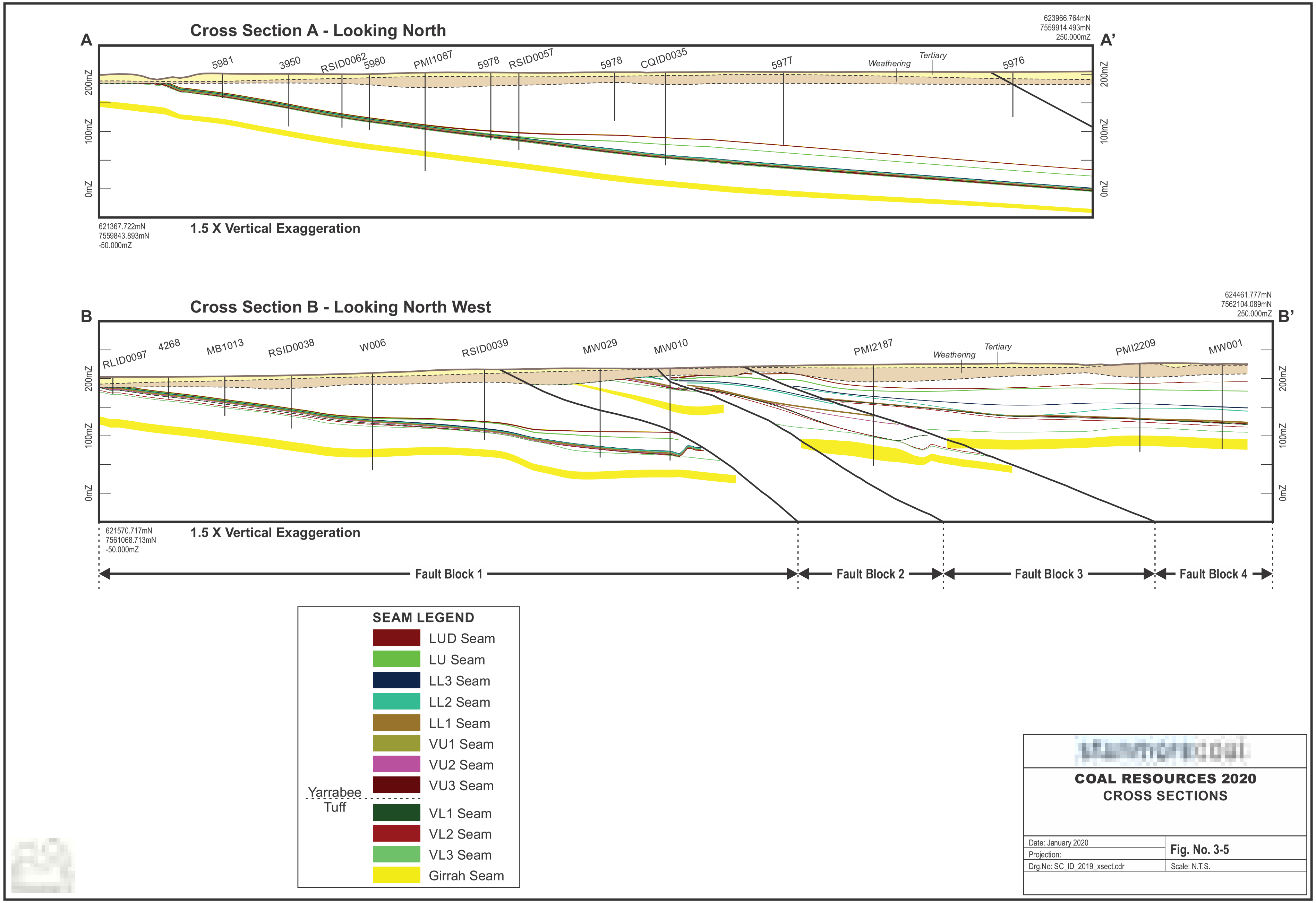
3.2.4 Weathering

The base of weathering has been logged in all drill holes within the project area and is intersected at an average depth of 20 m (Figure 3-6).

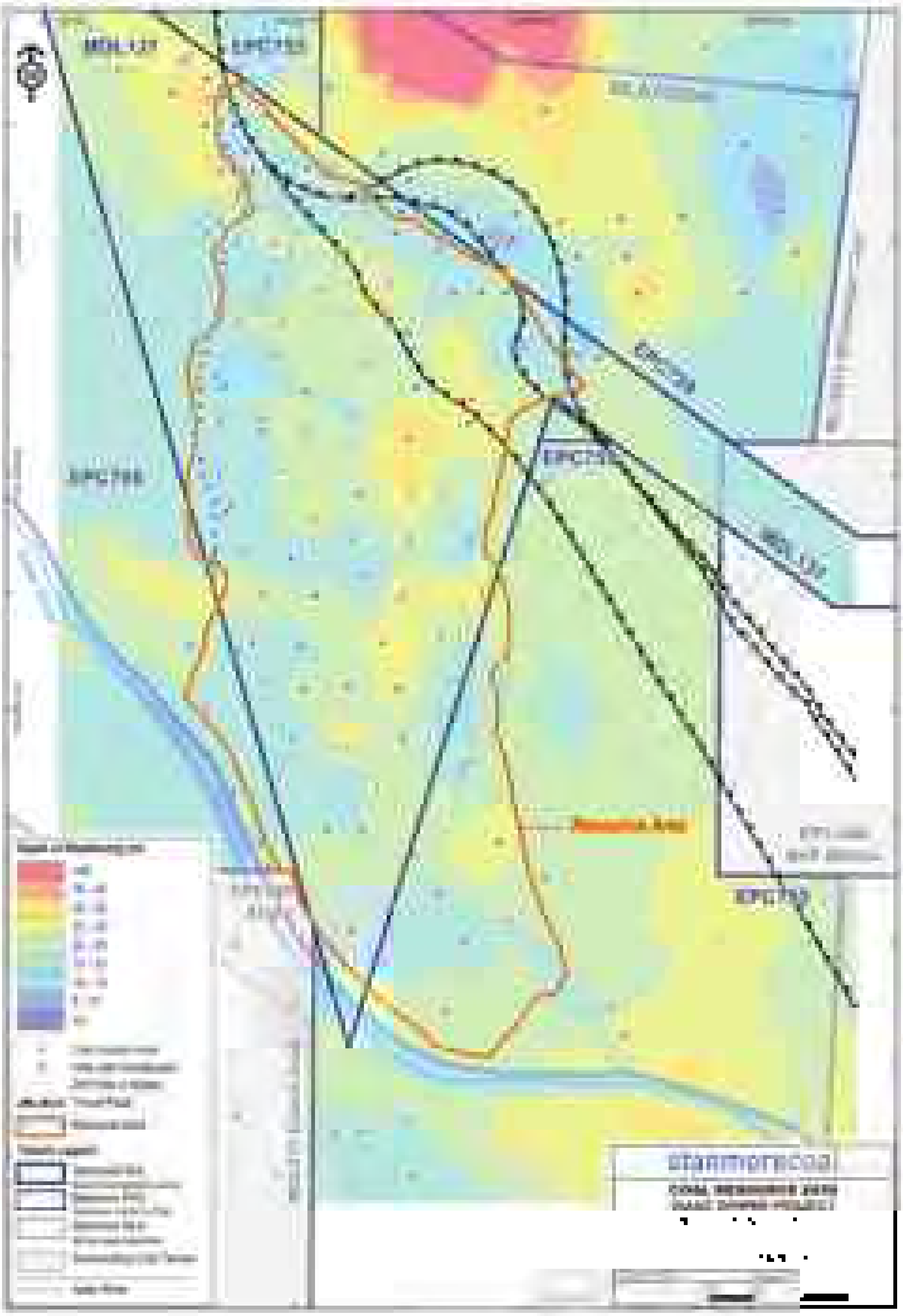
3.2.5 Depth of Cover

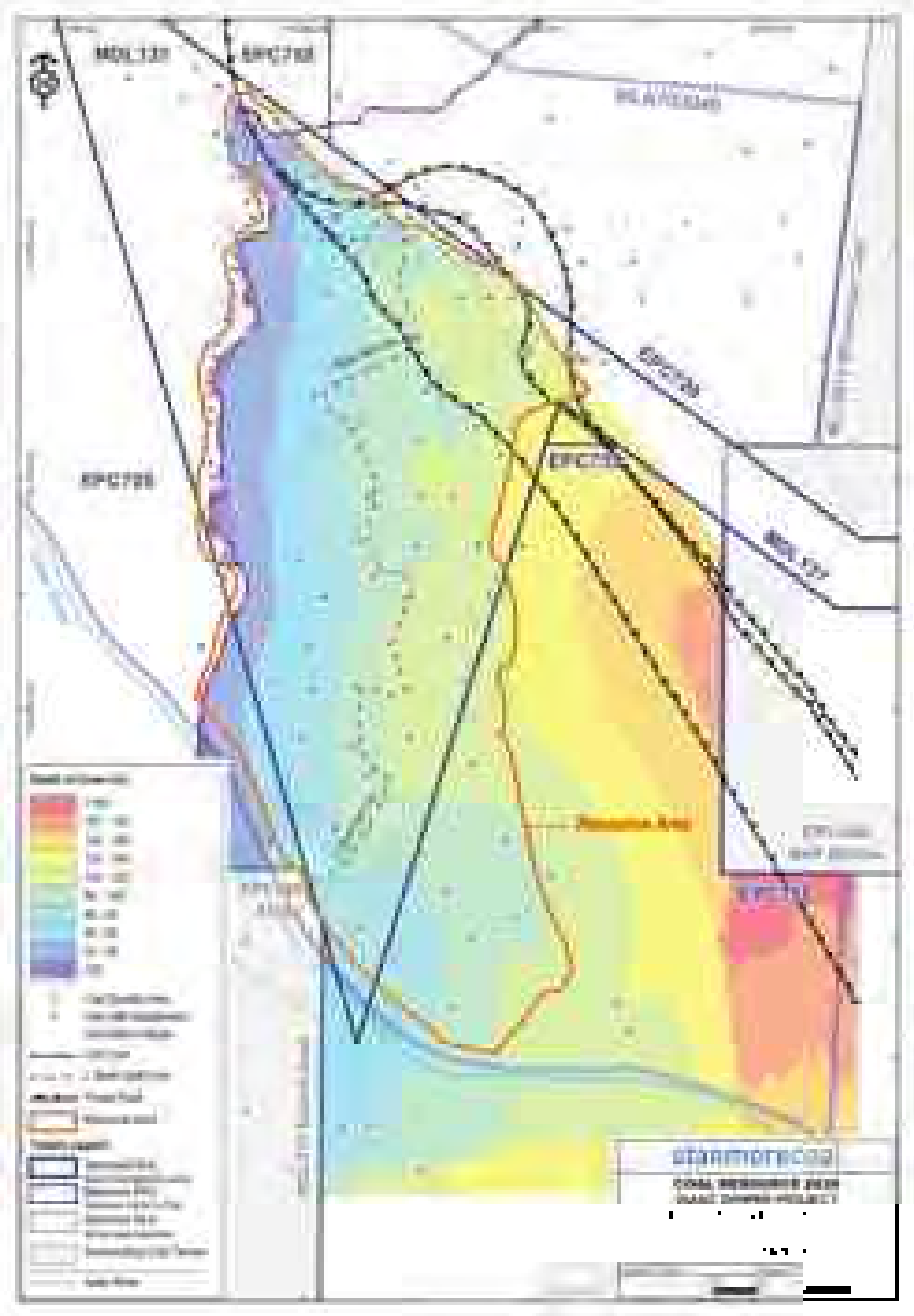
The depth of cover to the Leichardt Seam ranges between <20 m to >180 m (Figure 3-7).





Cross Section A - Looking North
A
A'
623966.764mN
7559914.493mN
250.000mZ
5981
3950
RSID0062
5980
PMI1087
5978
RSID0057
5978
CQID0035
5977
Weathering
Tertiary
5976
200mZ
100mZ
0mZ
621367.722mN
7559843.893mN
-50.000mZ
1.5 X Vertical Exaggeration
Cross Section B - Looking North West
B
B'
624461.777mN
7562104.089mN
250.000mZ
RLID0097
4268
MB1013
RSID0038
W006
RSID0039
MW029
MW010
PMI2187
Weathering
Tertiary
PMI2209
MW001
621570.717mN
7561068.713mN
-50.000mZ
1.5 X Vertical Exaggeration
Fault Block 1
Fault Block 2
Fault Block 3
Fault Block 4
SEAM LEGEND
LUD Seam
LU Seam
LL3 Seam
LL2 Seam
LL1 Seam
VU1 Seam
VU2 Seam
VU3 Seam
Yarrabee Tuff
VL1 Seam
VL2 Seam
VL3 Seam
Girrah Seam
COAL RESOURCES 2020
CROSS SECTIONS
Date: January 2020
Projection:
Drg.No: SC_ID_2019_xsect.cdr
Fig. No. 3-5
Scale: N.T.S.





3.2.6 Intrusions

Limited intersections of volcanic rocks (intrusive or extrusive) are recorded in borehole intercepts. There are no dykes or volcanic plugs with surface expression mapped over the area, and there is limited evidence to support volcanics having a material impact on Coal Resource estimates.

3.2.7 Coal Seams

The main coal seams of interest in the project area are the Leichhardt and Vermont Upper seams.

Figure 6-2 shows the coal ply sequence and approximate thickness with a geophysical log.

The Leichhardt seam consists of five main plies:

- LUD (Leichhardt Upper Dilution) + LU (Leichhardt Upper) (average thickness 1.5 m);
- LL3 - Leichhardt Lower; upper component (average thickness ~ 0.85 m)
- LL2 – Leichardt Lower; lower component (average thickness ~ 0.85m)
- LL1 (Leichhardt Lower Split) (average thickness of 0.8 m).

The LUD / LU and lower components are typically separated by mudstones less than 0.1 m thick, whereas a tuffaceous siltstone separates LL3/LL2 and LL1. Coal is logged as bright to bright with a dull band at the base of the seam.

The Vermont Upper occurs approximately 0.5 m below the Leichhardt seam and is split into two main plys, typically separated by siltstones.

- VU1 (Vermont Upper 1) (average thickness 1.3 m); and
- VU2 (Vermont Upper 2) (average thickness (0.45 m).

Towards the south of the deposit, a small floor separation splits off the VU2. This seam split has been coded as the VU3 in the database. This floor split is an average of 0.15m thick, and therefore only contributes a very minor proportion to the overall resource tonnages.

4. Data Acquisition

4.1 Survey Datum

The survey Datum is Australian Map Grid AMG (66, Zone 55) and the height datum is Australian Height datum.

A survey of all Stanmore exploration boreholes was conducted by Airmap3D Surveyors (Moranbah). All survey associated with drillhole collars was completed using high precision differential GPS with base station reference with an accuracy of +/- 20 mm. All survey co-ordinates were captured in AGD 1984 AMG Zone 55 (ESPG 20355).

Checks of the topography surface and drill holes were completed, with only minor, acceptable variances identified between the two data sets.

4.2 Topography

Topography data at Isaac Downs is a combination of spatial data provided by Stanmore and Lidar data (acquired in 2015) at 0-20 cm resolution.

4.3 Exploration

4.3.1 Drilling

Recent exploration at Isaac Downs has been through a series of drilling campaigns incorporating slim core, large-diameter core and non-core holes. All drill holes were vertical in nature. Drilling is generally on a 500m grid pattern with a combination of cored and non-cored holes.

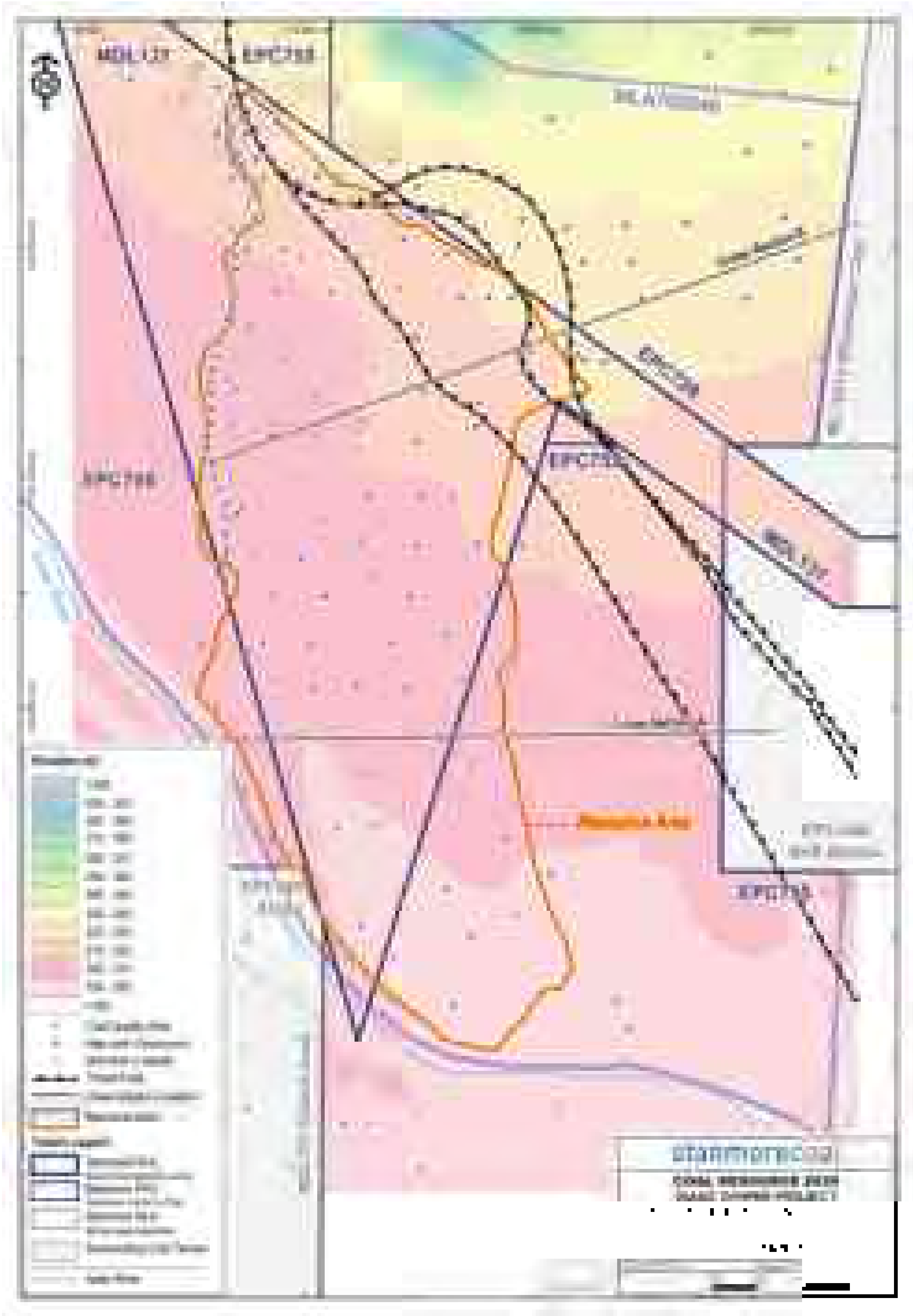
Diamond and tungsten drill bits have been used for slim cored holes and tungsten bits used for non-cored holes.

Partial core holes for coal quality testing were drilled using rotary chip methods with a ten (10) metre offset from the predicted top of first coal marking the commencement of core drilling. The core was then taken until a minimum of 4 metres past the base of last target coal seam. These boreholes produced a conventional 4-inch core (101.6 mm diameter) and were core drilled primarily using air techniques and with mud/water injection as required.

Fully cored holes for open-cut geotechnical characterisation: The initial 6 metres of each hole was drilled using rotary chip methods with the remainder of the hole fully cored until a minimum of 6 metres, post the base of last target coal seam. These boreholes were drilled using HQ wireline core techniques resulting in a 61.1mm core sample.

All open (non-core) rotary chip holes drilled were completed using either blade, poly-crystalline diamond (PCD) and hammer drill bits, or a combination thereof.

All holes were at a typical final hole diameter of 125mm. Rotary holes were completed for a combination of purposes including structural and fault definition and also LOX drilling which aimed to define the boundary of fresh and weathered coal. The location and types of holes are depicted in Figure 4-1.



4.3.2 Geological Logging

All cored drill holes have comprehensive lithological logging, while non-cored drill holes have broad lithological logging (0.5m minimum interval). Cored sections have detailed lithological descriptions, including coal brightness logging; and all logged sections have a depth of weathering, formation, seam and individual seam ply depths. All drill core was photographed in 0.5m intervals and marked prior to sampling.

All chip holes or chip portions of partial core holes, had chips collected in 1.0-metre intervals, which were then geologically logged and photographed.

Where possible, geophysical wireline logging of drill holes has been routinely undertaken. All lithological logging has been adjusted to geophysics where possible. However, historical holes do not have geophysical wireline logs, and this was not possible. Care has been taken when (if) incorporating these non-geophysically logged boreholes into the model.

The core drilling produced good results in terms of sample recovery with most holes, achieving >95% linear core recovery. Minimum linear sample recovery cut-off (for use as a quality point of observation) was set at 95% of the mining ply/seam thickness. Linear core recovery was calculated by dividing the measured length of the core by the drilled length.

4.3.3 Geophysics

All modern drilled borehole have been geophysically logged (except where blocked) with a minimum suite of tools run being. This logging has generally consisted of the coal industry-standard suite of logs: Calliper, Gamma and Density, Deviation (except for LOX holes).

The calibration of the geophysical tools was conducted by the logging contractor, MPC Kinetic Pty Ltd.

Geophysical wireline logging of drill holes has been routinely undertaken where it was possible. Currently, 228 holes currently have some kind of geophysical log. All 228 of these had digital files available for loading into the database and for correlation. This logging has typically consisted of the coal industry-standard suite of logs (calliper, gamma and density). Most lithological logging has been adjusted to geophysics where possible.

4.3.4 Downhole Deviation

Downhole geophysics was run for both cored and non-cored holes.

There is a total of 61 drillholes loaded in the geological database with downhole deviation data (verticality log).

As dips are generally between 4 and 5 degrees, the overall deviation is minimal. However, some holes were found to be significantly deviated from vertical, particularly around faults. The use of this data provides the geological model more correct spatial location of seams. Downhole tools are calibrated at a test well every month. Holes are assumed to be vertical where the data is not available or where they have already been adjusted to verticality.

4.3.5 Sampling Technique

Open hole rotary chip holes including the initial (non-core) sections of partial core holes provided chip samples for geological logging and in the case of Line of Oxidation (LOX) drilling, chip samples for laboratory testing. Line of Oxidation (LOX) chip samples were collected in 1 m samples. Lox samples were double bagged on-site and sent to Mitra PTS, Gladstone for proximate analysis.

For cored holes, coal and its immediately proximal stone were ply sampled discretely based on lithological characteristics and quality. Non-coal parting material greater than 0.1m thick was sampled separately. The immediate roof and floor of coal boundaries have been sampled at lengths of approximately 0.2 m, in general. At a minimum Apparent Relative Density (ARD) analysis has been conducted on these roof and floor samples for dilution determination. All coal samples were collected in 2 x plastic bags and transported to the laboratory via tracked freight courier and accompanied by a sample advice sheet. Chain of custody and field observations were emailed to the Laboratory to arrive before the sample.

Selected geotechnical samples from fully cored geotechnical holes were taken to analyse the overburden, coal and floor sediments for rock strength and other quantifiable geotechnical characteristics. Samples were stored in core trays, at representative lengths and wrapped in plastic, foil and sealed from moisture. Samples were selectively chosen by the specialist geotechnical consultant, Geotek Solutions of Milton, and then dispatched for laboratory testing.

Geotechnical laboratory testing was undertaken by Cardno, Ullman and Nolan Geotechnic laboratories in Mackay. Testing on selected samples included; Unconfined Compressive Strength, Brazilian Compressive Strength, Direct Shear Strength and Atterberg Limits

The core was field sampled in increments of no greater than 0.5m or at ply/brightness profile boundaries by splitting the core with hammer and chisel. All core coal samples were double bagged, tagged with a unique sample ID and then stored on-site in cold storage before eventual transport to the nominated laboratory for testing. Before shipment, sample bags were grouped and loaded into poly weave sacks and dispatched to the laboratory by a commercial transport company. A sample dispatch form is sent with the drum to the laboratory. All samples were held in cold storage at the site and also at the laboratory during the analysis process.

All sampled intervals have been checked for core loss to determine that the sample was valid for both the seam and the associated coal ply based on a core sample recovery of >95%. Where the sampled recovery was <95%, an assessment was made on a case by case basis as to whether the sampled interval was representative of the overall seam/ply interval.

4.4 Sampling and Analysis

Quality testing was conducted for cored holes. Coal quality sample intervals are correlated and corrected to the lithology data so that the seam and ply intervals match. The main two coal testing laboratories utilised were, SGS Mackay and Mitra PTS Gladstone. Both of the laboratories comply with the Australian Standards for sample preparation and sub-sampling.

Stage 1. Apparent Relative Density (ARD)

All samples were initially tested for Apparent Relative Density (ARD) to help validate and determine coal/non-coal boundaries. Samples were then subsequently composited into working ply washability sections, the thickness of which typically ranged from 0.5 to 1.5 metres.

Stage 2. Raw Coal and Float/Sink Analysis

To simulate mine transport conditions each composite sample was drop shattered 20 times from a height of 2 metres. Any sample mass remaining of > 50 mm was hand knapped to 50 mm, dry tumbled and dry sized at 31.5 mm, 25 mm, 16 mm, 8 mm, 4 mm and 2 mm. Composite samples were then split and further allocated as follows:

- 1/8 for quick coke: Crush to 11.2mm, float sink at 1.425 density, crush to 4mm and mill sample to test for Proximate, CSN, Gieseler & Dilatation
- 1/8 for raw analysis: Crush to 4mm, mill sample to test for RD, MHC, Proximate, TS, CSN, Calorific Value & Chlorine
- ¾ for float sink: Wet tumble and wet size at 31.5, 25, 16, 8, 4, 2, 1, 0.5, 0.25, 01.25 & 0.063mm. Re-combine samples in following fractions: -50+16mm, -16+8mm, -8+2mm and -2+0.25mm. Float sink each size fraction at densities (F1.30, F1.35, F1.375, F1.40, F1.45, F1.50, F1.55, F1.60, F1.70, F1.80 and F2.00). -0.25+0mm fraction subject to tree froth flotation. All fractions analysed for ash and CSN.

Stage 3. Washability

Washability simulations were performed by McMahon Coal Quality Resources (MCQR) on the laboratory float sink results. From that data, clean coal composite (product) sample instructions were compiled at a range of sizings to generate potential products. The size range/potential products analysed for include:

- Primary Coking (-16+0mm),
- Coarse Coking (-50+16mm) and
- Secondary Thermal Coal Composites.

At the time of this report, product testing and analysis are ongoing, with final results not yet available for all of the coal core samples drilled.

4.5 Data Validation

All data was validated by Measured personnel before being used in the modelling and resource estimation process. These checks included the following.

- Drill hole location is correct;
- Lithological descriptions and depths matched geophysical logs;
- Downhole depths were contiguous and not overlapping;
- Correct seam and ply labelling and correlation with surrounding holes.
- All sample information was transferred from sample sheets completed in the field to the appropriate database at the time and stored in the current drill hole database.
- All primary digital data is entered into a company database with physical copies being scanned and saved to a separate file server.
- Coal quality sample intervals and results were checked and correlated against lithological and geophysical logs.
- Apparent Relative Density testing was undertaken on all coal quality samples with density results selectively and randomly cross-checked against geophysical and geological datasets to ensure accuracy.
- Raw coal quality data was checked for internal consistency with the existing data set by checking cumulative totals and cross-correlations.
- Coal analysis procedure design, laboratory program management, staged lab data validations; washability simulation (undiluted coal only) and product coal assessment were undertaken by independent consultant Chris McMahon at McMahon Coal Quality Resources (MCQR).
- All coal quality results were validated by MCQR prior to provision to Stanmore and Measured Group for inclusion into the geological model and resource estimate.

Validations undertaken on the database that helps ensure consistency and integrity of data including, but not limited to:

- the relational link between geological, downhole geophysical and coal quality data;
- exclusion of overlapping geological intervals;
- restriction of data entry to the interval of the defined hole depth;
- use only of defined rock type and stratigraphic codes; and

basic coal quality integrity checks such ensuring data is within normal range limits; that proximate analyses add to 100 per cent.

4.6 Geological Database

All geological data relating to the Isaac Downs Project area has been provided by Stanmore or sourced independently by Measured from public sources. This includes the following data:

- A drill hole database containing: Drill hole survey information; Lithology logs with seam and ply codes; and Coal quality data (raw and washed / product analysis);
- Wireline geophysical logs; and
- Various reports and drill hole records.

All drill hole and coal quality data is stored in a Vulcan ISIS database managed and administrated by Stanmore.

5. Geological Data Analysis (data results)

5.1 Geological Data

Drill hole data statistics are provided in Table 5-1. Non coal horizon statistics are provided in Table 5-2.

A series of holes to the South and East of MDL 137 have been included for modelling purposes. The holes to the South are within EPC 548 (Anglo Coal Pty Ltd) and are prefixed with 'K', while the holes to the East are located in EPC 755 (Stanmore Coal IP South Pty Ltd) and are prefixed 'DD' and 'ME'.

Data for holes used in the model and located outside of the resource area can be found in Isaac Plains South Resource Statement, June 2018 by JB Mining Services.

Table 5-1: Drill hole Statistics

Description	Count
Number of holes in database	446
Number of holes in model area	335
Number of holes excluded from modelling	115
Number of barren holes (no coal seams)	3
Number of holes with no data	24
Number of holes used for structure modelling	193
Number of holes used for assay modelling	89

Table 5-2: Non-coal Horizon Statistics

Horizon	Count	Median Depth	Max Depth
Base of Weathering	358	22	89
Tertiary	404	9	45

Figure 5-1: Histogram - Depth of Weathering

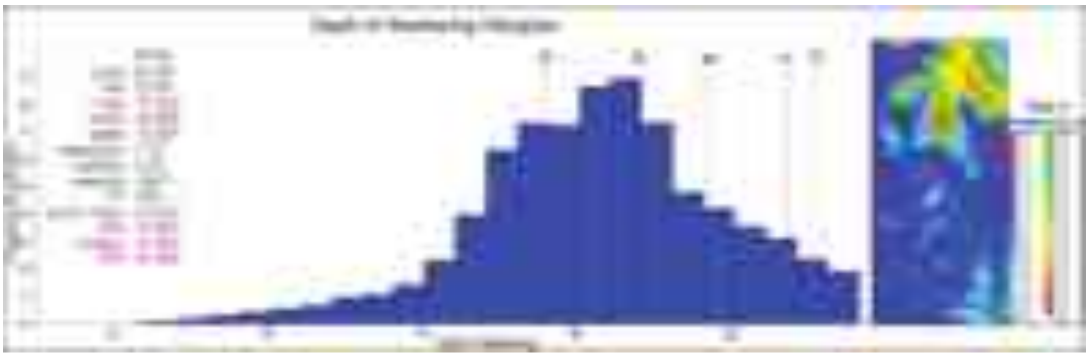
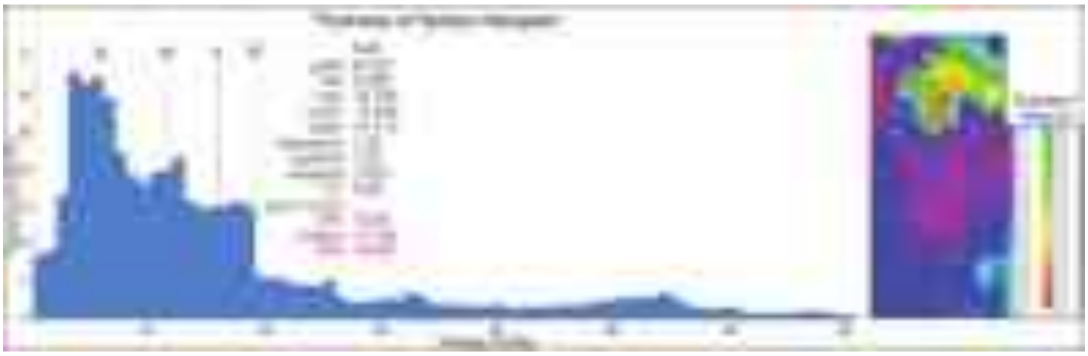


Figure 5-2: Histogram – Thickness of Tertiary



5.2 Coal Quality Data

Isaac Downs coal is classified as a "High Volatile Bituminous" (ASTM Classification) with an average Inherent Moisture around 4-4.5%. The Rangal Coal Measures at Isaac Downs can produce a variety of products, the principal targets being either a coking, PCI or Thermal coal.

5.2.1.1 Dataset

The borecore dataset informing coal quality assessments including origins of the data and the proponent is shown in **Error! Reference source not found.**.

Table 5-3: Coal Quality Holes by Purpose and Proponent

Description	Count	Running Total	Proponent		
			BCC	Peabody	Stanmore
Total number of holes available for assay modelling	**89**				
CQ holes excluded from modelling (incomplete dataset)	12	77			
Number holes with F1.6 chip CQ testing only (LOX line only)	35	**42**			
Number of holes informing raw quality grid model	**42**		**9**	**15**	**18**
Number of holes without wash data	12	**30**			
Number of holes informing HY wash quality grid model	**30**			**12**	**18**
Number of holes without -16mm+2mm data	7	**23**			
Number of holes informing HQ wash quality grid model	**23**			**5**	**18**
Number of holes informing product specifications	**18***				**18***

*analysis ongoing

There are three (3) main seam groups, two (2) of which are considered as primary targets, the Leichhardt & Vermont Upper, and one (1) of which is deemed a secondary target, Vermont Lower. The Vermont Lower is only likely to be targeted when and where it is required to be, given mining considerations, or where it sufficiently close to the primary target seams and of a thickness and quality to produce a viable and saleable product profitably.

5.2.1.2 Program of works

McMahon Coal Quality Resources (MQCR) in association with Stanmore Coal produced a laboratory coal test program based on pre-treatment washability procedures to accurately represent likely size distributions, washability characteristics and product potential of Isaac Downs coals when processing via the Isaac Plains Coal Handing and Preparation Plant (CHPP).

The recent Stanmore Coal drilling programme yielded a total of 701 samples to be sent for laboratory analysis. These samples included coal as well as stone roof, floor and inter-burden materials. Each of the samples was subjected to an initial non-destructive Apparent Relative Density (ARD) test from which 453 individual coal samples were identified for further analysis.

From the 453 samples a total of 134 composited samples were generated. 127 composite samples were taken across all sub-plies of the Leichhardt & Vermont Upper coal seams as identified and established in the current resource model. The remaining 7 composite samples were produced for the Vermont Lower coal seam, which although modelled and assessed for yield and product potential, is not part of the present Isaac Downs JORC resource estimate.

These composite samples were each subjected to a pre-treated and sized “Large Wash” testing process, this process is part of the wider lab program, in brief summary the Large Wash process involves the following key steps:

- Pre-treatment and dry sizing
- Raw coal testing *and*
- Wet sizing and washability (float-sink) testing by size *and*
- Clean coal composite testing (Product analysis)

All results were reported to Stanmore Coal and MCQR and results checked and validated by MCQR through each reporting stage.

In terms of the main coal quality testing steps, listed above, in each case the sum of all data which was deeded valid was included by MCQR and Stanmore in assessments. This included both historic (BCC and Peabody) and current (Stanmore) data, refer **Error! Reference source not found.**.

5.2.2 Samples

Sample data were stored in a datasheet in the geological database. Each sample was assigned a “type” code (**Table 5-4:**) dependant on the type of sample, the type of analysis, purpose of the sample and whether the sample was representative of the seam interval. A sample interval was entered for each seam and ply in each hole. This consisted of several contiguous samples being assigned the same seam code across any interval which would be a valid representation of that seam in that hole. This has resulted in seam sample intervals overlapping in the coal quality dataset as parent seams can exist alongside daughter plies or seams.

Table 5-4: Sample Types

Code	Description
D	Sample(s) - represents 95-100% of seam
K	Sample(s) - 90-95% of seam
S	Sample(s) where IB is 0.1-0.3m
X	Non representative >105%, <90%
C	Composite from lab - 95-100% of seam
Code	**Description**
W	Washed data sample
H	Where seam is a horizon only
L	Lox sample
F	Frictional ignition sample
G	Gas sample

5.2.3 Raw Coal Analysis

Raw proximate, total sulphur and relative density is stored in the Maptek ISIS database. This data was compiled from laboratory results. Raw coal quality data was checked for internal consistency and consistency with the existing data set by checking cumulative totals and cross-correlations. Further detail on the modelled raw qualities and relationships between selected raw values is provided in section **Error! Reference source not found.**.

5.2.4 Washed Coal Analysis

In the Large Wash procedure, lab washability testing is undertaken on grouped size fractions, each of which bears relation to a separate processing stream within the Isaac Plains CHPP, as follows:

- -50mm+16mm – Dense Medium Cyclones (DMC)
- -16mm+2mm – Dense Medium Cyclones
- -2mm+0.25mm – Teetered Bed Separators (TBS)
- -0.25mm –Flotation

The Isaac Plains CHPP is designed to produce two products simultaneously, a primary coking product and a higher ash secondary product.

The CHPP also has the option of sending the coarse coal product (-50mm+16mm) size fraction from the DMC, to either the primary **or** secondary product. Sending this coarse (duller) size fraction to the secondary product enhances the coking properties of the primary product.

When directing the coarse coal to the secondary product the term primary "High Quality" (HQ) processing is used, as opposed to the primary "High Yield" (HY) processing where the coarse fraction remains in the primary coking product.

The Isaac Downs wash dataset consists of a total of thirty (30) boreholes, that is eighteen (18) Stanmore boreholes and twelve (12) historic boreholes. All 30 boreholes have the requisite data to allow for HY processing simulation. However only twenty-three (23) holes have the data to allow for simulations in HQ mode, as they possessed the requisite -50mm+16 size lab wash analysis. A total of seven (7) of the Peabody holes did not have this data.

Incremental float cuts are taken at various densities to produce a fractional dataset, with each cut fraction having yield, ash and CSN values. The resultant dataset was then subject of washability simulation by ply, the aim of which is to determine the possible end products potential, based on the basic wash outputs of ash, yield and CSN.

Washability simulations of the dataset were undertaken by MCQR using proprietary Lab-In simulation software. For each ply both High Quality (HQ) and High Yielding (HY) Primary processing washability simulation options were run. Simulations were on an undiluted (coal only) basis, that is with wash plant efficiency factors applied, but no mining dilution or loss, to a dry/dry basis.

5.2.4.1 Coal Processing Potential

Review and analysis of ply simulations results for the Leichhardt & Vermont Upper plies has determined the most likely processing scenarios for Isaac Downs coal will result in the following product options:

1. 8.5% ash HQ primary product with a 10.5% ash or 16% ash secondary product options

HQ primary processing will target 8.5% ash, with the objective of achieving a semi-hard coking product. HQ secondary target product options considered are a 10.5% ash product (potential PCI) or 16% ash Export Thermal product, >6,000 (kcal/kg, NAR).

2. 9.5% ash HY primary product with a 16% ash secondary product option

HY primary processing will target a 9.5% ash, with the objective of achieving a semi-soft coking product. HY secondary target product is a 16% ash Export Thermal product, >6,000 (kcal/kg, NAR).

Isaac Downs has the potential to offer a possible range of semi-hard, semi-soft, PCI (Pulverised Coal Injection) and thermal coal product options at varying total yields (generally 55 to 90%* depending upon location, wash option and ply or ply combination).

*As tested basis, coal only / nil dilution, loss or interburden applied.

5.2.4.2 Minor ply observations

When trying to meet primary coking product ash targets for HQ or HY processing, being 8.5% or 9.5% respectively, these observations can be made for the following minor plies:

- The **LUD** ply could never primary product ash targets and yielded very poorly with minimal or no coking potential as indicated from CSN in all cases.
- The **VU2** ply is variable and at times can meet primary coking ash product targets though generally low yielding but with coking good potential as indicated from CSN.
- The **VL** ply could never meet primary coking ash product targets, though has coking good potential as indicated from CSN.

As a result of these observations, a third processing option was thus considered as follows:

3. 21-25% High Ash (HA) primary product option (VU2 and VL plies only)

This primary High Ash Thermal processing option consists of a 21% primary ash target, with a 30% ash secondary cut, resulting typically in a 21% or slightly greater total product ash as depending on secondary DMC cut yield contributions. This product's energy will typically sit at ~5,500 (kcal/kg, NAR).

All ply-based washability simulation data outputs were provided to Measured Group, with values of product ash, product CSN and product yield gridded for incorporation and evaluation in mine planning by Stanmore.

The combination of the wash simulation results, mine planning considerations including single (bulk) or multiple passes (composite ply) mining scenarios will be evaluated as part of future mine planning works, including a CHPP processing scenario review, which will help to confirm Stanmore's preferred processing methodology.

Instructions for laboratory product coal testing are presently issued (18 holes), and testing is ongoing. Results of analysis of Coking, PCI and Thermal laboratory composites will determine characteristics of the eventual achievable marketable products and also help inform the product decision making process.

It is MCQR's and Stanmore's opinion that there are no limiting metallurgical factors in the production of acceptable market product.

6. Geological Modelling

All geological modelling was conducted using Maptek's Vulcan v12 3D geological modelling software utilising both grid and block modelling techniques.

These techniques concentrated on creating a geological model to enable accurate estimation of coal tonnage and grade. In this regard, the final model accurately reflects the overall position of the seam roof and floor.

All models use a base area as outlined below in Table 6-1.

Table 6-1: Model Extents

	Minimum (m)	Maximum (m)	Range (m)
Easting	621,000	624,400	3,400
Northing	7,557,900	7,565,100	7,200
Cell Size	20	20	

6.1 Data Processing

6.1.1 New Data

Since the last report, a total of 134 new drill holes have been added to the geological database. Of the 134 includes new holes, 16 were drilled for coal quality.

The last hole in the database was completed on 3rd September 2019.

6.1.2 Hole Collars

A comparison between topography model and drill hole collar levels indicate that most holes are within 2m of the modelled topography. Of the holes used in the model However, there was 1 hole with a collar difference of more than 2m. Boreholes outside of acceptable tolerances were investigated on an area basis and discussed with site. Some sites remain where there is no viable explanation as to why the collar differs from topography by more than 2m. These have been removed from the model for now, and Stanmore will either keep these holes excluded or arrange re-surveying in the future.

Topography was adjusted to match drill hole collars except where the holes were drilled on disturbed ground.

6.1.3 Seam Names

As a result of correlation studies in 2019 using geophysical logs, the following seam splits were added to the model;

- the previous LL was split into LL3 and LL2, and
- the previous VU2 was split into VU2 and VU3.

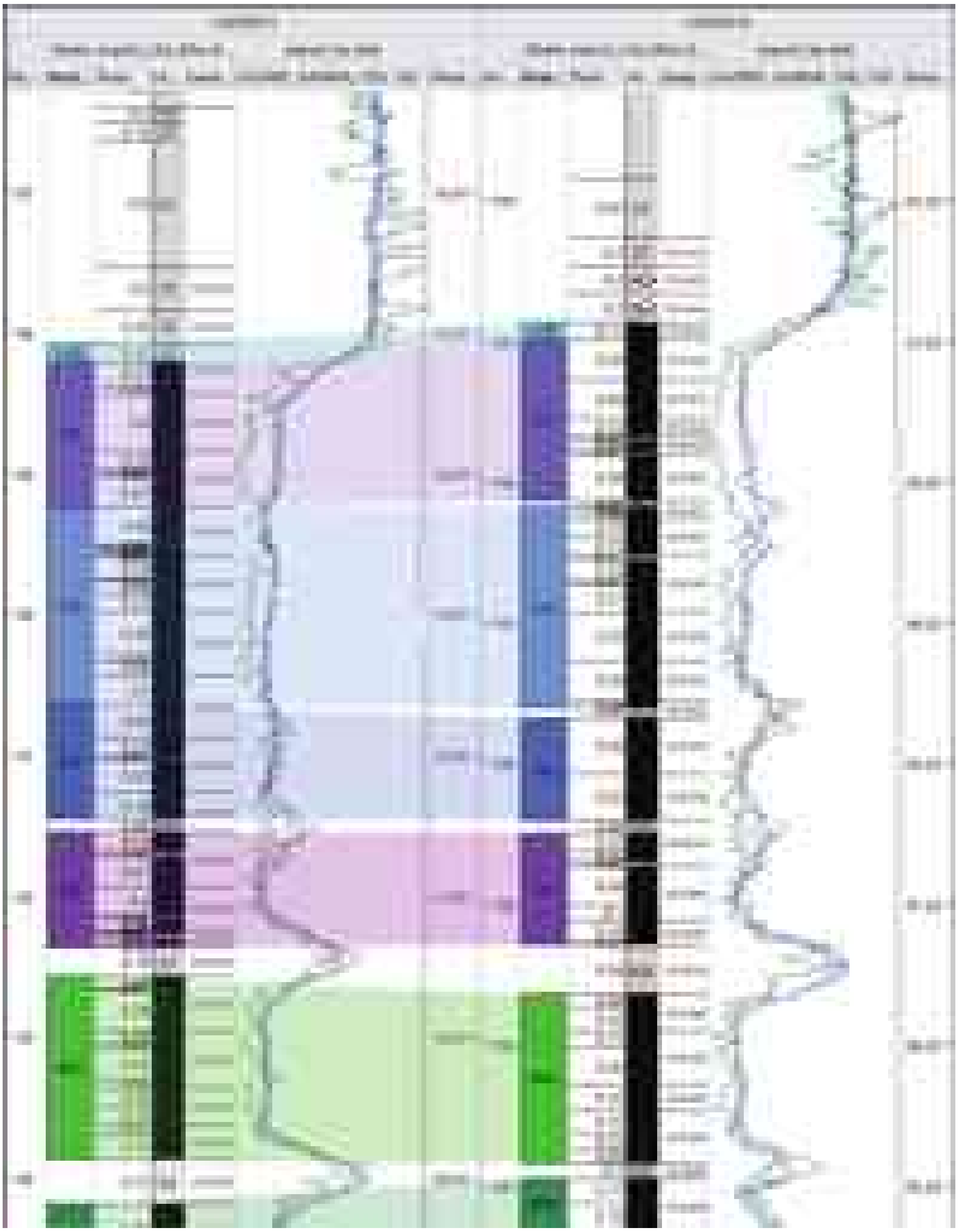
The following figure shows the current nomenclature of the Leichardt and Vermont plies.

