



ASX RELEASE

2020 Coal Resources and Reserves

22 September 2020

New Hope Corporation Limited (**ASX:NHC**) is pleased to announce the 2020 update of Coal Resources and Reserves, in accordance with the JORC Code (2012).

Key updates from the previous reporting period are:

- Initial 207Mt Recoverable Reserve reported for the Taroom project.
- Taroom and Woori Resource estimates updated in accordance with JORC Code (2012).
- New Acland and Bengalla Resources and Reserves based on updated geological models.
- New Table 1 information for the Taroom and Woori projects has been included as an appendix to this release.

Coal Resources and Reserves are stated as at 31 May 2020. Production information for the 2020 financial year is available in the 2020 Annual Report.

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Coal Resources

COAL RESOURCES as at 31 st May 2020 (MILLION TONNES)						
(COAL RESOURCES ARE INCLUSIVE OF THE RESERVES REPORTED BELOW)						
DEPOSIT	STATUS	INFERRED	INDICATED	MEASURED	2020 TOTAL	2019 TOTAL
New Acland ¹	Mine	16	193	290	499	497
Bengalla ²	Mine	16	176	201	393	411
Burton ³	Mine	8	11	13	32	32
Lenton ⁴	Exploration	208	104	68	380	380
Yamala ⁵	Exploration	184	39	14	237	237
Elimatta	Exploration	73	105	108	286	286
Collingwood	Exploration	94	139	43	276	276
Taroom	Exploration	122	338	-	460	433
Woori	Exploration	42	67	-	109	84
Total		763	1,172	737	2,672	2,636

Notes on Resources:

- 1 New Hope Group share is 100%.
- 2 New Hope Group share is 80%. The Resource number includes 74 Mt of Underground Resource.
- 3 New Hope Group share is 90%.
- 4 New Hope Group share is 90%.
- 5 New Hope Group share is 70%.

All Coal Resource estimates are prepared and reported in accordance with the 2012 JORC Code.

JORC DECLARATION – COAL RESOURCES

The estimates of coal resources reported herein, have been prepared in accordance with the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves – The JORC Code (2012). These resources are inclusive of the Reserves Statement and are as at 31/05/2020 unless otherwise stated.

The resources for Burton, Lenton, Yamala, Elimatta and Collingwood have been re-quoted from the 2019 New Hope Group annual report and are based on information reviewed by Mr Sean Dixon, who is the Competent Person for coal resources and a full time employee of the company.

The Bengalla, New Acland, Taroom and Woori resource estimates are based on updated (2019/2020) geological models that have been produced by New Hope Group and reviewed by Mr Dixon. Mr Dixon has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity that they are undertaking, to qualify as Competent Person as defined in the 2012 Edition of the 'Australian Code for Reporting Exploration Results, Mineral Resources and Ore Reserves'. The Competent Person consents to the inclusion in the report of the matters based on their information in the form and context in which it appears.

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Coal Reserves

		COAL RESERVES as at 31 st May 2020 (MILLION TONNES)						
DEPOSIT	STATUS	RECOVERABLE RESERVES				MARKETABLE RESERVES ⁴		
		PROBABLE	PROVED	TOTAL 2020	TOTAL 2019	PROBABLE	PROVED	TOTAL 2020
New Acland ¹	Mine	121	249	370	370	66	136	202
Lenton ²	Exploration	12	23	35	35	7	14	21
Elimatta	Exploration	26	93	119	125	16	64	80
Bengalla ³	Mine	45	163	208	218	34	131	165
Taroom	Exploration	207		207	0	130		130
Total		411	528	939	749	253	345	598

Notes on Reserves:

- 1 240Mt of Recoverable Reserves require additional approvals beyond Acland Stage 3.
- 2 Figures shown are 100% of total Reserves. New Hope share is 90%.
- 3 Figures shown are 100% of total Reserves. New Hope share is 80%.
- 4 Marketable Reserves are based on modelled washplant yields, and for operating mines have been correlated to reconciled data.

JORC DECLARATION – COAL RESERVES

The information in this Coal Reserves Statement that relates to coal Reserves for New Acland, Lenton, Elimatta, Bengalla and Taroom is based on information compiled by Mr Brett Domrow, who is a full-time employee of the company. Mr Domrow has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which they are undertaking to qualify as a Competent Person as defined in the 2012 Edition of the 'Australian Code for Reporting Exploration Results, Mineral Resources and Ore Reserves'. Mr Domrow consents to the inclusion in the report of the matters based on their information in the form and context in which it appears.

(ends)

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This ASX announcement was approved and authorised for release by the Board.

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Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections)

Criteria	Commentary
<p>Sampling techniques</p>	<p>New Hope Group (NHG) acquired the Taroom exploration project from Joint Venture owners, Cockatoo Coal (Surat Coal Pty Ltd 51%) and Mitsui (49%). NHG acquired Cockatoo Coal's portion in late 2014 and subsequently acquired the remaining Mitsui ownership in 2015, taking NHG share to 100% ownership. All of the geological data for this project was transferred to NHG as part of this arrangement and as such, this portion of the database is considered 'legacy' data.</p> <p>Legacy drilling campaigns at Taroom have taken on various forms, including chip drilling, core drilling for coal quality analysis, as well as some core drilling for gas sampling and geotechnical testing. New Hope Exploration (NHE) carried out two extensive drilling campaigns on the project in 2018 and 2019.</p> <p>NHE have a set of Field Operations Procedures which establish the minimum requirements for each exploration task, including best practice for the collection of geological data for use in resource models. All staff are deemed competent by NHG and hold relevant qualifications and training competencies required to carry out these duties.</p> <p>Drilling campaigns at Taroom have taken on various forms, including chip drilling; and core drilling for coal quality, gas sampling and geotechnical analysis. When drilling chip holes, for every metre drilled, the drill cuttings (chips) are laid out in individual piles representing that metre for the geologist to describe in their lithology logs. Chip samples for both legacy and NHE exploration campaigns have been taken and lithologically described at 1m intervals. Core samples have been lithologically described in high detail.</p> <p>Metre markers on the mast of the drill rig assist the Drillers Offsider's in identifying where the sample interval boundaries are located. It is standard practice for the Drillers Offsider's to collect drill cuttings in a sieve, which is emptied onto the ground so that the top of the pile is representative of the top of the metre sample. Lithologies and depths are later confirmed with geophysics.</p> <p>All core holes are logged and sampled directly from the core table in the field. The depths are measured using a tape measure per core run, with an understanding of the depth in the hole from Drillers measurements. Core recovery and loss is recorded and used to assist in depth correction to downhole geophysics.</p> <p>Standard coal quality core sampling parameters are defined to ensure consistency in sampling:</p> <ul style="list-style-type: none"> ▪ All coal in the drill hole is sampled, regardless of thickness; ▪ Any changes in coal brightness is sampled separately; ▪ All carbonaceous material in proximity to coal seams is sampled, regardless of thickness; ▪ All stone bands are sampled separately, regardless of thickness, except large interburden (>50cm) which is only sampled when required for geotechnical or dilution analysis; ▪ All lithology changes within the stone bands are sampled separately; ▪ If the coal in one run is continued in the next run, they are split into two samples to ensure there is no risk in sample loss between core runs; ▪ Core loss in the middle of a sample is not allowed. Separate samples above and below core loss are taken, this is a very rare occurrence. ▪ Core photos were taken at 0.5m intervals and these reflect sound drilling and handling techniques. ▪ The use of a tape measure for recording core run recoveries and for measuring sample intervals, also provides a useful reference for the photos. ▪ Based on review of available sampling and analytical data for Taroom cores, coal quality core sampling procedures appear to have followed satisfactory rigor in terms of the sample depth, thickness and core recovery management. NHE analysis procedures are highly detailed and results are validated by both the laboratory and NHE on receipt. <p>Once the drilling of the hole is complete, downhole geophysical logging is carried out on all holes that intersect coal. As a minimum, dual density (long-spaced density & short-spaced density), gamma and caliper trace data are collected in each hole. Modern holes also have</p>