Figure 6-1: Seam Ply and Parent Relationship

<table>
<tr><th>Seam Group</th><th>Ply</th></tr>
<tr><td rowspan="7">Leichhardt Seam (L)</td><td>LUD-LU</td></tr>
<tr><td>Parting <0.50 m</td></tr>
<tr><td>LL3</td></tr>
<tr><td>Parting <0.50 m</td></tr>
<tr><td>LL2</td></tr>
<tr><td>Parting <0.50 m</td></tr>
<tr><td>LL1</td></tr>
<tr><td colspan="2"></td></tr>
<tr><td colspan="2">VU1</td></tr>
<tr><td colspan="2">Parting <0.50 m</td></tr>
<tr><td colspan="2">VU2</td></tr>
<tr><td colspan="2">Parting ~0.50 m</td></tr>
<tr><td colspan="2">VU3</td></tr>
</table>

The LUD has historically been picked inconsistently in both core and non-core drill holes, largely because it grades from a dull-stony coal to a coaly shale or claystone lithology unit. The following (Figure 6-2) shows the gradational relationship of the LUD ply. The figure also displays the updated seam picking nomenclature used in the 2019 model and 2020 resource update. The LUD and LU plies have been modelled as a combined structural (and coal quality) unit (LUD_LU) so the LUD contributes to the Coal Resources in this updated estimate.

Figure 6-2: Coal Seam Relationship



The “PLY” field in the geological database was used to obtain seam roof and floor positions in the model.

6.1.4 Excluded Data

Holes were excluded from the structural model based on the following criteria;

- Hole was a pilot hole or was located adjacent to another drill hole which had more reliable and/or complete seam or horizon intercepts.
- Hole data was deemed unreliable due to a lack of supporting geophysical data and a lack of consistency with surrounding holes which could not be explained by the effects of faulting or other geological structures.
- Hole location was deemed unreliable.
- Hole was too short or barren and there was no benefit in its inclusion in the modelling process.

A total of 115 holes were excluded from the model. A list of these holes along with a reason why the hole was excluded is kept in the database managed by Measured.

6.2 Structural Model

6.2.1 Topography

Topography was based on Lidar data (acquired 2015) at 0–20 cm resolution. Spot checks between drill hole collars and the topography surface indicated no material differences between the drill holes and topography survey. Where minor changes between Lidar survey and drill hole collars were identified, the topography was adjusted to account for these localised differences.

6.2.2 Tertiary

A Tertiary structure floor model was created using a planar modelling method to reflect the discontinuity between this stratigraphic unit and the underlying Permo-Triassic stratigraphy.

6.2.3 Weathering

A base of weathering horizon was created based on a combination of modelled weathering thickness subtracted from topography; a structural floor based on downhole intercepts; and a minimum depth of 1 m below the base of Tertiary.

The base of weathering horizon was used to truncate coal seams, to reflect the oxidation of the seams above this horizon and to define coal seam subcrop zones.

6.2.4 Permian Strata and Coal Seams

Within the model area, a total of 193 drill holes were used to create the structural grid models.

Occasionally, where there were multiple drill holes per site, usually within 20 m of each other, a single drill hole was chosen to model the structure at that point. This was done so as not to introduce artefacts into the structural model caused by minor inconsistencies between close-spaced data points. The choice of drill hole was based on the depth of the drill hole, the number of seams intercepted, whether the drill hole was geophysically logged or if it was a cored drill hole. Drill holes not chosen were excluded from the modelling process.

Drill holes which were deemed to be unreliable were excluded from the model. This was usually due to a lack of geophysical logs, incorrect collar survey along with inconsistent correlation with surrounding drill holes.

6.2.5 Coal Seam Interpolation

The drill hole database was interpolated to ensure that all seams were represented in every drill hole, either with an interpolated position and thickness or with the seam or ply “pinched” to a zero thickness halfway between it and any adjacent drill hole. This allowed modelling to be achieved on a pre-erosional basis as well as below the total depth of the drill hole.

In some cases, where a seam or ply was not geophysically logged, the roof and/or floor of that interval was re-interpolated to better represent the expected geology.

6.2.6 Faulting

Major structures were applied to the model; a major regional scale reverse structure (the Isaac fault; >50 m) and local scale en-echelon reverse fault system, both of which are located along the north-eastern edge of the project area.

The structural model grids were generated using the following specifications (Table 6-2).

Table 6-2: Structure Model Specifications

Model	Easting	Northing	Grid Size	Interpolator
LU structure reference horizon	621000 min 624400 max	7557900 min 7565100 max	20 m	Triangulation – Linear, 1st order trend
Thickness	621000 min 624400 max	7557900 min 7565100 max	20 m	Triangulation – Linear, zero trend

6.2.7 Structural Modelling Method

The modelling process has divided the deposit into 4 sub-areas, constrained by thrust faulting; fault blocks 1-4. The model has been split into these sub-blocks to account for the regional overthrusting present within the deposit. The model has been subdivided using the Maptek fault block methodology. This method operates as follows:

- The fault blocks method creates a fully-featured, grid-based integrated stratigraphic model in each fault domain.
- Each set of grids generated is unmasked, triangulated and then clipped exactly to each of the fault blocks bounds. This results in a series of disjointed surfaces representing the roofs and floors of each horizon.

- All the pieces of each horizon's roof and floor are appended to each other to create two faulted surfaces for each horizon - one roof and one floor.

Seam structure was modelled using planar surface modelling algorithms.

6.3 Coal Quality Modelling

Coal analysis samples have been composited (where necessary) to the individual ply level and modelled using the Maptek's "Coal Compositing" and "Create Multiple Surfaces" tools. Minimum and Maximum statistics for each coal quality variable were used to constrain the modelling interpolations.

The proximate coal quality analysis; raw ash (%), inherent moisture % (ad), volatile matter %(ad) as well as total sulphur (%) and relative density were modelled. The following table provides a summary of coal quality for each of the coal plies modelled within the project area (Table 6-3).

Coal Quality was modelled using a variation of the inverse distance algorithm for each assay for each ply and merged seam. Outputs from the fault block and coal compositing models were used to generate a HARP block model.

Coal quality models were generated using the inverse distance algorithm with a power factor of 1.5, using the same extents and cell size as the structural model (Table 6-4).

Table 6-3: Selected Average Coal Quality Parameters

Seam	Ply	RD	Ash	IM	VM	FC	TS
Leichardt	LUD	1.7	39.58	1.63	21.59	37.2	0.15
	LU	1.45	17.56	1.94	24.33	56.16	0.28
	LL3	1.47	19.9	2.01	22.94	55.15	0.25
	LL2	1.54	26.27	2.11	21.05	50.56	0.23
	LL1	1.53	25.61	2.18	21.9	50.32	0.32
	L	1.4	16.37	1.97	23.18	58.49	0.28
Vermont Upper	VU1	1.45	17.1	2.07	23.87	56.97	0.39
	VU2	1.58	30.32	2.21	19.79	47.68	0.4
	VU3	1.75	43.88	2.35	16.66	37.11	0.3

Table 6-4: Coal Quality Model Specifications

Model	Easting	Northing	Grid Size	Interpolator
Coal Quality	621000 min 624400 max	7557900 min 7565100 max	20 m	Power 1.5

6.3.1 In situ Moisture and Density

All tonnages are reported using an in-situ relative density derived from the Preston and Sanders formula (see Equation 1 below) using assumed in-situ moisture of 4.0%.

This in-situ moisture value is consistent with previous Coal Resource estimates for the project area and is just below the estimated in situ moisture (4.5% to 4.7%) for the Leichhardt and Vermont seams mined at nearby Isaac Plains Minesite.

Equation 1: Preston and Sanders In situ Density

$$insitu\ RD = (RDad \times (100 - MOad)) / (100 + RDad \times (MOis - MOad) - MOis)$$

Where:

RDad = RD on an air-dry basis, g/cc

MOis = in situ moisture, %

MOad = inherent moisture on an air-dry basis, %

Table 6-5: Modelled Assays

Assay	Mapfile Variable	Grid Model Variable	Block Model Variable
Ash % (ad) - Raw	AS	*.asg	ash
Fixed Carbon % (ad) - Raw	FC	*.fcg	Fc
Inherent Moisture % (ad) - Raw	IM	*.img	moist
Total Sulphur % (ad) - Raw	TS	*.tsg	ts
Volatile Matter % (ad) - Raw	VM	*.vmg	vm
Calculated Relative Density	RD	*.rdg	rd

6.3.2 Ash vs. Relative Density Relationship

Several regressions were calculated for coal quality relationships for all samples within the coal quality analysis database.

Figure 6-3 shows the Relative Density vs Raw Ash relationship, and Figure 6-4 shows the Specific Energy vs Raw Ash relationship. These regression equations indicate a strong relationship between the datasets, as the R-Squared values are 0.96 and 0.92 respectively. The strong relationships provide a sound validation methodology for the base data used to estimate in situ density.

The density regression equation was used to calculate a density from raw ash if the value was missing from the assay datasheet.

Figure 6-3: Relative Density vs Raw Ash % (ad) – All Seams

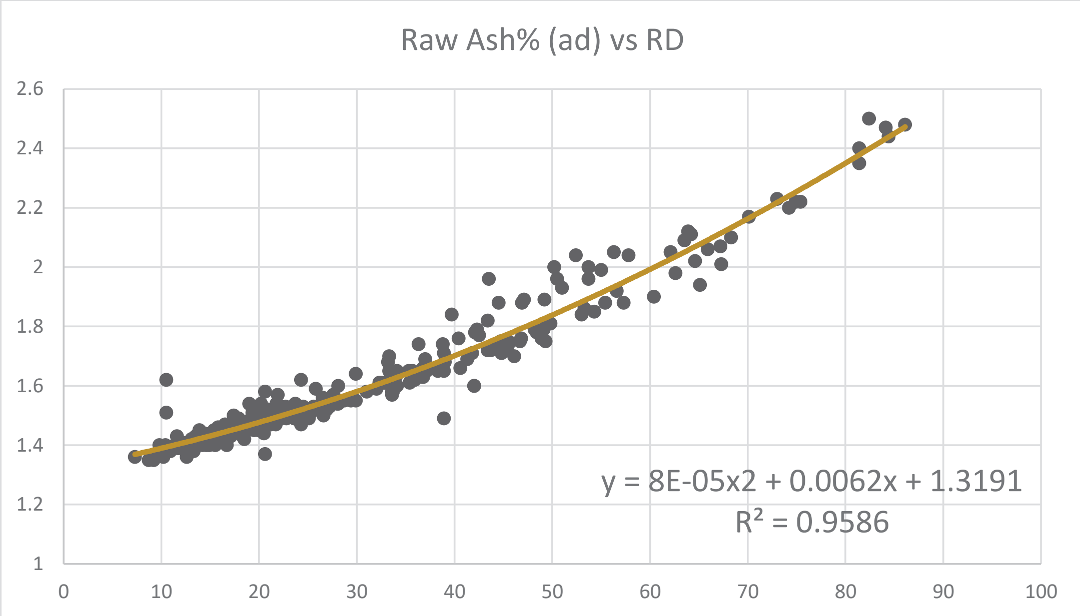
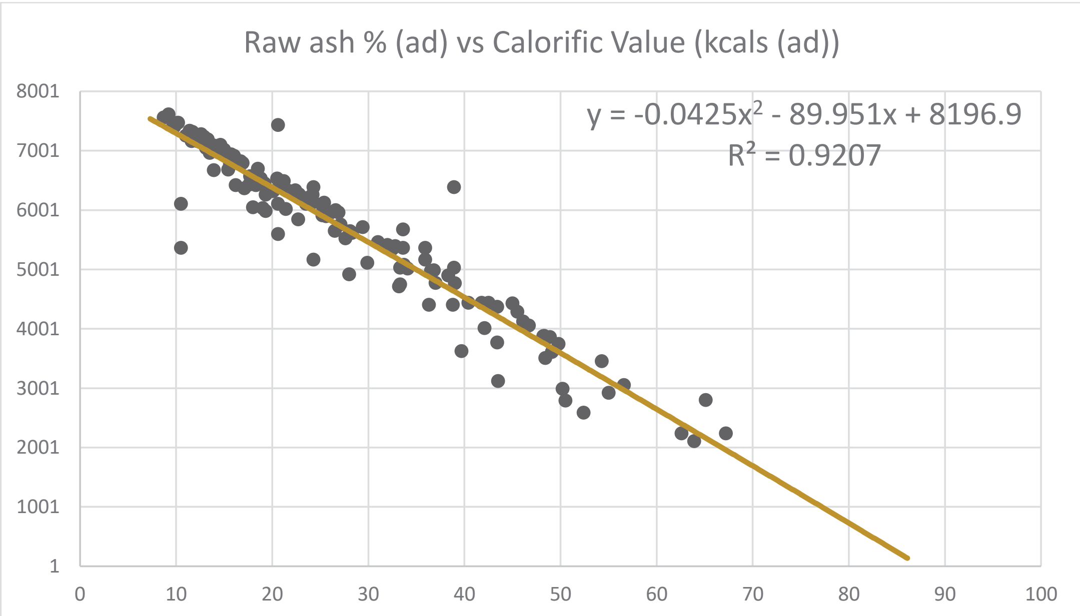


Figure 6-4 shows the relationship between calorific value and raw ash. It also displays a strong relationship between the two (R squared is 0.92).

Figure 6-4: Isaac Downs All Seams Energy vs Raw Ash % (ad)



6.4 Model Validation and Publication

All structural and coal quality grid and block models were validated using various methods that included the following:

- In built checks as part of modelling processes.
- Visual checks of the model against drill hole data via cross sections.
- Visual checks of the model looking for bullseyes and other anomalies in contour plans.
- Volume checks of resource estimations, including using manual arithmetic checks.
- Reconciliation of resource estimates back to previous estimates.

Seam correlations and modelling processes were adjusted where necessary to fix errors or artefacts found during validation. The following comments could be made:

- Seam thickness contours indicate continuity and consistency with local trending.
- There are some uncommon bulls-eyes due to data issues such as faulting, lack of geophysical logs etc. In most cases these have been addressed in the modelling process and do not affect the integrity of the model.
- Overall, the structural model looks satisfactory and is suitable for resource estimation.

6.5 Final Resource Model and Model Results

The structural surfaces and coal quality grids in this section were consolidated into a geological block (**Vulcan HARP**) model. The extents and cell size were consistent with the constraints of the structural and coal quality surfaces. The block model utilisied for resource estimation was :

- idn_BM_DEC2019.bmf

The HARP model was used for Coal Resource estimation using Vulcan 'Advanced Reserves' editor.

Appendix plans Figure B-1 through to Figure C- show results from the geological modelling including selected structure floor, depth of cover and seam/ply thickness contour and raw ash (% ad) plots.

Table 6-6: Resource Models

Area	Name
Harp Block Model	Idn_BM_DEC2019.bmf

7. Resource Estimate

Coal Resources were estimated for all economic seams / plies within the Rangal Coal Measures contained within the Isaac Downs Project area.

The Coal Resource estimate is reported in accordance with the JORC Code, 2012 and estimated by a Competent person as defined by the JORC Code, 2012.

7.1 Resource Limits

Resources were limited based on the following criteria:

- Full seam, in situ basis.
- Line of oxidation (**LOX lines**), beyond which, weathered or oxidised coal was not included in the Coal Resource estimate.
- A minimum coal seam / ply thickness of 0.3 m.
- Tenement boundaries of MDL 137, EPC 755 and EPC 728 where applicable.
- A nominal economic cut-off using a strip ratio of 20:1 (bcm per tonne of coal), which was influenced by the economic limits of Stanmore Coal Limited's nearby open-cut mining operations (Isaac Plains Complex).
- A raw ash % (ad) cut-off grade of 50% was used to distinguish between coal and rock material.

7.2 Reasonable Prospects for Economic Extraction

Coal Resources estimated and reported in this report are deemed to have the potential to produce, through beneficiation, a primary semi-hard coking coal product and a secondary PCI and/or thermal product via open-cut mining methods. The assumed mining method is conventional open-cut strip mining, utilizing dragline, excavators, dozers and mining trucks similar to adjacent Stanmore Coal Limited operations. The Rangal Coal Measures are mined in various mines nearby to the Isaac Downs Project and marketed to international customers. An economic cut-off for Coal Resources has been applied based on a high-level economic analysis undertaken by Measured, which determined that a strip ratio of 20:1 (bcm per tonne of coal) was appropriate to limit resources at depth. This was also influenced by the economic limits of Stanmore Coal Limited's open-cut mining operations at Isaac Plains Complex.

A minimum coal seam / ply thickness of 0.1 m is assumed for the Mineral Resources. There are no known deleterious elements of economic significance.

It has been assumed by the Competent Person that any potential environmental restrictions to mining will be managed by Stanmore and will not present a material risk to the Coal Resource estimate.

7.3 Points of Observation

7.3.1 Coal Quality

Points of Observation (**PO**) for coal quality (**Quality PO**) were determined on a full seam and / or ply basis for each seam using the following criteria.

- Drill hole collar is surveyed.
- Seam and / or ply interval cored, sampled and analysed at an accredited laboratory.
- Sample recovery was nominally a minimum of 95% per coal type within a seam / ply. Where sample recovery was less than this, the intersection was investigated, and a determination was made by the competent person as to whether the loss would have constituted a material difference to the assay result for that type for that seam.
- Coal seam / ply has been geophysically logged.
- Seam has detailed lithological logging; and
- Drill hole has been included in the model.

7.3.2 Coal Structure and Tonnage

Points of Observation for seam structure and quantity (**Structure PO**) were determined on a seam and ply basis using the following criteria.

- Drill hole collar is surveyed.
- Coal seam / ply has been geophysically logged.
- Seam has detailed lithological logging; and
- Drill hole has been included in the model.

7.3.3 Interpretive Data Points

All seam intersections which were deemed not to be a Structure PO but were included in the model were deemed to be an Interpretive Data Point (**IDP**).

7.4 Category Ranges

To determine optimal ranges for each category, statistical analysis was conducted on each seam and ply included in the resource. The analysis concentrated on the variables which were observed to have the most influence on the coal resources. These were seam thickness and raw ash (air dried).

7.4.1 Domains

For the purposes of the statistical analysis the entire deposit area was considered as being part of a single domain.

7.4.2 Geostatistics and Variography

General statistics, histograms and variograms were created for each seam on the following variables within the domain.

- Seam quantity – seam and ply thickness.
- Coal quality – raw ash, air dried.
- Coal quality – volatile matter, dry ash free.

Geostatistical and classical statistical analysis of coal ply and working section parameters (thickness and ash) was used to assist in determining the variability of the deposit.

The spacings derived from the variography analysis serve as a guide. Ultimately the decision on the required borehole spacings to use is determined by the Competent Person.

The results of the statistical analysis are provided in APPENDIX D:

7.4.3 Ranges

A series of variograms were constructed to determine the variability of thickness and raw ash (% ad) for each seam and ply. These observations were used to establish levels of confidence which were related back to the Points of observation for structure and coal quality.

This was used to establish optimal resource category ranges for both seam thickness and raw ash. These ranges were used in conjunction with each other to determine the final resource categories (Table 7-1).

For each seam, polygons were designed for each resource category using, as a guide, the optimal distance between Points of Observation. This was done for both coal quantity and coal quality. These polygons were then used in conjunction with each other and, based on the common area of these polygons along with nature of the seam in question, a base resource category was established. Extrapolation was then applied, and adjustments made as described in Section 7.4.4.

Table 7-1: Resource Category Distances Used for Estimation

Seam	Measured	Indicated	Inferred
LUD-LL1 (L)	500	1000	2000
LUDLU	500	1000	2000
LL3	500	1000	2000
LL2	500	1000	2000
LL1	570	1070	2000
VU1	1000	2000	4000
VU2	500	1000	2000
VU3	400	800	2000

7.4.4 Extrapolation

Resource categories were extrapolated beyond the last line of PO's based on the following criteria.

Measured

- Extrapolation to half the resource category range distance for measured and as long as the seam continuity could be proven.

Indicated

- Extrapolation to half the resource category range distance for indicated as long as seam continuity could be inferred.

Inferred

- Extrapolation to half the resource category range distance for Inferred is used, however no Inferred resources exist in the present resource estimate.

7.5 JORC Resource Classification

The classification of resources is based on the spacing and distribution of coal quality holes (Quality PO) and of non-core geophysically logged structure holes (Structure PO) along with other data including non geophysically logged drill holes.

Classification of resources polygons were based on full seam and / or ply criteria and are detailed as follows and Figure 7-1 to Figure 7-8 show the Coal Resource classification polygons for each coal seam / ply.

7.5.1 Measured Resources

A Measured Resource category was defined to represent an area where, based on the competent person's observations of seam character and coal quality, the coal resource could be estimated with a high level of confidence. This was based on the understanding of the geological properties and controls of the deposit and was achieved using the following method and criteria.

- A polygon was drawn connecting the last line of Quality PO's if they were located within the measured range distance of two other Quality PO's.
- Extrapolation distances were applied.
- IDP's used to adjust or expand this polygon if there was a high confidence in the area.
- Areas where, due to higher geological uncertainty or a lack of supporting data, it was deemed that resources could not be estimated with a high confidence were converted to either Indicated or Inferred
- Limiting factors were applied as described in the body of the report.

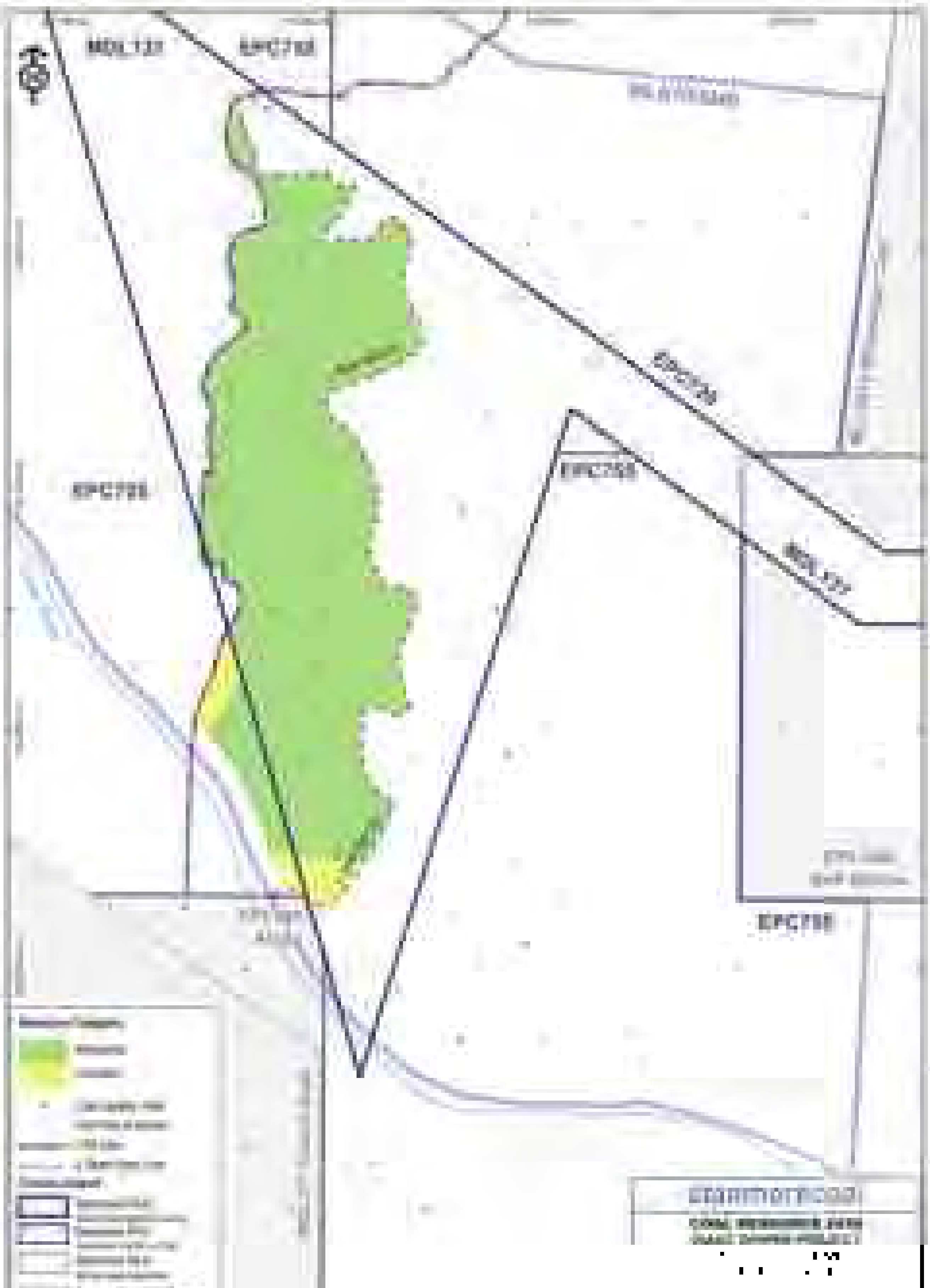
7.5.2 Indicated Resources

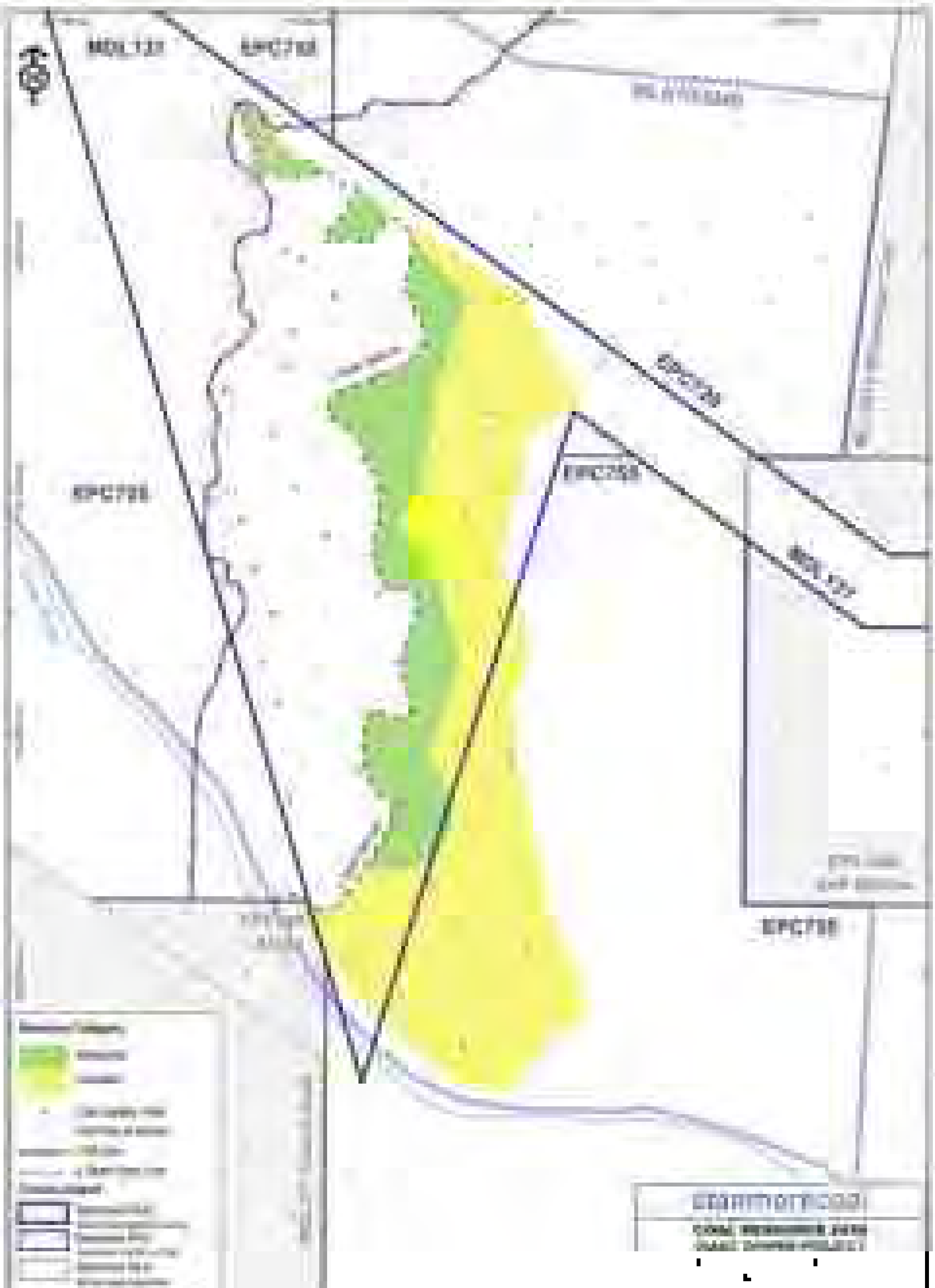
An Indicated Resource category was defined to represent an area where, based on the competent person's observations of seam character and coal quality, the coal resource could be estimated with a moderate level of confidence. This was based on the understanding of the geological properties and controls of the deposit and was achieved using the following method and criteria.

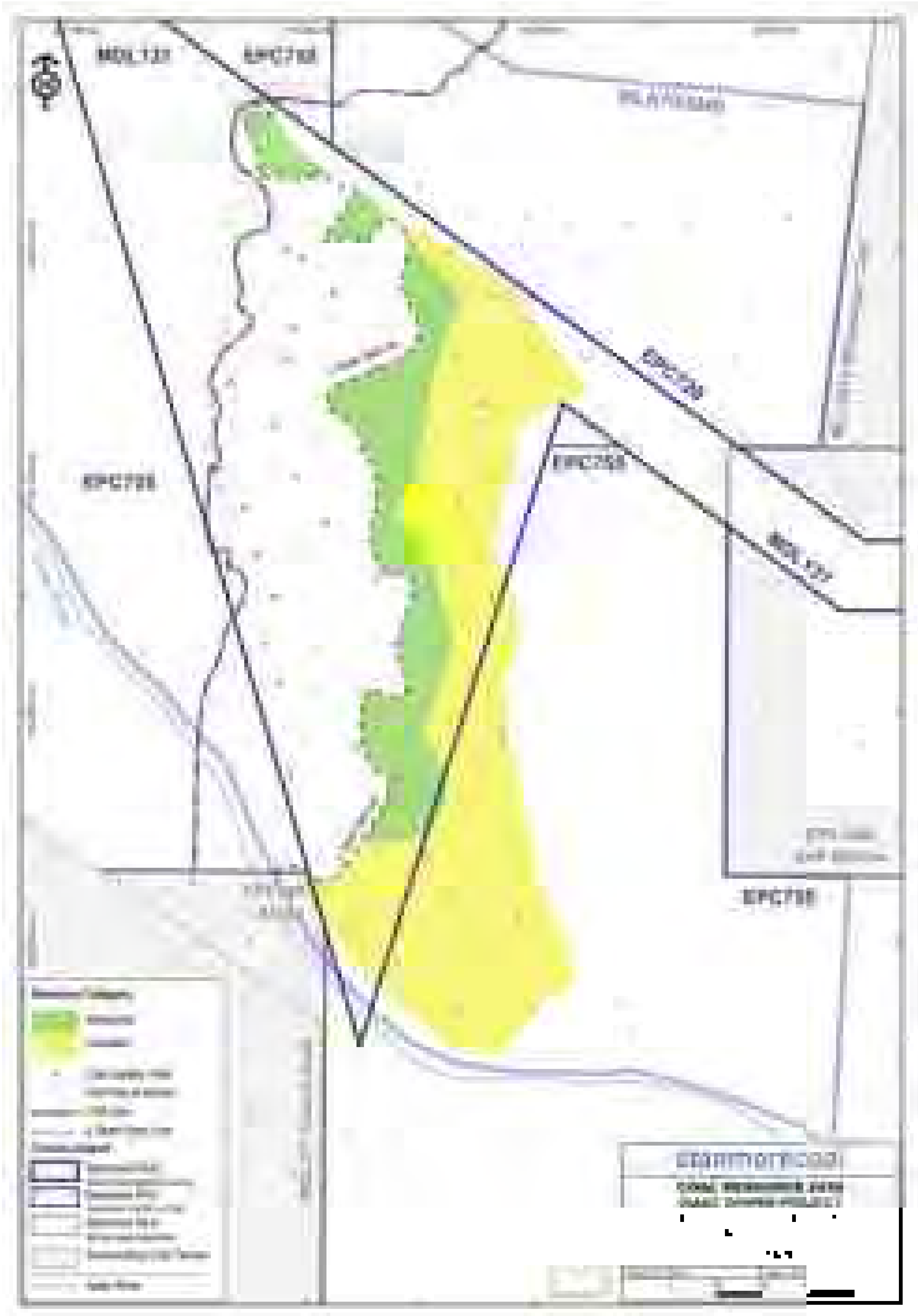
- A polygon was drawn connecting the last line of Quality PO's if they were located within the indicated range distance of two other Quality PO's.
- Extrapolation distances were applied.
- IDP's used to adjust or expand this polygon if there was a high confidence in the area.
- Areas where, due to higher geological uncertainty or a lack of supporting data, it was deemed that resources could not be estimated with a high confidence were converted to Inferred.
- Limiting factors were applied as described in the body of the report and summarised in Table 1.

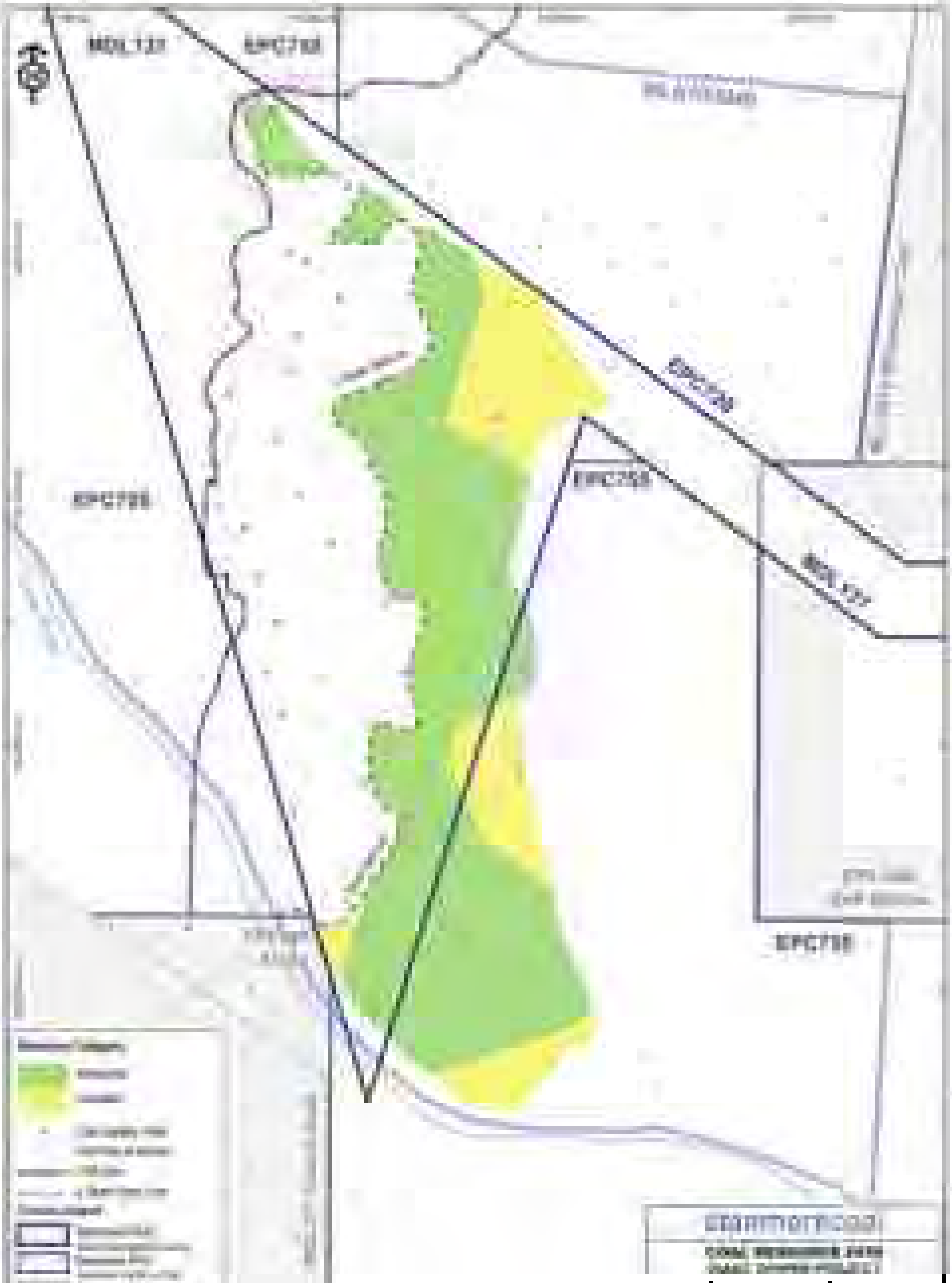
7.5.3 Inferred Resources

As noted previously, no Inferred resources exist in the present Coal Resource estimate.









8. Coal Resource Estimate 2020

Coal Resources have been estimated for the Leichhardt and Vermont Upper seams of the Rangal Coal Measures contained within the Isaac Downs Project area, which includes the majority of the area covered by MDL 137 and parts of EPC 755.

The total Coal Resource estimate is 36 million tonnes (**Mt**), of which 25 Mt is classified as Measured Resources, 11 Mt is classified as Indicated Resources and 0 Mt is classified as Inferred Resources.

A summary of the Coal Resource estimate is contained within Table 8-1, and Table 8-2.

Table 8-1: Summary of Coal Resources by Seam

Seam	Ply	Measured (Mt)	Indicated (Mt)	Total (Mt)
Leichhardt	L	10.8	0.6	**11.4**
	LU	1.4	2.7	**4.1**
	LL3	1.1	2.2	**3.3**
	LL2	0.8	2	**2.8**
	LL1	1.9	1	**2.9**
Vermont Upper	VU1	7.4	0.6	**8.0**
	VU2	1.3	2	**3.3**
	VU3		0.4	**0.4**
Grand Total		**25**	**11**	**36**

Notes:
1. Coal Resources estimated at 4% in situ moisture.
2. Totals may not sum correctly due to rounding.

Table 8-2: Detailed Coal Resources by Seam

		Measured					Indicated					Inferred					
Seam	Ply	Area ('000)	Thickness	In situ Density	Ash % (ad)	Tonnes (Mt)	Area ('000)	Thickness	In situ Density	Ash % (ad)	Tonnes (Mt)	Area ('000)	Thickness	In situ Density	Ash % (ad)	Tonnes (Mt)	Grand Total (Mt)
Leichhardt	L	1,821	4.1	1.45	15.4	**10.8**	94	4.2	1.46	16.8	**0.6**						**11.4**
	LU	1738	0.5	1.47	20.5	**1.4**	602	3.1	1.43	20.7	**2.7**						**4.1**
	LL3	655	1.2	1.42	15.9	**1.1**	1,679	0.9	1.43	19.7	**2.2**						**3.3**
	LL2	643	0.8	1.45	18.6	**0.8**	1,638	0.8	1.43	30.4	**2**						**2.8**
	LL1	641	1.9	1.5	23.2	**1.9**	1616	0.4	1.45	29.9	**1**						**2.9**
Vermont Upper	VU1	4,088	1.3	1.39	12.6	**7.4**	218	2.1	1.41	12	**0.6**						**8.0**
	VU2	1,975	0.4	1.53	25.9	**1.3**	2,358	0.5	1.49	26.9	**2**						**3.3**
							1,664	0.1	1.49	34.5	**0.4**						**0.4**
Grand Total (Mt)						**25**					**11**					**0**	**36**

Notes:
1. Coal Resources estimated at 4% in situ moisture.
2. Totals may not sum correctly due to rounding.

9. Reconciliation to Previous Estimates

A reconciliation of this Coal Resource estimate compared to the previous estimate shows an increase in the total Coal Resource of approximately 3.7 million tonnes in the MDL137 area. Within resource categories, the measured resource has increased by 8.2 million tonnes. , the indicated category has decreased by 0.5 million tonnes and inferred has decreased by 4 million tonnes. The upgrade in the total measured resources came from the infill drilling converting indicated and inferred tonnages, and through expanding the borehole coverage downdip.

The following Table 9-1 shows the comparison between the previous estimate in 2018 and this estimate (June 2020) for MDL 137 and EPC 755.

Table 9-1: Reconciliation Back to Previous Coal Resource Estimate

Seam / Ply Section	Resource Category	2018 (Mt)	2020 (Mt)	Difference (Mt)
L	MEASURED	9.9	10.8	0.9
LU			1.4	1.4
LL (LL2/3)			1.9	1.9
LL1			1.9	1.9
VU1		5.6	7.4	1.8
VU2		1.0	1.3	0.3
VU3				
Total	**MEASURED**	**16.5**	**24.7**	**8.2**
L	INDICATED	2.3	0.6	-1.7
LU		2.2	2.7	0.5
LL (LL2/3)		2.2	4.2	2.0
LL1		1.5	1.0	-0.5
VU1		2.9	0.6	-2.3
VU2		0.9	2.0	1.1
VU3			0.4	0.4
Total	**INDICATED**	**12.0**	**11.5**	**-0.5**
L	INFERRED	<1		
LU		1		-1
LL (LL2/3)		<1		
LL1		2		-2
VU1				
VU2		2		-2
VU3				
Total	**INFERRED**	**4**		**-4**
GRAND TOTAL	**ALL CATEGORIES**	**32.5**	**36.2**	**3.7**

10. Further Work

Further detailed definition of geological structures; faulting and seam splitting, and coal quality trends will be required to support detailed mine planning and operational activities.

Recommendations arising from the geological modelling and resource estimate, therefore, include the following:

- Split Delineation – infill drilling to tighten up the location of the L seam splitting.
- Coal Quality – Targeted drilling in areas of any material identified variance or anomaly
- Structure Delineation – Refine the location of structures (particularly in lower coverage areas downdip) – Both exploration drilling and seismic surveys
- LOX – infilling between lines and in lower coverage areas to increase the confidence in the lox line locations.

11. Audits and Acknowledgements

An internal review of modelling and estimation methods, assumptions and results has been conducted by Peter Handley, Principal Geologist of Measured Group Pty Ltd.

Several previous resource estimates have been completed by other parties and were reviewed before the commencement of the current resource estimate.

12. References

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APPENDIX A: JORC CODE, 2012 – TABLE 1

This Table details Section 1, 2 and 3 of the JORC Code, 2012 Edition Table 1.

Section 1: Sampling Techniques and Data

Criteria	Explanation	Detail
Sampling techniques	• *Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as downhole gamma sondes, or handheld XRF instruments, etc.). These examples should not be taken as limiting the broad meaning of sampling.* • *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* • *Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (e.g. 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information.*	• All core sampled drill holes were wireline geophysically logged with a minimum down-hole tool suite of gamma/density/calliper to afford confirmation of sample recovery and ply representation and to ensure that the core recoveries were satisfactory (> 95%). • Linear core recovery was calculated by dividing the measured length of the core by the drilled length. • Open hole rotary chip holes including the initial (non-core) sections of partial core holes provided chip samples for geological logging and in the case of Line of Oxidation (LOX) drilling, chip samples for laboratory testing. • Geophysical logs were acquired to supplement the geological description of all drill holes, and to assist with the correlation of the various seams and to demonstrate the continuity of seam character. • Geophysical logging was carried out by external contractors and subject to their internal calibration, quality assurance and quality control procedures. • For cored holes, coal and its immediately proximal stone were ply sampled discretely on the basis of lithological characteristics and quality. • Non-coal parting material greater than 0.1m thick and up to 1.0m was sampled separately. • The immediate roof and floor of coal boundaries have been sampled at lengths of approximately 0.2 m, in general. At a minimum Apparent Relative Density (ARD) analysis has been conducted on these roof and floor samples. • All coal samples were collected in plastic bags and transported to the laboratory via tracked freight courier and accompanied by a sample advice sheet. Chain of Custody and field observations were emailed to the Laboratory to arrive before the sample. • Coal Quality samples were sent to either of SGS, Mackay or Mitra PTS, Gladstone. • All coal quality samples were prepared and analysed using industry-standard testing methodologies. Each laboratory used is a National Association of Testing Authorities (NATA) registered organisation. • Line of Oxidation (LOX) chip samples, were collected in 1 m samples. • Lox samples were double bagged on-site and sent to Mitra PTS, Gladstone for proximate analysis.