Criteria	Commentary
	<p>the deviation tool as standard. Sonic data is also acquired in some holes across the deposit. Where holes are drilled for geotechnical purposes, the acoustic scanner tool is also utilised.</p> <p>NHE own and operate their own fleet of geophysical logging trucks. All logging staff are appropriately licensed and hold relevant qualifications & training competencies to carry out the task and are deemed competent by NHE. Boreholes are logged soon after drilling to allow for first pass geological interpretation.</p> <p>NHE have drilled a calibration hole at New Acland, which allows the logging truck operators to ensure the tools are appropriately depth calibrated. Dual Density tools are tested against known density values (water tank & aluminium block). These tests are sent to DGRT Pty Ltd to verify against six known calibration curves developed by NHE, to ensure the tools are appropriately calibrated, with adjustments made as required.</p> <p>Geophysical tools are serviced annually by DGRT Pty Ltd at Acacia Ridge in Brisbane, QLD. There are four main geophysics tools used for logging coal exploration holes:</p> <ul style="list-style-type: none"> ▪ Auslog A605 Dual Density Tool: Sample interval 2cm; logging speed 4m/min; reading time 0.3sec. Density calibration is detailed above. Gamma is calibrated to a thorium source. Caliper is calibrated to readings of 50.8, 101.6, 152.4, 203.2 and 254mm using a standard gauge. NHE calibrate the caliper to point to point calibration, as opposed to a line of best fit. ▪ Auslog A605FR Dual Density Tool: Sample interval 0.05cm; logging speed 3.3m/min; reading time 0.3sec. Density calibration is detailed above. Gamma is calibrated to a thorium source. Caliper is calibrated to readings of 50.8, 101.6, 152.4, 203.2 and 254mm using a standard gauge. NHE calibrate the caliper to point to point calibration, as opposed to a line of best fit. ▪ Auslog A698 Deviation Tool: Sample interval 5cm; logging speed 6m/min; reading time 0.5sec. Factory calibration settings have been applied for this tool. ▪ Auslog A799 Full Wave Sonic tool: Sample interval 10cm; logging speed 4m/min; reading time 1.5sec. Factory calibration settings have been applied for this tool. <p>478 out of 755 holes in the geological database have geophysical data. A total of 191 holes have verticality data for the Taroom project, though due to the lack of structural complexity in the deposit, deviation of boreholes is negligible and it is not expected to have any material impact on coal resource estimates. Sonic data has also been acquired in some holes across the deposit. For the 2018 and 2019 boreholes drilled by New Hope Exploration, resistivity and acoustic scanner tools were run in addition to the standard suite.</p> <p>All major coal units have been sampled for analysis, although some minor coaly units have been excluded, due to the coal thickness being deemed below minimum mining thickness and having insufficient mass for analysis. NHE sampling is based on individual lithology units and ply samples are combined across individual seams to represent the mining intervals. Roof and floor samples (two 10cm samples of each, so 20cm in total for each roof and floor) were taken.</p> <p>All coal quality samples are sent to ALS (ACIRL) at Richlands, Queensland, which is an accredited laboratory under the National Association of Testing Authorities (NATA accreditation no. 15784, site no. 857). In compliance with NATA, all samples are prepared and analysed using methodologies stipulated in the Australian Standards. The estimator has visited the laboratory and observed the procedures and processes.</p> <p>The available coal quality analytical reports for holes drilled by Cockatoo Coal have been generated from samples sent to SGS Minerals Gladstone / Coal and Tech Services (CATS) SGS Australia Pty Ltd and ALS for LOX hole samples. Legacy holes were by managed by ACIRL and THIESS BRO. Pty Limited – Mining Division. It is understood that these laboratories were accredited by National Association of Testing Authorities (NATA) and in compliance with NATA. All samples appear to have been prepared and analysed using methodologies stipulated in the Australian Standards.</p> <p>Ten gas samples were collected from two HQ cored holes in August 2012 and were dispatched for gas analysis. Cockatoo Coal conducted a core sampling program that began on the 24th of September 2011 and concluded on the 4th of November 2011. Core sampling targeted the Auburn, Bulwer and Condamine seam groups within the Walloon Coal Measures of the Surat Basin. Initial gas desorption measurements on-site were conducted by Cockatoo Coal personnel using stainless steel canisters and gas desorption equipment</p>