Criteria	Explanation	Detail
		• Selected geotechnical samples from fully cored geotechnical holes were taken to analyse the overburden, coal and floor sediments for rock strength and other quantifiable geotechnical characteristics. Samples were stored in core trays, at representative lengths and wrapped in plastic, foil and sealed from moisture. Samples were selectively chosen by the specialist geotechnical consultant, Geotek Solutions of Milton, and then dispatched for laboratory testing. • Geotechnical laboratory testing was undertaken by Cardno, Ullman and Nolan Geotechnic laboratories in Mackay. Testing on selected samples included; Unconfined Compressive Strength, Brazilian Compressive Strength, Direct Shear Strength and Atterberg Limits.
Drilling techniques	• *Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc.) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc.).*	• All drill holes were vertical in nature. • A variety of drilling types and techniques were used depending on borehole purpose, described further as follows: • **Partial core holes for coal quality testing:** Partial core holes were completed primarily to obtain core samples of the coal seam, the immediate coal seam roof and floor and any associated stone partings. These holes were planned based off depths to the target coal seam/s as predicted from the geological model. The initial portion of each hole was drilled using rotary chip methods with a ten (10) metre offset from the predicted top of first coal marking the commencement of core drilling. The core was then taken until a minimum of 4 metres past the base of last target coal seam. These boreholes produced a conventional 4-inch core (101.6 mm diameter) and were core drilled primarily using air techniques and with mud/water injection as required. • **Fully cored holes for open-cut geotechnical characterisation:** Fully cored holes were completed to obtain core samples of the complete stratigraphic sequence likely to be encountered in mining, including the weathered overburden, fresh overburden, coal, inter-burden, partings and under-burden. The initial 6 metres of each hole was drilled using rotary chip methods with the remainder of the hole fully cored until a minimum of 6 metres post the base of last target coal seam. These boreholes were drilled using HQ wireline core techniques resulting in a 61.1mm core sample. • **Open (rotary chip) holes:** All open (non-core) rotary chip holes drilled were completed using blade, poly-crystalline diamond (PCD) and hammer drill bits, or a combination thereof. All holes were at a typical final hole diameter of 125mm. Rotary holes were completed for a combination of purposes including structural and fault definition and also LOX drilling which aimed to define the boundary of fresh and weathered coal.
Drill sample recovery	• *Method of recording and assessing core and chip sample recoveries and results assessed.* • *Measures taken to maximise sample recovery and ensure representative nature of the samples.*	• For core sections of drill holes, samples requiring eventual laboratory analysis were visually assessed and taken by the field geologists according to the established project sampling protocol. Samples were double-bagged in plastic and care was taken by the geologist to ensure all fines material was swept into the appropriate sample.

Criteria	Explanation	Detail
	• *Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.*	• Core sample returned which was not required for further analysis was placed in core boxes and retained at the Isaac Plains Mine core storage facility. • All samples to be analysed were then initially stored on-site in chest freezers until wireline geophysical logs were run on the completed drill hole. Once the geophysical logs were received, the cored borehole sections were corrected to geophysics to ensure correct core sample intervals, core recovery and core representivity. Linear core sample recoveries were recorded and samples selected and sent to the analysis laboratory for further testing. • The core drilling produced good results in terms of sample recovery with most holes achieving >95% linear core recovery. • Minimum linear sample recovery cut-off (for use as a quality point of observation) was set at 95% of the mining ply/seam thickness.
Logging	• *Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.* • *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.* • *The total length and percentage of the relevant intersections logged.*	• All chip and core sections were visually inspected and logged, with details recorded in accordance with accepted industry standards and practices (e.g. CoalLog Standard). • For each of the fully cored geotechnical holes and where possible for the partial core quality core holes, core sections were geotechnically logged in accordance with accepted industry standards and practices (e.g. CoalLog Standard). • All drill core was photographed in 0.5m intervals. • All drill core was geologically logged and marked prior to sampling. • All chip holes or chip portions of partial core holes, had chips collected in 1.0-metre intervals, which were then geologically logged and photographed. • All holes have been geophysically logged (except where blocked) with a minimum suite of tools run being: Density, Calliper, Verticality/Deviation (not for LOX) and Gamma. • The calibration of the geophysical tools was conducted by the logging contractor, MPC Kinetic Pty Ltd.
Sub-sampling techniques and sample preparation	• *If core, whether cut or sawn and whether quarter, half or all core taken.* • *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.* • *For all sample types, the nature, quality and appropriateness of the sample preparation technique.* • *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.* • *Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.*	• Sampling for analysis was undertaken on core samples and sampling of the core was in accordance with accepted industry standards and practices. • The core was field sampled in increments of no greater than 0.5m or at ply/brightness profile boundaries by splitting the core with hammer and chisel. • All core coal samples were double bagged and then stored on-site in cold storage before eventual transport to the nominated laboratory for testing. • Two coal testing laboratories were utilised being, SGS Mackay and Mitra PTS Gladstone both of which comply with the Australian Standards for sample preparation and sub-sampling. • All samples were initially tested for Apparent Relative Density (ARD) to help validate and determine coal/non-coal boundaries. Samples were then subsequently composited into working ply washability sections, the thickness of which typically ranged from 0.5 to 1.5 metres.

Criteria	Explanation	Detail
	• *Whether sample sizes are appropriate to the grain size of the material being sampled.*	• To simulate mine transport conditions each composite sample was then drop shattered 20 times from a height of 2 metres, any sample mass remaining of > 50 mm was hand knapped to 50 mm, dry tumbled and dry sized at 31.5 mm, 25 mm, 16 mm, 8 mm, 4 mm and 2 mm. Composite samples were then split and further allocated as follows: • 1/8 for quick coke: Crush to 11.2mm, float sink at 1.425 density, crush to 4mm and mill sample to test for Proximate, CSN, Gieseler & Dilatation • 1/8 for raw analysis: Crush to 4mm, mill sample to test for RD, MHC, Proximate, TS, CSN, Calorific Value & Chlorine • ¾ for float sink: Wet tumble and wet size at 31.5, 25, 16, 8, 4, 2, 1, 0.5, 0.25, 01.25 & 0.063mm. Re-combine samples in following fractions: -50+16mm, -16+8mm, -8+2mm and -2+0.25mm. Float sink each size fraction at densities (F1.30, F1.35, F1.375, F1.40, F1.45, F1.50, F1.55, F1.60, F1.70, F1.80 and F2.00). -0.25+0mm fraction subject to tree froth flotation. All fractions analysed for ash and CSN. • Washability simulations were performed by McMahon Coal Quality Resources (MCQR) on laboratory the float sink results and from that data, clean coal composite (product) sample instructions were compiled at a range of target ashes for: Primary Coking (-16+0mm), Coarse Coking (-50+16mm) and Secondary Thermal Coal Composites. At the time of this report, product testing and analysis are ongoing, with final results not yet available.
Quality of assay data and laboratory tests	• *The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.* • *For geophysical tools, spectrometers, handheld XRF instruments, etc., the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.* • *Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.*	• All coal quality and geotechnical analysis techniques are per Australian Standards and completed at NATA accredited laboratories. • All coal quality results were checked by cross plots and comparison to original geological logging for accuracy. • Down-hole geophysical logging tools are per industry-accepted standards, with the standard tool suite consisting of; natural gamma, density, calliper and verticality/deviation. Additional tools selectively run on holes included; electrical resistivity, neutron, multi-channel sonic, acoustic and optional televiewer. • Geophysical logging was carried out by external contractor MPC Kinetic and subject to their internal calibrations, quality assurance and quality control procedures. Downhole tools are calibrated at a test well on a monthly basis.
Verification of sampling and assaying	• *The verification of significant intersections by either independent or alternative company personnel.* • *The use of twinned holes.* • *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.* • *Discuss any adjustment to assay data*	• All sample information was transferred from sample sheets completed in the field to the appropriate database at the time. • All data was checked against geophysics and is currently stored within a database. • All primary digital data is entered into a company database with physical copies being scanned and saved to a separate file server. • Coal quality sample intervals and results were checked and correlated against lithological and geophysical logs.

Criteria	Explanation	Detail
		• Apparent Relative Density testing was undertaken on all coal quality samples with density results selectively and randomly cross-checked against geophysical and geological datasets to ensure accuracy. • Raw coal quality data was checked for internal consistency and consistency with the existing data set by checking cumulative totals and cross-correlations. • SGS and Mitra PTS are NATA accredited testing laboratories and comply with the Australian Standards for coal quality testing and as such conduct the verification and validation for coal quality analysis outlined in the standards. • Coal analysis procedure design, laboratory program management, staged lab data validations; washability simulation (undiluted coal only) and product coal assessment were undertaken by independent consultant Chris McMahon at McMahon Coal Quality Resources (MCQR). • All coal quality results were validated by MCQR prior to provision to Stanmore and Measured Group for inclusion into the geological model and resource estimate. • No further adjustment to the resultant assay data has been undertaken.
Location of data points	• *Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.* • *Specification of the grid system used.* • *Quality and adequacy of topographic control.*	• A professional survey of all Stanmore exploration boreholes was conducted by Airmap3D Surveyors (Moranbah). • All survey associated with drill collars, conducted using high precision differential GPS with base station reference with an accuracy of +/- 20 mm. • All survey co-ordinates captured in AGD 1984 AMG Zone 55 (ESPG 20355). • Topographic control was captured using Lidar aerial survey in 2015, with an accuracy of +/- 20 mm. • Checks of the topography surface and drill holes were completed, with only minor and acceptable variances identified between the two data sets.
Data spacing and distribution	• *Data spacing for reporting of Exploration Results.* • *Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.* • *Whether sample compositing has been applied.*	• Geostatistical and classical statistical analysis of coal ply and working section parameters (thickness and ash) was used to assist in determining the variability of the deposit. • Non-core holes are spaced approximately 400 m and 600 m apart and core holes are generally spaced at between 500 m and 750 m apart. • The drill hole spacing has been deemed sufficient to define the areas of resource confidence quoted in this report. • Some seam compositing of raw samples has been undertaken based on geological boundaries.
Orientation of data in relation to geological structure	• *Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.* • *If the relationship between the drilling orientation and the orientation of key mineralised structures*	• Samples have been distributed along known coal seam strike and down dip to ensure unbiased sampling. • All drill holes used as points of observation were drilled as vertical holes, which is appropriate given the flat lying and stratiform nature of the coal deposits.

Criteria	Explanation	Detail
	is considered to have introduced a sampling bias, this should be assessed and reported if material.	• The principal coal quality attributes are controlled by stratigraphy rather than structure (faults, veins, joints etc.) and no sampling bias is expected to be generated by this orientation of data. Coal quality variability is interpreted to be influenced more by depositional environment than structure and vertical core holes provide unbiased sampling for analysis. • The orientation and spacing of the drilling grid is deemed to be suitable to detect geological structures and coal seam continuity within the defined resource area.
Sample security	• *The measures taken to ensure sample security.*	• Each sample was secured in 2 x plastic bag(s) and tagged with a unique sample ID. • Prior to shipment sample bags were grouped and loaded into a polyweave sacks and dispatched to the laboratory by a commercial transport company. A sample dispatch form is sent with the drum to the laboratory. • A digital copy of the sample dispatch form along with sample advice information is emailed to the laboratory; when the drum is opened the dispatch forms and drum contents are reconciled. • All samples were held in cold storage prior to leaving site and also at the laboratory prior to commencing analysis. • The same sample security procedure was used for all geotechnical samples derived from geotechnical cored holes
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• Several previous resource estimates have been completed by other parties and were reviewed prior to the commencement of the current resource estimate. • An internal review of modelling and estimation methods, assumptions and results has been conducted by Peter Handley, Principal Geologist of Measured Group Pty Ltd.

Section 2: Reporting of Exploration Results

<table>
<tr><th>Criteria</th><th>Explanation</th><th>Detail</th></tr>
<tr><td>Mineral tenement and land tenure status</td><td>Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.
The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.</td><td>Coal Resources for the Isaac Downs Project are contained within Mineral Development Licence (MDL) 137 and portions of Exploration Permits for Coal (EPC) 728 and (EPC) 755.
Tenure is held by Stanmore IP South Pty Ltd (a 100% owned subsidiary of Stanmore Coal Limited). Project tenure details are as follows:
<table>
<tr><th>Permit Number</th><th>Grant Date</th><th>Expiry Date</th><th>Sub-Blocks or Area</th></tr>
<tr><td>EPC 728</td><td>17/04/2001</td><td>16/04/2021</td><td>7</td></tr>
<tr><td>EPC 755</td><td>04/10/2002</td><td>04/09/2023</td><td>21</td></tr>
<tr><td>MDL 137</td><td>07/06/1993</td><td>30/06/2023</td><td>652 ha</td></tr>
</table></td></tr>
<tr><td>Exploration done by other parties</td><td>Acknowledgement and appraisal of exploration by other parties.</td><td>Majority of exploration in MDL 137 prior to 2004 was conducted by BHP Mitsui. Appraisal of exploration drilling and resource assessment was conducted by JB mining in 2002, at which time 9 coal quality holes and 38 chip holes had been drilled in the tenure.
The majority of the holes were not geophysically logged and topographic surface and collar relative levels were relatively inaccurate. Due to these issues, the majority of the deposit was classified as inferred.
Drilling in EPC 755 has predominantly been conducted by Aquila Coal Pty Ltd and Bowen Central Coal. Appraisal of the exploration drilling in EPC 755 was conducted by JB Mining in 2018 as a part of the Isaac Plains South Resource Statement.</td></tr>
<tr><td>Geology</td><td>Deposit type, geological setting and style of mineralisation.</td><td>Within the project area, economic coal is contained within the Permian Rangal Coal Measures (RCM). Locally, the RCM is unconformably overlain by Tertiary sediments and basalt flows and the sequence dips towards the east at around 2 degrees to 5.5 degrees.
The deposit type is coal with the potential to produce a range of thermal, PCI, semi-soft to semi-hard coking coal depending on the selected beneficiation strategy.
The Leichhardt and Vermont seams host the resource and typically have a combined thickness of up to 7.5 m. The coal seams are expected to be mined via dragline and truck and shovel methods.
Coal is weathered to an average of 25 m.
No known volcanic activity has materially impacted on the coal contained within the deposit.</td></tr>
</table>

Criteria	Explanation	Detail

Drill hole Information	• *A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:*
	  • *easting and northing of the drill hole collar*
	  • *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar*
	  • *dip and azimuth of the hole*
	  • *downhole length and interception depth*
	  • *hole length.*
	• *If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case*
		• Detailed drill hole intercepts have not been included as it is deemed commercially sensitive. This information may be supplied if requested.

Data aggregation methods	• *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.* • *Where aggregate intercepts incorporate short lengths of high-grade results and longer lengths of low-grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.* • *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	• All seams have been modelled as individual plies and partings and resources have been estimated and reported on a ply or coalesced full seam basis. • Coalesced parent seams structure roofs and floors were created based on their respective uppermost and lowermost ply roofs and floors. • A parent seam was created wherever the adjacent plies could be coalesced based on a minimum interburden thickness of 0.5 m. • Samples have been aggregated within the modelling software to match the combined seam. Non-coal intervals greater than 0.3m have been excluded from aggregation. • Individual samples have been weighted by thickness and density (mass weighting). Laboratory determined air-dried RD (**RD ad**) has been used for the density weighting.
Relationship between mineralisation widths and intercept length	• *These relationships are particularly important in the reporting of Exploration Results.* • *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported. • If it is not known and only the downhole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').*	• Seam thicknesses have been reconciled to geophysics to ensure accuracy. • Coal thicknesses shown are for downhole thickness. Coal resource modelling and estimation adjusts for seam thickness versus the apparent thickness modelled. • Thicknesses for each seam/ply were contoured and any bullseyes were investigated.
Diagrams	• *Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.*	• All appropriate diagrams are contained within the main body or appendices of the Isaac Downs resource estimate report.

Criteria	Explanation	Detail
Balanced reporting	• *Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.*	• All available validated data has been included in the geological model, is reflected in the estimate and associated reporting. • The estimate and reporting are considered to be a balanced representation of the Coal Resources contained within the project area.
Other substantive exploration data	• *Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.*	• Regional aeromagnetic and gravity data hosted by the Queensland Department of Natural Resources and Mines was referenced when assessing regional structures that impact on the project area.
Further work	• *The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).* • *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*	• The proposed upcoming exploration programs will address the following: ○ Split Delineation – infill drilling to tighten up the location of the L seam splitting. ○ Coal Quality – Infill drilling in areas of lower coverage ○ Structure Delineation – Refine the location of structures (particularly in lower coverage areas downdip) – Both exploration drilling and seismic surveys ○ LOX – infilling between lines and in lower coverage areas to increase the confidence in the lox line locations.

Section 3: Estimation and Reporting of Coal Resources

Criteria	Explanation	Detail

Database integrity	• *Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.*
	• *Data validation procedures used.*
		• The geological database contains all hole surveys, drilling details, lithological data, and coal quality results and is the primary source for all such information.
		• Where possible, all original geological field logs (scanned or hard copy), downhole geophysics (LAS) files and hard copy logs, hole collar survey files, digital laboratory data and reports and other similar source data are maintained in a project library and referenced within the database to provide an audit trail to this source data.
		• Some validations were undertaken on the database that helps ensure consistency and integrity of data including, but not limited to:
		  ○ the relational link between geological, downhole geophysical and coal quality data;
		  ○ exclusion of overlapping geological intervals;
		  ○ restriction of data entry to the interval of the defined hole depth;
		  ○ use only of defined rock type and stratigraphic codes; and
		  ○ basic coal quality integrity checks such ensuring data is within normal range limits; that proximate analyses add to 100 per cent; etc.
		• Lithological logs, geophysical wireline logs, assay results and coal intersection depths were adjusted to geophysics before modelling and resource estimation.
		• Coal quality data checked against NATA laboratory reports where available prior to resource estimation.

Site visits	• *Comment on any site visits undertaken by the Competent Person and the outcome of those visits.* • *If no site visits have been undertaken indicate why this is the case.*	• The Competent Person has not visited the site, however, is very familiar with the geology and target coal seams of the surrounding areas, having previously worked on, and visited adjacent projects. • Material geological assumptions have been reviewed by Stanmore technical staff.
Geological interpretation	• *Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.* • *Nature of the data used and of any assumptions made.* • *The effect, if any, of alternative interpretations on Mineral Resource estimation.* • *The use of geology in guiding and controlling Mineral Resource estimation.* • *The factors affecting continuity both of grade and geology.*	• The modelling process has divided the deposit into 4 sub-areas, constrained by thrust faulting; fault blocks 1-4. Resources are currently limited to the westernmost fault block 1, where the confidence in the deposit is at its greatest. Future exploration programs will further delineate fault blocks 2 – 4 with the expectation of increasing the down-dip resources, once sufficient confidence in these areas is increased. • The overall confidence in the geological interpretation of the deposit is reasonably high. This is due to low variability as evidenced by the laterally consistent seam thickness, dip and relatively homogeneous coal quality. • Areas of higher variability exist in the areas adjacent to local and regional scale thrust faulting towards the eastern side of the deposit (fault blocks 2 – 4). • Regional-scale geological mapping was also used as supporting information to confirm continuity of the deposit, both along strike and down-dip.

Criteria	Explanation	Detail
		• The geological interpretation is based on the integration of all drill hole, geophysics, GIS and assay data.
Dimensions	• *The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.*	• Within the resource estimation area (Fault block 1), the deposit is open to the east, but the depth to the roof of the coal seams of interest is increasing. To constrain the resources; toward the deeper areas to the east; a vertical strip ratio cut-off limit of 20:1 (bcm per tonne of coal) has been applied. As well as this, other constraints to the resource estimation area include; the seam subcrop zone (at an average of 25 m depth of weathering) in the west and fault structure/s in the northeast. To the south, the resources are constrained by a buffer around the Isaac River and the lease boundary. • The dimensions of the deposit are approximately 3 km north-south 2 km east-west.

Estimation and modelling techniques	• *The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.*
	• *The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.*
	• *The assumptions made regarding recovery of by-products.*
	• *Estimation of deleterious elements or other non-grade variables of economic significance (e.g. sulphur for acid mine drainage characterisation).*
	• *In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.*
	• *Any assumptions behind modelling of selective mining units.*
	• *Any assumptions about correlation between variables.*
	• *Description of how the geological interpretation was used to control the resource estimates.*
	• *Discussion of basis for using or not using grade cutting or capping.*
	• *The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.*
		• The modelling and resource estimation was undertaken using a geological model created using the modelling and estimation tools within Maptek's Vulcan (v12) modelling software.
		• To account for the regional overthrusting present within the deposit, the model has been subdivided into 4 fault block areas using the Maptek fault block methodology. This method operates as follows:
		  ○ The fault blocks method creates a fully-featured, grid-based integrated stratigraphic model in each fault domain.
		  ○ Each set of grids generated is unmasked, triangulated and then clipped exactly to each of the fault blocks bounds. This results in a series of disjointed surfaces representing the roofs and floors of each horizon.
		  ○ All the pieces of each horizon's roof and floor are appended to each other to create two faulted surfaces for each horizon - one roof and one floor.
		• Coal analysis samples have been composited (where necessary) to the individual ply level and modelled using the Maptek coal compositing and create multiple surfaces tools. Minimum and Maximum statistics for each coal quality variable were used to constrain the modelling interpolations.
		• The models created were validated by visual inspection of the modelled structure against drill holes intersections through cross-sections, and by visual analysis of data postings versus modelled thicknesses/coal quality in plan view. As well as data honouring; by determining the residual between the data point and the resultant model; any unusual bullseyes were investigated and validated.
		• Grid models were created using a node spacing of 20 m.
		• Seam structure was modelled using planar surface modelling algorithms. Coal Quality was modelled using a variation of the inverse distance algorithm for each assay for each ply and merged seam.
		• Outputs from the fault block and coal compositing models were used to generate a HARP block model.

Criteria	Explanation	Detail
		• Estimations of the total resources were completed using the HARP block model and the Advanced Reserves tools within the Vulcan software. This technique reports the aggregated volumes of blocks within the HARP block model chosen by specific criteria (Resource polygons for eg.) and modified by various variables contained within each block. • There are no known deleterious elements of economic significance. • Correlation between several coal properties has been undertaken (such as raw ash versus relative density) and reported.
Moisture	• *Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.*	• All tonnages are calculated using a coal density that has been adjusted according to the Preston & Sanders equation, assuming an in situ moisture of 4%.
Cut off parameters	• *The basis of the adopted cut-off grade(s) or quality parameters applied.*	• A raw ash % (ad) cut-off grade of 50% was used to distinguish between coal and rock material. • No weathered or oxidised coal was included in the Coal Resource estimate.
Mining factors or assumptions	• *Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.*	• The assumed mining method is conventional open-cut strip mining, utilizing dragline, excavators, dozers and mining trucks similar to adjacent Stanmore Coal Limited operations. • An economic cut-off for Coal Resources has been applied based on a high-level economic analysis undertaken by Measured, which determined that a strip ratio of 20:1 (bcm per tonne of coal) was appropriate to limit resources at depth. This was also influenced by the economic limits of Stanmore Coal Limited's open-cut mining operations at Isaac Plains Complex. • A minimum coal seam / ply thickness of 0.1 m is assumed for the Mineral Resources.
Metallurgical factors or assumptions	• *The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.*	• Washability stage analyses for all recent quality boreholes have been received. MCQR and Stanmore Coal have undertaken washability simulations and initial product coal potential assessments. • This work indicates that several beneficiation options exist for the coals contained in the project area. These available options are a factor of both processing and mining inputs and considerations. The most likely options being considered are: • Option 1 – A "High Quality" Primary Product (-16+0mm) delivering semi-hard (potential) / with a Coarse (-50+16mm) Secondary PCI (pulverised coal injection) product. • Option 2 –A "High Yielding" (-50+0mm) Primary Product delivering a semi-soft coking product with a Secondary Export Thermal product. • Instructions for laboratory product coal testing are presently being issued and testing is ongoing. Results of analysis of Coking, PCI and Thermal laboratory composites will determine

Criteria	Explanation	Detail
		characteristics of the eventual achievable marketable products and help inform the decision making processes, once combined with mining cost, yield and revenue inputs. • It is MCQR's and Stanmore's opinion that there are no limiting metallurgical factors in the production of market acceptable products. • No other assumptions or factors have been used.
Environmental factors or assumptions	• *Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a Greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.*	• No environmental factors or assumptions have been considered. • It is assumed that Stanmore Coal Limited will keep the tenures in good standing and operate within environmental approvals.
Bulk density	• *Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.* • *The bulk density for bulk material must have been measured by methods that adequately account for void spaces (i.e. vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.* • *Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.* •	• Bulk density assumptions are based on relative density (**RD**) sample analysis results (reported on air-dried moisture basis), which are moisture corrected (using the Preston & Sanders equation and 4% in situ moisture).
Classification	• *The basis for the classification of the Mineral Resources into varying confidence categories.* • *Whether appropriate account has been taken of all relevant factors (i.e. relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).*	• The classification of resources is based on the spacing and distribution of coal quality holes (**Quality PO**) and of non-core geophysically logged structure holes (**Structure PO**) along with other data including non geophysically logged drill holes. • Points of Observation for coal quality (**Quality PO**), were determined on a full seam basis for each seam using the following criteria: ○ Seam and/or ply interval cored, sampled and analysed; and

Criteria	Explanation	Detail
	• *Whether the result appropriately reflects the Competent Person's view of the deposit.*	○ sample recovery was nominally a minimum of 95% per coal type within a seam. Where sample recovery was less than this, the intersection was investigated, and a determination was made by the competent person as to whether the loss would have constituted a material difference to the assay result for that type for that seam. • Points of Observation for seam structure (**Structure PO**), were determined on a full seam basis for each seam using the following criteria: ○ Hole collar is surveyed; ○ coal seam has been geophysically logged; ○ seam has detailed lithological logging; and ○ the hole has been included in the model. • All seam intersections which were deemed not to be a Structure PO but were included in the model were deemed to be an interpretive data point (**IDP**). • Statistical analysis conducted to determine optimal ranges for each resource category consisted of general statistics and Variography based on the following domains and variables. ○ Seam thickness; and ○ Coal quality - raw ash, % air-dried. • A greater emphasis on the variography of the coal quality spacings was used because at the Isaac Downs deposit, the variability of the coal quality (ash) is greater than that of the thickness. • The spacings derived from the variography analysis serve as a guide. Ultimately the decision on the required borehole spacings to use is determined by the Competent Person. • For the Stanmore Resources Estimate, the following distances were used for each category:

Resource Category Distances (m) – Between Defined Points of Observation

Seam	Measured	Indicated	Inferred
LUD-LL1 (L)	500	1000	2000
LUDLU	500	1000	2000
LL3	500	1000	2000
LL2	500	1000	2000
LL1	570	1070	2000
VU1	1000	2000	4000
VU2	500	1000	2000
VU3	400	800	2000

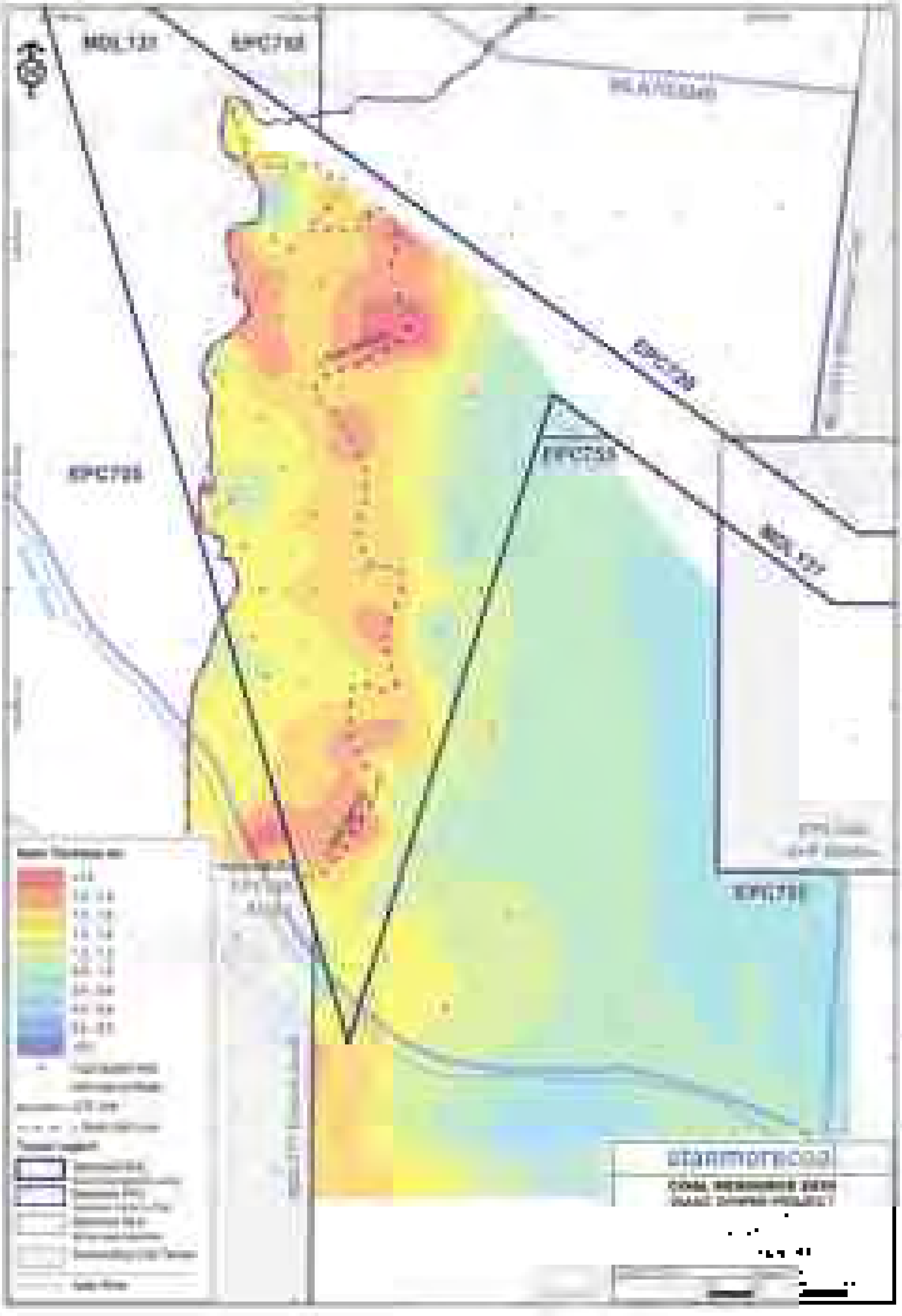
- Resource categories were extrapolated beyond the last line of Quality and Structure POs based on the following criteria:

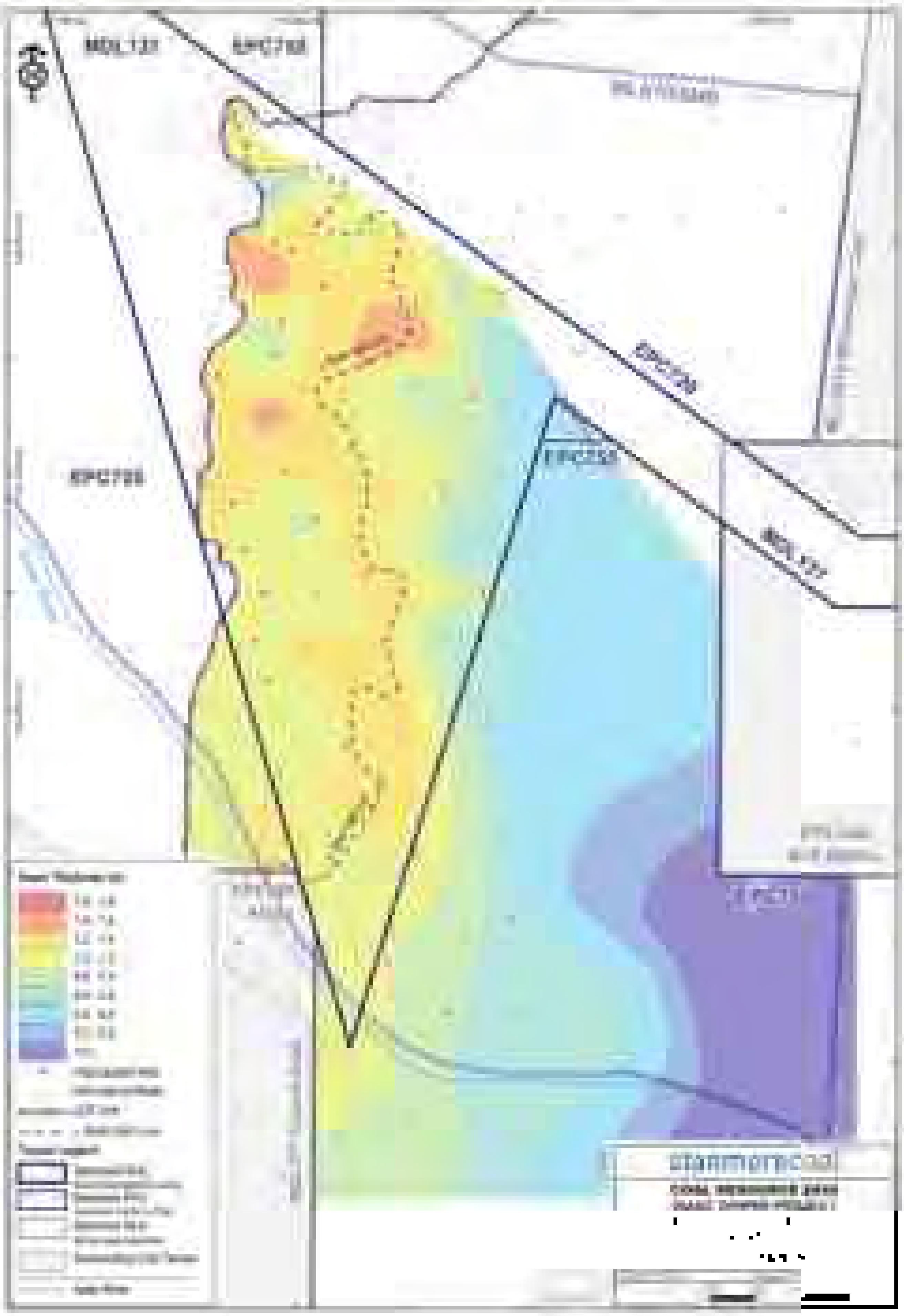
Measured

Criteria	Explanation	Detail
		○ Extrapolation to half the resource category range distance for measured if seam continuity could be proven. **<u>Indicated</u>** ○ Extrapolation to half the resource category range distance for indicated as long as seam continuity could be inferred. **<u>Inferred</u>** ○ Extrapolation to half the resource category range distance for Inferred. • Categories defined to represent an area where, based on the competent person's observations of seam character and coal quality, the coal resource could be estimated with a high, moderate or low level of confidence. This was based on the understanding of the geological properties and controls of the deposit and was achieved using the following method and criteria. **<u>Measured Coal Resource</u>** ○ A polygon was drawn connecting the last line of Structure PO's if they were located within the coal quantity measured range distance of two other Structure PO's. ○ Polygon was adjusted to ensure that the Structure PO's were within half the measured coal quality range from 2 adjacent Quality PO's. ○ IDP's used to adjust or expand this polygon if there was high confidence in the area. ○ Extrapolation distances were applied. ○ Areas where, due to a lack of supporting data, it was deemed that resources could not be estimated with high confidence were converted to either Indicated or Inferred. ○ Limiting factors were applied as described in the body of the report and summarised in Table 1. **<u>Indicated Coal Resources</u>** ○ A polygon was drawn connecting the last line of Structure PO's if they were located within the coal quantity indicated range distance of two other Structure PO's. ○ Polygon was adjusted to ensure that Structure PO's were within the half indicated coal quality range from 2 adjacent Quality PO's. ○ IDP's used to adjust or expand this polygon if there was high confidence in the area. ○ Extrapolation distances were applied. ○ Areas where, due to a lack of supporting data, it was deemed that resources could not be estimated with high confidence were converted to Inferred. ○ Limiting factors were applied as described in the body of the report and summarised in Table 1. **<u>Inferred Coal Resources</u>** ○ A polygon was drawn connecting the last line of Structure PO's if they were located within the coal quantity inferred range distance of two other Structure PO's.

Criteria	Explanation	Detail
		○ Polygon was adjusted to ensure that Structure PO's were within half the inferred coal quality range from 2 adjacent Quality PO's. ○ IDP's used to adjust or expand this polygon if there was high confidence in the area. ○ Extrapolation distances were applied. ○ Limiting factors were applied as described in the body of the report and summarised in Table 1. • The results of the resource classification appropriately reflect the Competent Person's view of the deposit.
Audits or reviews	• *The results of any audits or reviews of Mineral Resource estimates.*	• An internal review of modelling and estimation methods, assumptions and results have been conducted by Peter Handley, Principal Geologist of Measured Group Pty Ltd. • The process and results were deemed suitable for public release.
Discussion of relative accuracy / confidence	• *Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.* • *The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.* • *These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.*	• The coal seam resource polygons are limited by the modelled coal seam sub crops and by the drill hole distribution. This ensures no weathered coal can be counted within the estimate. • In areas where there is limited LOX drilling, Measured resources have been downgraded to Indicated status; and indicated to inferred status. • The thickness grids of each of the seams are based on actual drill intersections. These intersections are checked and adjusted against geophysics in both cored and chip holes. • Field geologist seam picks and correlations have been checked, and individual seam picks are generally within 0.1 m of the actual seam thickness. • There is unlikely to be any systematic high or low bias in the seam picks. Apparent seam thicknesses have been accounted for as the estimation utilises a block model which sums the volumes of the individual blocks rather than relying on an apparent seam thickness multiplied by an area. • The thickness of seam intersections that have been thickened or thinned by faulting, thinned by weathering or otherwise considered unreliable is not used in creating thickness grids. Thickness grids were checked to ensure that they honour the data and that no obvious anomalies exist which are not geologically sound. Where seams were missing from a drill hole, the thicknesses have been pinched to zero halfway between the nearest hole with a seam intercept. • The resource estimate has not been reconciled against production values. However, the current resource estimate has been reconciled back to the previous resource estimate for the project area.

APPENDIX B: SEAM THICKNESS MAPS


EPC755
stanmorecoal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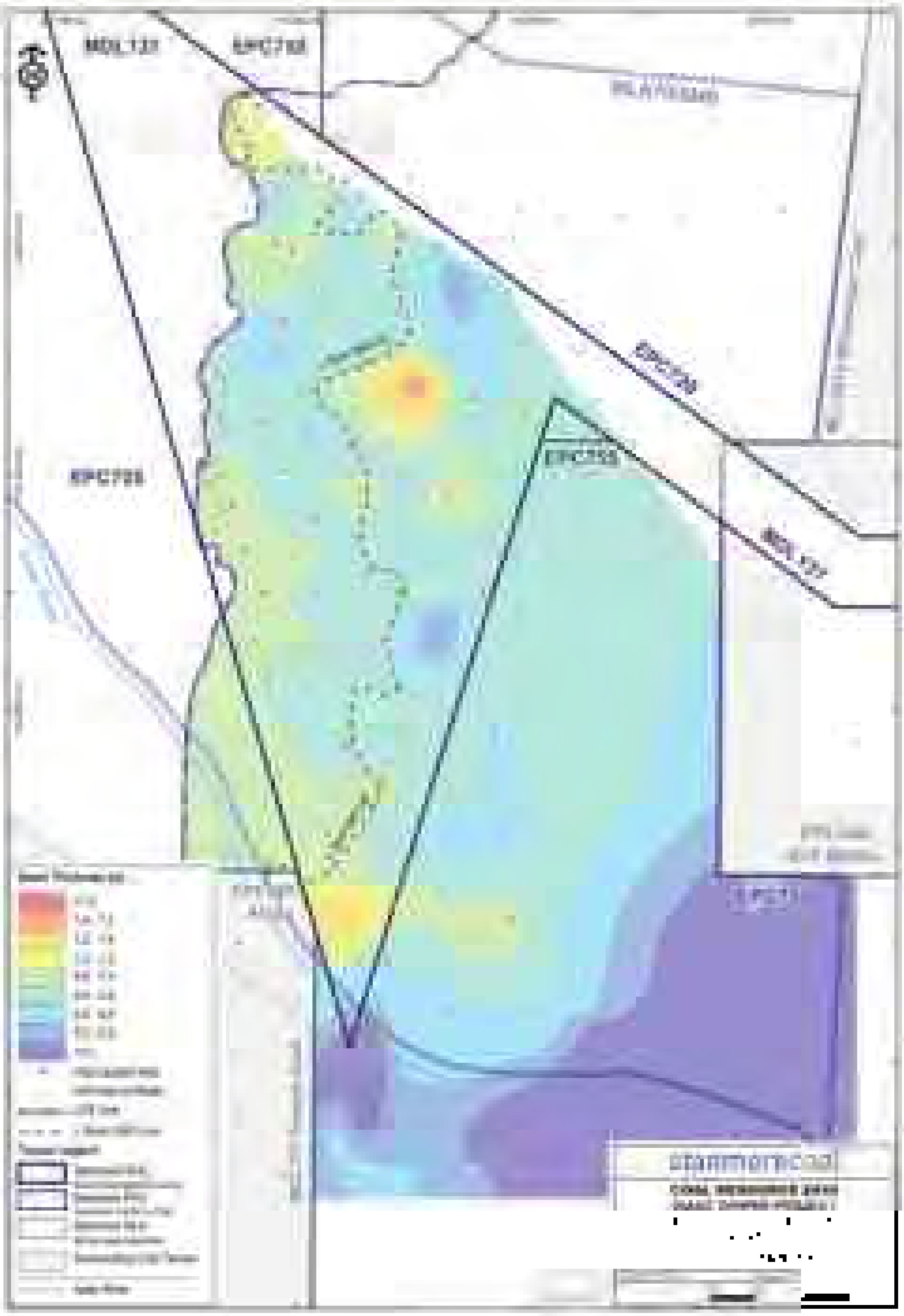
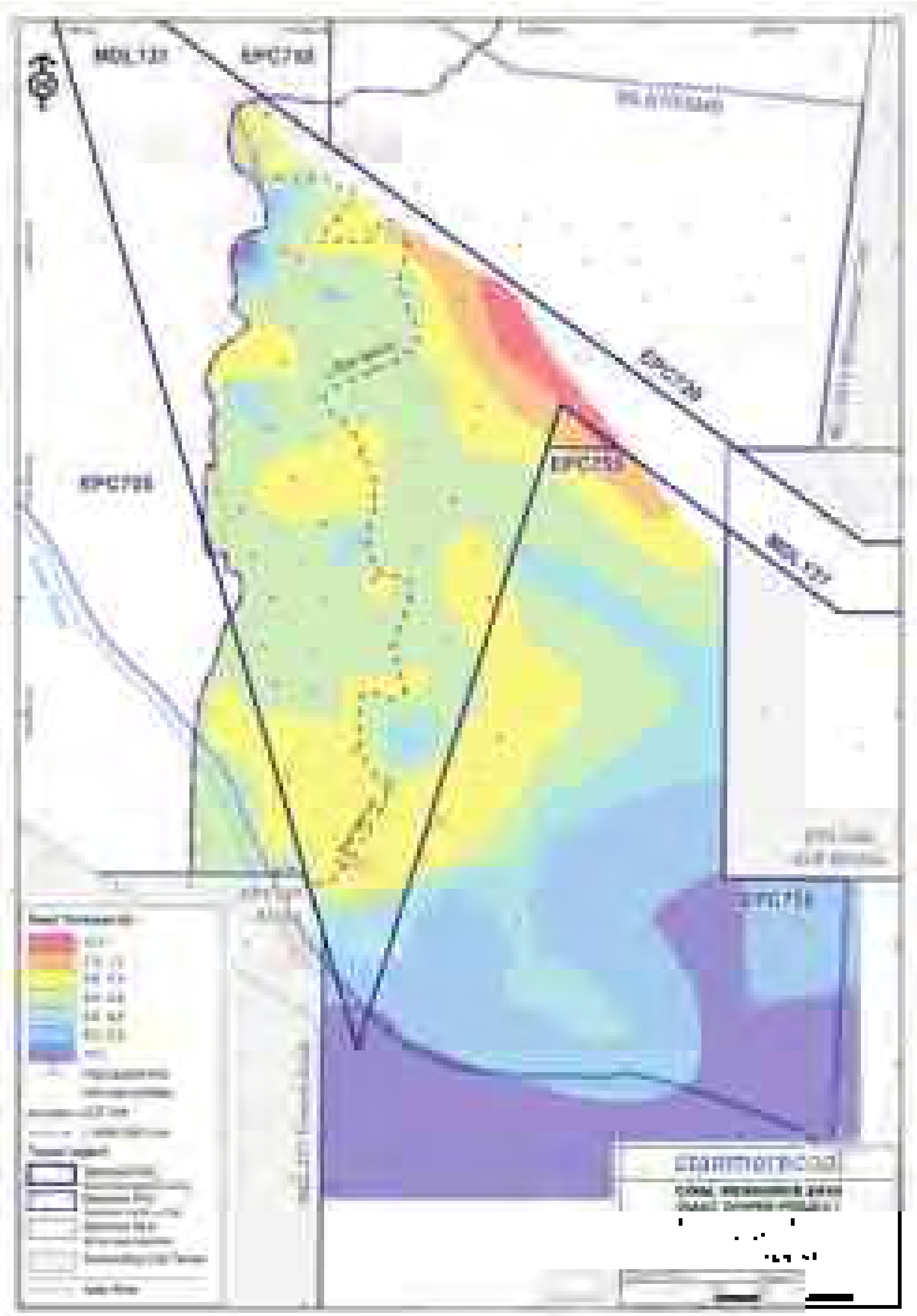
EPC755
EPC755
EPC755
MDL 137
EPC755
stanmorecoal

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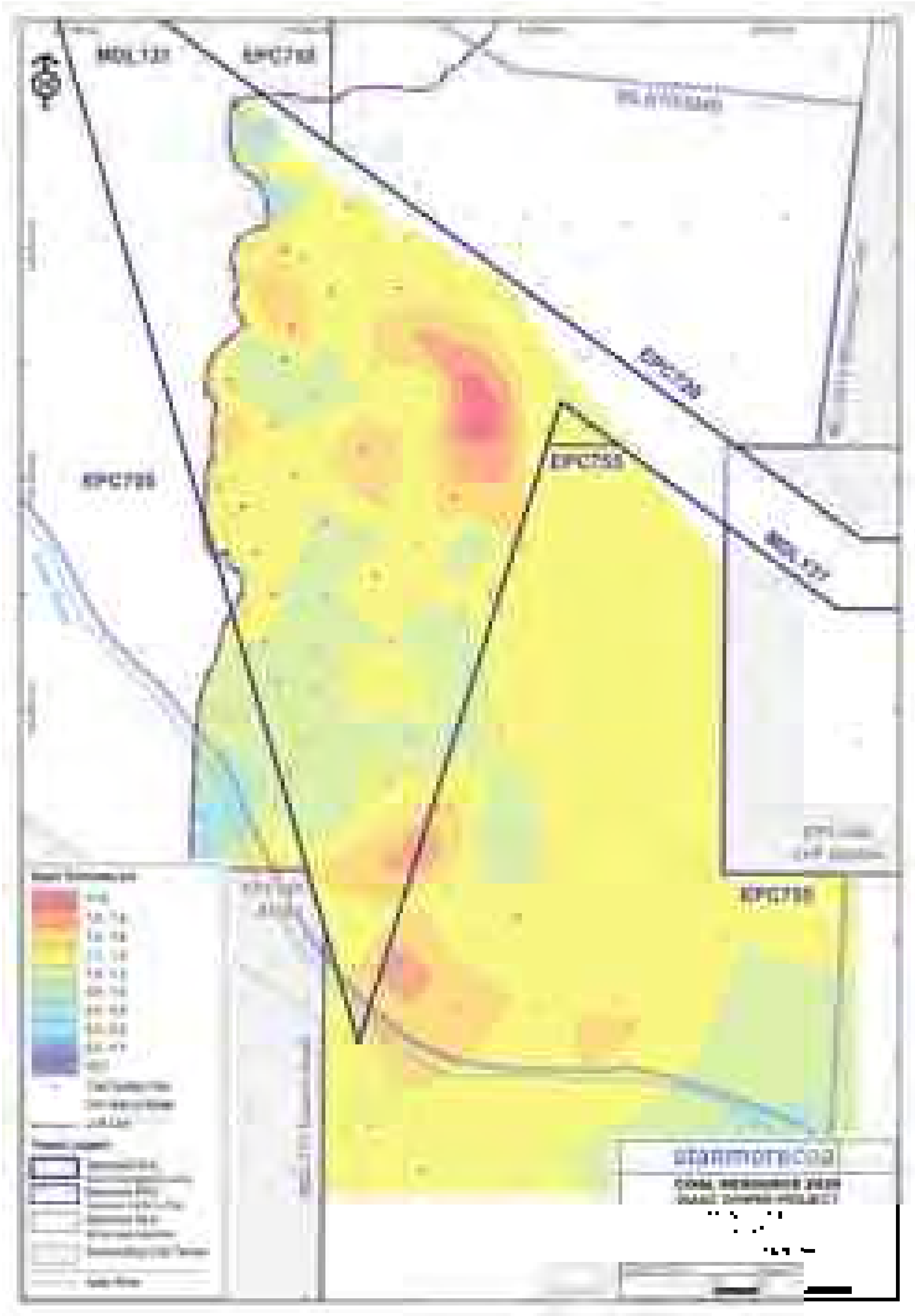
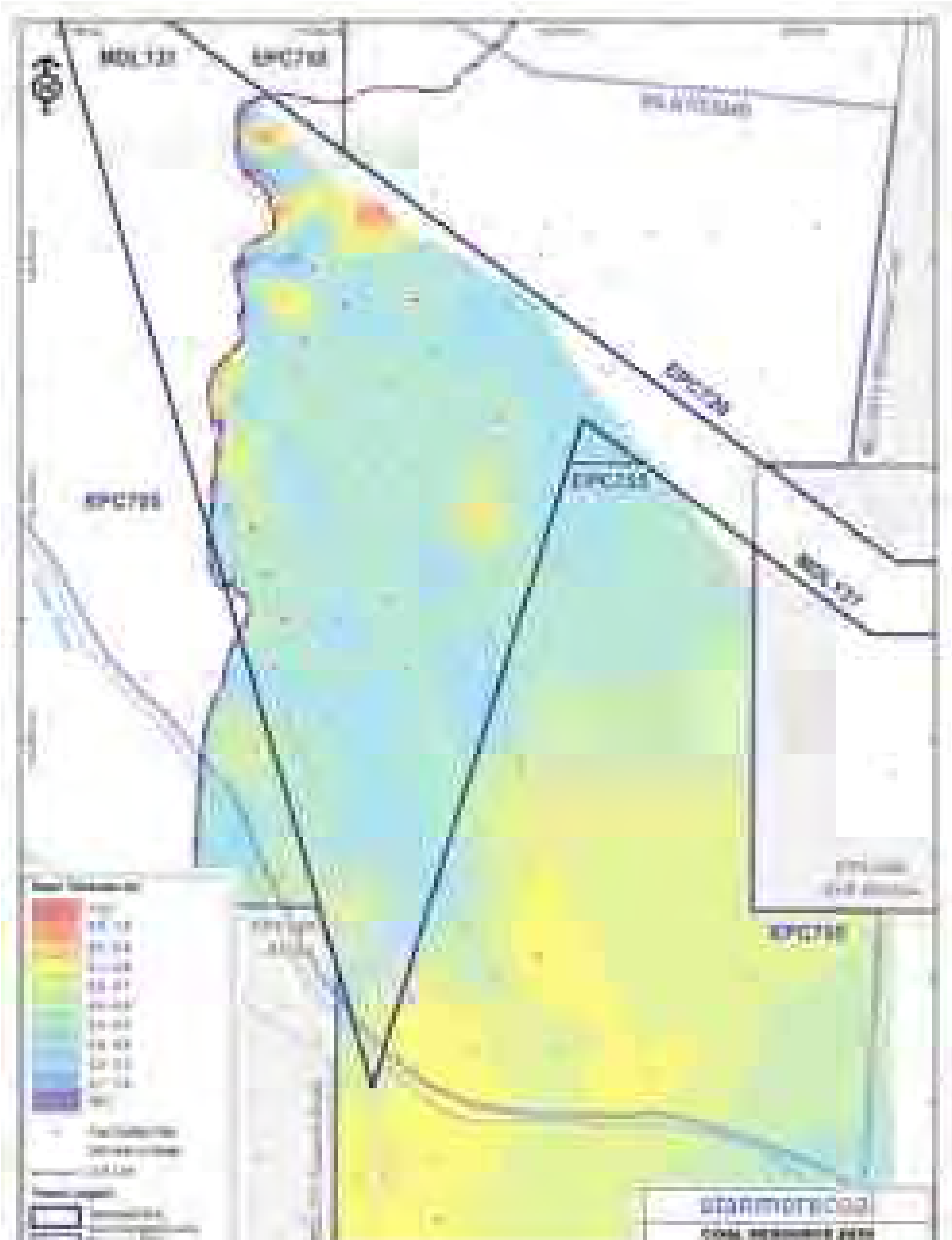
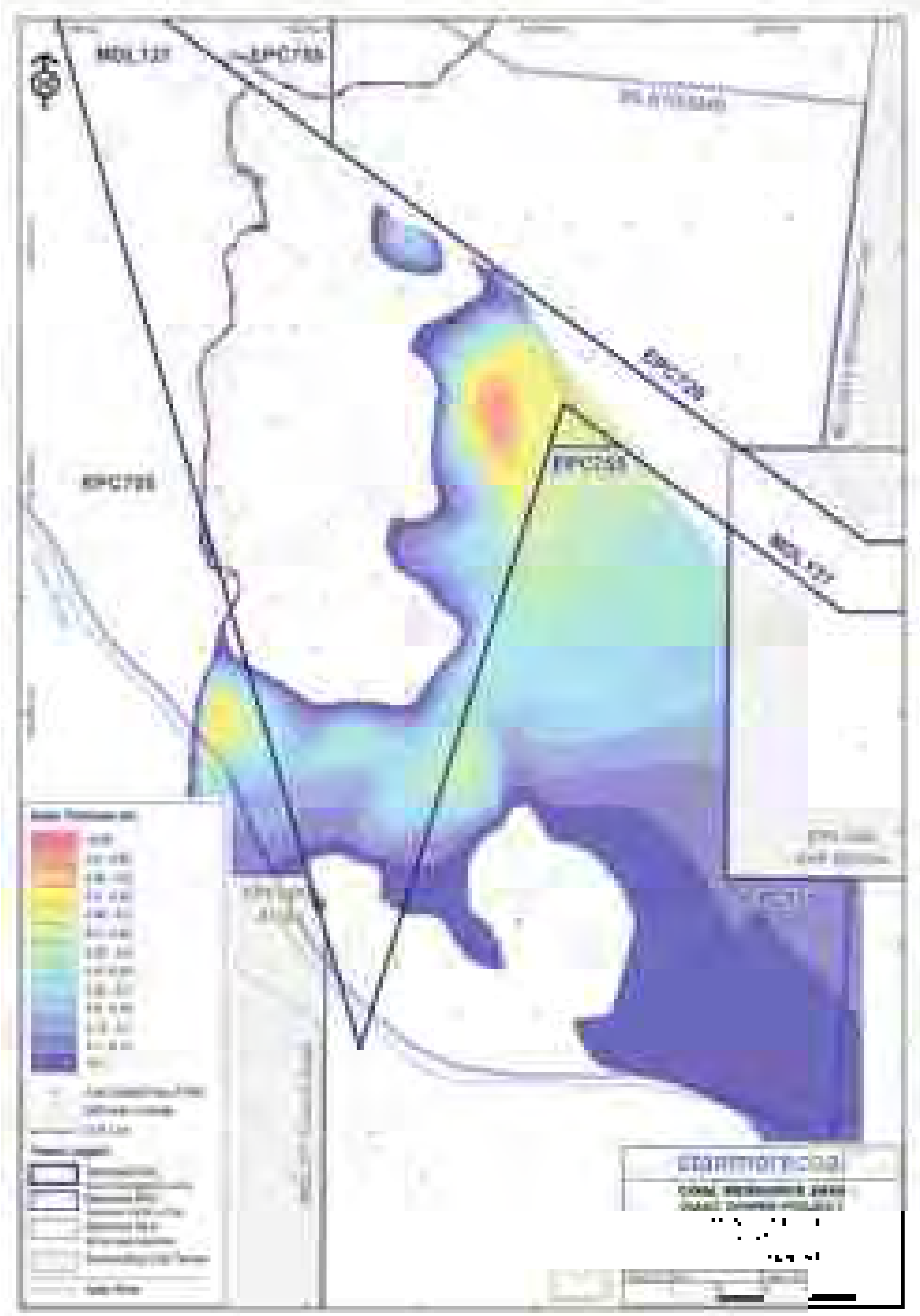
EPC757



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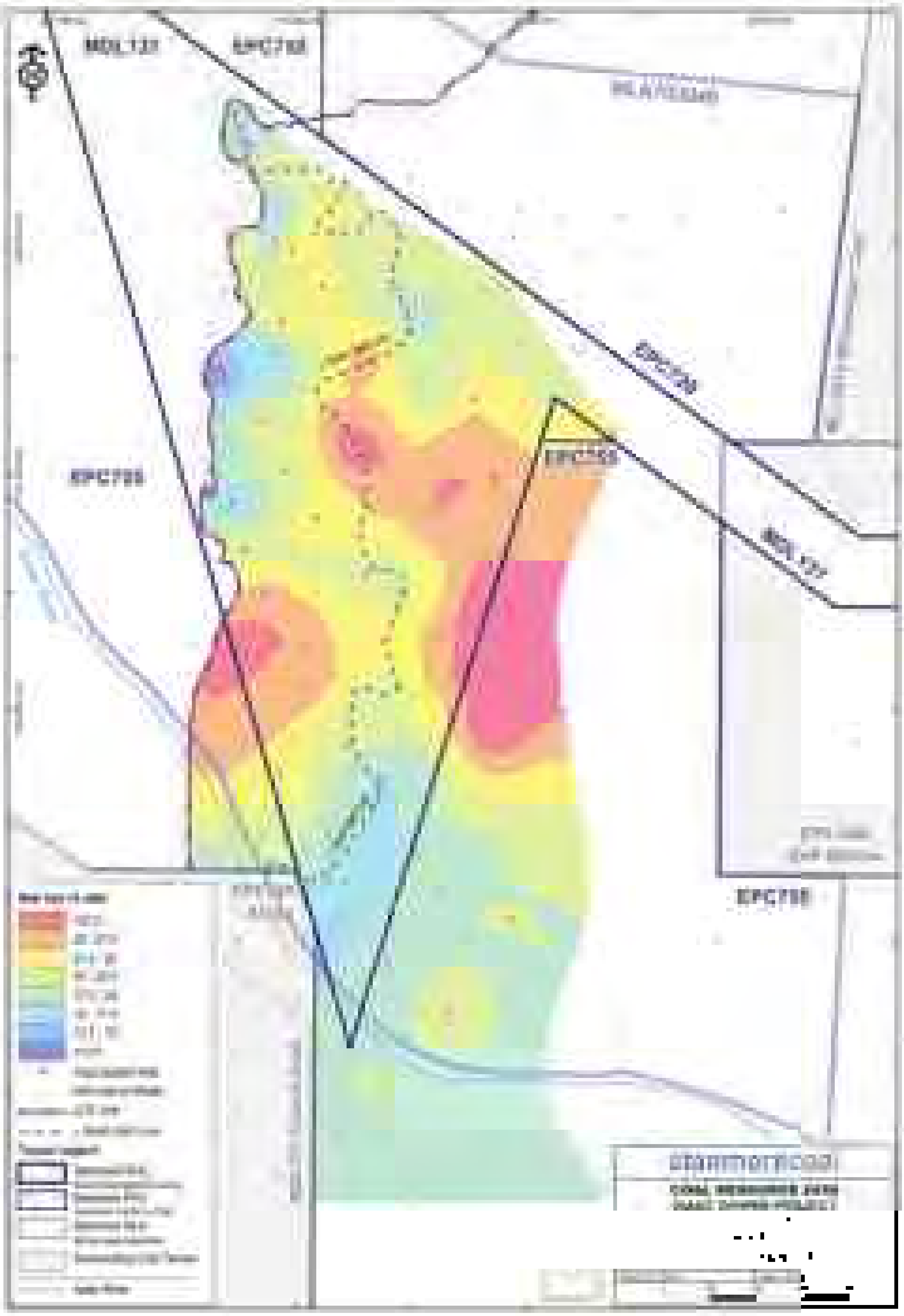
EPC755
EPC755
MDL 137

APPENDIX C: SEAM RAW ASH (%AD) MAPS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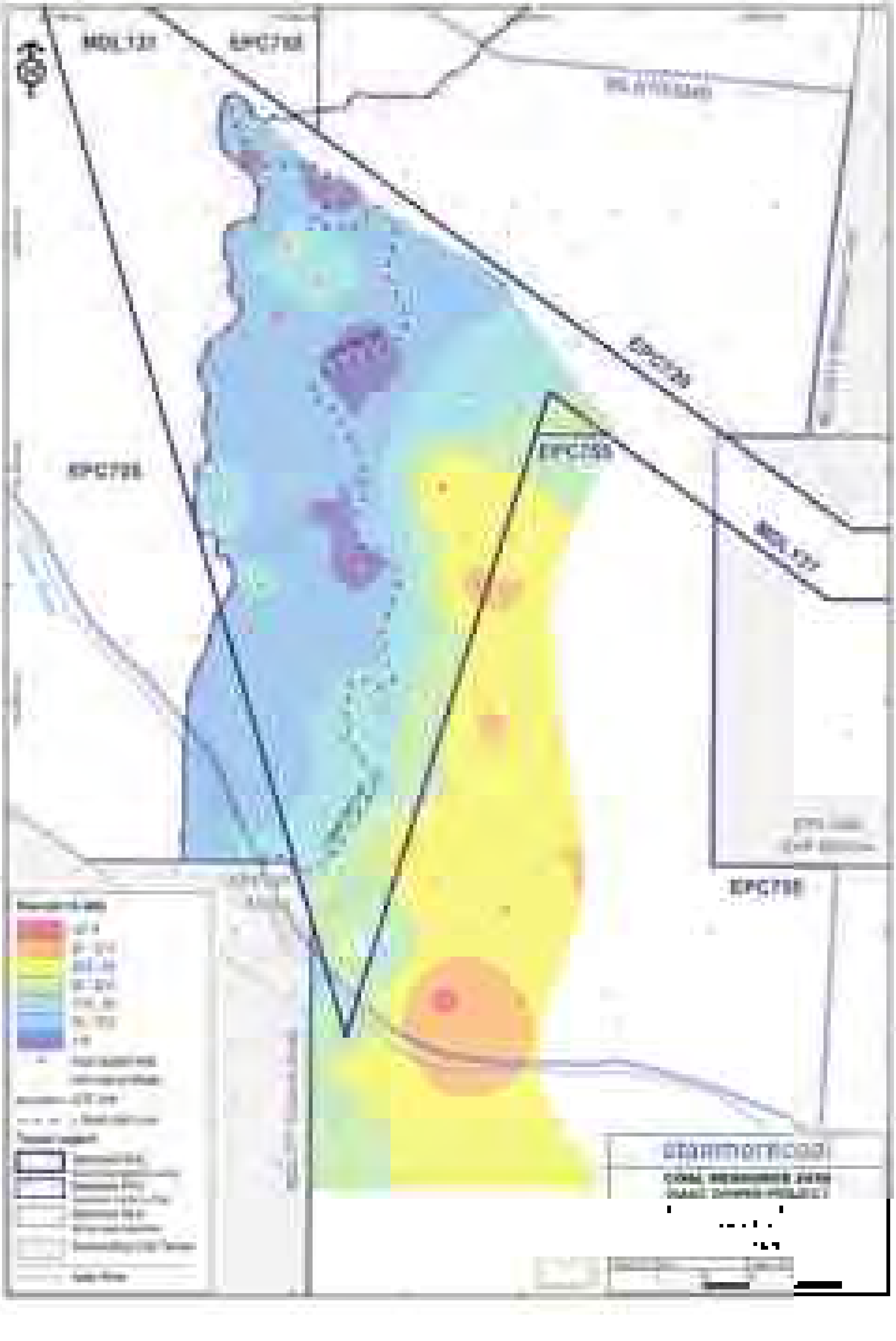
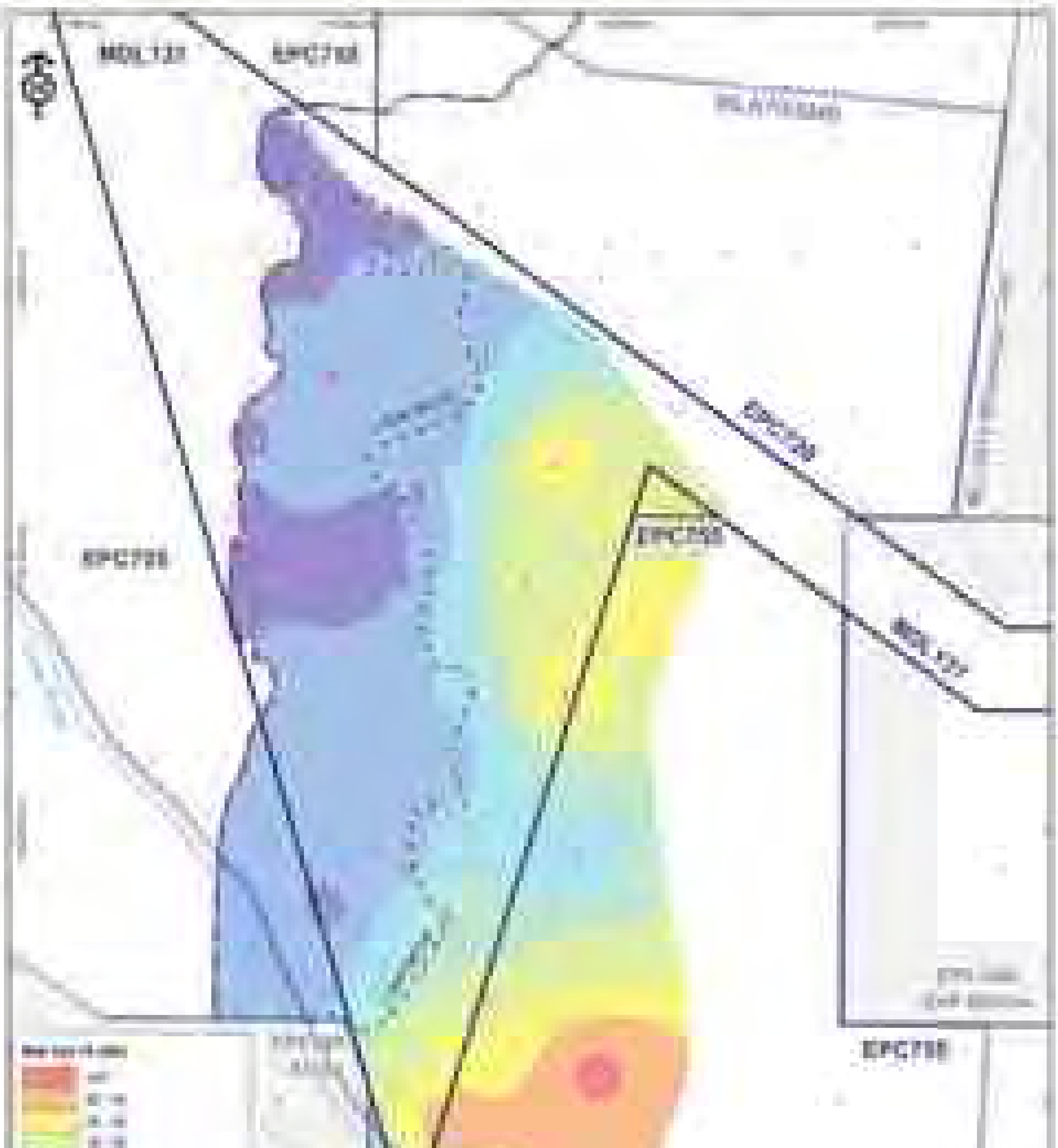
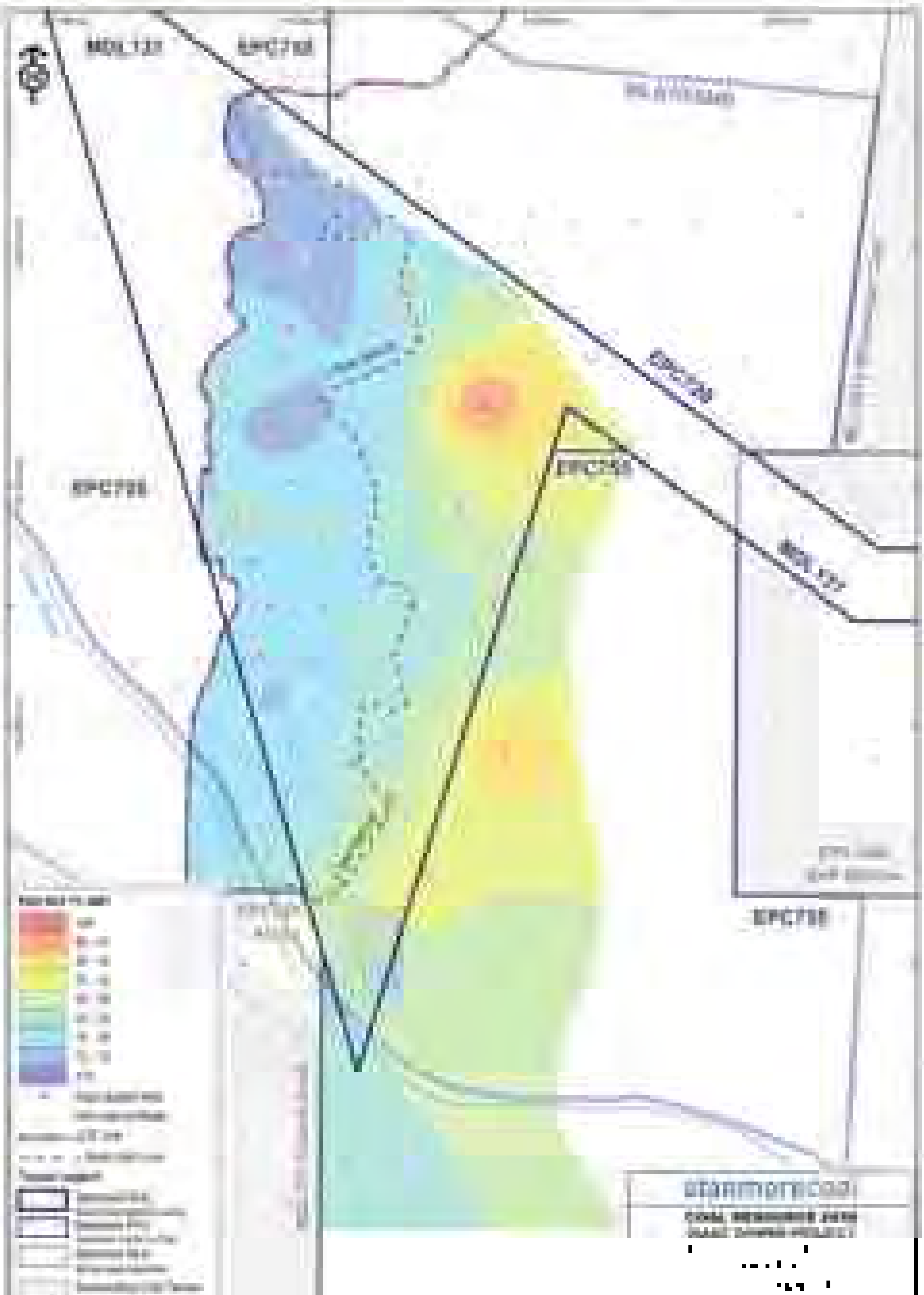
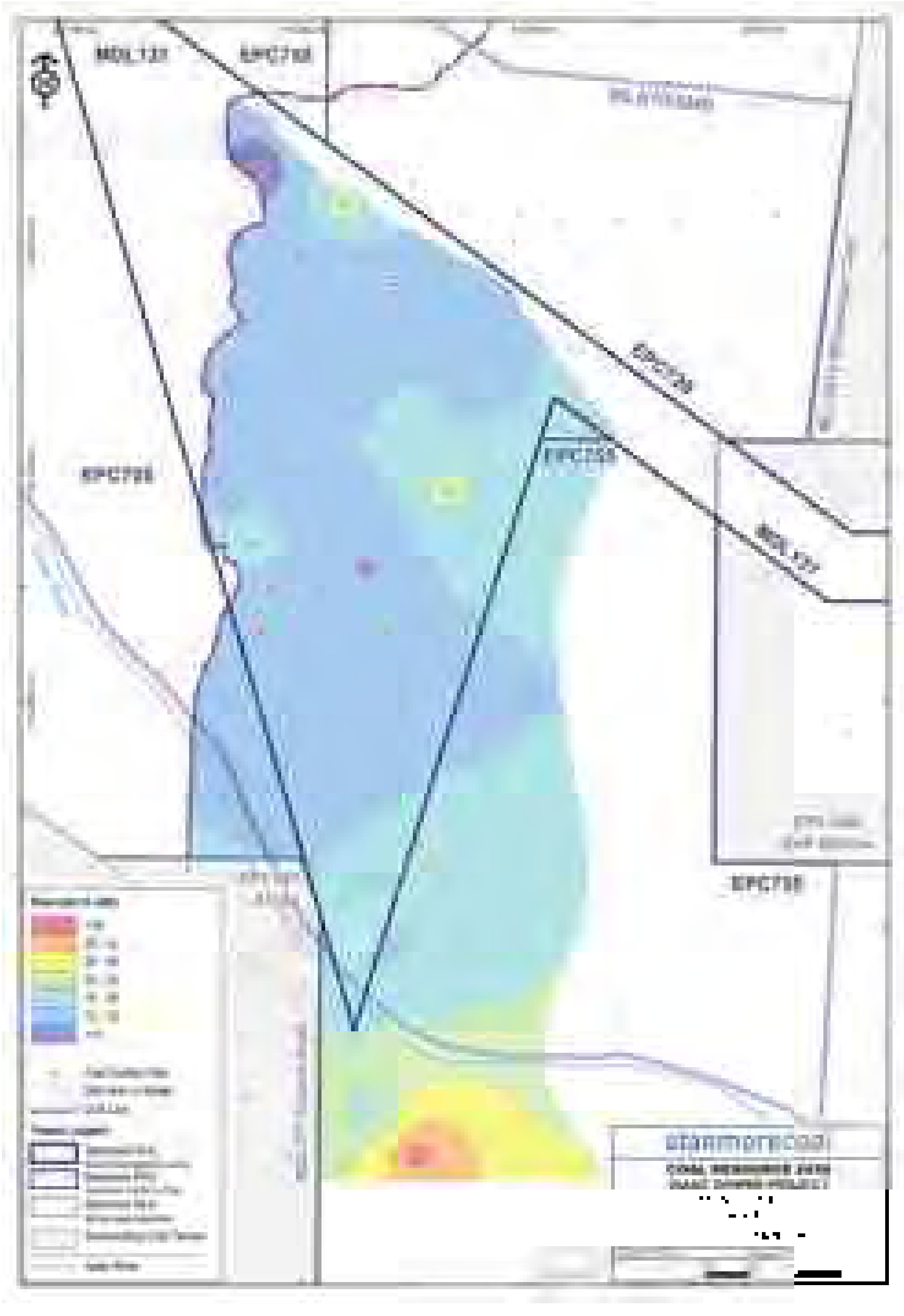
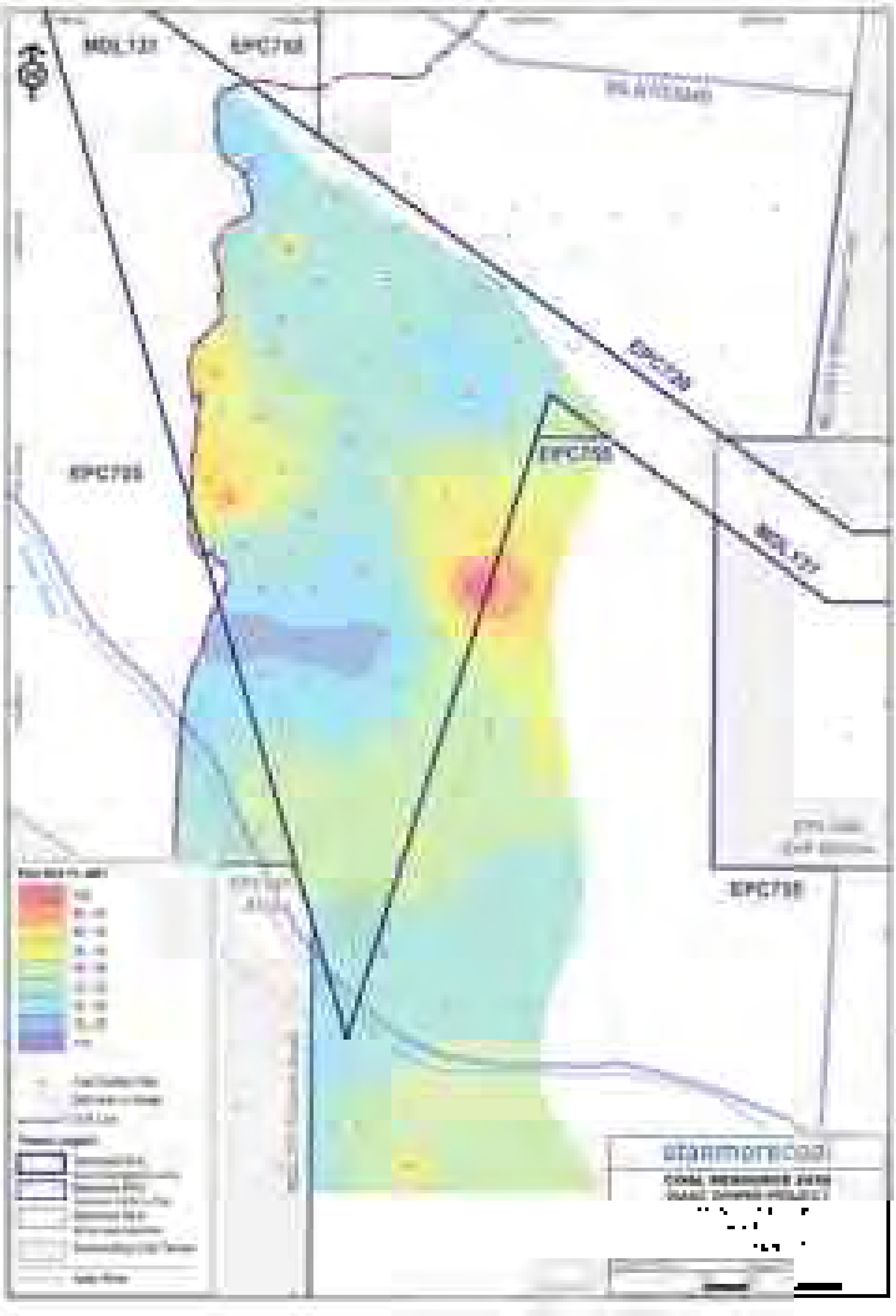



stanmorecoal



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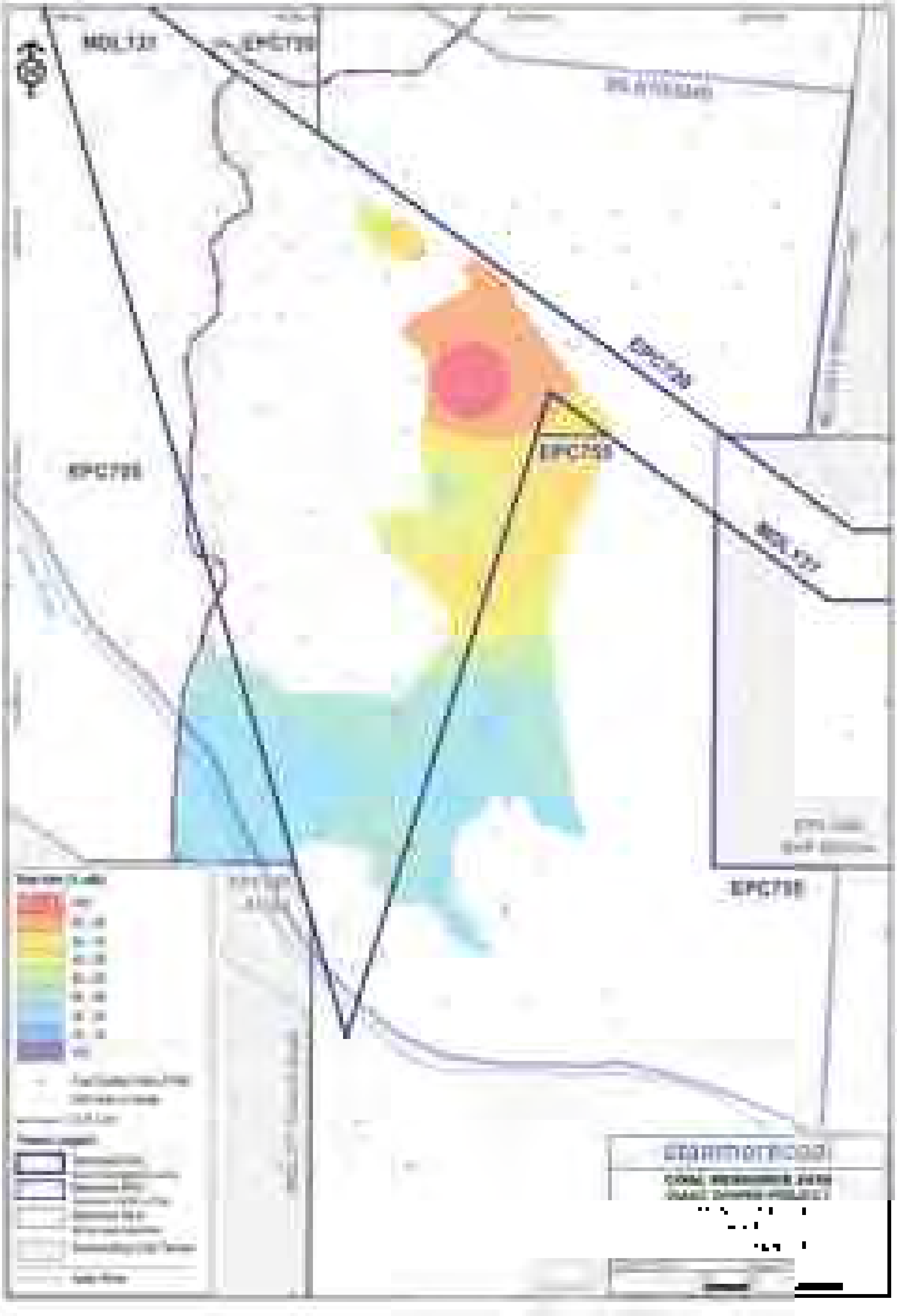
EPC755
stanmorecoal



APPENDIX D: GEOSTATISTICAL STUDY

1. Introduction

This report serves as a summary of the geostatistical analysis undertaken on the Isaac Downs North deposit as part of the Isaac Downs North, Coal Resource Report 2019.

Note:

- When fitting experimental variograms, number of pairs less than 10 have been masked.
- Derived spacings should serve as a guide only. Ultimately the decision on the required borehole spacings to use should reside with the Resource Geologist.

The continuity within each ply for thickness and ash will be assessed as part of this study.

For the study on the Ash sample values, not all plys have enough samples to generate meaningful experimental variograms. Those variables (plys) that do generate meaningful experimental variograms are included in this report.

Both individual ply's and where coalesced, parent seams have been assessed as part of this study.

A summary of the drill hole spacings derived from the experimental variogram models on a ply basis; are contained within Table 1-1.

Table 1-1: Drill Hole Spacing Results by Domain and Seam

Variable	Model	Direction	Sill	Range	Suggested Spacings		
					Measured	Indicated	Inferred
LL1 - ST	Nugget		0.0178		1700	3600	7620
	Spherical	Om	0.025	437			
	Spherical	Om	0.051	4240			
LL1 - Ash	Nugget		3.59		570	1200	2400
	Spherical	Om	13.7	5625			
LL2 - ST	Nugget		0.0165		500	1200	3000
	Spherical	Om	0.035	656			
	Spherical	Om	0.0305	3000			
LL2 - Ash	Nugget		3.59		475	1050	5625
	Spherical	Om	13.7	5625			
LL3 - ST	Nugget		0.047		900	2000	4075
	Spherical	Om	0.0715	4075			
LL3 - Ash	Nugget		2		500	1000	2990
	Spherical	Om	11.38	1240			
	Spherical	Om	6.5	2990			
LU - ST	Nugget		0.05		550	1700	4000
	Spherical	Om	0.02	690			
	Spherical	Om	0.088	4025			

LU - Ash	Nugget		19.79		270	570	1450
	Spherical	Om	2.42	800			
	Spherical	Om	5.21	1450			
LUD - ST	Nugget		0.00085		65	200	1700
	Spherical	Om	0.0035	300			
	Spherical	Om	0.0014	1755			
LUD - Ash	Not Enough samples						
VU1 - ST	Nugget		0.04		2200	4500	9490
	Spherical	Om	0.113	9490			
VU1 - Ash	Nugget		0.25		1200	2700	5575
	Spherical	Om	81.02	5575			
VU2 - ST	Nugget		0.02		500	900	2790
	Spherical	Om	0.01	435			
	Spherical	Om	0.014	2790			
VU2 - Ash	Nugget		19.5		600	1200	2500
	Spherical	Om	20.4	2500			
VU3 - ST	Nugget		0.002		250	600	1690
	Spherical	Om	0.0105	900			
	Spherical	Om	0.00837	1690			
VU3 - Ash	Nugget		1		750	1600	3000
	Spherical	Om	148	3330			
LUDLU - ST	Nugget		0.0765		1300	2700	5625
	Spherical	Om	0.109	5625			
LUDLU - Ash	Nugget		17.1		350	840	1530
	Spherical	Om	12.83	1530			
L - ST	Nugget		0.2065		740	1540	3170
	Spherical	Om	0.217	3170			
L - Ash	Nugget		2.98		320	660	1350
	Spherical	Om	2.22	1350			

2. Ply LL1

2.1 Thickness

246 samples were used to generate the variogram models for ply LL1 thickness. The histogram and variogram model used to generate the Drill hole spacings are shown in Figure 2-1. The parameters used to generate the variogram model are contained in Table 2-1.

Figure 2-1: Ply LL1 histogram and resultant Variogram for Ply LL1 Thickness

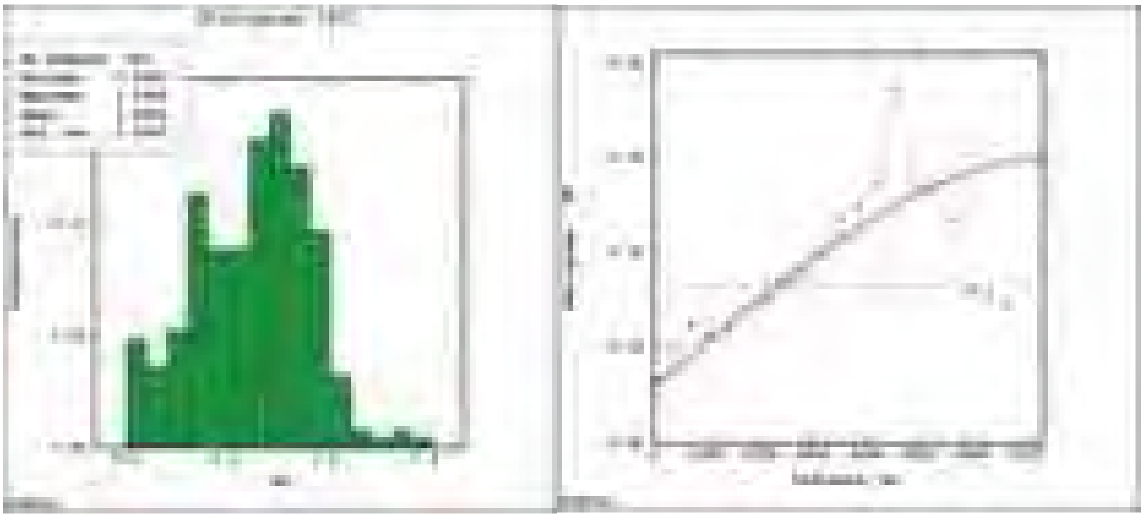


Table 2-1: Parameters used to generate Ply LL1 Thickness Experimental Variogram model

Variable	Model	Direction	Sill	Range
Ply LL1 – ST	Nugget	Om	0.03	
	Spherical	Om	0.121	7620m

2.2 Ash

27 samples were utilised to generate the LL1 ply Ash experimental model. The histogram and variogram model used to generate the Drill hole spacings are shown in Figure 2-2. The parameters used to generate the variogram model are contained in Table 2-2.