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	<p>supplied by GeoGAS (a NATA accredited laboratory). Following the conclusion of initial gas desorption measurements (Q1 lost gas determination), Q2 (measurable gas), Q3 (residual gas) gas desorption measurements and gas composition analysis were completed out by GeoGAS at the Mackay Laboratory. The material characterisation (i.e. proximate analyses and relative density analyses) were conducted by ALS Richlands. This gas sampling has followed standard gas sampling protocols with HQ core samples of coal taken and placed into gas canisters. These samples had a nominal thickness of 80cm, however NHE have been unable to locate reports describing test dates and other details.</p> <p>Geotechnical logging and sampling has been completed for the deposit, with results from separate campaigns reviewed and reported by Mining One Pty Ltd and Golder Associates. Defect logging and sample preparation were carried out by the field exploration geologists and engineering geologists. Samples were tested at both Trilab laboratories in Brisbane and ALS Global Environmental Division, Brisbane. Both Trilab and ALS are NATA accredited laboratories.</p>
<p>Drilling techniques</p>	<p>Boreholes within the project area have been drilled for/by the following parties:</p> <ul style="list-style-type: none"> ▪ Mount Isa Mines (MIM) ▪ Thiess Bros. ▪ CSTR ▪ Shell Coal (Australia) ▪ Cockatoo Coal Limited (CCL) & Mitsui ▪ New Hope Exploration (NHE) <p>There are 191 holes with verticality data. Given the limited collection of downhole deviation data and lack of evidence to the contrary, it is considered that all holes drilled to date were planned to be vertical holes, designed to intersect the horizontally stratified Walloon Coal Measures.</p> <p>Holes are drilled using either air or water as a drilling medium. Environmentally safe muds are sometimes used to control water flow, hole stability, or gas flow.</p> <p>Chip holes at Taroom are primarily used to define coal seam thickness and continuity and to help identify major geological structures. Although chip drilling is used to very broadly define seam sub-crop areas, a significant amount (86 holes) of Limit of Oxidation (LOX) drilling has been undertaken. Robust chip holes are also used as supporting structural data to the Points of Observation (i.e. where geophysical logging has been completed on the holes).</p> <p>Coal quality samples appear to have most commonly been collected from holes with a core size (diameter) of 102mm, which has become an industry standard for open cut coal quality coring. There are also a number of HQ (63.5mm) holes.</p> <p>The 2019 coal quality model only incorporates coal quality data obtained by NHG during the 2018-2019 drilling campaign. Coal quality bore cores in this drill program were continuously cored 100mm diameter core holes, with the exception of unconsolidated sub-surface material. Two shallow water monitoring bores were also drilled during this campaign.</p>
<p>Drill Sample Recovery</p>	<p>Core Depth and sample reconciliation data is recorded for recovered thicknesses, including sample recovery and core loss for each core run. Coal seam depths and thickness are confirmed when the geophysical logging is completed.</p> <p>Core loss and core expansion are accounted for in the field, by using observations in the core. For example, core recovery thickness discrepancies, broken core, crushed zones, swelling lithologies and groove marks caused by over-drilling are all indicators of these core states and with careful data recording and confirmation with geophysics, can be assessed and appropriately logged to record an accurate geological interpretation of the downhole lithology.</p> <p>The drilling supervisor is notified when core loss in coal is greater than 5% or if substandard core is being presented to the geologist. The decision to re-drill the hole is discussed. If there are problems with core or sample recovery, the hole is not used in the geological model, though this is noted to be a rare occurrence for the Taroom deposit.</p> <p>For representation and sample recovery purposes, the full sample length measured on the core board is placed into the sample bags, without contaminating other samples or lithology units.</p> <p>Drilling fluids and clays are cleaned off the core prior to recording lithological information</p>



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	<p>Separating adjacent samples is typically done using a paint scraper. If the core is a bit harder in one area, a hammer and bolster is used to break the core at this point.</p> <p>To avoid sample contamination, as much of the surrounding lithology is scraped off the samples before it is placed in the bag.</p> <p>The core table is cleaned between runs to reduce the risk of sample contamination.</p>
Logging	<p>When drilling chip holes, for every metre drilled, the drill cuttings (chips) are laid out in individual piles representing one metre intervals for the geologist to examine and to describe in their lithology logs. The available lithological logs suggest that this method has been used for the Taroom project chip sampling.</p> <p>For core holes, accurate core length and depth measurements have been taken and these have been reviewed by internal resource geologists and through third party audits.</p> <p>The field geologists have examined the cored intervals in reasonable detail and subsequently transcribed their observations into lithology logs.</p> <p>Cored intervals have been photographed both on the core table and some have been transferred into core boxes and photographed thereafter. These core photographs are a useful record to help manage data quality control, to establish core loss/expansion, to compare with sample recovery methods, to assist in core sample laboratory testing instructions and as a permanent record of borehole lithology. Core photos were taken at half-metre intervals whilst on the core table and show the use of a tape measure for recording core run recoveries and for measuring sample intervals. Photographic records of washed chip samples are displayed as wet samples for true colour and lithological determination.</p> <p>478 holes at the Taroom project have downhole geophysical data. Dual density (long-spaced density & short-spaced density), gamma and caliper trace data are available. The detailed density log has been used to accurately correct seam roof and floor depths.</p> <p>Although it is considered an industry standard to log all holes with the deviation (verticality) tool, this has only been undertaken on 191 holes at Taroom; many holes without deviation are shallow LOX holes.</p> <p>Sonic geophysical data has been acquired for 167 holes across the deposit. Some resistivity and acoustic scanner logs have been run across this project also.</p> <p>Downhole geophysical logging services for the legacy dataset has been performed predominantly (if not exclusively) by Weatherford Pty. Ltd., a well-established downhole logging company with operational procedures and data quality held in high regard.</p> <p>An audit of geophysical LAS file header data indicated that regular tool calibration procedures were in place.</p> <p>All data collected in the field, including any photography, is saved electronically for future reference.</p>
Sub-sampling techniques and sample preparation	<p>Lithology records show that the Taroom project core samples appear to have been collected in accordance with acceptable coal industry practice.</p> <p>Core samples were retained as uncut, cylindrical cores, cut at 1 metre intervals where required to be boxed.</p> <p>Lithological descriptions have been detailed and relevant defects in the core have been logged. Core sample intervals generally appear to have been taken in a logical manner based on the coal brightness and presence of stone bands.</p> <p>A typical core size of 100mm diameter has been sampled for coal quality across the project. This core size allows for collection of coal material with adequate dimensions for laboratory sample pre-treatment and is well suited to coal quality determination. It is widely regarded as the industry benchmark for open cut coal resource determination, although HQ and in particular PQ core are also considered acceptable by most industry professionals.</p> <p>Core is generally sampled immediately after drilling, once it reaches the surface. To ensure that sample integrity is maintained, geology-purposed plastic sample bags are used for sample preservation.</p> <p>NHE have developed a unique sample numbering system to prevent sample number duplication, which would result in exclusion from the geological model. Sample numbers are printed on waterproof sample tags, which are stapled to the sample bag, facing</p>



Criteria	Commentary
	<p>outwards, so that it can be clearly identified. To ensure that the sample is sealed off completely, the sample bag is twisted off and folded over itself before zip-tying it closed.</p> <p>All NHE coal quality samples were sent to ALS (ACIRL) at Richlands, Brisbane, which is an accredited laboratory under the National Association of Testing Authorities (NATA). In compliance with NATA, all samples are prepared and analysed using methodologies stipulated in the Australian Standards.</p> <p>Coal quality analysis at Taroom is completed in three stages: (1) Raw Coal Analysis; (2) Washability Analysis; and, (3) Clean Coal (Product) Analysis. Following the Australian Standards, the laboratory representatively splits the samples into portions in order to perform the coal quality analysis required. For Taroom, one-eighth of the sample is used for Raw Analysis and the remaining seven-eighths reserved for Washability analysis, done after the Raw Analysis results are reported. Clean Coal Composite analysis is completed on a cumulative cut point, which targets nominal ash products and is based on the results of Washability analysis.</p> <p>For Taroom legacy core data;</p> <ul style="list-style-type: none"> ▪ The available legacy lithology records show that the Taroom cores appear to have been collected in accordance with acceptable coal industry practice. Lithological descriptions have been made and where relevant defects in the core have been logged. Core sample intervals generally appear to have been taken in a logical manner based on the coal brightness and presence of stone bands. ▪ 102mm diameter core has generally been sampled for coal quality. This core size allows collection of coal material with adequate dimensions for laboratory sample pretreatment and is well suited to coal quality determination and is widely regarded as the industry benchmark for open cut coal resource determination. ▪ Size (length) of cored samples is generally satisfactory for the purpose of coal quality determination. Collection of separate samples for stone intervals adjacent to the coal units has been undertaken and is considered good practice, enabling flexibility in preparation of composite seam units for more detailed analysis. <p>Downhole geophysical data has been routinely used to validate and correct the seam depth intervals and used along with core photography to validate core loss/expansion.</p>
<p>Quality of assay data and laboratory tests</p>	<p>All coal quality samples acquired by NHE are sent to ALS (ACIRL) at Richlands, Brisbane, which is an accredited laboratory under the National Association of Testing Authorities (NATA) to perform analytical testing to the ISO 17025 and ISO 9001 Standards (Certificate number 15784-857). In compliance with NATA, all samples are prepared and analysed using methodologies stipulated in the Australian Standard AS4264.1-2009 for coal and coke sample preparation.</p> <p>NATA accreditation involves regular external audits of the management, training and control procedures in the laboratory to ensure that the processes are documented, precise, accurate and validated. As such, the quality of testing is appropriate.</p> <p>All testing is performed using well recognised national or international processes (standards) which are considered appropriate for the testing and analysis of coal samples.</p> <p>Coal quality samples collected by Cockatoo Coal were sent to SGS Minerals Gladstone / Coal and Tech Services (CATS) SGS Australia Pty Ltd, which was NATA accredited laboratory. In compliance with NATA, it is believed that these samples were prepared and analysed using methodologies stipulated in the Australian Standards. For old holes, samples were sent to THIESS BROS. Pty Limited – Mining Division, ACRL and CCI. LOX samples were sent to ALS.</p> <p>These laboratories routinely undertake internal 'round robin' testing between laboratories to ensure consistency of analytical results and procedures.</p> <p>The available legacy coal quality reports show that coal quality analysis at Taroom was generally performed in five stages: Raw Coal Analysis (1. ply (non-composite), 2. composite lab analysis 3. composite calculated values lab analysis); (4) Washability Analysis; and, (5) Clean Coal (Product) Analysis.</p> <p>Following the Australian Standards, there is evidence that the laboratories have split the samples into suitable quotients in order to perform the coal quality analysis required.</p> <p>Sample pre-treatment and sized analysis have been undertaken on some core samples. This is considered the best method for generating robust washability and clean coal analysis</p>