Figure 2-2: Ply LL1 histogram and resultant Variogram for Ply LL1 Ash

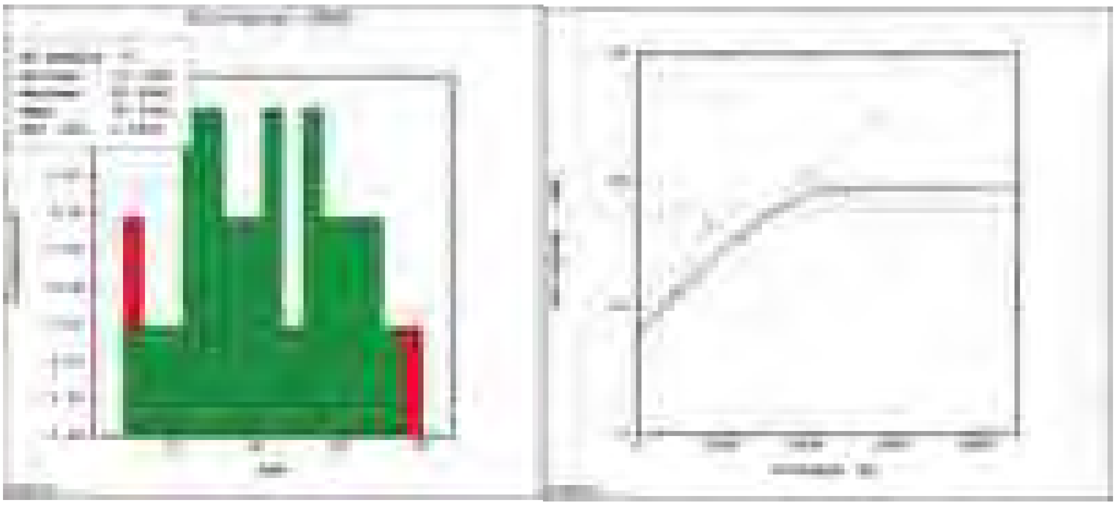


Table 2-2: Parameters used to generate Ply LL1 Ash Experimental Variogram model

Variable	Model	Direction	Sill	Range
Ply LL1 - Ash	Nugget	Om	7.88	
	Spherical	Om	11.6	2495m

3. Ply LL2

3.1 Thickness

267 samples were used to generate the variogram models for ply LL2 seam thickness. The histogram and variogram model used to generate the Drill hole spacings are shown in Figure 3-1. The parameters used to generate the variogram model are contained in Table 3-1.

Figure 3-1: Ply LL2 histogram and resultant Variogram for Ply LL2 Thickness

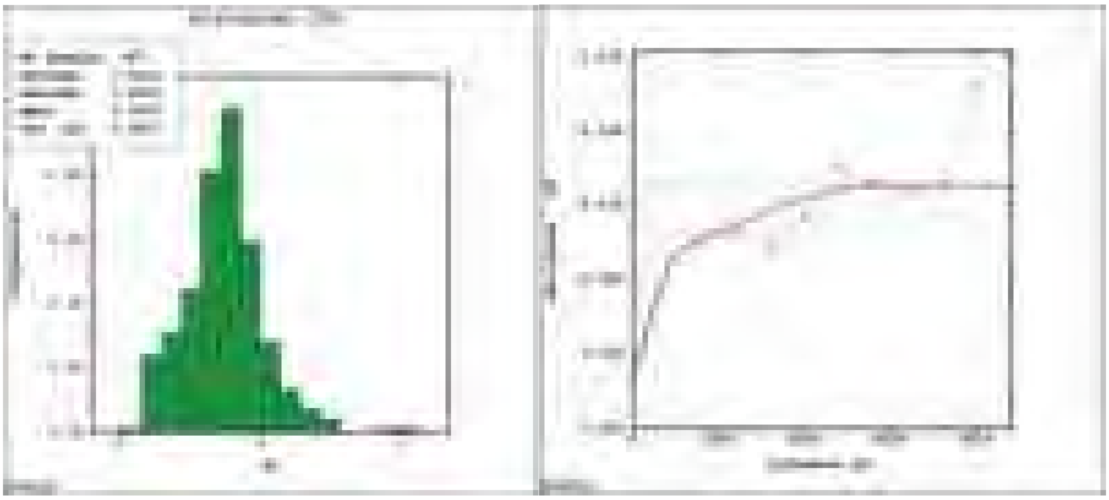


Table 3-1: Parameters used to generate Ply LL2 Thickness Experimental Variogram model

Variable	Model	Direction	Sill	Range
Ply A2C1 - Ash	Nugget	Om	0.0165	
	Spherical	Om	0.035	656m
	Spherical	Om	0.0305	3000m

3.2 Ash

29 samples were used to generate the variogram models for ply LL2 seam Ash.

The histogram and variogram model used to generate the Drill hole spacings are shown in Figure 3-2. The parameters used to generate the variogram model are contained in Table 3-2.

Figure 3-2: Ply LL2 histogram and resultant Variogram for Ply LL2 Ash

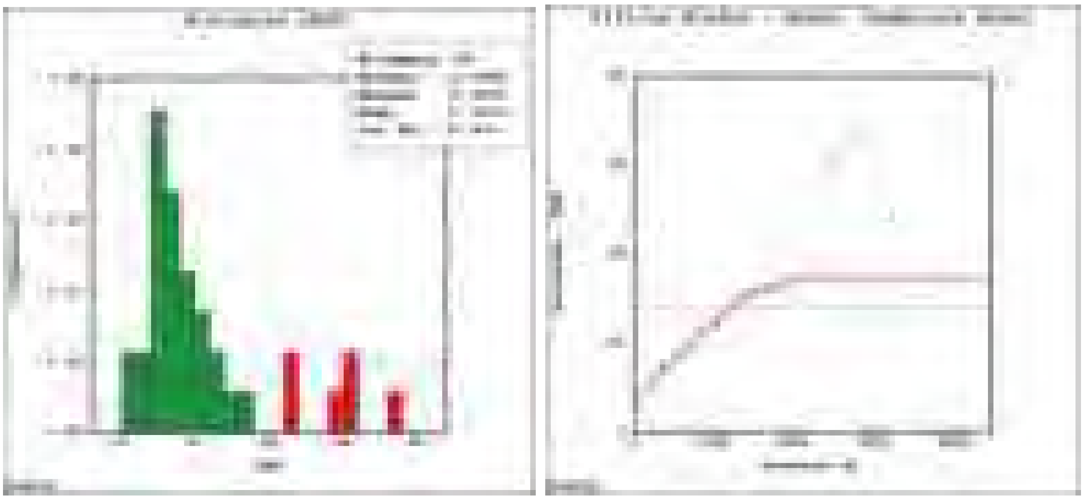


Table 3-2: Parameters used to generate Ply A2C1 Ash Experimental Variogram model

Variable	Model	Direction	Sill	Range
Ply LL2 - Ash	Nugget	Om	3.59	
	Spherical	Om	13.7	5625m

4. Ply LL3

4.1 Thickness

29samples were used to generate the variogram models for ply LL3 seam thickness. The histogram and variogram model used to generate the Drill hole spacings are shown in Figure 4-1. The parameters used to generate the variogram model are contained in Table 4-1.

Figure 4-1: Ply LL3 histogram and resultant Variogram for Ply LL3 Thickness

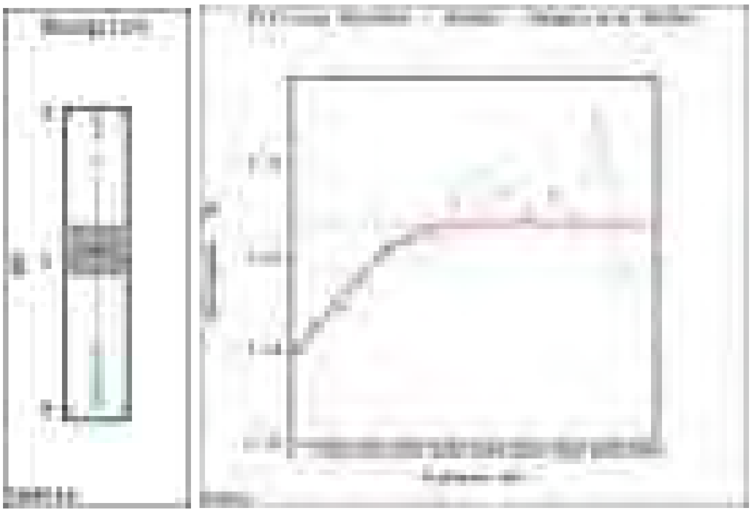


Table 4-1: Parameters used to generate Ply LL3 Thickness Experimental Variogram model

Variable	Model	Direction	Sill	Range
Ply LL3 - ST	Nugget	Om	0.047	
	Spherical	Om	0.0715	4075m

4.2 Ash

35 samples were utilised to generate the Ash experimental model. The histogram and variogram model used to generate the Drill hole spacings are shown in Figure 4-2. The parameters used to generate the variogram model are contained in Table 4-2.

Figure 4-2: Ply LL3 histogram and resultant Variogram for Ply LL3 Ash

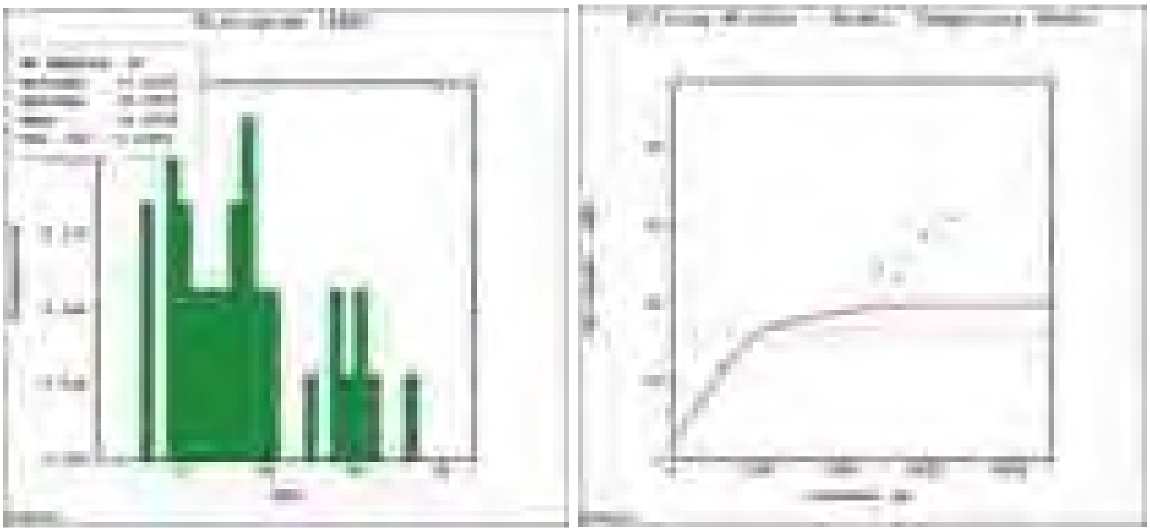


Table 4-2: Parameters used to generate Ply A22C Ash Experimental Variogram model

Variable	Model	Direction	Sill	Range
Ply LL3 - Ash	Nugget		2.03	
	Spherical	Om	9.73	1185
	Spherical	Om	7.43	2375

5. Ply LU

5.1 Thickness

285 samples were used to generate the variogram models for ply LU seam thickness. The histogram and variogram model used to generate the Drill hole spacings are shown in Figure 5-1 The parameters used to generate the variogram model are contained in Table 5-1.

Figure 5-1: Ply LU histogram and resultant Variogram for Ply LU Thickness

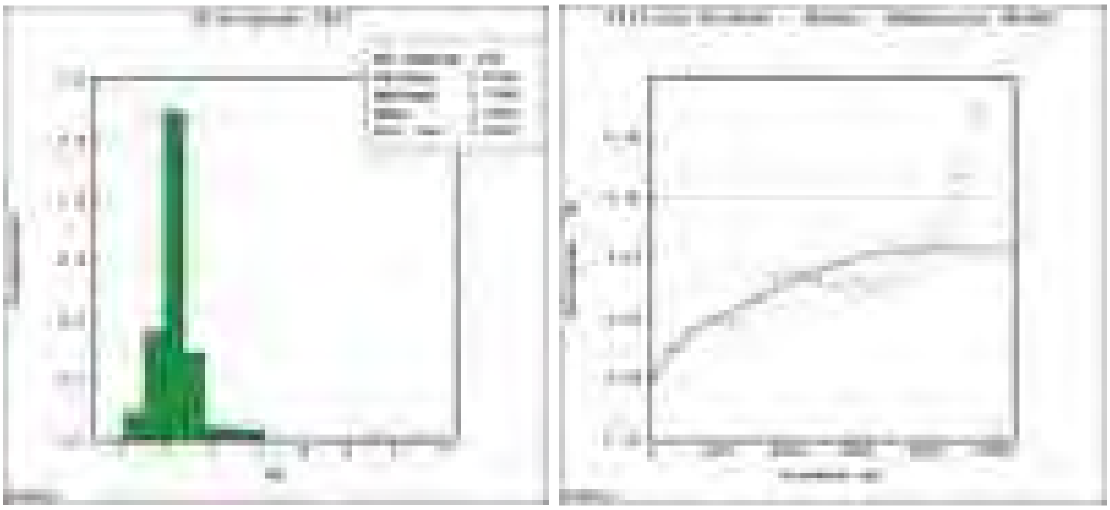


Table 5-1: Parameters used to generate Ply LU Thickness Experimental Variogram model

Variable	Model	Direction	Sill	Range
Ply LU - ST	Nugget	Om	0.05	
	Spherical	Om	0.02	690m
	Spherical	Om	0.088	4025m

5.2 Ash

35 samples were utilised to generate the LU Ash experimental model. The histogram and variogram model used to generate the Drill hole spacings are shown in

Figure 5-2. The parameters used to generate the variogram model are contained in Table 5-2.

Figure 5-2: Ply LU histogram and resultant Variogram for Ply LU Ash

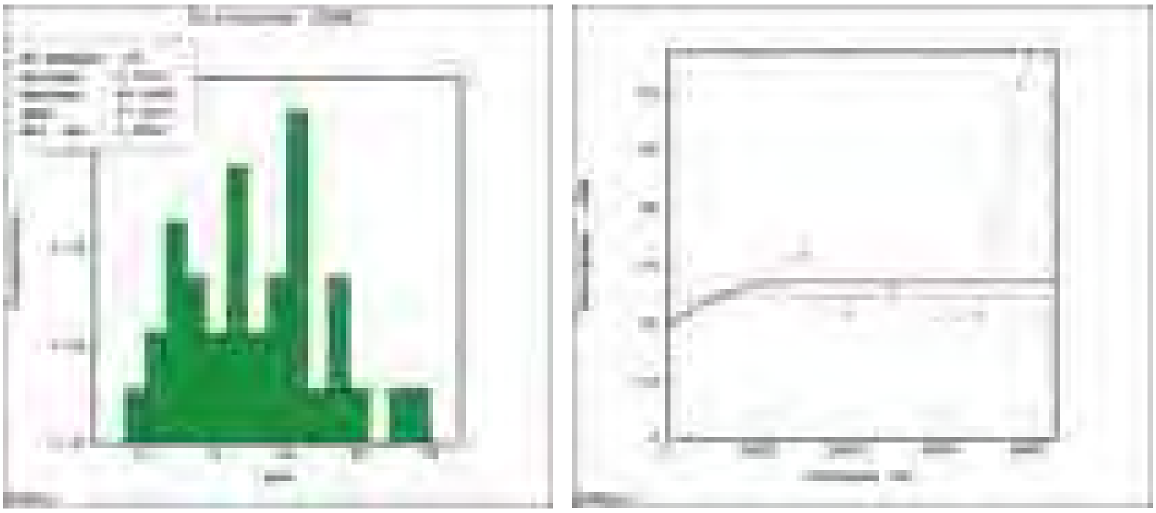


Table 5-2: Parameters used to generate Ply LU Ash Experimental Variogram model

Variable	Model	Direction	Sill	Range
Ply LU - Ash	Nugget	Om	19.79	
	Spherical	Om	2.42	800m
	Spherical	Om	5.21	1450m

6. Ply LUD

6.1 Thickness

239 samples were used to generate the variogram models for ply LUD seam thickness. The histogram and variogram model used to generate the Drill hole spacings are shown in Figure 6-1. The parameters used to generate the variogram model are contained in Table 6-1.

Figure 6-1: Ply LUD histogram and resultant Variogram for Ply LUD Thickness

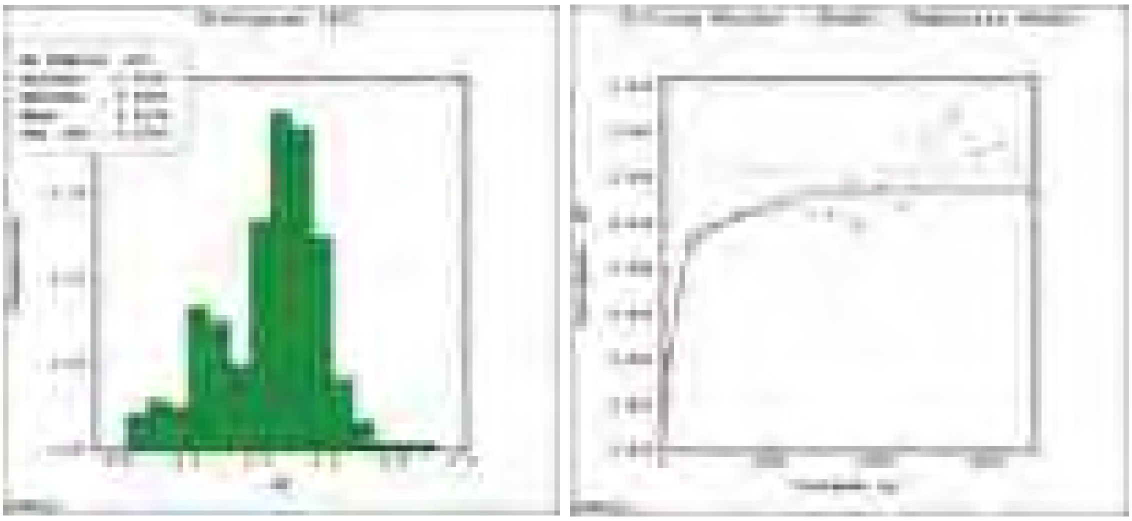


Table 6-1: Parameters used to generate Ply LUD Thickness Experimental Variogram model

Variable	Model	Direction	Sill	Range
Ply LUD - ST	Nugget	Om	0.05	
	Spherical	Om	0.019	1420m
	Spherical	Om	0.039	3480m

6.2 Ash

There were not enough samples to obtain an experimental model for ply LUD.

7. Ply L

7.1 Thickness

128 samples were used to generate the variogram models for the L seam thickness. The histogram and variogram model used to generate the Drill hole spacings are shown in Figure 7-1. The parameters used to generate the variogram model are contained in Table 7-1.

Figure 7-1: L seam histogram and resultant Variogram for L seam Thickness

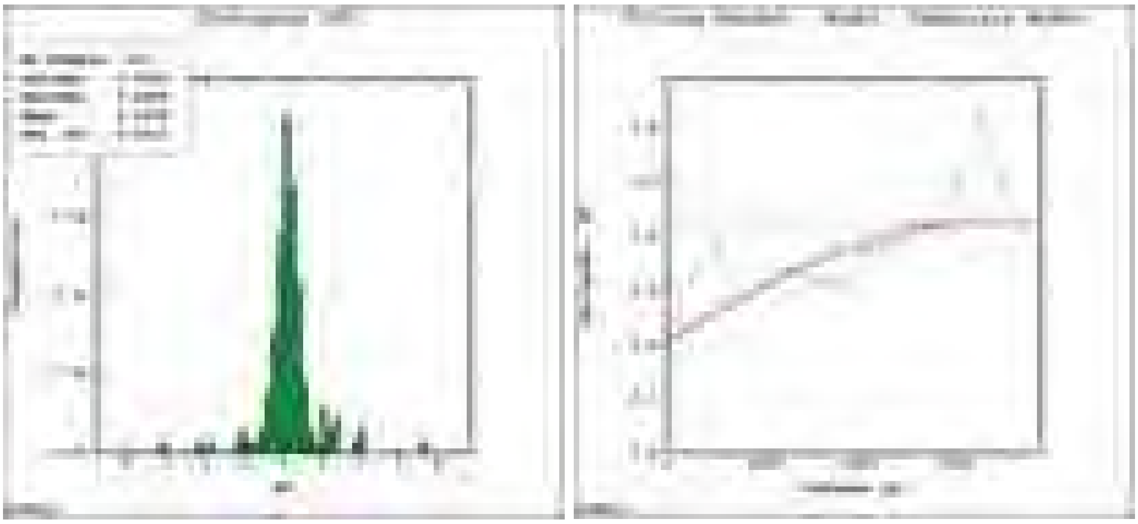


Table 7-1: Parameters used to generate L Seam Thickness Experimental Variogram model

Variable	Model	Direction	Sill	Range
L Seam - ST	Nugget	Om	0.2065	
	Spherical	Om	0.217	3170m

7.2 Ash

28 samples were utilised to generate the L seam Ash experimental model. The histogram and variogram model used to generate the Drill hole spacings are shown in Figure 7-2. The parameters used to generate the variogram model are contained in Table 7-2.

Figure 7-2: L Seam histogram and resultant Variogram for L Seam Ash

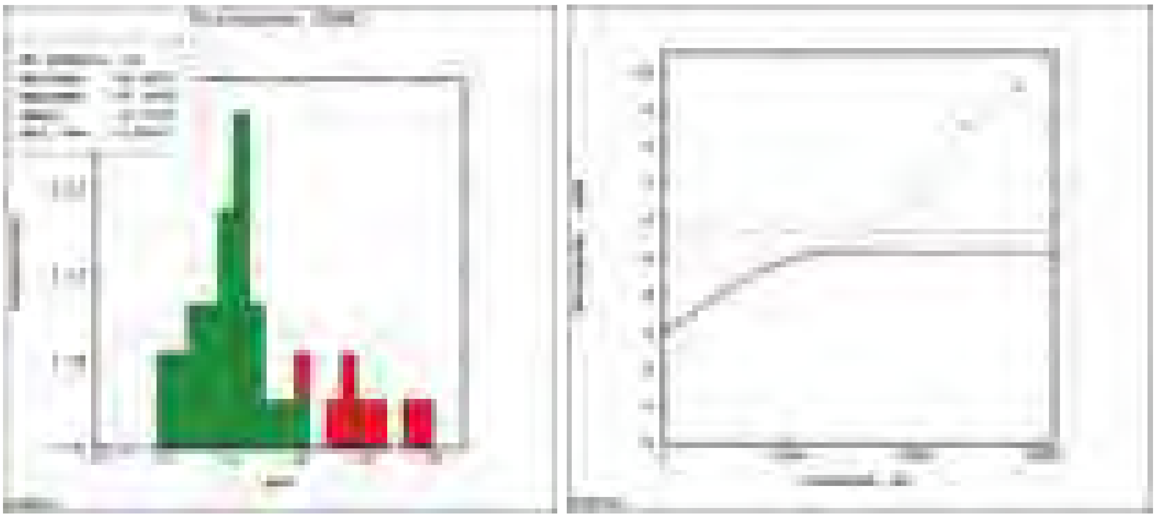


Table 7-2: Parameters used to generate L Seam Ash Experimental Variogram model

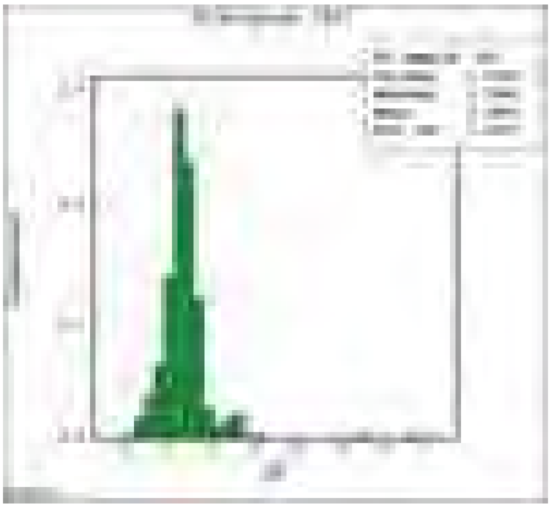
Variable	Model	Direction	Sill	Range
L Seam - Ash	Nugget	Om	2.98	
	Spherical	Om	2.22	1350m

8. Ply LUDLU

8.1 Thickness

261 samples were used to generate the variogram models for ply LUDLU seam thickness. The histogram and variogram model used to generate the Drill hole spacings are shown in Figure 8-1. The parameters used to generate the variogram model are contained in Table 8-1.

Figure 8-1: Ply LUDLU histogram and resultant Variogram for Ply LUDLU Thickness



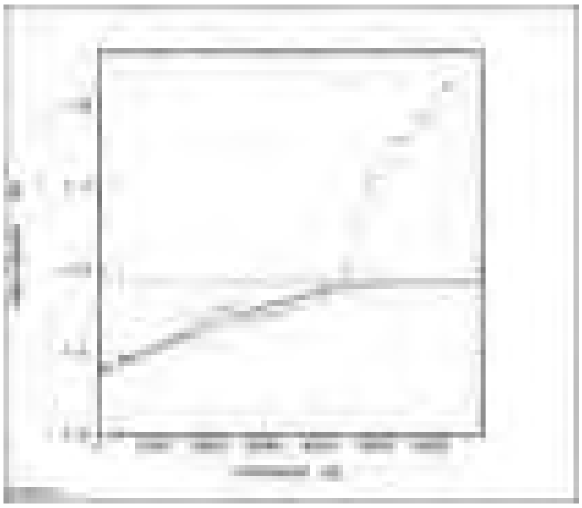


Table 8-1: Parameters used to generate Ply LUDLU Thickness Experimental Variogram model

Variable	Model	Direction	Sill	Range
Ply LUDLU - ST	Nugget	Om	0.016	
	Spherical	Om	0.115	6860m

8.2 Ash

35 samples were utilised to generate the LUDLU Ash experimental model. The histogram and variogram model used to generate the Drill hole spacings are shown in Figure 8-2. The parameters used to generate the variogram model are contained in Table 8-2.

Figure 8-2: Ply LUDLU histogram and resultant Variogram for Ply LUDLU Ash

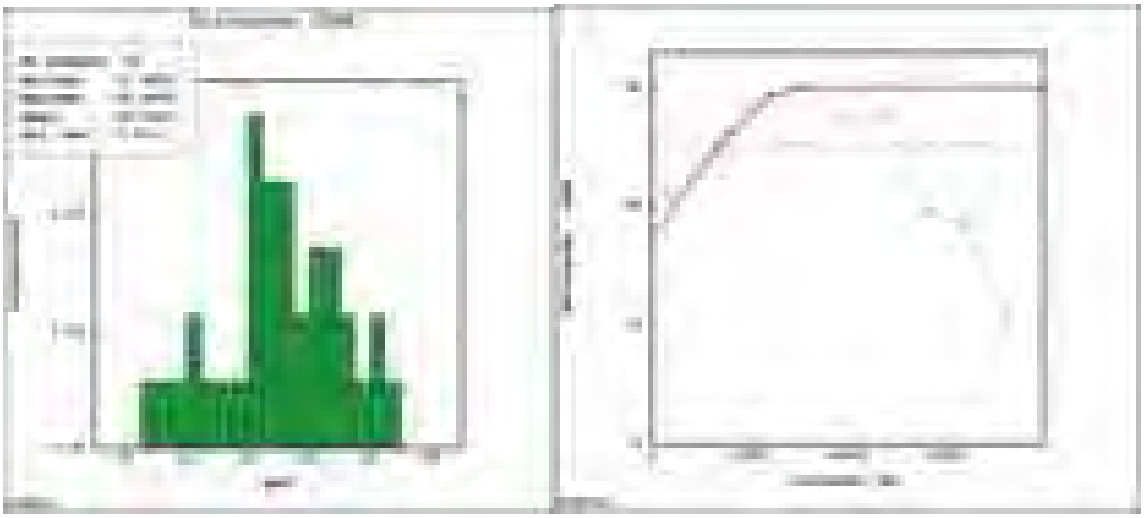


Table 8-2: Parameters used to generate Ply LUDLU Ash Experimental Variogram model

Variable	Model	Direction	Sill	Range
Ply LUDLU - ST	Nugget	Om	17.1	
	Spherical	Om	12.83	1530m

9. Ply VU1

9.1 Thickness

264 samples were used to generate the variogram models for ply VU1 seam thickness. The histogram and variogram model used to generate the Drill hole spacings are shown in Figure 9-1. The parameters used to generate the variogram model are contained in Table 9-1.

Figure 9-1: Ply VU1 histogram and resultant Variogram for Ply VU1 Thickness

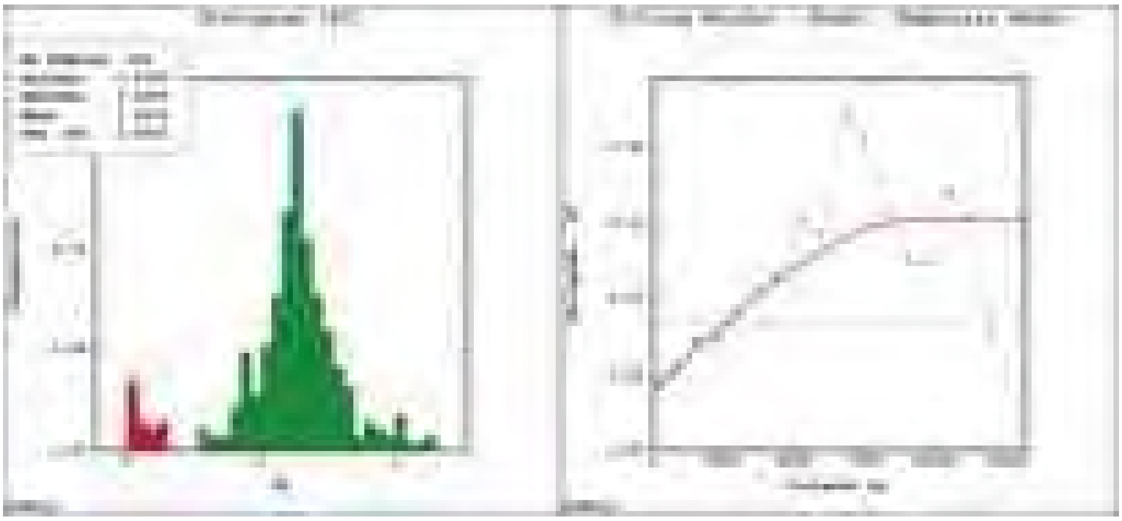


Table 9-1: Parameters used to generate Ply VU1 Thickness Experimental Variogram model

Variable	Model	Direction	Sill	Range
Ply VU1 - ST	Nugget	Om	0.04	
	Spherical	Om	0.113	9490m

9.2 Ash

28 samples were utilised to generate the VU1 Ash experimental model. The histogram and variogram model used to generate the Drill hole spacings are shown in Figure 9-2. The parameters used to generate the variogram model are contained in Table 9-2.

Figure 9-2: Ply VU1 histogram and resultant Variogram for Ply VU1 Ash

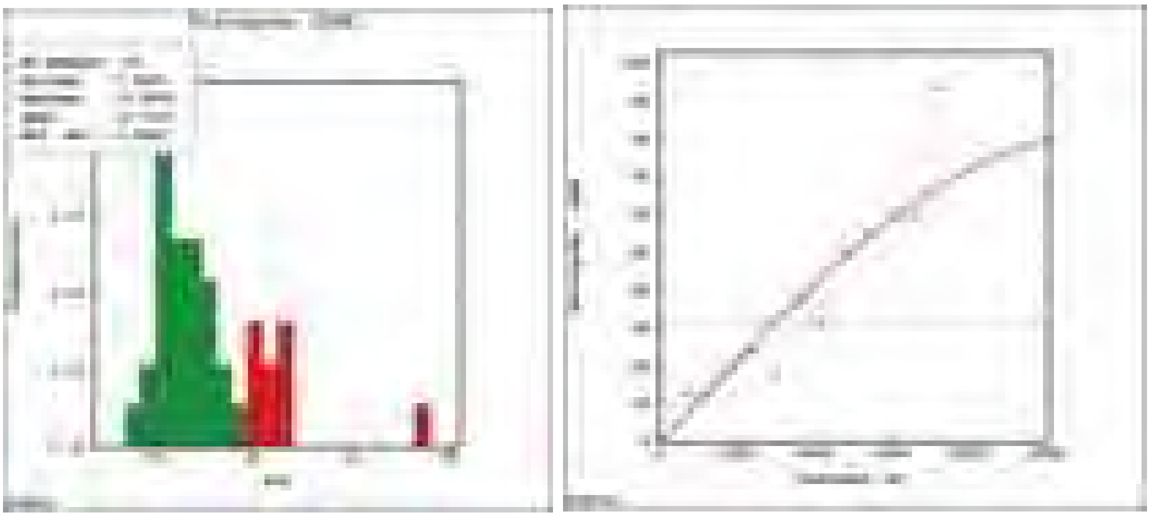


Table 9-2: Parameters used to generate Ply VU1 Ash Experimental Variogram model

Variable	Model	Direction	Sill	Range
Ply VU1 - Ash	Nugget	Om	0.25	
	Spherical	Om	81.02	5575m

10. Ply VU2

10.1 Thickness

264 samples were used to generate the variogram models for ply VU2 seam thickness. The histogram and variogram model used to generate the Drill hole spacings are shown in Figure 10-1. The parameters used to generate the variogram model are contained in Table 10-1.

Figure 10-1: Ply VU2 histogram and resultant Variogram for Ply VU2 Thickness

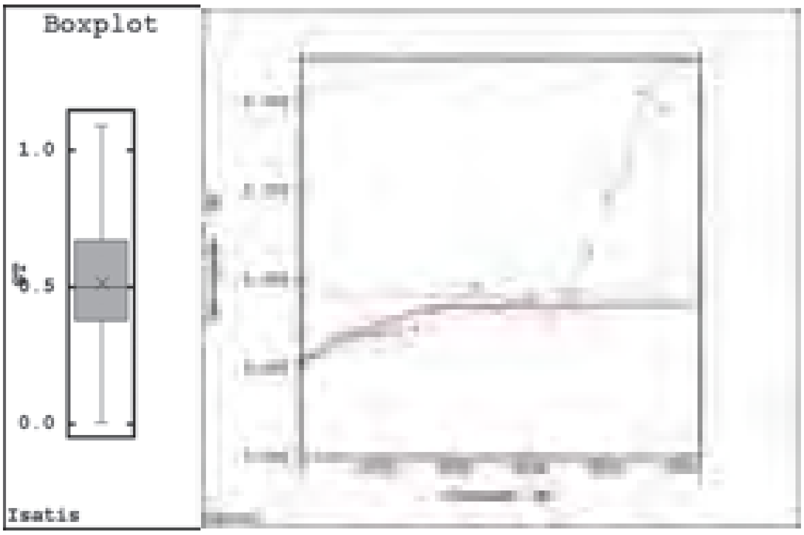


Table 10-1: Parameters used to generate Ply VU2 Thickness Experimental Variogram model

Variable	Model	Direction	Sill	Range
Ply VU2 - ST	Nugget	Om	0.027	
	Spherical	Om	0.016	2160m

10.1 Ash

35 samples were utilised to generate the VU2 Ash experimental model. The histogram and variogram model used to generate the Drill hole spacings are shown in Figure 10-2. The parameters used to generate the variogram model are contained in Table 10-2.

Figure 10-2: Ply VU2 histogram and resultant Variogram for Ply VU2 Ash

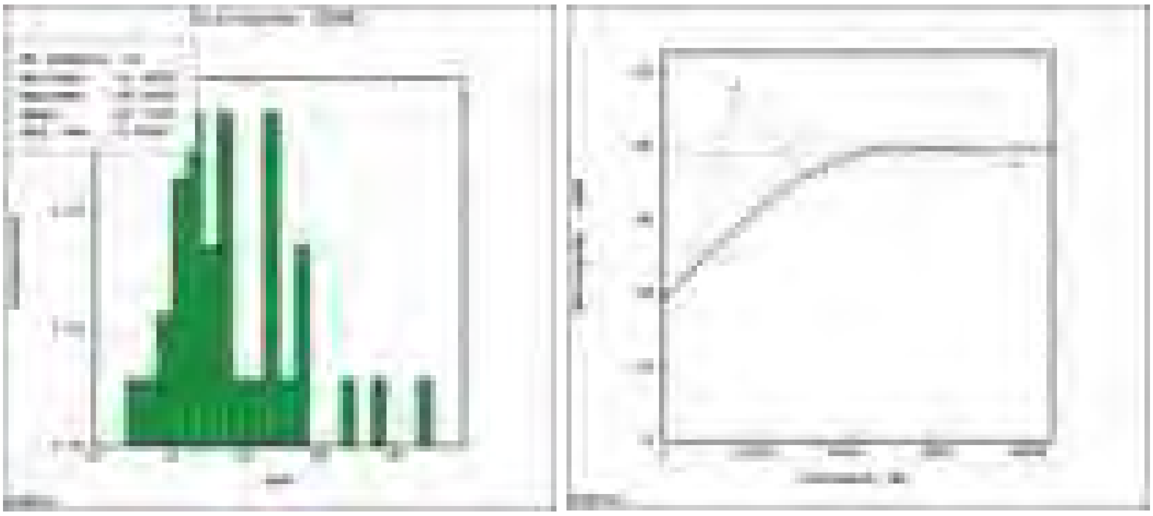


Table 10-2: Parameters used to generate Ply VU2 Ash Experimental Variogram model

Variable	Model	Direction	Sill	Range
Ply VU2 - Ash	Nugget	Om	19.5	
	Spherical	Om	20.4	2500

11. Ply VU3

11.1 Thickness

90 samples were used to generate the variogram models for ply VU3 seam thickness. The histogram and variogram model used to generate the Drill hole spacings are shown in Figure 11-1. The parameters used to generate the variogram model are contained in Table 11-1.

Figure 11-1: Ply VU3 histogram and resultant Variogram for Ply VU3 Thickness

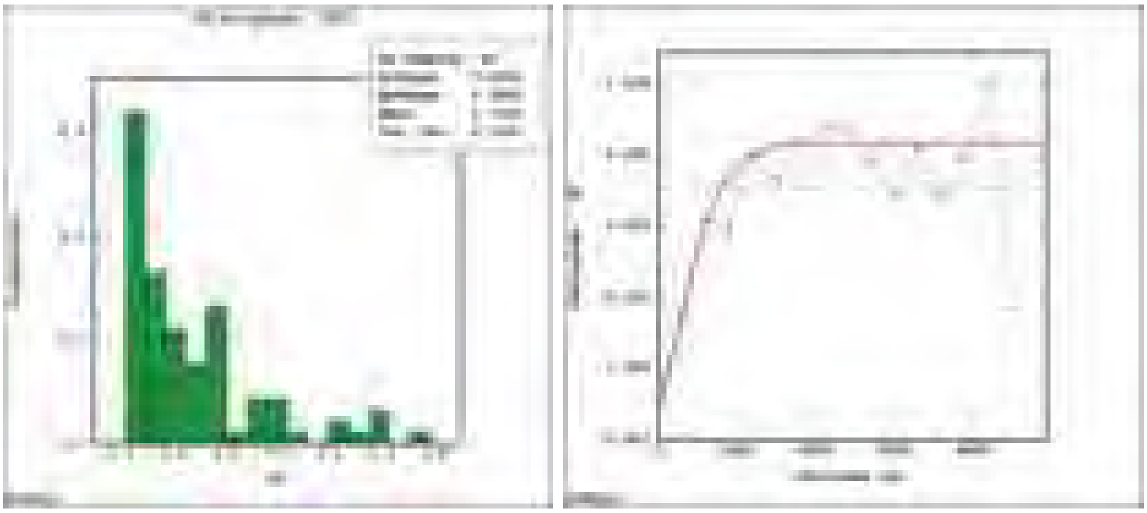


Table 11-1: Parameters used to generate Ply VU3 Thickness Experimental Variogram model

Variable	Model	Direction	Sill	Range
Ply VU3 - ST	Nugget	Om	0.002	
	Spherical	Om	0.0105	900m
	Spherical	Om	0.00837	1690m

11.2 Ash

16 samples were utilised to generate the VU3 Ash experimental model. The histogram and variogram model used to generate the Drill hole spacings are shown in Figure 11-2. The parameters used to generate the variogram model are contained in Table 11-2.

Figure 11-2: Ply VU3 histogram and resultant Variogram for Ply VU3 Ash

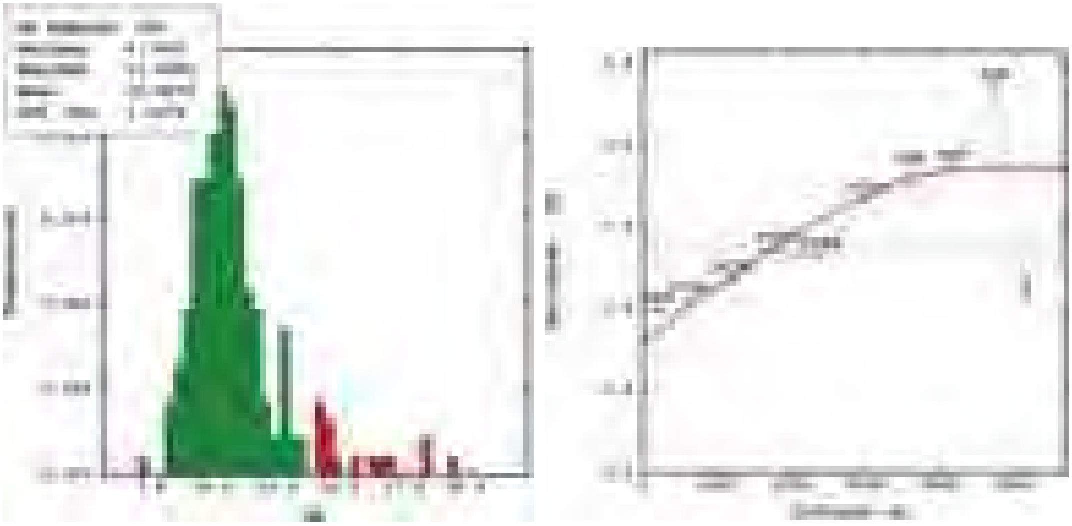


Table 11-2: Parameters used to generate Ply VU3 Ash Experimental Variogram model

Variable	Model	Direction	Sill	Range
Ply VU3 - Ash	Nugget	Om	1	
	Spherical	Om	148	3330m

Report

Isaac Downs Project 2020 Reserves Report

Client	Stanmore Coal
Site	Isaac Downs
Date	30 July 2020
Doc No.	SMC5510

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Version Management

	Name	Date	Version
Authors	Daniel Long, Toby Atherton, Heath Shepherd	24th July 2020	V1-V3
Peer Review By	Michael Barker	24th July 2020	V4
Draft Issued To	Jon Romcke	24th July 2020	V5
Final Review By	John Pala	4th Aug 2020	V8
Final Issued To	Jon Romcke	5th Aug 2020	V9

Contents

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GLOSSARY OF TERMS & ABBREVIATIONS

Term	Definition
ASX	Australian Securities Exchange
ASIC	Australian Securities and Investments Commission
BFS	Bankable Feasibility Study – a study conducted by relevant and competent experts resulting in a report with sufficient scope, detail, rigour and confidence to allow Stanmore Coal or an external financier to make an investment decision.
CHPP	Coal Handling and Preparation Plant
Coal Reserve	The economically mineable part of a Measured or Indicated Coal Resource. Coal Reserve estimates include diluting materials and are adjusted for losses that may occur when the coal is mined. Appropriate assessments, which may include feasibility studies, have been carried out. These assessments should include proper consideration of all relevant 'modifying factors' such as: mining methods, beneficiation, and economic, marketing, legal, environmental, social and governmental factors. These assessments should demonstrate that at the time of reporting, economic extraction could reasonably be justified. Coal Reserves are subdivided in order of increasing confidence into Probable Coal Reserves and Proved Coal Reserves.
Coal Resource	Refers to the portion of a deposit in such form and quantity that there are reasonable prospects for eventual economic extraction. The location, quantity, quality, geological characteristics and continuity of a coal resource are known, estimated or interpreted from specific geological evidence and knowledge. Coal resources are sub-divided, in order of increasing geological confidence, into Inferred, Indicated and Measured categories.
Competent Person (CP)	The person responsible for the estimation of Inventory Coal, Coal Resources and/or Coal Reserves. The CP should have relevant tertiary qualifications and must have a minimum of five years' experience in the coal industry. If the CP is estimating or supervising the estimation of Inventory Coal and/or Coal Resources, the relevant experience must be in the estimation, assessment and evaluation of Inventory Coal and/or Coal Resources. If the CP is estimating or supervising the estimation of Coal Reserves, the relevant experience must be in the estimation, assessment, evaluation and economic extraction of Coal Reserves. In reporting for statutory purposes, it is the CP's responsibility to comply with any special conditions or requirements of the relevant State Government.
DCF	Discounted Cash Flow
EIS	Environmental Impact Statement
Exploration results	Reports of coal occurrences that, due to insufficient information, cannot be assigned specific tonnages or quality.
EL	Exploration Lease
FOR	Free on Rail
Geological model	The computer generated, three-dimensional model that represents the aerial, volumetric, tonnage and coal quality attributes of the specific Coal deposit, based on all the relevant geological data, prepared by the Competent Person or Technical Specialist with sufficient experience in modelling such a coal deposit.
Indicated Coal Resource	The part of the total Coal Resource for which quantity and quality can be estimated with reasonable levels of confidence, based on information gathered from Points of Observation that may be supported by Interpretive Data. The Points of Observation are sufficient for continuity to be assumed; but are too widely or inappropriately spaced to confirm geological and/or quality continuity.