Criteria	Commentary
	<p>results required to accurately predict CHPP processing and product qualities. In any coal quality assessment, this more detailed data should be given preferential status.</p>
<p>Verification of sampling and assaying</p>	<p>All NHE lithology data is entered directly into LogCheck data entry software in the field, which has been designed specifically for coal exploration. LogCheck has been programmed with validation criteria to ensure all data loaded is clean of critical data entry errors. All validation tools and dictionaries are password protected.</p> <p>The geophysical logs are loaded into LogCheck and compared with the lithology observed by the geologist through the Graphic Editor module. Once the correlation between the coal seam observations in the lithology and the geophysics has been established, the lithology depths are adjusted to match the geophysical signatures. A copy of the original lithology log is stored as backup in case errors occur in the depth adjustment process.</p> <p>The corrected field log is reviewed and validated by the resource geologists before being loaded into the database for seam correlation. When all seam names have been confirmed as correct, sample summaries are generated from LogCheck, giving the sample number, sample depths and description of the sample against seam names, which provide the basis for laboratory coal quality instructions. Laboratory instructions are then provided on a seam-by-seam basis.</p> <p>At the laboratory, all samples are registered into both Coal8 & LabSys – ALS’s own sample tracking software systems (approved by NATA). This registration is confirmed by Project Manager against the original client instructions and each sample and its subsequent children are affixed with a designated sticker containing all the sample details and a barcode. Samples are analysed according to client procedures. As samples are analysed the barcode is used to log each result to that sample.</p> <p>Results are quarantined and repeated if they do not meet the requirements of the appropriate Australian or ISO Standards. Controls are run with each batch of samples to ensure the testing apparatus is operating properly. Project Managers and Laboratory Managers/Supervisors approve these results. The use of twinned holes has not been completed for further validation.</p> <p>Laboratory Project Managers collate and validate the data, looking for abnormalities in the results. The primary means of validation include looking for known trends in the data, by creating cross plots of the results on a seam by seam basis. These include the following (for example):</p> <ul style="list-style-type: none"> ▪ Ash vs. Relative Density ▪ Volatile Matter vs. Ash ▪ Specific Energy vs. Volatile Matter ▪ Ash vs. Total Sulphur <p>The laboratory provides the results in a variety of formats:</p> <ul style="list-style-type: none"> ▪ Preliminary results templates, which provide all data for each stage of analysis in one master template excel file and is updated with data at the completion of each stage of analysis; ▪ CSV templates of the final data in the correct format for loading directly into the geological database; and, ▪ Final PDF reports that are deemed to be the final result for the coal quality analysis for each sample. These reports also list the sample instruction provided by the client and the Australian Standard methodologies utilised in the analysis. These reports are signed off by the Laboratory Manager as being a true representation of analysis for those samples contained within the report. <p>All coal quality data obtained from the laboratory is entered into the geological database on completion of analysis for each hole, using standard load specifications, to reduce the risk of typographic errors and minimise data handling. The coal quality models are built directly from the database. No changes are made to the records, unless verification checks confirm an anomalous result; at which time the results are individually reviewed against the final laboratory result.</p> <p>The geological database has built-in validation parameters to ensure all data is entered correctly. This database has restricted access and is password protected.</p> <p>All geological data is stored both electronically and in hardcopy, using New Hope Group practices outlined in Field Operations Procedure’s & Guidance Notes.</p>