Term	Definition
Inferred Coal Resource	Refers to the part of the total Coal Resource estimate for which quantity and quality can only be estimated with low levels of confidence. The quantity and quality are inferred using Points of Observation that may be supported by Interpretive Data. Estimates for this confidence category are likely to change significantly with further exploration.
Interpretive data	Observations supporting the existence of coal, gathered by interpretive or indirect methods. Interpretive data may include results from mapping, seismic, magnetic, gravity and other geophysical and geological surveys, but should not be used to estimate coal quantity or quality. A company, when reporting interpretive data, shall state the technical basis of the interpretation. Interpretive Data may be used in conjunction with Points of Observation to improve confidence levels.
JORC	Joint Ore Reserves Committee
MDL	Mineral Development License – issued to allow the evaluation of the development potential of the defined resource. A MDL is granted if the applicant is a holder of an existing exploration permit and allows the holder to: ▪ Conduct geoscientific programs(drilling, seismic etc) ▪ Mining feasibility studies ▪ Metallurgical testing and marketing (including bulk samples) ▪ Engineering and design studies ▪ Environmental assessment
Measured Coal Resource	The part of the total Coal Resource for which quantity and quality can be estimated with a high level of confidence, based on information gathered from Points of Observation that may be supported by Interpretive Data. The Points of Observation are spaced closely enough to confirm geological and/or quality continuity.
MIA	Mine Infrastructure Area
Mining model	The computer generated representation that represents the scheduled Waste volume (in opencast mining), ROM tonnage, Saleable tonnage and Product coal quality attributes of the specific Coal Reserve, based on the output from the Geological Model, which must consider key inputs from the Mine Design considerations, any geotechnical constraints, machine selection criteria and productivity considerations, process flow and coal processing design aspects, and which is prepared by a Competent Person or technical specialists with sufficient experience in scheduling such a Coal Reserve.
M_{IS}	Moisture content basis for *in situ* coal resource tonnages to be nominated as a percentage e.g. 12% M_{IS}
M_{ROM}	Moisture content basis for Run of Mine coal reserve tonnages to be nominated as a percentage e.g. 11.5% M_{ROM}
M_{Prod}	Moisture content basis for Marketable coal reserve tonnages to be nominated as a percentage e.g. 12% M_{Prod}
ML	Mining Lease
MLA	Application for a Mining Lease
Mt	Million Tonnes
PCI	Pulverised Coal Injection
Points of observation	Intersections of coal bearing strata, at known locations, which provide information, to varying degrees of confidence, about the coal by observation, measurement and/or testing of the following: surface or underground exposures, bore cores, down hole geophysical logs and/or drill cuttings in non-cored boreholes. Points of Observation shall allow the presence of coal to be unambiguously determined. Points of Observation for coal quantity estimation may not necessarily be used for coal quality evaluation. A Point of Observation for coal quality evaluation is normally obtained by

Term	Definition
	testing samples obtained from surface or underground exposures, or from bore core samples having an acceptable level of recovery (normally >95 per cent linear recovery).
Probable Coal Reserve	The economically mineable part of an Indicated Coal Resource. It can also be the economically mineable part of a Measured Coal Resource if the modifying factors need to be further resolved before the Estimator can confidently place the Coal Reserve in the Proved category.
Proved Coal Reserve	The economically mineable part of a Measured Coal Resource for which the modifying factors have been satisfied.
ROM	Run of Mine
SMC	Stanmore Coal
WS	Working Section

1 STATEMENT OF RESERVES

Stanmore Coal (SMC) has commissioned Palaris Australia Pty Ltd (Palaris) to provide an estimate of reserves for their Isaac Downs open cut coal mining project as at 30 June 2020.

This estimate was prepared in compliance with the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (The JORC Code - 2012 Edition) and the Australian Guidelines for the Estimating and Reporting of Coal Resources (2014 Edition).

This document compiles the geological and mining aspects of the Coal Reserves within the mining areas that are located within the Isaac Downs Project (Isaac Downs) mining and exploration leases and are currently mined or are the subject of plans for mining by open cut mining methods.

1.1 Coal Resources

Coal resources supporting this Reserve estimate are outlined in the following report:

SMC, 2020 - Coal Resource Estimate, Isaac Downs Project, In Situ Coal Resources within MDL 137, EPC 728 and EPC 755. QLD, Australia (June 2020); MG502_Report_2020_01.

The resources were estimated by Mr Toby Prior of Measured Group, Competent Person signatory. The 2020 resource report is supported by a JORC Code (2012) Table 1 checklist, which reasonably describes aspects of the exploration, sampling and resource estimation procedure.

Palaris have reviewed the resource report and geological model to ensure that the methodology used in the estimation of coal resources is reasonable and supports the quantum and reserve categories for the 2019 Coal Reserve estimate. The reported Measured and Indicated Resources are inclusive of the Coal Resources modified to produce the Coal Reserves.

The total Resource for Isaac Downs is 36.2 Mt. Resources comprise 68 % Measured, 32 % Indicated and nil Inferred category.

Table 1.1 Isaac Downs Coal Resources as of June 2020 (Measured Group)

Seam	Ply	Measured	Indicated	Inferred	Total
Leichardt	L	10.8	0.6	-	11.4
	LU	1.4	2.7	-	4.1
	LL3	1.1	2.2	-	3.3
	LL2	0.8	2.0	-	2.8
	L1	1.9	1.0	-	2.9
Vermont Upper	VU1	7.4	0.6	-	8.0
	VU2	1.3	2.0	-	3.3
	VU3	-	0.4	-	0.4
Total		**24.7**	**11.5**	**-**	**36.2**

Source: *Coal Resource Estimate, Isaac Downs Project, In Situ Coal Resources within MDL 137, EPC 728 and EPC 755. QLD, Australia (June 2020). Subject to rounding*

1.2 Coal Reserves

Palaris has reported Coal Reserves for the mining areas in accordance with the JORC code-2012. These reserves are inclusive of and not additional to the JORC resources tabled in this report Table 1.1.

The reserves are estimated as at 30 June 2020 and reflect the mine designs used for the draft Bankable-Feasibility Study- July 2020 (Isaac Downs).

1.2.1 Open Cut Mining Reserves

The Open Cut Coal Reserve estimate for Isaac Downs is shown in Table 1.2.

Table 1.2 Isaac Downs Open Cut Coal ROM Reserve Estimate by Seam

Seam - Ply	Proved ROM (Mt) 7% MROM	Probable ROM (Mt) 7% MROM	Total ROM (Mt) 7% MROM
Leichardt Upper	4.3	0.8	5.1
Leichardt Lower 3	4.4	0.9	5.2
Leichardt Lower 2	2.8	0.6	3.4
Leichardt Lower 1	3.5	0.4	3.9
Vermont Upper 1	5.8	0.1	5.9
Vermont Upper 2	1.5	0.8	2.3
Total	**22.3**	**3.6**	**25.9**

Subject to rounding

1.2.2 Open Cut Marketable Reserves

Marketable coal reserves have been estimated by applying practical Coal Handling and Preparation Plant (CHPP) yield recoveries to the ROM Coal Reserves. The Open Cut Marketable Coal Reserve for the Isaac Downs is shown in Table 1.3.

Table 1.3 Isaac Downs Open Cut Coal Marketable Reserve Estimate

Product Type	Proved (Mt)	Probable (Mt)	Total (Mt)
SSCC (9.5% Ash) (11% Mprod – avg)	15.3	2.0	17.3
Thermal (16% Ash) (9.5% M_{prod}- avg)	0.5	0.1	0.6
Total Product	15.8	2.1	17.9

Subject to rounding

1.3 JORC Competency Declaration

The reserve estimate is based on information compiled by Mr Michael Barker, who is a Member of the Australasian Institute of Mining and Metallurgy (AusIMM) (112634). Mr Michael Barker is General Manager, Feasibility Studies for Palaris. He has sufficient experience relevant for the style of mineralisation and type of deposit under consideration and to the activity he is undertaking 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. Mr Barker has over 23 years' experience in the estimation, assessment, evaluation and economic extraction of Coal Reserves. He consents to the inclusion of this Reserve Estimate in reports disclosed by the Company in the form in which it appears.

This estimation of Coal Reserves has been undertaken by a team of people in the Palaris office and in co-operation with technical staff employed by SMC. Mr Michael Barker is satisfied work of other contributors is acceptable and accepts responsibility for the documentation of the Coal Reserve estimate under the Code.

Neither Mr Barker nor Palaris have a direct or indirect financial interest in, or association with SMC, or the properties and tenements reviewed in this report, apart from standard contractual arrangements for the preparation of this report and other previous independent consulting work. In preparing this report, Palaris has been paid a fee for time expended based on its standard hourly rates. The present and past arrangements for services rendered to SMC do not in any way compromise the independence of Palaris with respect to this review.

Competent Persons:

Competent Persons	
Mr Michael Barker Member AusIMM (112634) General Manager – Feasibility Studies Palaris Australia Pty Ltd	

2 BACKGROUND

2.1 Introduction

SMC is an independent coal company with operations and exploration projects in the Bowen and Surat Basins. SMC's main asset is the Isaac Plains Complex, which comprises of the current open-cut operations at Isaac Plains East and the Isaac Downs project, as well as the Isaac Plains Underground development project.

This report was commissioned by Jon Romcke of SMC (GM Development). It aims to document a JORC-compliant Coal Reserve estimate for the Isaac Downs mining and exploration tenure - MDL 137, EPC 728 and EPC 755.

This report covers all required topics as listed in the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (The JORC Code), 2012 Edition.

2.2 Project Description

Isaac Downs is an open cut metallurgical coal project expected to produce a total of approximately 26 Mt of ROM coal over 10 years. It is located approximately 145km south-west of Mackay and 10km south-east of Moranbah in the northern central Bowen Basin of Queensland, Australia (Figure 2.1).

Mining has not commenced at Isaac Downs. However, open cut mining has been successful in neighbouring SMC operations, Isaac Plains and Isaac Plains East, both to the north of the Isaac Downs lease area.

2.2.1 Ownership

SMC own 100% of the Isaac Plains Complex which includes the original Isaac Plains Mine, the adjoining Isaac Plains East Mine, Isaac Downs Open Cut Project and the Isaac Plains Underground Project.

2.2.2 Location

The Project site is located within the Bowen Basin coal field, approximately 145km south-west of Mackay,10km south-east of Moranbah and 10km from the existing Isaac Plains Mine. The rail spur is located 172km from the port.

Source: Coal Resource Estimate, Isaac Downs Project (Jan 2020)

Figure 2.1 Isaac Downs project location

2.2.3 Mining History

A brief summary of the Isaac Plains Complex history is summarised below:

- **December 2005** – Isaac Plains Mining Lease granted
- **2006** – First coal mined, processed and railed for export
- **September 2014** - Isaac Plains Coal mine placed in care and maintenance by owners Vale and Sumitomo
- **November 2015** – SMC acquired Isaac Plains
- **January 2016** – SMC recommenced mining operations at the Isaac Plains Mine with contract operator Golding
- **April 2016** -First coal mined
- **May 2016** – First coal shipment
- **June / July 2018** – Transitioned mining from the Isaac Plains Mine to Isaac Plains East
- **July 2018** – Acquisition of 'Wotonga South' MDL728 and EPC728 from Peabody Australia
- **March 2019** – EIS Submission for Isaac Downs Project
- **May 2019** – Mining Lease Applications lodged for MLA 700046, MLA 700047 and 700048
- **October 2019** – Final ToR (Terms of Reference) Published by government

2.3 Consents, Leases and Licences

SMC is currently still in the process of gaining relevant approvals to permit operations for Isaac Downs. A Mining Lease Application has been lodged covering the entire project area as shown in Figure 2.2 below.

Table 2.1 Isaac Downs Tenure Detail

Title Code	Title No.	Company	Grant Date	Expiry Date	Area (Ha)
MDL	137	Stanmore IP South PTY LTD	06/07/1993	30/06/2023	652
EPC	728	Stanmore IP South PTY LTD	17/04/2001	16/04/2021	2,223
EPC	755	Stanmore IP Coal PTY LTD	04/10/2002	4/09/2023	6,667

Table 2.2 Isaac Downs Petroleum Permits

Title Code	Title No.	Company	Grant Date	Expiry Date	Area (Ha)
ATP	1103	CH4 Pty Ltd (Arrow Energy Ltd Subsidiary)	23/12/2012	31/12/2018	369,463
PCA	143	CH4 Pty Ltd	10/11/2013 (Rev. 8/5/2020)	-	19,042
PL	196	CH4 Pty Ltd	16/12/2004	15/12/2024	3,600
PLA	1034	Eureka Petroleum Pty Ltd	06/09/2017	-	7,628

Source: Isaac Downs Project Environment Impact Statement

Figure 2.2 Isaac Downs Underlying Tenements

The mine project is covered by the CH4 Pty Ltd owned Authority to Prospect (ATP 1103). The area has also been identified as a Potential Commercial Area (PCA 143) and was granted on the 8 May 2020.

Source: Isaac Downs Project Environment Impact Statement

Figure 2.3 Isaac Downs Overlapping petroleum Tenements

2.4 Land Ownership

The land ownership for the mine and the existing infrastructure is described below and shown in Figure 2.4.

- Lot 5 GV132, privately owned freehold
- Lot 17 SP261431, privately owned freehold
- Easement Q - SP184914 Peak Downs Highway, Department of Transport and Main Roads (DTMR)
- Lot 8 GV196, Quarry Reserve, DTMR as Trustee

Source – Isaac Downs Project - EIS

Figure 2.4 Land Ownership – Isaac Downs

2.5 Native Title

All properties within the MLA have had Native titles extinguished except for Lot 8 GV196 a State quarry reserve. A native title process under the NT Act will be required to be completed prior to the mining lease being granted. SMC is undertaking a negotiating process to obtain the Barada Barna People's approval for the lease to be granted.

2.6 Infrastructure

Road access to the site is off the Peak Downs Highway. The existing IP Mine rail loop from the Goonyella Branch rail line will be used to load trains destined for Dalrymple Bay Coal Terminal.

The portion of existing key infrastructure utilised from the existing Isaac Plains Complex is listed below:

- CHPP
- Rejects and tailing disposal in existing voids
- Rail Spur and train loadout facility
- Internal haul roads
- Water supply
- Power and communications supply

The infrastructure to be constructed for the project is shown below:

- Mine water dam
- Access road
- ROM Stockpile area
- Explosives Magazine
- Pit to ROM Haul Road
- Peak Downs Highway Underpass
- Dragline walk route
- Clean water diversion

2.7 Previous Resource and Reserve Reporting

The following reports have been completed previously:

i) *"SMC, 2020 - Coal Resource Estimate, Isaac Downs Project, In Situ Coal Resources within MDL 137, EPC 728 and EPC 755. QLD, Australia (June 2020); MG502_Report_2020_01"*
ii) Resource Estimate – James Knowles (Measured Group) – 31st Dec 2018
iii) "SMC, 2020 – Coal Reserves Estimate Report, Isaac Downs Project; MG382_Report_2018_01"
iv) "MDL137 Wotonga (South) Resource Statement, QLD, Australia (March 2018)"

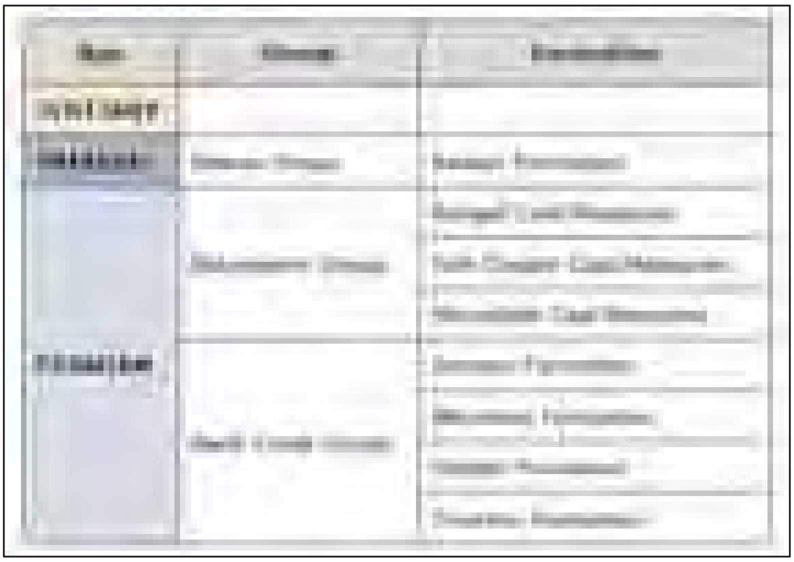
3 GEOLOGY

3.1 Regional and Local Geology

The geology of Isaac Downs is described in more detail in the *Coal Resource Estimate, Isaac Downs Project, In Situ Coal Resources within MDL 137, EPC 728 and EPC 755 QLD, Australia (June 2020)* by Measured Group.

Isaac Downs is in the northern part of the Permo-Triassic Bowen Basin containing mostly fluvial and some marine sediments of the marginal marine Back Creek Group; Late Permian coal-bearing, non-marine strata from the Blackwater Group; and overlying Tertiary basalts and sediments within the Suttor Formation (Table 3.1 and).

Table 3.1 Regional Stratigraphy of the Isaac Downs Area



[illegible]	[illegible]	[illegible]
[illegible]		
[illegible]	[illegible]	[illegible]
[illegible]	Blackwater Group	Rangal Coal Measures
		Fort Cooper Coal Measures
		Moranbah Coal Measures
	[illegible]	[illegible]
		[illegible]
		[illegible]
		[illegible]

Source: Coal Resource Estimate (Jan 2020)

The Isaac Downs coal deposit is in the Late Permian Rangal Coal Measures which are approximately 100 m thick. The Rangal Coal Measures are underlain by the Fort Cooper Coal Measures and overlain by the Late Permian to Early Triassic Rewan Group.

Tertiary sediments rest unconformably on the coal measure sequences and consist predominantly of unconsolidated, poorly sorted fluviatile and well-bedded lacustrine quartzose sediments. Tertiary volcanism in the form of basaltic to basinitic plugs and associated flows occur throughout the area.

The Rangal Coal Measures comprise light grey, cross bedded, fine to medium grained labile sandstones, grey siltstones, mudstones and coal seams. Cemented sections are common in the sandstones. The transition from the Rangal Coal Measures to the Rewan Formation is generally difficult to define and is often based on the change from the green-grey colour of the Rewan sandstones to the blue-grey colour of the Rangal sandstones. The transition between the formations is 15 to 60m above the first major seam in the Rangal Coal Measures the Leichhardt Seam.

The Rewan Formation has not been noted in the most recent and historic drilling.

The Fort Cooper Coal Measures comprise typically tuffaceous sandstones, siltstones, mudstones and coal seams. The transition between the Rangal Coal Measures and the Fort Cooper Coal Measures is generally clearly marked by the Yarrabee Tuff - a basin-wide marker bed comprised of weak, brown tuffaceous claystone.

Source: Coal Resource Estimate (Jan 2020)

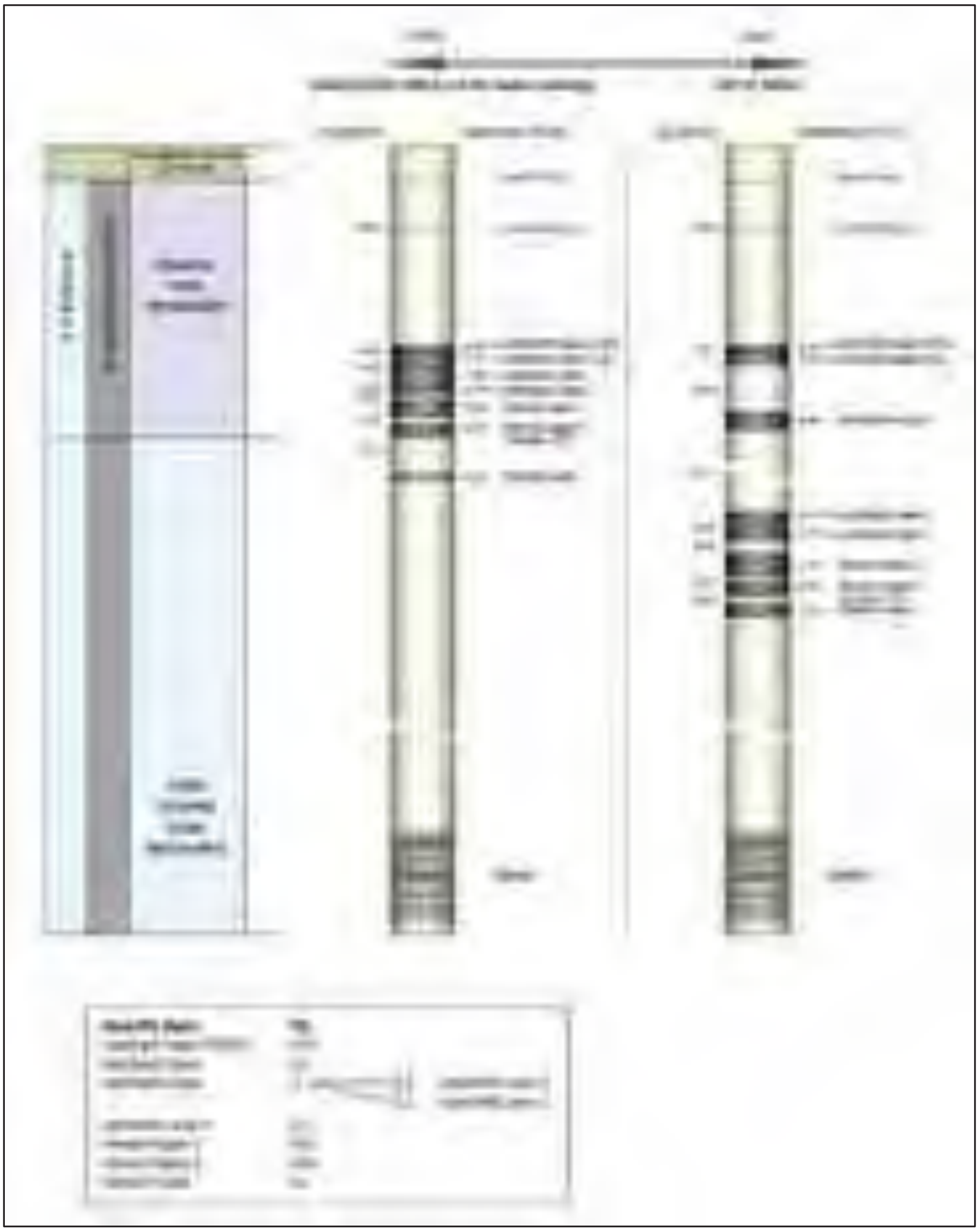
Figure 3.1 Regional Geology

The economic coal seams located within Isaac Downs occur in the Permian Rangal Coal Measures. Locally, the Rangal Coal Measures are unconformably overlain by Tertiary soils.

The local stratigraphy is typical of the regional stratigraphy and is summarised in Table 3.2 and Figure 3.2.

Table 3.2 Local Stratigraphy

Unit	Description
Unconsolidated material (0-8m thick)	Tertiary soils and unconsolidated sand/silts.
Rangal Coal Measures (RCM) overburden	Dominantly Medium grey siltstones and fine to medium-grained light grey sandstones
RCM Immediate coal roof (1-2m thick)	Dark grey carbonaceous siltstones with gradational contact to coal
RCM Leichhardt and Vermont Upper Coal Seams (5-6 m thick)	Dull to bright coal plies separated by siltstone or carbonaceous siltstone beds. Occasional tuffaceous siltstone
RCM Immediate coal floor	RCM Immediate coal floor
Yarrabee Tuff (YT)	Tuff material that is a stratigraphically significant marker unit across the Bowen Basin. Marks the boundary between the Fort Cooper Coal measures and the Rangal Coal measures.
Fort Cooper Coal Measures overburden	Dominantly medium grey fine to medium-grained sandstones with occasional siltstone beds
Fort Cooper Coal Seams (includes Vermont Lower coal seams)	Dull to medium bright coal plies separated by tuffaceous sandstones, siltstones, mudstones and tuffs



Source: Coal Resource Estimate (Jan 2020)

Figure 3.2 Local Stratigraphy

3.2 Coal Seam Geology

The main coal seams of interest in the project area are the Leichhardt (L) and Vermont Upper (VU) seams.

The L & VU coal seams have been further divided into their sub-plies with each ply being modelled across the entire deposit, meaning the geological model retains its ply definition even in areas of ply coalescence.

The Leichhardt (L) Seam consists of five main plies:

- LUD - Leichhardt Upper Dilution (average thickness ~0.25 m)
- LU - Leichhardt Upper (average thickness ~1.3 m)
- LL3 - Leichhardt Lower 3; upper component (average thickness ~ 0.85 m)
- LL2 – Leichardt Lower 2; middle component (average thickness ~ 0.85m)
- LL1 - Leichhardt Lower 1; lower component (average thickness of 0.8 m).

In terms of coal stratigraphy, the deposit can be further delineated into its western and eastern extents. Within the shallower western part of the deposit, the Leichhardt seam exists as a contiguous single coal seam (L) of average thickness ~4.2 m.

In the coalesced portion of the deposit, the Leichhardt plies are typically separated by mudstones less than 0.1 m thick, whereas minor siltstones with minor tuffaceous lenses separates the LL3, LL2 and LL1. The Leichardt Coal occurrences are logged as bright to bright with a dull band at the base of the seam.

Heading east and at typical depths of 80-100 metres from the surface, the combined L seam begins to split into plies, as identified above. The splits develop along a north to north-northwest orientation, and definition of the split line occurs where inter-burden between the plies reaches thicknesses greater than 0.5 metres.

The first ply of the Leichhardt Seam, LUD, represents a carbonaceous transition from siltstone into the coals of the Leichhardt seam. For resource calculations, the LUD is composited with the either the coalesced L in the west or the LU in the east.

The Vermont Upper occurs approximately 0.5 m below the Leichhardt Seam and is split into two main plys, typically separated by siltstones.

- VU1 - Vermont Upper 1 (average thickness 1.3 m); and
- VU2 - Vermont Upper 2 (average thickness (0.45 m).

The VU1 is the thickest and most consistent of the Vermont plies, averaging 1.30 m across the entirety of the deposit. The VU2 is typically 0.45m thick and sits below the VU1, separated by <0.5m of inter-burden. Within the southern part of the deposit only, the VU2 develops a minor floor separation. This seam split has been coded as the VU3 in the database and averages 0.15m thick, thereby only contributing a minor proportion to the overall resource tonnage.

3.2.1 Structure

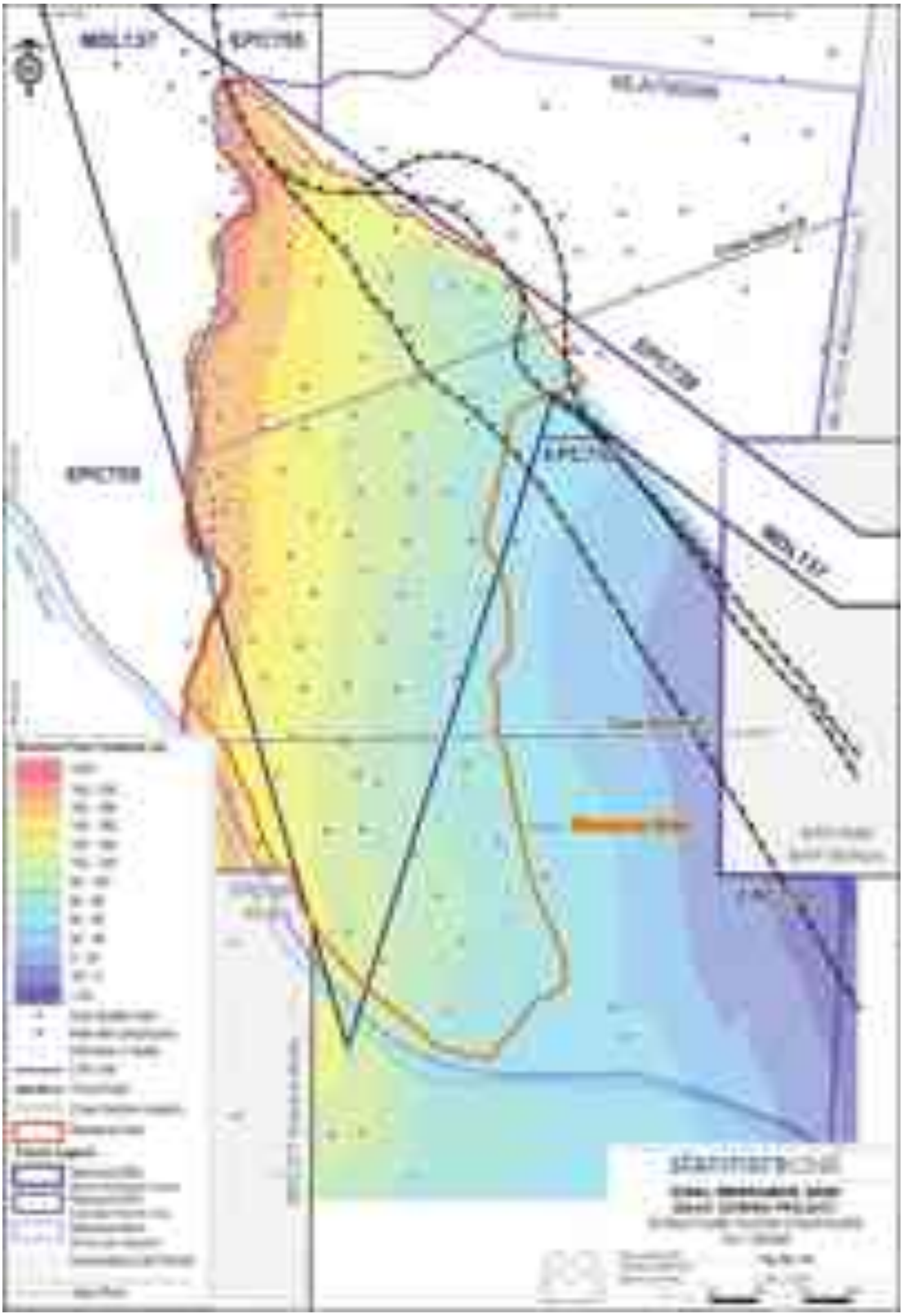
The project area generally has a laterally consistent seam dip of between 4 and 5 degrees down to the east.

The project area is bounded in the northeast by a major regional-scale reverse fault, referred to locally as the Isaac Fault. At Isaac Downs, the Isaac Fault is presently modelled as a zone with multiple sub-parallel reverse faults of varying displacement, with maximum interpreted throws of >50 m. In parts, the fault is interpreted to present as a local scale en echelon reverse fault geometry.

Evidence for localised minor thinning, seam offsets and steeper dips associated with faulting has been observed in exploration data but is not considered to impact on Coal Resource estimates materially.

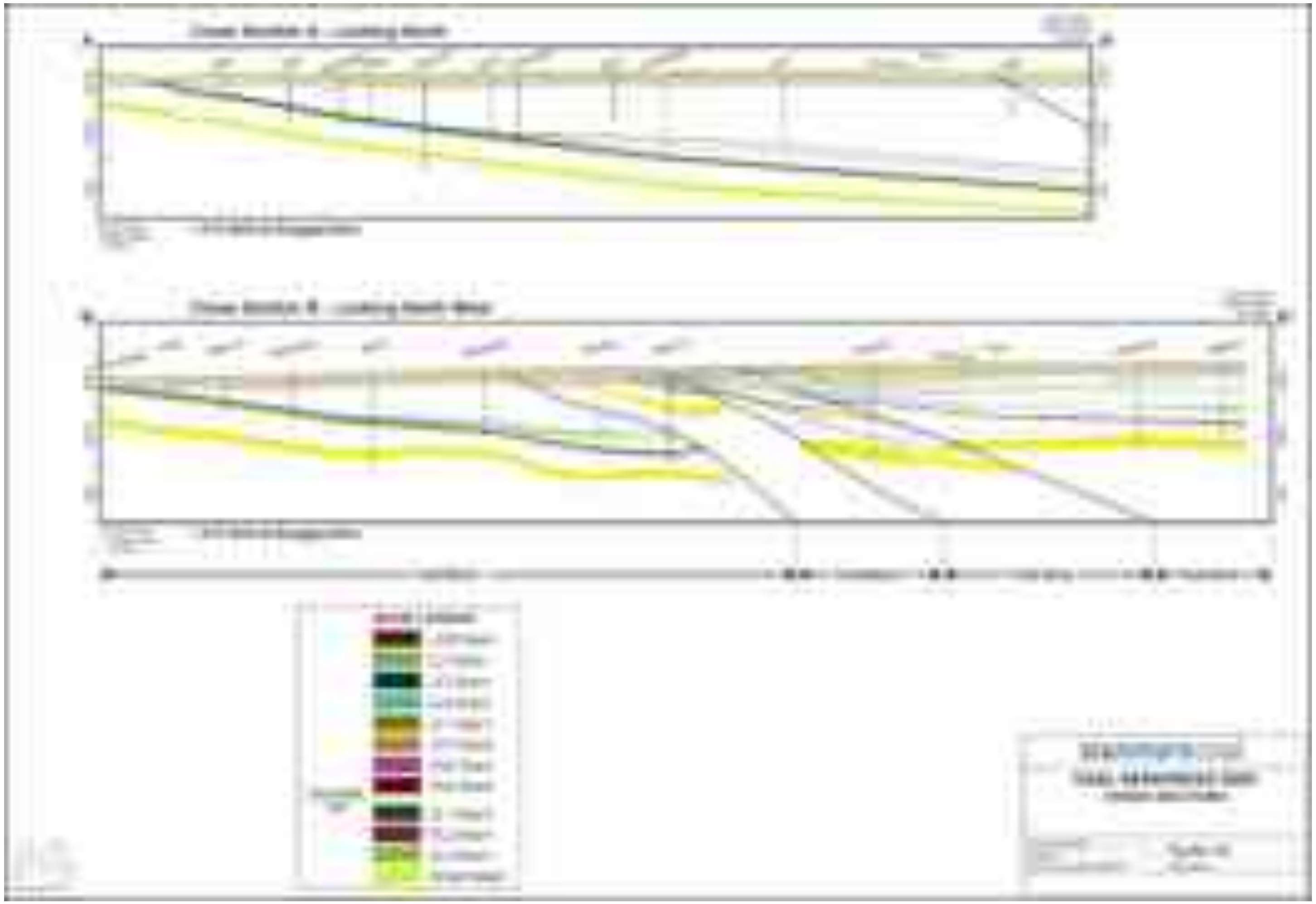
Two-seam splits have been interpreted in the Leichhardt and Vermont seams. The splits develop as the seam package extends down dip, with the first split developing between the LL and LL1 plies reaching a thickness of up to 30 m. The second spilt develops between the LU and LL plies and reaches a thickness of up to 25 m. Both splits develop along a north to north-northwest orientation.

The geological features influencing coal seam geometry are shown in plan view, Figure 3-4, while a cross-section through the deposit is shown in Figure 3-5.



Source: Coal Resource Estimate (Jan 2020)

Figure 3.3 Structure Floor Contours – VU1 Seam



Source: Coal Resource Estimate (Jan 2020)

Figure 3.4 Isaac Downs Representative Cross-sections

3.2.2 Coal Rank

The rank of the Leichardt and Vermont coal seams is medium volatile bituminous (ASTM classification), based on a Ro_{max} of 1.05% and an average inherent moisture of 1.9%. The coal seams can provide coking, PCI and thermal coal products.

3.2.3 Coal Thickness

The coal seam sequence and thickness of plies is summarised in the below Figure 3.5.

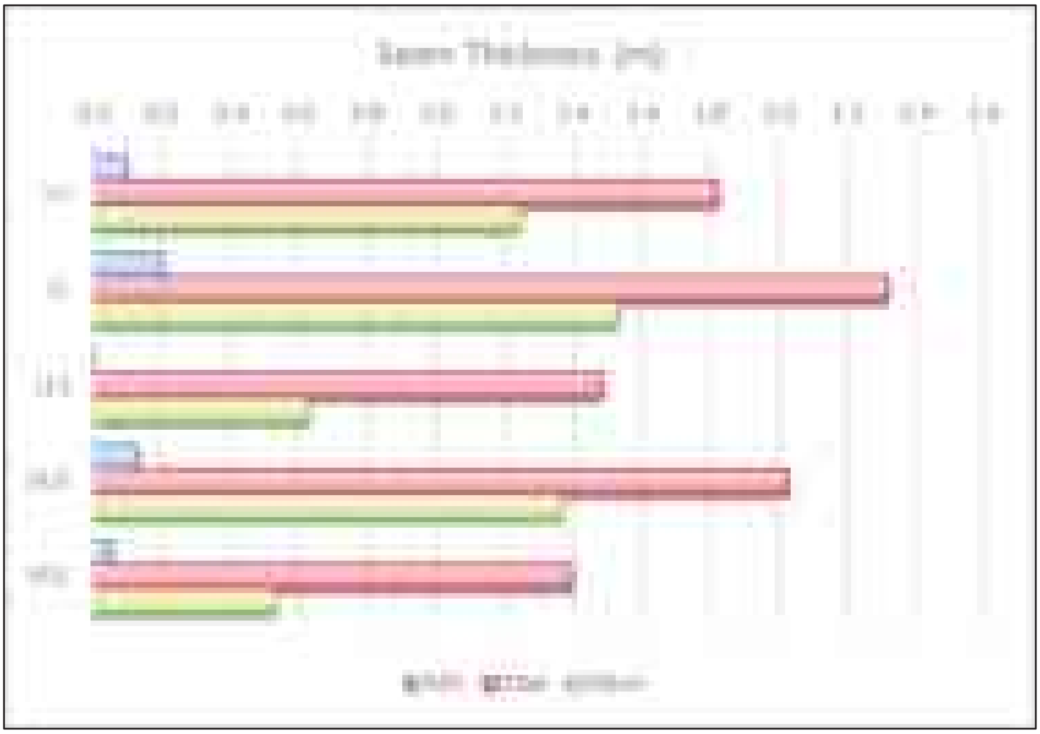


Figure 3.5 Range and average thickness of plies

3.2.4 Coal Quality

The coal quality parameters for the project are outlines in the following table.

Table 3.3 Isaac Downs Average Coal Quality Parameters Air Dried

Resources (Mt in-situ)

Seam	Ply	RD	Ash (%)	IM (%)	VM (%)	FC (%)	TS (%)
Leichardt	L	1.40	16.4	2.0	23.2	58.5	0.28
	LU	1.45	17.6	1.9	24.3	56.2	0.28
	LL3	1.47	19.9	2.0	22.9	55.2	0.25
	LL2	**1.54**	**26.3**	**2.1**	**21.1**	**50.6**	**0.23**
	LL1	**1.53**	**25.6**	**2.2**	**21.9**	**50.3**	**0.32**
Vermont Upper	**VU1**	**1.45**	**17.1**	**2.1**	**23.9**	**57.0**	**0.39**
	VU2	**1.58**	**30.3**	**2.2**	**19.8**	**47.7**	**0.40**
	VU3	**1.75**	**43.9**	**2.4**	**16.7**	**37.1**	**0.30**

Source: Coal Resource Estimate, Isaac Downs Project MDL137; EPC728 and EPC755 QLD, Australia (June 2020). Subject to rounding

3.3 Resource Review

3.3.1 Coal Resources

Coal resources underlying this reserve estimate are outlined in the following report:

SMC, 2020 - Coal Resource Estimate, Isaac Downs Project, In Situ Coal Resources within MDL 137, EPC 728 and EPC 755. QLD, Australia (June 2020); MG502_Report_2020_01.

The resources were estimated by Mr. Toby Prior of Measured Group, who is the Competent Person signatory for resources.

The 2020 Measured Coal Resource report is supplemented by a JORC Code (2012) "*Table 1 Checklist of Assessment and Reporting Criter*ia", which reasonably describes aspects of the exploration, sampling and resource estimation procedure.

Palaris have reviewed the resource report and geological model to ensure that the methodology used in the estimation of coal resources is reasonable and supports the quantum and reserve categories for the 2020 reserve estimate.

i) Resource Estimation Methodology

The Isaac Downs resource is deemed viable to produce a primary semi-hard or semi-soft coking coal product and secondary PCI and/or thermal product via open-cut mining methods. The resource is limited by a minimum coal ply thickness of 0.1m and a stripping ratio of 20:1 (bcm/t). The resource is further limited by the Isaac River to the south, Isaac Thrust fault to the north and LOX line to the west.

ii) Geological Modelling

The geological model has been constructed using Vulcan v12 3D modelling software's grid and modelling techniques. Since the 2018 resource estimate, the model has been updated with the addition of 134 new drill holes, having been completed by SMC from November 2018 to September 2019. Of the 134 new holes, 16 were drilled with a primary purpose of coal quality testing. Based on recent review of the updated dataset and geophysical logs, additional plies were introduced. The previous LL ply has been split into a LL3 and LL2, whilst the VU2 ply is now split into a VU2 and VU3. Coal quality has been modelled using a variation of the inverse distance algorithm with a power factor of 1.5 for each assay for each ply and merged seam. Coal quality grids and structural surfaces have been consolidated into a geological HARP block model.

iii) Resource Classification

The classification of resources has been based on measured distance from coal quality holes and non-core geophysical structural holes. The classification polygons for each coal ply can be seen in Figure 3.6 to Figure 3.13. The extrapolated distances for categorisation are shown below in Table 3.4.These ranges are based on the variability of thickness and raw ash (ad) for each seam and ply.

Table 3.4 Resource Category Distances for classification

Seam	Measured	Indicated	Inferred
LUD-LL1 (L)	500	1000	2000
LUDLU	500	1000	2000
LL3	500	1000	2000
LL2	500	1000	2000
LL1	570	1070	2000
VU1	1000	2000	4000
VU2	500	1000	2000
VU3	400	800	2000

3.3.2 Coal Resource Estimate

Isaac Downs has a total resource of 36.2 Mt of which 68% is classified as Measured, 32% as Indicated and 0% as Inferred Resources.

Table 3.5 Isaac Downs coal resources-as of June, 2020

		Resources (Mt in-situ)			
Seam	**Ply**	**Measured**	**Indicated**	**Inferred**	**Total**
Leichardt	L	10.8	0.6	-	11.4
	LU	1.4	2.7	-	4.1
	LL3	1.1	2.2	-	3.3
	LL2	**0.8**	**2.0**	**-**	**2.8**
	LL1	**1.9**	**1.0**	**-**	**2.9**
Vermont Upper	**VU1**	**7.4**	**0.6**	**-**	**8.0**
	VU2	**1.3**	**2.0**	**-**	**3.3**
	VU3	**-**	**0.4**	**-**	**0.4**
Total		**24.7**	**11.5**	**-**	**36.2**

Source: Coal Resource Estimate, Isaac Downs Project MDL137; EPC728 and EPC755 QLD, Australia (June 2020). Subject to rounding.
Note – Coal Resources estimated at 4% in situ moisture

3.3.3 Impact on Reserve Categories

The development of the geological model from 2018 to 2020 and resultant resource estimate update has had a beneficial impact on the reserve categories. The resource has been consolidated from 50% Measured, 36% Indicated and 13% Inferred to 75% Measured and 35% Indicated, with a large portion of the pit shell now within the Measured category.