Criteria	Commentary
	<p>For the Taroom deposit, legacy downhole geophysical logs appear to have been routinely used to 'depth adjust' the chip and core lithologies recorded by the geologist i.e. the coal seam roof and floor depths in the lithology logs are adjusted to match the geophysical signatures. This process provides verification of coal seam thickness as well as correlation consistency.</p> <p>Coal seam names for Taroom appear to have been consistently assigned by the geology team based on stratigraphic position and verified by geophysical signatures. Regional nomenclature has been adopted for this project.</p> <p>The available lithology, geophysical and coal quality records and reports are located on the NHG server where they are filed in a logical order.</p> <p>A review of selected analytical data has shown that the seam depths and thicknesses have largely been corrected using LAS data. The laboratory sample intervals also generally match these LAS intervals (from short spaced density logs).</p> <p>Standard coal quality data validation procedures undertaken when constructing the geological model have included data trend analysis, review of coal quality data cross plots e.g. Ash vs. Relative Density and additional statistical reviews.</p> <p>Coal quality data from laboratory reports have been entered into the geological databases. A visual check for washability and clean coal was performed for all available reports to verify the database values match the laboratory reported values and this was found to be the case. Data for raw coal quality has been compared and verified.</p> <p>These coal quality databases have been used to build coal quality grid models. Other than the required seam depth, thickness and seam correlation-based naming edits, no modifications appear to have been made to the analytical results. Where data validation checks identify an anomalous result, this data would be documented and / or excluded if sufficiently misleading or biasing the local data trends.</p> <p>Seam composites with insufficient core recovery or with lower core recovery that composite for nearby hole have also been omitted from the model.</p> <p>The geological database also has built-in validation parameters to help ensure data is entered correctly and there are no obvious errors.</p> <p>Available geological data is stored both electronically and in hardcopy, using New Hope Group standardised practices and has restricted access.</p>
<p>Location of data points</p>	<p>All location data within the Taroom project is represented using the GDA94 Map Grid of Australia (MGA) Zone 55 projection. All elevation data is recorded in Australian Height Datum (AHD).</p> <p>All planned drill holes are located using handheld GPS units. After completion of drilling, all drill hole collars (locations) are surveyed by registered surveyors for the provision of coordinates to the geological model.</p> <p>Surveys are carried out using RTK GPS which has a relative positional accuracy of approximately 50mm. Boreholes surveys are connected to the State Control Network to ensure absolute positional accuracy of approximately 100mm. Positional coordinates of Surveyed boreholes are then supplied to NHE in the required project horizontal and vertical datum.</p> <p>The topographical surface used in the geological model was created through the acquisition of LiDAR data on a 50cm grid across the deposit in 2017.</p>
<p>Data spacing and distribution</p>	<p>The average drill hole spacing across the Taroom deposit varies from 250 to 500m. The spacing of coal quality cored holes used in the model tar_dec19_hm1 for this resource estimate is approximately 1200m.</p> <p>Through examination of cored seam intersections and geophysical data (for open and cored holes), across the deposit a reasonable degree of confidence can be demonstrated for the lateral continuity of coal seams within the resource areas at Taroom.</p> <p>As with most developed coal quality databases a mixture of composite working section and more recent ply data exists in the database. This results in some inconsistency between coal quality data points but is not an uncommon feature in developed coal quality databases.</p>