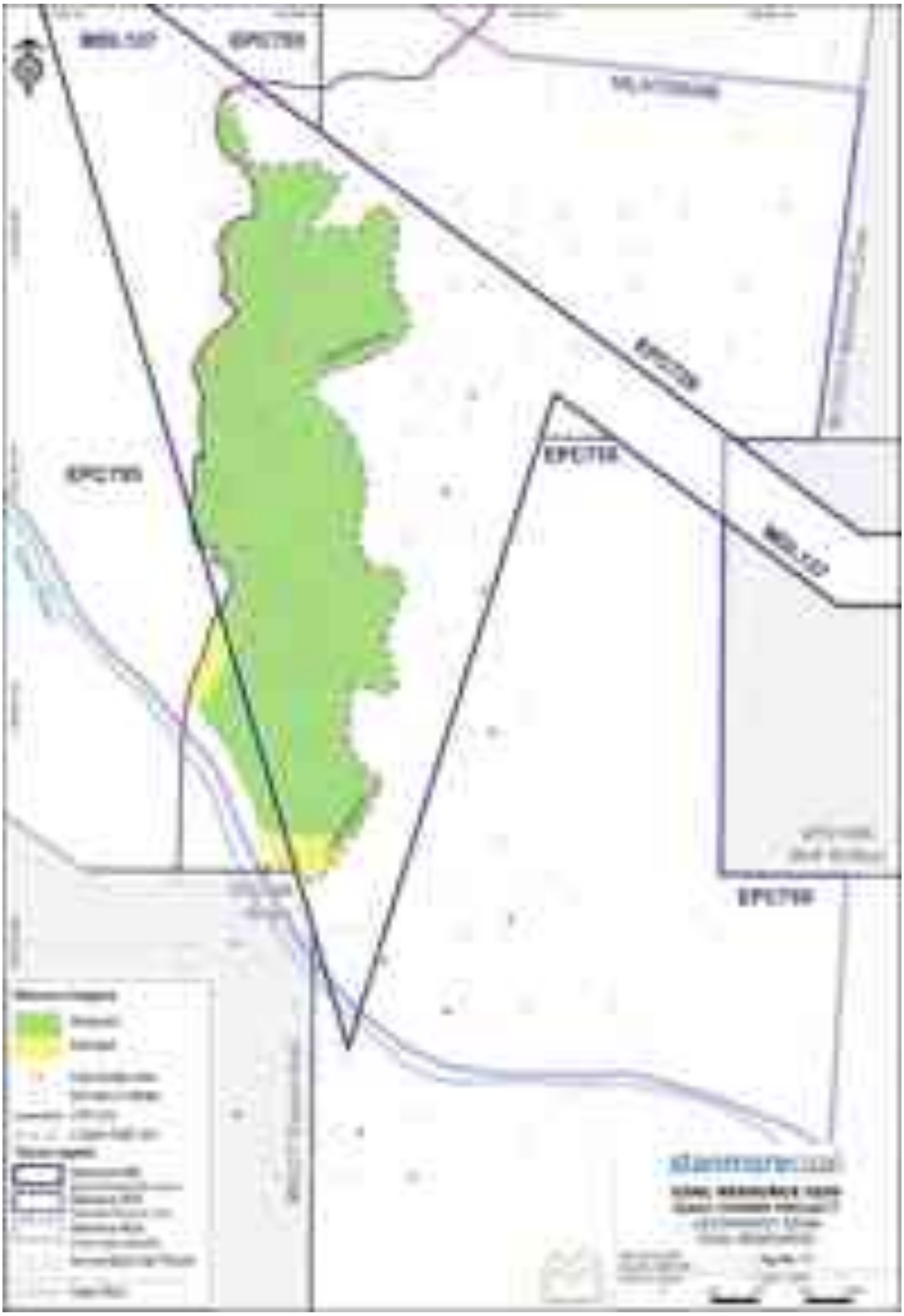


Figure 3.6 Isaac Downs Leichardt Seam resource classification

Figure 3.7 Isaac Downs LUD-LU Ply resource classification

Figure 3.8 Isaac Downs LL3 Ply resource classification

Figure 3.9 Isaac Downs LL2 Ply resource classification

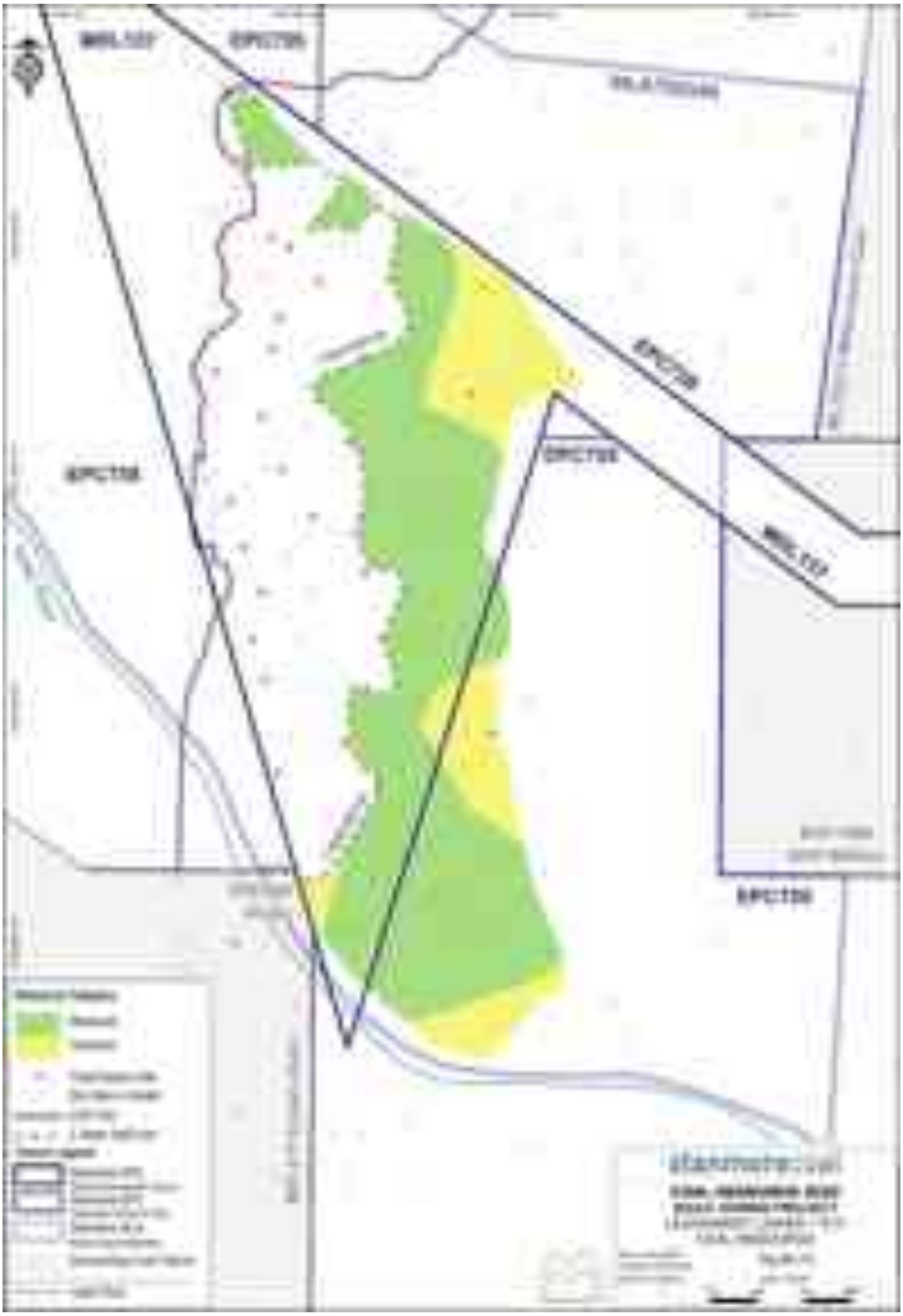


Figure 3.10 Isaac Downs LL1 Ply resource classification

Figure 3.11 Isaac Downs VU1 Ply resource classification

Figure 3.12 Isaac Downs VU2 Ply resource classification

Figure 3.13 Isaac Downs VU3 Ply resource classification

4 RESERVE ESTIMATE

4.1 Resource Status

The Isaac Downs coal Resource estimate (Jan 2020) was prepared by Mr Toby Prior of Measured Group Pty Ltd, who is a Member of the AusIMM. The resource comprises estimates for the Leichardt and Vermont Upper seams within the Isaac Downs area, from which 68% was classified as measured, 32% Indicated and 0% Inferred.

4.2 Level of Studies

Palaris has been engaged to complete a Bankable Feasibility Study (BFS) coinciding with the completion of this Reserve report.

Table 4.1 Study level for Isaac Downs

Modifying factors	Minimum Pre-Feasibility study	Minimum Feasibility study
Mining	☐	☒
Metallurgy	☐	☒
Economic	☐	☒
Marketing	☐	☒
Legal	☐	☒
Environmental	☐	☒
Social	☐	☒
Governmental	☐	☒
Native title and cultural heritage	☐	☒

4.3 Mining Limits

4.3.1 Mine Design

The open cut mine design takes the following criteria into account:

- Insitu strip ratio of 20:1
- Seam dip – Maximum 12 degrees for Dragline
- Isaac River levee inside toe- 50m offset
- Alignment with geological structure
- LOX Line
- Geotechnical recommendations
- Geology – Fault structures

The following design parameters have been established for the pit shell:

Table 4.2 Excavated Slope Design

Area / Pit component	Minimum Bench Width (m)	Batter Angle (deg)	Maximum Batter Height (m)
Main Pit - LOX/Box cut			
Cenozoic, sandy-clay alluvium	10	25º >20m 35º 10-20m 25º <10m	20
Weathered Permian	10	45	20
Main Pit (End Wall, Highwall)			
Cenozoic, sandy-clay alluvium	10	25º >20m 35º 10-20m 25º <10m	20
Weathered Permian	15	45	20
Fresh Permian	15	65	50
Northern Structural Zone - Low wall Box cut			
Cenozoic, sandy-clay alluvium	15	25º >20m 35º 10-20m 25º <10m	20
Weathered Permian	15	45	20
Northern Structural Zone - End wall			
Cenozoic, sandy-clay alluvium	15	25º >20m 35º 10-20m 25º <10m	20
Weathered Permian	15	45	20
Fresh Permian	15	65	50

Source: "Isaac Downs Geotechnical Assessment, v1.0, April 2020"

Table 4.3 Dragline Spoil Slope Design

Area / Pit component	Floor Dip (deg)	Bench Angle (deg)	Maximum Bench Height (m)	Maximum Bench Width (m)	Spoil Angle (deg)	Maximum Dump Height (deg)
All Domains	0-6	37	45	0	35	45
	6-9	35	45	5	35	45
	9-14	27	45	10	35	45

Source: "Isaac Downs Geotechnical Assessment, v1.0, April 2020"

4.3.2 Geological Structures

The Reserve is constrained by the Isaac Thrust fault which is located on the north-eastern side of the pit shell in the sense that the repeated sequence shown in the cross sections is not included in the Resource nor the Reserve. However, this unclassified coal is considered in the Feasibility Study and the LOM schedule.

4.3.3 Strip Ratio

The ROM strip ratio for Isaac Downs is expected to range, on an annual average, between 4-12 BCM/t between yearly production, with a LOM average of 9.5 BCM/t for the entire project. Most projects typically contain blocks with high strip ratios that are necessary to keep continuity of mining. For Isaac Downs, they range up to 20 BCM/t.

4.4 Classification of Reserves

Coal Resources underlying this Reserve estimate are outlined in the following report:

- Coal Resource Estimate, Isaac Downs Project MDL137; EPC728 and EPC755 QLD, Australia (June 2020) by Measured Group Pty Ltd

The Reserves have been classified into Proven and Probable categories by intersecting the planned mining blocks from the current life of mine plan with the Measured and Indicated resource polygons respectively. The Reserve was then assessed to determine if the application of any Modifying Factors would result in subsequent reclassification.

The Isaac Downs North portion of the LOM falls has not been classified in the JORC Resource reporting and hence this area has not been included in the Reserve totals. The geotechnical requirements for mining in the Northern extents of the Main pit results in these unclassified seams being taken as part of the mining process. Coal intersections shown in the geological model have been considered in the financial modelling for the LOM assessment.

The Proved and Probable Reserve categories for the Isaac Downs reserves are shown in Figure 4.1 to Figure 4.8.

Figure 4.1 Reserve categories – L Seam

Figure 4.2 Reserve categories – LUDLU Seam

Figure 4.3 Reserve categories – LL3 Seam

Figure 4.4 Reserve categories – LL2 Seam

Figure 4.5 Reserve categories – LL1 Seam

Figure 4.6 Reserve categories – VU1 Seam

Figure 4.7 Reserve categories – VU2 Seam

Figure 4.8 Reserve categories – VU3 Seam

4.5 Modifying Factors and Assumptions

4.5.1 Mining Method/Equipment Selection

The open cut mining operation implements a conventional stripping method. The process incorporates hydraulic excavators pre-stripping material in preparation for cast blasting and dozer push operations to setup material for a dragline pass to expose coal for recovery. The stripping usually takes place in 50m wide trenches that provides maximum efficiencies for dragline operations and truck shovel haulage.

The pre-strip waste material is hauled around the active excavation area and progressively backfilled into already mined strips. The operational dragline accounts for 32% of the prime waste movement on average, with the remaining material removed by excavators, cast blasting and dozers.

Figure 4.9 Period Progress Plot

4.5.2 Product Yield and Quality

Coal Processing

It is planned to process Isaac Downs coal through the existing IP (CHPP) which has a name plate feed capacity of 500t/h and is designed to produce two products simultaneously, a coking or PCI primary product and a higher ash secondary thermal product. The current project does not require any additional capacity or upgrades to the plant.

ROM coal is transported via rear dump trucks to the Isaac Downs ROM pad, where it is then transported by another fleet of trucks to the Isaac Plains CHPP for processing. Capital for the upgrade of the existing Isaac Plains haulroad and the addition of a new, 8km haulroad connecting the operations, have been included in the financial model.

A detailed description of the processing options is available in the Feasibility Study.

Working Sections

The working sections consists of the main Leichardt and Vermont plies. The initial stages of the project the Leichardt Seam is contiguous, however as the geology progresses down dip east the Leichardt lower plies separate out and are mined as singular plies. The Vermont upper is located generally 0.5m below the Leichardt seam and is split into two main plies separated by <0.5m of inter-burden.
Due to the nature of the deposit a working section model has been utilised to define the processing characteristics for each of the seams. The combination of plies and seams for each are defined in the following table.

Table 4.4 Isaac Downs working section options for CPP processing

Working Section Options	Plies
A	LU_LL3_LL2 or LU_LL
	LL1_VU1
	VU2
B	LU_VU1
	VU2
C	LU_VU2

Note same processing scenario for VU2 in options A & B- Source – Isaac Downs – Feasibility Study processing chapter

The working sections follow the splitting of the seams as shown in Figure 3.2 previously.

Yield Assumptions

For the four main working sections (LU_LL, LL1_VU1, LU_VU1 and LU_VU2) both High Quality (HQ) and High Yielding (HY) processing modes are considered. HQ mode is where the nominally -50+16mm size fraction is scalped from the primary coking product and HY mode is where the full size range reports to the primary product. HY mode is also applied to VU2 and VL.

The six product options targeted for the LIMN simulations can be summarised as:

- HQ 8.5% ash primary product with 10.5% secondary PCI product
- HQ 8.5% ash primary product with 16% secondary thermal product
- HY 9.5% ash primary product with 16% secondary thermal product
- HY 16% ash single thermal product
- HY 21% ash primary thermal product with 30% secondary thermal product (VU2 and VL only)
- HY 30% ash single thermal product (VU2 and VL only)

Isaac Plains East dilution washability data was used for generating the Isaac Downs diluted working section washability data sets, along with some Isaac Downs high ash plies including LUD. Two nominal dilution levels were evaluated: - 0.100m and 0.125m each of roof and floor, and the inclusion of any partings <0.30m.

Product Type/s

Marketable reserves have been estimated from ROM reserves using the HY 9.5% ash primary product with a 16% secondary thermal product.

The process incorporated in the conversion of ROM coal to Product coal is shown in Figure 4.10 below.

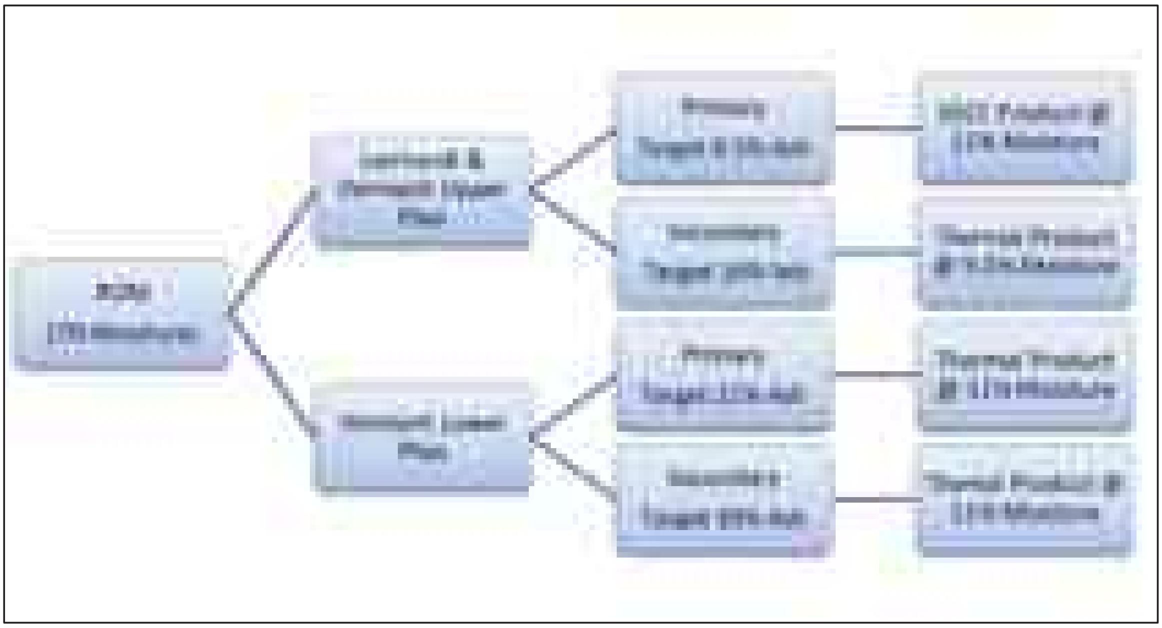


Figure 4.10 ROM to product workflow

The primary semi-soft coking coal product is expected to yield between 52-76.7% based on modelling, with an average of 64.4%. The secondary thermal product ranges between 1.4-3.4% with an average of 2.4% over the duration of the project. The total average yield for the project is 66.8% (55.1% -78%). The recovered Vermont Lower Plies in the mining schedule are unclassified and therefore have not been considered for the Reserve.

4.5.3 Other Modifying Factors

The following global variables utilised in the SPRY Model to develop

- Standard moisture AD 2.1%
- Standard moisture Insitu 4.2%
- Standard moisture ROM 7.0%
- Minimum coal thickness recoverable 0.2m
- Maximum non separable parting thickness 0.3m
- Maximum aggregation ratio 1 waste bcm:1 Coal tonne

Along with the global variables the following tables shows the assumptions for loss and dilution for seams up to 3m in thickness.

Table 4.5 Open cut loss and dilution assumptions- seams less than 3m

Loss				Dilution			
Roof (m)	Floor (m)	Edge (m)	Other (%)	Roof (m)	Floor (m)	Edge (m)	Other (%)
0.075	0.025	0.25	3.0	0.05	0.05	0.25	2.0

Note plies that are contiguous do not have both roof and floor loss and dilution for each ply

Reconciliation analysis conducted in the current mining operations show that once the coal seams are greater than 3m in thickness the assumptions change to the following:

Table 4.6 Open cut loss and dilution assumptions- seams greater than 3m

Loss				Dilution			
Roof (m)	Floor (m)	Edge (m)	Other (%)	Roof (m)	Floor (m)	Edge (m)	Other (%)
0.075	0.025	0.25	1.7	0.05	0.05	0.25	1.1

Note plies that are contiguous do not have both roof and floor loss and dilution for each ply

Moisture Basis

The following assumptions have been used in the calculation of the reserves:

- ROM Reserves – 7%
- Marketable Primary SSCC – 11%
- Marketable Secondary Thermal – 9.5%

4.5.4 Geotechnical

The open cut designs take into consideration geotechnical conditions and recommendations. A recent assessment has been undertaken by GeoTek Solutions Pty Ltd in April 2020.
The report investigates the following:

- Floor dip
- Yarrabee Tuff
- Northern end wall intersection with Isaac Thrust Zone
- Spoil dump height assessment
- Batter stability
- Low wall buttress design, intersection northern structural zone
- Leichardt Lower Seam split west to east

In terms of mining, the northern end wall design associated with thrust zone has a significant impact on strip ratio and mining sequence.

4.6 Economic Viability

Palaris produced a fully costed financial model based on the owner operator case detailed in the BFS. The operating costs incurred at the current operating Isaac Plains operations were used for CHPP, rail, port and marketing.

The capital cost requirements are detailed in the BFS and are considered to be appropriate and viable.

The financial model takes considers all project and sustaining capital to undertake the mining schedule as well as royalties and levies.

Sensitivities were conducted on several parameters to test the economic viability of the project, these included:

- operating costs
- coal price
- plant yield
- foreign exchange rate
- ex-mine costs
- capital costs

Isaac Downs is most sensitive to operating costs, plant yield, export coal price and the exchange rate.

The project strip ratio increases towards the end of the mine life and in combination with a reduction in yield as the seams split results in a significant reduction in margin. On a DCF basis the last three years of the mine life are considered marginal. However, all years of the mine show a positive operating cash flow.

SMC has committed to backfill and rehabilitation of the final voids in theQ1000 flood plain, therefore mining these areas at a lower margin is preferred, when compared to the additional waste rehandle required to fill the voids if they are not mined.

In these later years the mine is also transitioning back to operations at Isaac Plains East and as such a proportion of costs associated with labour is allocated to Isaac Plains East on a production ratio basis.

4.7 Market Assessment

A market assessment was conducted by Commodity Insights as part of the BFS. The report found that demand for metallurgical coal was forecast for the key markets of China, India, Japan, Korea, Taiwan, Europe, Brazil and Southeast Asia. The assessment was based on steel consumption patterns and population growth in these regions.

Commodity Insights also identified that from 2019-35, metallurgical coal import demand from these markets is forecast to increase from 326Mt to 409Mt, with growth driven by India and Southeast Asia.

Thermal coal demand is driven by growth in China, India and Southeast Asia, with the seaborne thermal coal market growing by approximately 60% in volume over the last decade and is now approaching a billion tonnes in size. Demand is expected to continue to grow due to industrialisation, urbanisation, population growth and the economic competitiveness of coal for baseload electricity generation, particularly in Asia.

4.7.1 Pricing

Commodity Insights were also tasked with estimating the realised price for the multiple Isaac Downs products. The findings of the report highlighted:

- Isaac Downs semi-hard coking coal is closest in coal quality to the BHP Poitrel Mine, and if marketed as such, would receive a price around 82% of the premium hard coking coal benchmark.
- Isaac Downs semi-soft coking coal would be priced slightly lower than this at an estimated 79% of the premium hard coking coal benchmark, due primarily to its lower CSR.
- Isaac Plains PCI product would price at a discount to the low-volatile PCI index, due to its lower coke replacement ratio. It is expected that the Isaac Plains PCI would price at around 67% of the premium hard coking coal index.
- Isaac Downs thermal coal would price at approximately 88% of the Newcastle 6,000kcal/kg (NAR) thermal coal index
- The NEWC6000kcal/kg benchmark price was acquired from Consensus Economics – March Forecast.

Table 4.7 Isaac Downs Pricing assumptions

Product		2021	2022	2023	LT
Isaac Downs Semi-Hard Coking Coal (82% of index)	US$/t	124	125	123	121
Isaac Downs Semi-Soft Coking Coal (79% of index)	US$/t	120	120	119	116
Isaac Downs PCI Coal (67% of index)	US$/t	101	102	101	98
Isaac Downs Thermal Coal (88% of index)	US$/t	63.8	62.2	62	64

Source: Commodity Insights & Consensus Economics - Note – all pricing is on a real basis

4.8 Confidence and Validation of Ore Reserve

There is a high level of confidence in the estimate of the Coal Reserve and the Marketable Coal Reserve for Isaac Downs. This is due to:

- Recent mining history at the Isaac Plains Mine and Isaac Plains East Operations
- 86% of the Coal Resource is classified as Measured
- The completion of a BFS (draft at time of writing)

i) Classification of Reserves

Mineral Resource to Ore Reserve conversion:

- Mining domains within Measured Resource have been converted to ‘Proved’ Reserves
- Mining domains within Indicated Resource have been converted to ‘Probable’ Reserves
- Mining domains within Inferred Resource have not been converted into Reserves

Of the coal scheduled in the open cut life of mine plan, 80% was classified as Proved Reserve, 13% was classified as Probable Reserve and 7% was unclassified. The timing of mining these reserves is shown in Figure 4.11.

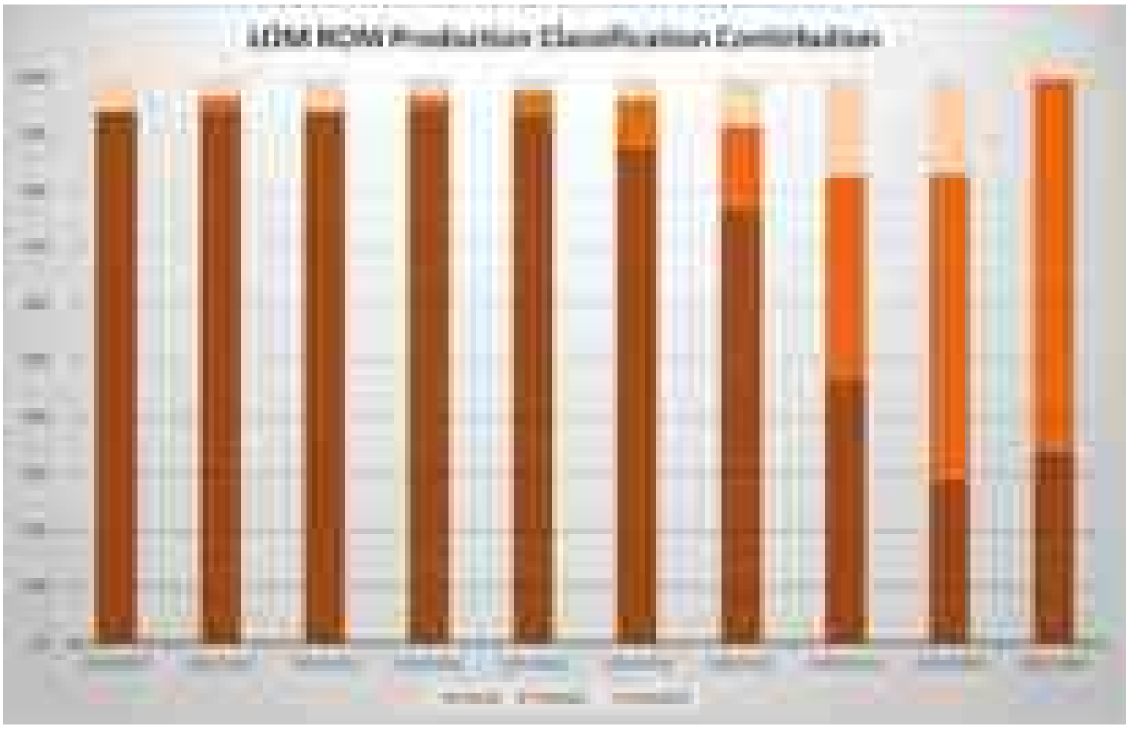


Figure 4.11 Isaac Downs LOM schedule – reserve classification

4.9 Project Risks

In the generation of the 2020 Reserve estimate, Palaris has considered the potential influences of factors that may introduce risk into the successful conversion of Resources into Reserves. They are as follows:

- Ongoing geotechnical assessment for the requirement of buttressing of the northern structural zone and low wall design
- The project has a rapid decline in modelled processing yields as mining progresses down dip, this sort of variability could heavily impact the marketable reserve estimate
- Low confidence for normal fault modelling
- Further decline in long term forecast coal prices could result in the deeper extents of the mine becoming cash negative

4.10 Reserves

The total reserves for the Isaac Downs are summarised in the following tables.

Table 4.8 Isaac Downs Open Cut Coal ROM Reserve Estimate

Seam - Ply	Proved ROM (Mt) 7% MROM	Probable ROM (Mt) 7% MROM	Total ROM (Mt) 7% MROM
Leichardt Upper	4.3	0.8	5.1
Leichardt Lower 3	4.4	0.9	5.2
Leichardt Lower 2	2.8	0.6	3.4
Leichardt Lower 1	3.5	0.4	3.9
Vermont Upper 1	5.8	0.1	5.9
Vermont Upper 2	1.5	0.8	2.3
Total	**22.3**	**3.6**	**25.9**

Subject to rounding

Table 4.9 Isaac Downs Open Cut Coal Marketable Reserve Estimate -by Seam

Seam - Ply	Product Description	Proved Prod (Mt)	Probable Prod (Mt)	Total Prod (Mt)
Leichardt Upper	SSCC (9.5% Ash) (11% Mprod – avg)	3.1	0.5	3.6
	Thermal (16% Ash) (9.5% Mprod- avg)	0.09	0.02	0.11
Leichardt Lower 3	SSCC (9.5% Ash) (11% Mprod – avg)	3.2	0.5	3.7
	Thermal (16% Ash) (9.5% Mprod- avg)	0.1	0.02	0.12
Leichardt Lower 2	SSCC (9.5% Ash) (11% Mprod – avg)	2.0	0.4	2.4
	Thermal (16% Ash) (9.5% Mprod- avg)	0.06	0.02	0.08
Leichardt Lower 1	SSCC (9.5% Ash) (11% Mprod – avg)	2.3	0.2	2.7
	Thermal (16% Ash) (9.5% Mprod- avg)	0.07	0.01	0.08
Vermont Upper 1	SSCC (9.5% Ash) (11% Mprod – avg)	3.8	0.08	3.9
	Thermal (16% Ash) (9.5% Mprod- avg)	0.12	0	0.12
Vermont Upper 2	SSCC (9.5% Ash) (11% Mprod – avg)	0.8	0.4	1.2
	Thermal (16% Ash) (9.5% Mprod- avg)	0.02	0.02	0.04
Total		15.8	2.1	17.9

Subject to rounding

Table 4.10 Isaac Downs Open Cut Coal Marketable Reserve Estimate

Product Type	Proved (Mt)	Probable (Mt)	Total (Mt)
SSCC (9.5% Ash) (11% Mprod – avg)	15.3	2.0	17.3
Thermal (16% Ash) (9.5% Mprod- avg)	0.5	0.1	0.6
Total Isaac Downs	**15.8**	**2.1**	**17.9**

Subject to rounding

There are several overlapping different licenses across the mine layout the following tables show the distribution of the reserves across these licenses.

Table 4.11 Isaac Downs Open Cut Coal ROM Reserve Estimate - by License

Lease	Category	lu	ll3	ll2	ll1	vu1	vu2	Total
MDL137	Proved	4.3	4.4	2.8	3.5	5.7	1.5	**22.2**
MDL137	Probable	0.8	0.8	0.6	0.4	0.1	0.8	**3.6**
MDL137	**Total**	**5.1**	**5.2**	**3.4**	**3.8**	**5.9**	**2.3**	**25.8**
EPC755	Proved	0.01	0.01	0.01	0.01	0.03	0.01	**0.08**
EPC755	Probable	0.01	0.01	0.01	-	-	0.01	**0.04**
EPC755	**Total**	**0.02**	**0.02**	**0.02**	**0.01**	**0.03**	**0.01**	**0.11**

Subject to rounding

Table 4.12 Isaac Downs Open Cut Coal Marketable Reserve Estimate - by License

Lease	Category	lu	ll3	ll2	ll1	vu1	vu2	Total
MDL137	Proved	3.6	3.7	2.4	2.5	3.9	1.2	17.2
MDL137	Probable	0.1	0.1	0.1	0.1	0.1	0.04	0.6
MDL137	**Total**	**3.7**	**3.8**	**2.5**	**2.6**	**4.0**	**1.2**	**17.8**
EPC755	Proved	0.01	0.02	0.01	0.01	0.02	0.01	0.07
EPC755	Probable	-	-	-	-	-	-	**0**
EPC755	**Total**	**0.01**	**0.02**	**0.01**	**0.01**	**0.02**	**0.01**	**0.07**

Subject to rounding

4.11 Reserves Reconciliation

Differences between the 2018 Coal Reserve estimate and the 2020 estimate are presented in Table 4.13 Isaac Downs Open Cut Coal Reserve Comparison - 2018 to 2020Table 4.13 below.

Table 4.13 Isaac Downs Open Cut Coal Reserve Comparison - 2018 to 2020

	Estimate Year	Proved ROM (Mt) 7% MROM	Probable ROM (Mt) 7% MROM	Total ROM (Mt) 7% MROM
Opening Value	December 2018	16.9	7.5	24.4
Closing Value	June 2020	22.3	3.6	25.9
Difference	Difference	+5.4	-3.9	+1.5

Subject to rounding

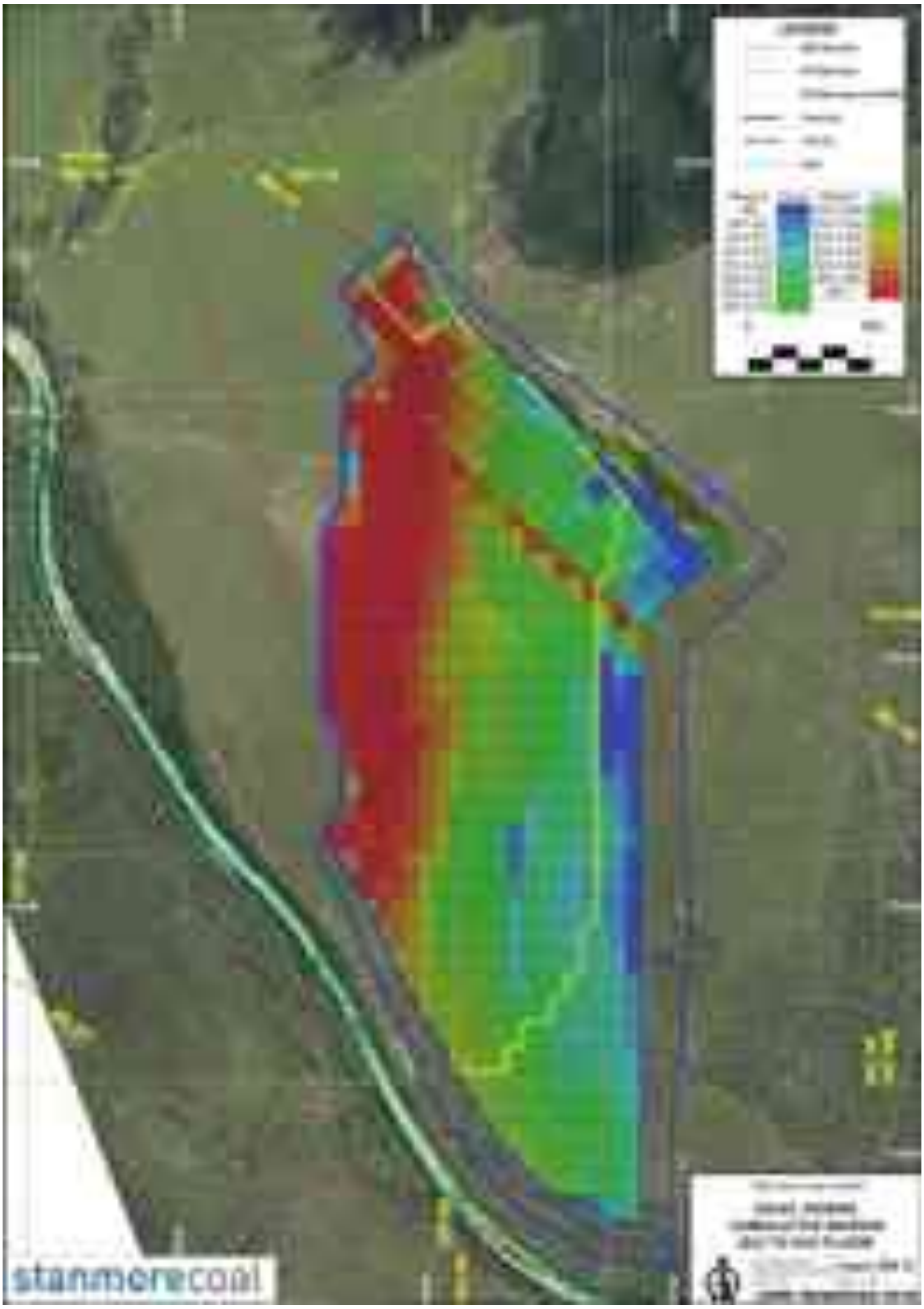
Table 4.14 Isaac Downs Open Cut Marketable Coal Reserve Comparison - 2018 to 2020

	Estimate Year	Proved (Mt)	Probable (Mt)	Total (Mt)
Opening Value	December 2018	11.2	4.6	15.8
Closing Value	June 2020	15.8	2.1	17.9
Difference		+4.6	-2.5	+2.1

Subject to rounding

The slight 5% increases to the ROM and marketable reserves are primarily based on the below factors:

- **Pit Design Changes:** The pit limit has changed from the 2018 Reserves **(**Figure 4.12) and is associated with extension of the pit into the north-eastern corner and an extension into the southern extent (mostly due to additional exploration). Additional coal repeats identified in the north has allowed the pit to progress deeper than previous assessments.



Source - Coal Reserves Estimate Report – 2018

Figure 4.12 2018 Reserves Economic Boundary (yellow outline)

- Marketable product change: The December 2018 Reserve report marketed primary semi-hard coking coal targeting 8% ash and secondary PCI coal targeting 10.5% ash. The June 2020 marketable reserve is based on a primary product of semi-soft coking coal at 9.5% ash and secondary thermal product at 16% ash.
- Exploration drilling and model development: With additional exploration drilling and model correlation, the stratigraphic accuracy has been enhanced.
- JORC Resource changes: Since December 2018, the JORC Resource has increased from 32.9Mt of Measured, Indicated and Inferred to 36.2Mt of Measured and Indicated.
- JORC Resource reclassification: The December 2018 resource statement contained 16.5Mt of Measured, 12.0Mt of Indicated and 4.4Mt of Inferred resources. June 2020 classification has been consolidated to 24.7Mt of Measured and 11.5Mt of Indicated. The difference in classification accounts for the change in Reserve classification between proven and probable.
- Level of study: The project has now progressed to a BFS meaning the confidence level of the project is high

5 REFERENCE / DATA SOURCES

i) Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (The JORC Code 2012 edition). The Joint Ore Reserves Committee, Dec 2012

ii) Australian Government Department of Industry, Resources and Energy Quarterly June 2019: Office of the Chief Economist (http://www.industry.gov.au/Office-of-the-Chief-Economist)

iii) Bankable Feasibility Study Market Report – Isaac Downs – Commodity Insights -24th April 2020

iv) Coal Reserves Estimate Report – Isaac Downs Project – MG382_Report_2018_01 – Measured Group- December 2018

v) Coal Resource Estimate, Isaac Downs Project, In Situ Coal Resources within MDL 137, EPC 728 and EPC 755. QLD, Australia (June 2020); MG502_Report_2020_01 – Measured Group – June 2020

vi) Isaac Downs Bankable Feasibility Study and associated appendices – July 2020 – Multiple Contributors- (draft at time of writing)

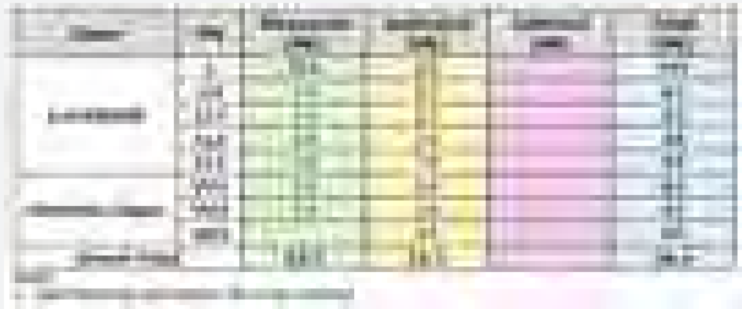
vii) Isaac Downs Project – Environmental Impact Statement- submitted January 2020 – Stanmore coal

viii) Energy & Metals Consensus Forecasts- March 2020 survey- Consensus Economics Inc.2020

6 APPENDICES

Appendix A Table 1 Checklist for Estimation and Reporting of Reserves

Table A.1 JORC Code, 2012 Edition - Table 1 Section 4 Estimation and Reporting of Ore Reserves

Criteria	JORC Code Explanation	Commentary
Mineral Resource estimate for conversion to Ore Reserves	Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve. Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.	Reserves are based on the geological model constructed by Measured Group Pty Ltd, and the resource classification polygons and estimate of coal resources prepared by Mr. Toby Prior of Measured Group Pty Ltd. The estimate is dated June 2020. The reserves are included in, and not additional to, the JORC Resources as reported by Measured Group. 
Site visits	Comment on any site visits undertaken by the Competent Person and the outcome of those visits. If no site visits have been undertaken indicate why this is the case.	Mr Barker has not visited the Isaac Plains Complex however has contributed to the technical assessment being undertaken for the BFS Study. Travel restrictions due to COVID-19 have prevented this occurrence.
Study status	The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves. The Code requires that a study to at least Pre-Feasibility Study level has been undertaken to convert Mineral Resources to Ore Reserves. Such studies will have been carried out and will have determined a mine plan that is technically achievable and economically viable, and that material Modifying Factors have been considered.	Open Cut mining has been carried out at the Isaac Plains Complex in the close vicinity of Isaac Downs since 2006. Palaris assessed the project to have complete the following areas of study to a Feasibility level: Mining, Metallurgy, Economic, Marketing, Legal, Environmental, Social, Governmental, Native title and cultural heritage This reserve estimation is based on a SPRY scheduling model provided by SMC, which has been updated progressively as additional exploration drilling has occurred, the model used is as of last exploration borehole completed on the 3rd September 2019. At the time of writing the SMC team were in the final stages of completing the BFS. This model incorporates the current Isaac Downs Open Cut Pit shell designs. Results from the model were used for independent economic viability testing.

Criteria	JORC Code Explanation	Commentary
		Mining of the open cut reserves is considered technically achievable and economically viable. Appropriate modifying factors have been considered that consider geological structure, seam thickness, geotechnical conditions, loss, dilution and practical open cut mining thicknesses.
Cut-off parameters	The basis of the cut-off grade(s) or quality parameters applied.	There are no specific cut off grades applied to the project other than to say the project is preferentially targeting the SSCC/SHCC seams with the mine layout. The final target products are defined as 9.5% ash primary coking product with 16% secondary thermal product. The initial margin ranking completed in 2018 was used as guide to develop the current pit design – however since that time a detailed mine layout and DCF model has been used to assess the extents of the pit.
Mining factors or assumptions	The method and assumptions used as reported in the Pre-Feasibility or Feasibility Study to convert the Mineral Resource to an Ore Reserve (i.e. either by application of appropriate factors by optimisation or by preliminary or detailed design). The choice, nature and appropriateness of the selected mining method(s) and other mining parameters including associated design issues such as pre-strip, access, etc. The assumptions made regarding geotechnical parameters (e.g. pit slopes, stope sizes, etc.), grade control and pre-production drilling. The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate). The mining dilution factors used. The mining recovery factors used. Any minimum mining widths used. The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion. The infrastructure requirements of the selected mining methods.	The open cut mining operation will utilise a conventional strip-mining mining method, utilising a combination of excavator, dragline, cast blast and dozer push. Access will be via a constructed haul road and low-wall ramp. The Open cut mine is designed in consideration of the localised geology, geotechnical conditions. Allowances for loss and dilution have been made when estimating run of mine coal reserves. ▪ Roof dilution 0.05 and a loss of 0.075m ▪ Floor dilution 0.05 and a loss of 0.025m ▪ Edge dilution of 0.25 and a loss of 0.25m ▪ Other dilution of 2% and a loss of 3% (seams less than 3m) ▪ Other dilution of 1.1% and a loss of 1.7% (seams greater than 3m) ▪ A minimum recoverable coal thickness of 0.2m ▪ Maximum non separable parting thickness of 0.3m All unclassified resources have been removed from the reserve. Of the coal scheduled in the open cut life of mine plan, 80% was classified as Proved Reserve, 13% was classified as Probable Reserve and 7% was unclassified. The timing these unclassified Reserves is towards the end of the mine life and it is expected future drilling programs will further define the Resources. Additional infrastructure requirements include mine water dam, access road, ROM stockpile area, explosives magazine, pit to ROM haul road, peak downs highway underpass, satellite MIA, dragline walk route and clean water diversion.

Criteria	JORC Code Explanation	Commentary
Metallurgical factors or assumptions	The metallurgical process proposed and the appropriateness of that process to the style of mineralisation. Whether the metallurgical process is well-tested technology or novel in nature. The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied. Any assumptions or allowances made for deleterious elements. The existence of any bulk sample or pilot scale test work and the degree to which such samples are considered representative of the orebody as a whole. For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications?	ROM Coal from the open cut operation is planned to be washed to produce semi-soft coking and thermal coal products at the Isaac Plains CHPP. In-situ coal tonnages are based on assumed 4.2% (in situ) moisture for the coal portion. An assumed 7% ROM moisture, 11% SSCC product moisture and 9.5% for the thermal product moisture has been used in the calculation of coal reserves and marketable reserves. The primary Semi-soft Coking Coal product is expected to yield between 52-76.7% based on modelling, with an average of 64.4%. The secondary thermal product ranges between 1.4-3.4% with an average of 2.4% over the duration of the project. The total average yield for the project is 66.8% (55.1% -78%). The recovered Vermont Lower Plies in the mining schedule are unclassified and therefore have not been considered for the Reserve. A full coal quality model has been developed including practical yields through the use of LIMN simulations and reconciliation of the project parameters with the experience in the adjacent IPE deposit.
Environmental	The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterisation and the consideration of potential sites, status of design options considered and, where applicable, the status of approvals for process residue storage and waste dumps should be reported.	The tenements at Isaac Downs are a combination of Mineral Development Licences (MDL 137) and Exploration Permits Coal (EPC 728 and EPC 755). The following Environmental Authorities cover the tenements at Isaac Downs: EPVX03766416 (MDL 137), EA0001288 (EPC 728), EPVX00880413 (EPC 755). An EIS for the project was submitted for the project in March 2019 followed by a Mining Lease Application MLA700046 in May2019. The ToR for the project were published in October 2019. It is assumed that Isaac Downs will be able to acquire all environmental authorities as SMC's current operating sites, located near to Isaac Downs, have done so. SMC asses and monitor environmental and approval risks on an ongoing basis for their current mines and this is assumed to transfer to Isaac Downs.
Infrastructure	The existence of appropriate infrastructure: availability of land for plant development, power, water, transportation (particularly for bulk commodities), labour, accommodation; or the ease with which the infrastructure can be provided, or accessed.	Key existing infrastructure will be provided from the existing Isaac Plains Complex including CHPP for coal processing, rejects and tailing disposal voids, rail spur and train loadout facility, internal haul roads, water supply, power and communications. The workforce will be accommodated in the local communities.
Costs	The derivation of, or assumptions made, regarding projected capital costs in the study. The methodology used to estimate operating costs. Allowances made for the content of deleterious elements.	Palaris produced a fully costed, first principles, financial model based on the on the owner operator case detailed in the BFS. The operating costs incurred at the current operating Isaac Plains operations were used for CHPP, rail, port and marketing.

Criteria	JORC Code Explanation	Commentary
	The derivation of assumptions made of metal or commodity price(s), for the principal minerals and co- products. The source of exchange rates used in the study. Derivation of transportation charges. The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc. The allowances made for royalties payable, both Government and private.	The capital cost requirements are detailed in the BFS and are considered to be appropriate and viable. The financial model considers all project and sustaining capital to undertake the mining schedule as well as royalties and levies. There are several royalties that are applicable for the project that are also detailed in the BFS. These include: ▪ Private Royalty to financier at 1.0% royalty on coal sales revenue ▪ Private Royalty to Peabody at $1/t of product coal when the premium hard coking coal benchmark is over A$170/t (indexed to CPI) capped at circa $10M ▪ Private Royalty payable to the landholder when HCC prices are above USD200/tonne, paid at A$0.2/tonne (not included in the model as coal price not assumed to reach this) ▪ State Government Royalty
Revenue factors	The derivation of, or assumptions made regarding revenue factors including head grade, metal or commodity price(s) exchange rates, transportation and treatment charges, penalties, net smelter returns, etc. The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.	Export semi-soft coking pricing is supplied by Commodity Insights and thermal coal sale price and foreign exchange rate forecasts were determined by Palaris using data from Consensus Economics June 2020 survey. 
Market assessment	The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future. A customer and competitor analysis along with the identification of likely market windows for the product. Price and volume forecasts and the basis for these forecasts. For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.	A market assessment was conducted by Commodity Insights as part of the BFS. The report found that demand for metallurgical coal was forecast for the key markets of China, India, Japan, Korea, Taiwan, Europe, Brazil and Southeast Asia. The assessment was based on steel consumption patterns and population growth in these regions. Commodity Insights also identified that from 2019-35, metallurgical coal import demand from these markets is forecast to increase from 326Mt to 409Mt, with growth driven by India and Southeast Asia.

Criteria	JORC Code Explanation	Commentary
		Thermal coal demand is driven by growth in China, India and Southeast Asia, with the seaborne thermal coal market growing by approximately 60% in volume over the last decade and is now approaching a billion tonnes in size. Demand is expected to continue to grow due to industrialisation, urbanisation, population growth and the economic competitiveness of coal for baseload electricity generation, particularly in Asia.
Economic	The inputs to the economic analysis to produce the net present value (NPV) in the study, the source and confidence of these economic inputs including estimated inflation, discount rate, etc. NPV ranges and sensitivity to variations in the significant assumptions and inputs.	Palaris have used the designs and scheduling conducted by SMC personnel and evaluated them in the Palaris first principals DCF model. Mining costs were built-up on a first principles based on local assessment of EA's, OEM supplied fuel burn and maintenance costs for major equipment, actuals supplied for energy and water from IPE. All modelling was conducted on a real basis using a discount rate of 9%. Depreciation of project capital is on a double declining balance method. Analysis shows a positive NPV for the project life. Key outputs include: Avg FOB Cash Costs- A$126.85/t saleable Avg Realised Price- A$164.03/t saleable NPV(9) - A$118M Project Capital- A$301 Sensitivities were conducted on several parameters to test the economic viability of the project, these included: ▪ operating costs ▪ coal price ▪ plant yield ▪ foreign exchange rate ▪ ex-mine costs ▪ capital costs Isaac Downs is most sensitive to operating costs, plant yield, export coal price and the exchange rate. The project strip ratio increases towards the end of the mine life and in combination with a reduction in yield as the seams split results in a significant reduction in margin. On a DCF basis the last three years of the mine life are considered marginal. However, all years of the mine show a positive operating cash flow. In these later years the mine is also transitioning to back to operations at Isaac Plains East and as such a proportion of costs associated with labour is allocated to Isaac Plains East on a production ratio basis.

Criteria	JORC Code Explanation	Commentary
Social	The status of agreements with key stakeholders and matters leading to social licence to operate.	SMC is currently in negotiations under the Native Title act to obtain approval for Lot 8 GV196. SMC has no reason to believe this will not be granted.
Other	To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves: Any identified material naturally occurring risks. The status of material legal agreements and marketing arrangements. The status of governmental agreements and approvals critical to the viability of the project, such as mineral tenement status, and government and statutory approvals. There must be reasonable grounds to expect that all necessary Government approvals will be received within the timeframes anticipated in the Pre-Feasibility or Feasibility study. Highlight and discuss the materiality of any unresolved matter that is dependent on a third party on which extraction of the reserve is contingent.	The required approvals for operations have been identified with a schedule in place to obtain these approvals. It is anticipated that they will be in place as required. SMC have applied for a mining lease that will cover the entire Isaac Downs Reserve as previously discussed.
Classification	The basis for the classification of the Ore Reserves into varying confidence categories. Whether the result appropriately reflects the Competent Person's view of the deposit. The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).	Mineral Resource to Ore Reserve conversion: ▪ Mining domains within Measured Resource have been converted to Proved Reserves ▪ Mining domains within Indicated Resource have been converted to Probable Reserves ▪ Mining domains within Inferred Resource areas have not been converted into Reserves The reserve estimate consists of 80% Proved, 13% Probable Reserves and 7% Unclassified (ROM). This appropriately reflects the view of the Competent Person (Michael Barker) with regard to the confidence levels for Isaac Downs reserves.
Audits or reviews	The results of any audits or reviews of Ore Reserve estimates.	Palaris is not aware of any audits or reviews of Isaac Downs reserve estimate, or production reconciliations.
Discussion of relative accuracy/ confidence	Where appropriate a statement of the relative accuracy and confidence level in the Ore Reserve estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the reserve within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors	The confidence level determined in the Resources was estimated by Mr Toby Prior of Measured Group, who is also the Competent Person signatory. Palaris considers that the resource categories are appropriate for the Reserve classification. This meant that it was possible to directly transfer Measured Resources into Proved Reserves and Indicated Resources into Probable reserves for all areas with sufficient Reserves confidence.

Criteria	JORC Code Explanation	Commentary
	which could affect the relative accuracy and confidence of the estimate. The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used. Accuracy and confidence discussions should extend to specific discussions of any applied Modifying Factors that may have a material impact on Ore Reserve viability, or for which there are remaining areas of uncertainty at the current study stage. It is recognised that this may not be possible or appropriate in all circumstances. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.	As with most projects the extents of the pit are heavily reliant on the forecast coal prices and foreign exchange. Material negative changes in these forecasts are likely to reduce the extent of the mining limits. As the mine is considered a brownfields expansion of the existing operations at Isaac Plains there is a high level of confidence in the ability to achieve the productivities and operating costs detailed in the BFS and utilised for this Reserve statement.

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MEMO

To: Jon Romcke (Stanmore Coal Ltd)
cc: Bronwyn Leonard, Mick Spencer, Nigel Clifford (Stanmore Coal Ltd)
From: Troy Turner (Xenith Consulting)
Date: 5 January 2021
Re: Isaac Plains Coal Resource Estimate Update (By Depletion) to 31 December 2020

Xenith Consulting Pty Ltd ("Xenith") has been commissioned by Stanmore Coal Limited ("Stanmore") to complete an update to the coal resource estimate for the Isaac Plains Coal Mine (IPC) in accordance with the JORC Code 2012 Edition. The resource estimate was updated by subtracting the LHD coal seam mined from June to December 2020 from the previous resource estimate from June 2020.

This update should be read in conjunction with the previous resource report, Xenith's "Isaac Plains Coal Resource Estimate, June 2020".

Background

IPC is part of Stanmore Coal's Isaac Plains Complex of assets, which also includes the Isaac Plains East (IPE) Mine. IPC and IPE are geologically separated by the Burton Range Thrust Fault, with resources west of the fault assigned to IPC and east of the fault assigned to IPE. The IPC is covered by granted Mining Leases (MLs) 70342, 700018 and 700019 (Figure 1), each held by Stanmore (IP) Coal Pty Ltd.

IPC is located approximately 7 km east of Moranbah in Central Queensland, within the northern part of the Bowen Basin. The IPE is located a further 3 km to the east. The target seam of both mines is the Leichhardt seam of the Rangal Coal Measures. The seam does split into an upper and a lower ply in the far northern area of IPC.

ML 70342 has been mined since 2006 and was acquired by Stanmore in 2015. Post-acquisition, Stanmore has undertaken drilling of open holes, coal quality cores, fault delineation holes and 2D and 3D seismic surveys. Stanmore recommenced mining at the Isaac Plains Mine in January 2016 and transitioned to the current operations at IPE from July 2018. The transition was completed and all mining operations currently occur at IPE.

In addition to the open-cut mine, the IPC contains the Isaac Plains Underground Development Project (IPU), which includes the coal resources down dip (east) of the open-cut area to the Burton Range Thrust Fault. This project had a Bankable Feasibility Study (BFS) completed in 2019.

The current geological model for the IPC area contains all exploration data completed in IPC up to December 2020. The model includes a total of 1,115 drill holes – 499 of these are within mined out pit areas. Furthermore, 209 holes from IPE have been included to assist the modelling of the Burton Range Thrust fault.

Resource Estimate

Xenith's previous resource estimate from June 2020 showed a total coal resource of 46 Mt within IPC as at the end of May 2020.

Since then, until the end of 2020, Isaac Plains has mined 110,025 in-situ tonnes (77,384 m^3)[1] of Leichhardt (LHD) Seam, all within the Measured category. The coal mined was in the 'Graben' area on ML70432, where the coal seam was down-thrown between two east-west trending faults. The average in-situ ash of the mined resource was 16.9 %. The area mined during this period is shown in the December 2020 resource map (Figure 2).

The June 2020 resource estimate has been updated by depletion of the mined 110,025 in-situ tonnes (all of the Measured resource category) to the end of December 2020 and shows within IPC a total coal resource of 46 Mt (unchanged due to rounding). The resource comprises:

- 25.1 Mt of Measured resource,
- 16.0 Mt of Indicated resource,
- 5 Mt of Inferred resource.

The resource tonnage per resource category and tenement is summarised in Table 1. The resource category areas are shown in Figure 2.

Table 1 – Resource Estimate Summary [2]

Seam	Measured Tonnes x 10^6	Indicated Tonnes x 10^6	Measured and Indicated Tonnes x 10^6	Inferred Tonnes x 10^6	Total Tonnes x 10^6
ML 70342 Total	21.3	1.9	23.2	0.5	23.7
ML 700018 & ML 700019 Total	3.7	14.1	17.8	4.7	22.5
Total Resource	**25.1**	**16.0**	**41.2**	**5**	**46**

As in previous resource estimates, the LHL ply has been excluded as a potential underground resource (beyond a depth of 150 m) as it does not meet the minimum thickness requirement of 1.5 m.

[1] *Figure supplied by Stanmore from pit survey*

[2] *Note – Rounding to the nearest significant figure is applied to Total Resource Tonnes in the Inferred Category. This is deemed conservative and reflective of the Inferred Resource category confidence level and accounts for the minor differences in the overall reported resource*

Local Geology

The seam mined at IPC is the Leichhardt Seam, of the Rangal Coal Measures. The Leichhardt seam is typically 3.5 m thick and dips gently to the east until it meets the regionally identified Burton Range Thrust Fault. A second, large thrust fault, sub-parallel to Burton Fault has been delineated from the 2017 3D seismic survey. It is located in the south-east of the underground area and shows displacement of up to 100 m.

In the north of IPC, the Leichhardt seam splits, and where the interburden thickness is greater than 0.3 m thick the seam is modelled as the Leichhardt Upper (LHU) and Leichhardt Lower (LHL) Seams.

The Leichhardt Lower seam, in the area north of the split line, is typically 0.7 m thick and interburden to the Leichhardt Upper Seam increases to the north and west to reach thickness of greater than 10 m.

Coal quality is reasonably consistent across the entire resource area; a general increase in raw ash % (adb) is noted down dip of the current working face to the north and south.

No resource was estimated for the Vermont Seam, which occurs typically 25 to 30 m below the base of the Leichhardt seam. The Vermont seam plies have been modelled and some coal quality data exists, but due to poor level of structural definition and inferior coal quality attributes, it is not the focus of future production activities and hence not included in resource estimates.

Resource Parameters

Estimation of resources was conducted based on valid Points of Observations ("PoO"). The criteria for the PoOs generally included:

- Cored seams with validated raw coal quality results,
- Down-hole geophysics,
- > 95 % recovery of cored sections.

The resource polygons are constrained by the following parameters:

- The up-dip limits are the mined-out face positions for the relevant seams, based on the up to date (June 2020) mined face position survey.
- The down dip limit is set by the Burton Range thrust fault, or the limit of drilling data.
- The northern limit is set by the Goonyella to DBCT railway line or the Northern limit of the ML 70342 boundary. The open-cut area has an additional 100 m standoff from the northern power lines.
- The southern limits set where the Burton Range thrust and the current southern pit boundary meet (Figure 2).

Resources by Mining Lease and Depth

The resources are covered by ML 70342 in the west and MLs 70018 and 7000191 in the east (see Figure 2). Table 2 shows the resources contained within ML 70342 and Table 3 within MLs 700018 and 700019.

Table 2 – Resource Tonnes by Seam (ML70342) [3]

Seam	Measured Tonnes x 10^6	Indicated Tonnes x 10^6	Measured and Indicated Tonnes x 10^6	Inferred Tonnes x 10^6	Total Tonnes x 10^6
LHD	20.1	1.6	21.7	0.3	22.0
LHU	1.1	0.1	1.2	0.0	1.2
Total LHD/LHU	21.6	1.8	23.4	0.0	23.3
LHL	0.1	0.1	0.3	0.2	0.5
Total Resource	**21.3**	**1.9**	**23.2**	**0**	**24**

Table 3 – Resource Tonnes by Seam (MLs 700018 and 700019)

Seam	Measured Tonnes x 10^6	Indicated Tonnes x 10^6	Measured and Indicated Tonnes x 10^6	Inferred Tonnes x 10^6	Total Tonnes x 10^6
LHD	3.6	13.1	16.7	3.9	20.7
LHU	0.1	1.0	1.1	0.2	1.3
Total LHD/LHU	3.7	14.1	17.8	4.2	22.0
LHL	0.0	0.0	0.0	0.5	0.5
Total Resource	**3.7**	**14.1**	**17.8**	**5**	**23**

Total resources for all tenements by seam and depth to the top of the Leichhardt seam is shown in Table 4. The 100 m and 150 m cut-off have been chosen to represent potential depths of transition between open-cut/underground mining methods.

The interpretation of the 2017 3D seismic survey data and 2018/19 drilling revealed a block of LHD repeat in the south-east of the underground area. The 2018/19 drilling provided additional data on the repeat block area. The upper repeat contains approximately 0.9 Mt of resources, mostly in the less than 100 m (35 %) and

[3] *Note – Rounding to the nearest significant figure is applied to Total Resource Tonnes in the Inferred Category. This is deemed conservative and reflective of the Inferred Resource category confidence level and accounts for the minor differences in the overall reported resource*

100-150 m (50 %) depth ranges. This area is isolated from the current open-cut mining areas. These resources have therefore been classified as Inferred resources.

Table 4 – Isaac Plains Resource Tonnage by Depth and Seam [4]

Depth Limit	Ply	Resource Classification			
		1. **Measured**	2. **Indicated**	3. **Inferred**	4. **Total (Mt)**
≤100 m	LHD	6.6	0.1	0.3	7.0
	LHU	1.2	0.3	0.0	1.5
	LHL	0.1	0.1	0.3	0.6
	TOTAL	7.8	0.6	0.6	9.0
≥100 m & ≤150 m	LHD	10.2	0.8	0.5	11.5
	LHU	0.1	0.8	0.1	0.9
	LHL	0.0	0.0	0.4	0.4
	TOTAL	10.3	1.6	1.0	12.8
SUB Total ≤150 m	LHD	16.9	0.9	0.8	18.6
	LHU	1.2	1.1	0.1	2.4
	LHL	0.1	0.1	0.7	0.9
	TOTAL	18.2	2.1	1.6	22.0
≥150 m	LHD	6.9	13.9	3.4	24.2
	LHU	0.0	0.0	0.1	0.2
	LHL	0.0	0.0	0.0	0.0
	TOTAL	6.9	13.9	3.6	24.4
GRAND Total	LHD	23.8	14.7	4.2	42.8
	LHU	1.2	1.1	0.2	2.6
	LHL	0.1	0.1	0.7	1.0
	TOTAL	25.1	16.0	5	46

[4] *Note – Rounding to the nearest significant figure is applied to Total Resource Tonnes in the Inferred Category. This is deemed conservative and reflective of the Inferred Resource category confidence level and accounts for the minor differences in the overall reported resource*

Raw Coal Quality

Due to the low tonnage mined since the June 2020 resource estimate, the average raw coal qualities for resources of the main LHD remain unchanged (Table 5).

Table 5 – Leichhardt Full Seam (LHD) Resources - Weighted Average Qualities

Quality	Measured	Indicated	Inferred	Total
RD % (adb)	1.43	1.43	1.44	1.43
IM % (adb)	2.4	2.8	2.7	2.6
Ash % (adb)	15.9	16.0	16.6	16.0
Total Sulphur % (adb)	0.40	0.40	0.38	0.40
VM % (adb)	24.5	23.9	23.8	24.2

JORC Statement

The information in this report relating to exploration results and coal resources is based on information compiled by Mr Troy Turner who is a member of the Australasian Institute of Mining and Metallurgy and is a full time employee of Xenith Consulting Pty Ltd.

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."

Mr Turner consents to the inclusion in the report of the matters based on the information, in the form and context in which it appears.

Troy Turner
M AusIMM
227689

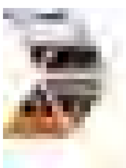

Figure 1 – Regional Location Map

Figure 2 – Resource Polygon for the LHD/LHU Seam

Xenith

Stanmore Coal Ltd.

Isaac Plains
Coal Resource Estimate

JUNE 2020

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DOCUMENT ISSUE APPROVAL

Project & Document No:	Date:
Isaac Plains Coal Mine	2/07/2020
Title	**Revision No:**
Isaac Plains 2020 Resource Estimate	-
Client:	**Status:**
Stanmore Coal Ltd	Final

	Name	Position	Signature	Date
Prepared by:	O. Naess	Principal Geologist		2/07/2020
Reviewed by:	T. Turner	Managing Director		2/07/2020
Approved by:	T. Turner	Managing Director		

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GLOSSARY

Acronyms and Abbreviations

Acronyms and Abbreviations	Description
t	Tonnes
Mt	Million tonnes
m	Metres
Km	Kilometres
Ha	Hectares
IPC	Isaac Plains Coal Mine
JORC	Joint Ore Reserve Committee

Glossary

Term	Description
Beneficiation	When applied to coal, it is the process of separating mined coal into various density groups through mechanical and dense medium processes.
Dip	Inclination of geological features from the horizontal.
Dilution	The inclusion of waste rock in the coal seam mined as a result of mining operations. The inclusion of a non-select ply of coal with the ply of coal being selectively mined can affect profitability or coal processing performance.
Expert	Either: “an Independent Individual who prepares and accepts responsibility for a Report” Or: “a Representative Expert who is the nominated representative of a legally constituted body. He or she supervises the preparation of a report and accepts responsibility for it on behalf of that body”
Fault	Fracture or a fracture zone in crustal rocks along which there has been displacement of the two sides relative to one another parallel to the fracture.
Geological Model	Refers to both the structure and coal quality models.

Term	Description
Indicated Resource	That portion of a Mineral Resource for which quantity and quality are estimated with a lower degree of certainty than for a Measured Mineral Resource. The sites used for inspection, sampling, and measurement are too widely or inappropriately spaced to enable the material or its continuity to be defined or its grade throughout to be established.
Inferred Resource	That part of a Mineral Resource for which tonnage, grade and mineral content can be estimated with a low level of confidence. It is inferred from geological evidence and assumed but not verified geological and/or grade continuity. It is based on information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes that may be limited, or of uncertain quality and reliability.
In Situ	Generally used with reference to the reporting of coal resources to indicate a volume or tonnage of coal present undisturbed in the ground.
JORC Code	The Australasian Code for reporting of Mineral Resources and Mineral Reserves: "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves, The JORC Code, 2012 Edition"
Material / Materiality	Means that: a. the contents and conclusions of a Report; b. any contributing assessment, calculation or the like; and c. Data and information are of such importance that their inclusion or omission from a Technical Assessment or Valuation may result in a reader of the Report reaching a different conclusion than would otherwise be the case. The determination of what is Material depends on both qualitative and quantitative factors. Something may be Material in the qualitative sense because of its very nature, such as, for example, country risk. In the case of quantitative issues, the Materiality of data can be assessed in terms of the extent to which the omission or inclusion of an item could lead to changes in total value of: Less than 5 per cent — Item is generally not Material Between 5 & 10 per cent — Item may be Material More than 10 per cent — Item is definitely Material (This guidance is derived from the Australian Accounting Standards Board AAS5 Materiality "useful benchmarks".)

Term	Description
Measured Resource	That portion of a Mineral Resource for which the tonnage or volume is estimated from dimensions revealed in outcrops, pits, trenches, drill-holes, or mine workings, supported where appropriate by other exploration techniques. The sites used for inspection, sampling and measurement are so spaced that the geological character, continuity, grades and nature of the material are so well defined that the physical character, size, shape, quality and mineral content are established with a high degree of certainty.
Mineral Asset	All property including but not limited to real property, intellectual property, mining and exploration tenements held or acquired in connection with the exploration of, the development of and the production from those tenements together with all plant, equipment and infrastructure owned or acquired for the development, extraction and processing of minerals in connection with those tenements. Most Mineral Assets can be classified as either: Exploration Areas – properties where mineralisation may or may not have been identified, but where a Mineral or Petroleum Resource has not been identified. Advanced Exploration Areas – properties where considerable exploration has been undertaken and specific targets have been identified that warrant further detailed evaluation, usually by drill testing, trenching or some other form of detailed geological sampling. A resource estimate may or may not have been made but sufficient work will have been undertaken on at least one prospect to provide both a good understanding of the type of mineralisation present and encouragement that further work will elevate one or more of the prospects to the resource category. Pre-Development Projects – properties where Mineral or Petroleum Resources have been identified and their extent estimated (possibly incompletely) but where a decision to proceed with development has not been made. Properties at the early assessment stage, properties for which a decision has been made not to proceed with development, properties on care and maintenance and properties held on retention titles are included in this category if Mineral or Petroleum Resources have been identified, even if no further Valuation, Technical Assessment, delineation or advanced exploration is being undertaken. Development Projects – properties for which a decision has been made to proceed with construction and/or production, but which are not yet commissioned or are not yet operating at design levels.

Term	Description
	Operating Mines – mineral properties, particularly mines and processing plants that have been commissioned and are in production.
Mineral Reserve	The economically mineable material derived from a Measured and/or Indicated Mineral Resource. It is inclusive of diluting materials and allows for losses that may occur when the material is mined. Appropriate assessments, which may include feasibility studies, have been carried out, including consideration of, and modification by, realistically assumed mining, metallurgical, economic, marketing, legal, environmental, social and governmental factors. These assessments demonstrate at the time of reporting that extraction is reasonably justified.
Mineral Resource	A concentration or occurrence of solid mineral of economic interest in or on the Earth's crust in such a form, grade (or quality), and quantity that there are reasonable prospects for eventual economic extraction. The location, quantity, grade (or quality), continuity and other geological characteristics of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge, including sampling. Mineral Resources are subdivided, in order of increasing geological confidence, into Inferred, Indicated and Measured categories.
Minimum Mining Height	The minimum mining width at which an in-situ Mineral Resources is stated.
Overburden	Designates material of any nature, consolidated or unconsolidated, that overlies an economic deposit.
Ply	A coal seam can be divided vertically into different laterally persistent sub-seams based on coal quality or other characteristics; a ply refers to one of these sub-seams.
Seam	The term used for a coal bearing stratigraphic layer.
Resource	A tonnage or volume of rock or mineralisation or other material of intrinsic economic interest, the grades, limits and other appropriate characteristics of which are known with a specified degree of knowledge.
Risk	The chance of an event occurring that will have an impact on objectives. A risk may be quantifiable in terms of the likelihood of loss, less than expected returns or an undesirable outcome.

Term	Description
Specialist	Persons who may be retained by the Expert to prepare sections of Reports concerning matters about which the Expert is not personally Competent. Specialists must accept responsibility for the sections of the reports they prepare. Specialists must be Independent and Competent in relevant technical, commercial or legal fields associated with the Mining or Petroleum Industries and have at least five years of relevant and recent experience in the fields on which they are to report. Except in special circumstances that must be explained in the Report, the Expert or the Senior Specialist must be members of appropriate recognised Professional Associations having enforceable codes of ethics such as The AusIMM, AIG or MICA or their equivalents in countries other than Australia.
Strike	The course or bearing of the outcrop of an inclined bed, vein, or fault plane on a level surface; the direction of a horizontal line perpendicular to the direction of the dip.
Tailings	The gangue and other refuse material resulting from the washing, concentration, or treatment of ground ore.
Technical Assessment	An appraisal prepared by an Expert or Specialist, of the technical aspects of a Mineral or Petroleum Asset. They may involve the review of such matters as geology, resources, reserves, mining methods, metallurgical processes and recoveries, petroleum engineering, provision of infrastructure and environmental aspects.
Valuation	The process of determining the monetary Value of a Mineral or Petroleum Asset or Security.
Valuation Report	A report that expresses an opinion as to the Value of a Mineral or Petroleum Asset or of a Mineral or Petroleum Security and its underlying Assets.
Washability	Ability of the coal to be separated from waste fractions at a range of relative densities.

1.1 Acronyms

Acronym	Description
Stanmore	Stanmore Coal Limited
IPC	Isaac Plains Coal Mine
IPE	Isaac Plains East Coal Mine
IPU	Isaac Plains Underground project (part of IPC)
ML	Mining Lease
MDL	Mineral Development License
PoOs	Points of Observation
Xenith	Xenith Consulting Pty Ltd
AusIMM	The Australasian Institute of Mining and Metallurgy
LHD	Leichhardt Seam
LHU	Leichhardt Upper Seam
LHL	Leichhardt Lower Seam
Top	Top Working Section
Bottom	Bottom Working Section
HWM	Highwall Mining
DNRME	Department of Natural Resources, Mines and Energy

1 EXECUTIVE SUMMARY

Xenith Consulting Pty Ltd ("Xenith") has been commissioned by Stanmore Coal Limited ("Stanmore") to complete an update to the coal resource estimate for the Isaac Plains Coal Mine (IPC) in accordance with the JORC Code 2012 Edition ("2020 Resource Estimate"). IPC is part of Stanmore Coal's Isaac Plains Complex of assets, which also includes the Isaac Plains East (IPE) Mine. IPC and IPE are geologically separated by the Burton Range Thrust Fault, with resources west of the fault assigned to IPC and east of the fault assigned to IPE. The IPC is covered by granted Mining Leases (MLs) 70342, 700018 and 700019, each held by Stanmore (IP) Coal Pty Ltd.

IPC (ML 70342) is located approximately 7 km east of Moranbah in Central Queensland, within the northern part of the Bowen Basin. The IPE is located a further 3 km to the east. The target seam of both mines is the Leichhardt seam of the Rangal Coal Measures. The seam does split into an upper and a lower ply in the far northern area of IPC.

ML 70342 has been mined since 2006 and was acquired by Stanmore in 2015. Post-acquisition Stanmore has undertaken drilling of open holes, coal quality cores, fault delineation holes and 2D and 3D seismic surveys. Stanmore recommenced mining at the Isaac Plains Mine in January 2016 and transitioned to the current operations at IPE from July 2018. The transition was completed in January 2019 and all mining operations currently occur at IPE.

In addition to the open-cut mining operation the IPC contains the Isaac Plains Underground Development Project (IPU), which includes the coal resources down dip (east) of the open-cut area to the Burton Range Thrust Fault. This project had a Bankable Feasibility Study (BFS) completed in 2019.

The current geological model contains all exploration data completed in IPC up to May 2020. The model includes a total of 1,115 drill holes – 496 of these are within mined out pit areas. Furthermore, 209 holes from IPE have been included to assist the modelling of the Burton Range Thrust fault.

Results from the 2020 JORC Resource Estimate show a total coal resource of 46 Mt within IPC as at the end of May 2020. The resource comprises:

- 25.2 Mt of Measured resource,
- 16.0 Mt of Indicated resource,
- 5 Mt of Inferred resource.

The tonnage per resource category and tenement is summarised in Table 1.1. The resource category areas are shown in Figure 1.1.

Table 1.1 – Resource Estimate Summary

Seam	Measured Tonnes x 10^6	Indicated Tonnes x 10^6	Measured and Indicated Tonnes x 10^6	Inferred Tonnes x 10^6	Total Tonnes x 10^6
ML 70342 Total	21.5	1.9	23.3	0.5	23.8
ML 700018 & ML 700019 Total	3.7	14.1	17.8	4.7	22.5
Total Resource	**25.2**	**16.0**	**41.2**	**5**	**46**

Note – Rounding to the nearest significant figure is applied to Total Resource Tonnes in the Inferred Category. This is deemed conservative and reflective of the Inferred Resource category confidence level and accounts for the minor differences in the overall reported resource

As in previous resource estimates, the LHL ply has been excluded as a potential underground resource (beyond a depth of 150m) as it does not meet the minimum thickness requirement of 1.5m.

Previous resource estimates for IPC were completed by Xenith in January 2015, April 2016, August 2017 and May 2018.

The most recent (May 2018) resource estimate contained a total resource of 52.5 Mt.

At 46 Mt, the 2020 total resource has decreased the resource base by ~6.0 Mt, or 12%, compared to the prior resource estimate.

The main changes are due to:

- Depletion by mining since May 2018 (1.8 Mt).
- Re-interpretation from 2018 drilling combined with the 3D seismic survey has resulted in the largest change in total resource tonnes:
    - the Burton Range Thrust fault moving to the west in the central part of the deposit and conversely to the east in the northern part.
    - the large fault repeat in the south of the IPU is now smaller as this fault has been moved to the west and intersects the Burton Range Thrust fault.

The Measured category has increased compared to 2018, as a part of the northern resource has been converted from Indicated to Measured category after re-evaluation of PoOs and confidence levels.

Tonnage comparisons and differences are shown below in Table 1.2.

Table 1.2 – Tonnage Comparison per Resource Category

	June 2020 Resource (Mt)	May 2018 Resource (Mt)	Difference (Mt)	Difference (%)
Measured	25.2	22.2	3.0	13%
Indicated	16.0	21.3	-5.3	-25%
Measured + Indicated	41.2	43.5	-2.3	-5%
Inferred	5.2	9	-3.8	-43%
Total	**46**	**52**	**-6.2**	**-12%**

Note – Rounding to the nearest significant figure is applied to Total Resource Tonnes in the Inferred Category. This is deemed conservative and reflective of the Inferred Resource category confidence level and accounts for the minor differences in the overall reported resource

Local Geology

The seam mined at IPC is the Leichhardt Seam, of the Rangal Coal Measures. The Leichhardt seam is typically 3.5m thick and dips gently to the east until it meets the regionally identified Burton Range Thrust Fault. A second, large thrust fault, sub-parallel to Burton Fault has been delineated from the 2017 3D seismic survey. It is located in the south-east of the underground area and shows displacement of up to 100m.

In the north of IPC, the Leichhardt seam splits, and where the interburden thickness is greater than 0.3m thick the seam is modelled as the Leichhardt Upper and Leichhardt Lower Seams.

The Leichhardt Lower seam, in the area north of the split line, is typically 0.7m thick and interburden to the Leichhardt Upper Seam increases to the north and west to reach thickness of greater than 10m.

Coal quality is reasonably consistent across the entire resource area; a general increase in raw ash % (adb) is noted down dip of the current working face to the north and south.

No resource was estimated for the Vermont Seam, which occurs typically 25 to 30m below the base of the Leichhardt seam. The Vermont seam plies have been modelled and some coal quality data exists, but due to poor level of structural definition and inferior coal quality attributes, it is not the focus of future production activities and hence not included in resource estimates.

1.1 Resource Parameters

Estimation of resources was conducted based on valid Points of Observations (“PoO”). The qualification for the PoO’s is discussed in Section 9.3, but generally included:

- Cored seams with validated raw coal quality results.
- Down-hole geophysics.
- >95% recovery of cored sections.

The resource polygons are constrained by the following parameters:

- The up-dip limits are the mined-out face positions for the relevant seams, based on the up to date (June 2020) mined face position survey.
- The down dip limit is set by the Burton Range thrust fault, or the limit of drilling data.
- The northern limit is set by the Goonyella to DBCT railway line or the Northern limit of the ML 70342 boundary. The open-cut area has an additional 100m standoff from the northern power lines.
- The southern limit, as before, is set where the Burton Range thrust and the current southern pit boundary meet (Figure 1.1).

The resource estimate closely adhered to the processes detailed in the 2017 and May 2018 Resource estimates. This was undertaken to ensure a comparison was possible with the historically reported resources.

Previous resource estimates used a proposed open-cut area delineated from a preliminary design based on previous mining strips and devised to assess the future open-cut potential. This estimate provides resource estimates by depth of cover ranges of less than 100m, between 100 and 150m and beyond 150m (See Table 1.5). The Leichhardt Lower seam is excluded below a depth of 150m.

This resource estimate, along with those prior, sub-divides reported resources in the following manner:

- Resources contained within ML 70342 and
- Resources contained within MLs 700018 and 700019[1].

Table 1.3 and Table 1.4 detail resources by seam and by lease area.

Table 1.3 – Resource Tonnes by Seam (ML70342)

Seam	Measured Tonnes x 10^6	Indicated Tonnes x 10^6	Measured and Indicated Tonnes x 10^6	Inferred Tonnes x 10^6	Total Tonnes x 10^6
LHD	20.5	1.7	22.1	0.0	22.1
LHU	1.1	0.1	1.2	0.0	1.2
Total LHD/LHU	21.6	1.8	23.4	0.0	23.4
LHL	0.1	0.1	0.2	0.2	0.5
Total Resource	**21.7**	**1.9**	**23.6**	**0**	**24**

Note – Rounding to the nearest significant figure is applied to Total Resource Tonnes in the Inferred Category. This is deemed conservative and reflective of the Inferred Resource category confidence level and accounts for the minor differences in the overall reported resource

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Table 1.4 – Resource Tonnes by Seam (MLs 700018 and 700019)

Seam	Measured Tonnes x 10^6	Indicated Tonnes x 10^6	Measured and Indicated Tonnes x 10^6	Inferred Tonnes x 10^6	Total Tonnes x 10^6
LHD	3.6	13.1	16.7	3.9	20.7
LHU	0.1	1.0	1.1	0.2	1.3
Total LHD/LHU	3.7	14.1	17.8	4.2	22.0
LHL	0.0	0.0	0.0	0.5	0.5
Total Resource	**3.7**	**14.1**	**17.8**	**5**	**23**

Note – Rounding to the nearest significant figure is applied to Total Resource Tonnes in the Inferred Category. This is deemed conservative and reflective of the Inferred Resource category confidence level and accounts for the minor differences in the overall reported resource

[1] ML 700018 and ML 70019 cover Stanmore Coal's Isaac Plain East Mine (IPE). IPE targets the Leichhardt (LHD) seam on the up-thrown side of the Burton Thrust Fault. The eastern portion of the IPE resources is a fault repeat and overlies the Isaac Plains underground resource.

The majority of the resource is associated with the main LHD seam. Total resource for all tenements by seam and depth to the top of the Leichhardt seam is shown in Table 1.5. The 100m and 150m cut-off have been chosen to represent potential depths of transition between open-cut/underground mining methods.

The interpretation of the 2017 3D seismic survey data and 2018/19 drilling revealed a block of LHD repeat in the south-east of the underground area. The 2018/19 drilling provided additional data on the repeat block area. The upper repeat contains approximately 0.9 Mt of resources, mostly in the less than 100m (35%) and 100-150m (50%) depth ranges. This area is isolated from the current open-cut mining areas. These resources have therefore been classified as Inferred resources.

Table 1.5 – Isaac Plains Resource Tonnage by Depth and Seam

Depth Limit	Ply	Resource Classification			
		Measured	Indicated	Inferred	Total (Mt)
≤100m	LHD	6.7	0.1	0.3	7.1
	LHU	1.2	0.3	0.0	1.5
	LHL	0.1	0.1	0.3	0.6
	TOTAL	8.0	0.6	0.6	9.1
≥100m & ≤150m	LHD	10.2	0.8	0.5	11.5
	LHU	0.1	0.8	0.1	0.9
	LHL	0.0	0.0	0.4	0.4
	TOTAL	10.3	1.6	1.0	12.8
SUB Total ≤150m	LHD	16.9	0.9	0.8	18.6
	LHU	1.2	1.1	0.1	2.4
	LHL	0.1	0.1	0.7	0.9
	TOTAL	18.2	2.1	1.6	22.0
≥150m	LHD	6.9	13.9	3.4	24.2
	LHU	0.0	0.0	0.1	0.2
	LHL	0.0	0.0	0.0	0.0
	TOTAL	6.9	13.9	3.6	24.4
GRAND Total	LHD	23.8	14.7	4.2	42.8
	LHU	1.2	1.1	0.2	2.6
	LHL	0.1	0.1	0.7	1.0
	TOTAL	25.2	16.0	5	46

Note – Rounding to the nearest significant figure is applied to Total Resource Tonnes in the Inferred Category. This is deemed conservative and reflective of the Inferred Resource category confidence level and accounts for the minor differences in the overall reported resource

Figure 1.1 – Resource Polygon for the LHD/LHU Seam

2 INTRODUCTION

2.1 Scope of Work

Xenith Consulting Pty Ltd ("Xenith") was commissioned by Stanmore Coal Limited ("Stanmore") to update the coal resource estimate for IPC in accordance with the JORC Code 2012 Edition. This resource is contained within the following granted Mining Leases:

- ML 70342, ML 700018 and ML 700019.

IPC contains Leichhardt seam coal resources on the western side of the regional Burton Range thrust fault. The Burton Range fault represents the structural barrier between Isaac Plains Mine (IPC) and the Isaac Plains East Mine (IPE).

The IPE open-cut resource is not covered within the scope of this report, but historically reported separately.

The outline of work included:

- Review and update the latest model update, completed in July 2018
- Adding new exploration data, including new drill holes (23) that were drilled in the underground project area as well as in-pit seam survey positions.
- Defining resource classification polygons, including checks on the existing model and classification.
- Estimating the resource quantities and qualities.
- Providing an updated Resource Estimate Report and associated "Table 1" as per the JORC code of 2012.

New exploration data (drill holes and survey data), mined out limits, and LiDAR topography were provided to Xenith by Stanmore in May 2020.

2.2 Datum and Projection

The survey datum on which all survey of drill holes is based is the first order mark at Moranbah township (100k mark) – AMG55. The height datum is AHD (Australian Height Datum). All survey data is AMG84 (Australian Map Grid 84), Zone 55 map grid.

2.3 Tenement Details

The Isaac Plains resource estimate covers several tenements, either wholly or partially:

- ML 70342 (wholly) – the Isaac Plains Mine.
- ML 700018 (partially)
- ML 700019 (partially)

The Isaac Plains Mine is located approximately 7 kilometres east of the township of Moranbah in Central Queensland and within the northern part of the Bowen Basin.

The open-cut mine area is covered under ML 70342 (2,142 hectares), which was granted on 1 December 2005, for a period of 20 years to IP Coal Pty Ltd 50% and Vale Australia (IP) Pty Ltd 50%. The mine was wholly purchased by Stanmore IP Coal in 2015. In the south of the ML area an easement provides access to the mine site via a gravel road from the Peak Downs Highway.

ML 70342 was previously covered by EPC 755 which was granted to Aquila Coal Pty Ltd, a subsidiary of Aquila Resources, on 10 April 2002. Aquila Coal Pty Ltd subsequently entered into a JV Agreement on 27 January 2004 with AMCI Australia Pty Ltd (and later Vale Australia) for the management of the Aquila EPC's in Queensland. At time of ML 70342 grant, the portion of EPC 755 coincident portion of the ML was surrendered, however the remainder of EPC 755 is still current and is presently held by Stanmore IP Coal Pty Ltd. The present expiry date of EPC 755 is 9 April 2023.

The eastern part of the potential underground resource estimated herein is now covered under ML700018 & ML700019. ML 700018 and ML 70019 also cover Stanmore Coal's Isaac Plain East Mine (IPE). IPE targets the Leichhardt (LHD) seam on the up-thrown side of the Burton Thrust Fault. The eastern portion of the IPE resources is a fault repeat and overlies the Isaac Plains underground resource.

EPC 677 is located to the North of IPC and is presently held by Fitzroy (CQ) Pty Ltd. Fitzroy became holder of this tenement in 2016, following acquisition from Vale Australia. Stanmore has a signed Designated Area Agreement (DAA) with Fitzroy having executed the Agreement with previous owner, Vale. The DAA allowed Stanmore to explore and apply for a Mining Lease over the area of the EPC 667 DAA, between ML 70342 & MDL135, to the South of the Goonyella to DBCT Rail line. This right was activated, and this area is now covered by active Stanmore IP Coal Mining Lease, ML 700019.

The location of the Isaac Plains ML and the surrounding coal mining tenements and petroleum tenements are shown in Figure 2.1 and Figure 2.2.

Table 2.1 – Tenure Summary relevant to the IPC Resource

Tenure	Tenement Holder	Grant Date	Expiry Date	Area (Ha)
ML 70342	Stanmore IP Coal Pty Ltd	1/12/2005	31/12/2025	2141.9
ML700018	Stanmore IP Coal Pty Ltd	01/03/2018	31/03/2030	369.1
ML700019	Stanmore IP Coal Pty Ltd	01/03/2018	31/03/2030	353.8

2.4 Topography and Physiography

Topographically, the area is gently sloping to the west. A shallow creek, (Smoky Creek) draining west, cuts across the middle of the deposit. A smaller unnamed creek partly limits the resources to the south. The area has been extensively cleared for cattle grazing, with minor remnant vegetation areas of poplar box woodlands.

2.5 Land Use and Infrastructure

The deposit is immediately south of the Goonyella – Hay Point Railway and north of the Peak Downs Highway. The Hay Point / Dalrymple Bay Coal export facility is some 170 kilometres by rail from the Isaac Plains mine. Access to the Isaac Plains mine is via a gravel road from the Peak Downs Highway to the southern boundary of the ML.

A majority of the mine area falls on the Wotonga Station property, with a small section in the northeast corner falling on the Broadlea property. ML 70342 (Isaac Plains) sits over land parcels: Lots 15 and 17 on SP261431 Wotonga; and Lot 4 SP252740, Broadlea.

Figure 2.1 – General Location Plan

Figure 2.2 – Regional Tenement Map

3 PREVIOUS STUDIES

The most recent resource estimate was completed by Xenith in May 2018 and comprised a total resource of 52.5 Mt, being:

- 22.2 Mt Measured resource,
- 21.3 Mt Indicated resource, and
- 9 Mt Inferred resource.

Resources were estimated within and external to ML70342 (Table 3.1).

Table 3.1 – Total of Prior Resource Estimate May 2018

Seam	Measured Tonnes x 10^6	Indicated Tonnes x 10^6	Measured and Indicated Tonnes x 10^6	Inferred Tonnes x 10^6	Total Tonnes x 10^6
ML 70342 Total	19.0	6.5	25.4	0.4	25.9
ML 700018 & ML 700019 Total	3.3	14.8	18.1	8.4	26.5
Total Resource	**22.2**	**21.3**	**43.5**	**9**	**52.5**

The resource estimates of May 2018 and the current resource estimate are compared in Section 10.2.1.

The August 2017 resource estimate (Xenith) comprised a total resource of 48.5 Mt, being:

- 14.4 Mt Measured resource,
- 19.1 Mt Indicated resource, and
- 15 Mt Inferred resource.

The April 2016 resource estimate (Xenith) comprised of a total resource of 48.2 Mt of which:

- 15.2 Mt was Measured resource,
- 23 Mt was Indicated resource, and
- 10 Mt was Inferred resource.

The January 2015 resource estimate (Xenith) estimated a total resource of 30.1 Mt of which:

- 10 Mt was Measured resource,
- 9.1 Mt was Indicated resource, and
- 11 Mt was Inferred resource.

Prior to that, JB Mining completed a resource statement in January 2010 in accordance with JORC code (2004). This work estimated a total coal resource of 42.5 Mt, including 27.1 Mt as Measured Resource, 5.6 Mt as Indicated Resource and 9.7 Mt as Inferred Resource.

4 GEOLOGY

4.1 Regional Geology

4.1.1 Geological Setting

The Isaac Plains Mine is located in the northern part of the Permo-Triassic Bowen Basin containing principally fluvial and some marine sediments. The Bowen Basin is part of a connected group of Permo-Triassic basins in eastern Australia which includes the Sydney and Gunnedah Basins. The Basins axis orientation is NNW-SSE roughly parallel to the Palaeozoic continental margin. Tectonically, the basin can be divided into NNW-SSE trending platforms or shelves separated by sedimentary troughs. The units from west to east are the Springsure Shelf, Denison Trough, Collinsville Shelf/Comet Platform, Taroom Trough, Connors and Auburn Arches (interrupted by the Gogango Over-folded Zone) and the Marlborough Trough. Development of the basin in the Early Permian was in the form of half grabens which subsequently became areas of regional crustal sag. Variations in depositional patterns and deformation styles occur along strike suggest the possibility of NE trending deep seated crustal transfer faults referred to as transfer corridor by Hammond (1987).

Figure 4.1 – Regional Stratigraphy of the Northern Bowen Basin