Criteria	Commentary
	<p>Only the recent coal quality holes drilled by NHE during 2018-2019, with detailed ply information, were utilised in the coal quality model for this resource estimate.</p> <p>External auditing supports the drill spacing utilised in the classification applied with minor recommendations for future works proposed.</p>
<p>Orientation of data in relation to geological structure</p>	<p>Within MDL158 and MDL275, the Taroom deposit has an overall dip of approximately 1-3° to the south-west.</p> <p>Holes were drilled vertically to intersect the relatively flat-lying coal seam strata and this is considered to provide the optimal sampling orientation strategy for shallow coal deposits.</p> <p>Geological variations and seam-complexities are minimal. Due to the nature of the Surat Basin coal deposits, depositional variation of coal measures is the likely cause of seam continuation divergence, rather than being caused by faulting or other structures. For an open cut coal operation, the discovery of additional minor faulting is unlikely to affect the resource categorisation across this project.</p> <p>Raw coal quality samples have been taken at a suitably regular spacing across the deposit and on a seam-by-seam basis, in order to achieve an unbiased representation of the coal quality. As is common in exploration projects of this nature, the lower (deeper) seams tend to be under-represented in the core sampling (as generally reflected in their resource status) and this is an area that could be addressed to increase resources.</p> <p>Geophysical deviation data in legacy holes has generally not been used to correct any deviation of the borehole from vertical. As a result, some small depth and thickness errors may be present in the model, however, this is not likely to have any significant material impact on resources. All recent drilling programs have included the acquisition of verticality data.</p>
<p>Sample security</p>	<p>All samples are taken directly after they have been drilled and lithologically / geotechnically logged.</p> <p>Samples are stored in a cool, dry, shady location if they are waiting to be dispatched to the ALS laboratory in line with industry standards.</p> <p>Sample numbers are printed on unique NHE waterproof sample tags, which are stapled to the sample bag, facing outwards, so that they can be clearly identified. Each sample is placed directly into the sample bag and is sealed off completely by twisting the sample bag and folding it over itself, before zip-tying it closed. This is to prevent moisture escaping and the deterioration of coal properties.</p> <p>Once the samples have been placed inside their corresponding plastic sample bags, they are placed inside large poly-weave sacks, which are then sealed and clearly labelled with New Hope's specific information. Information about the samples in these poly-weave sacks is recorded on the 'Core Depth and Reconciliation Sheet', which is then scanned into the electronic document filing system.</p> <p>Samples are then placed in 44-gallon drums and dispatched as soon possible, usually within 24 hours of borehole completion.</p> <p>The outside of the sample drums are clearly labelled with "New Hope Group" and the delivery address for the ALS laboratory. Also, the project name, hole number, number of poly-weave sacks in the drum, the drum number and the total number of drums for the hole.</p> <p>If necessary, a drum liner is used to keep moisture out of the drums.</p> <p>A core sample consignment note is completed before the samples are dispatched. The number of sample bags and drums is noted on this consignment note. A copy of the sample consignment note must remain with the sample drums when dispatched and a copy is retained and an electronic copy is kept on file.</p> <p>On arrival at the laboratory, the samples are checked to ensure that all the samples have arrived as per the consignment note and a record of the samples received are filed electronically.</p> <p>With previous project holders, numerous coal quality (and other) samples have been collected and dispatched to various laboratories, however no specific consignment information has been recorded in the legacy dataset obtained by New Hope Group during project acquisition. Intermittent sample dispatch documentation is available, but this is not comprehensive.</p>



Criteria	Commentary
	<p>Core photos are available and these support the methodical collection and handling of core samples.</p>
<i>Audits or reviews</i>	<p>A full due diligence process was undertaken by NHG prior to purchase from previous owners in 2014-2015 with data reviews and audits having been completed by both NHG technical staff and external consultants.</p> <p>A comprehensive data review and seam re-correlation exercise was carried out prior to development of the tar_dec19_hm1 model.</p> <p>All new data has been validated and loaded to GDB for the project. Additionally, a full database rebuild and data-recoding to Coal Log v2.1 has occurred. All legacy data has been validated with 129 legacy boreholes corrected to geophysics, a large volume of coal quality data encoded and additional data loading including geophysical traces. High level detail of this database rebuild project is documented and saved on NHG's network drive which captures all amendments made to the database and builds on third party audits.</p> <p>Borehole validations checked that all holes were loaded into the database with collar, collar survey, lithology, base of weathering logged, geophysical data loaded, coal quality information and additional tables such as geotechnical and geochemistry data.</p> <p>The coal quality, gas testing and geotechnical laboratories utilised are NATA accredited and as such they are subject to external audit.</p> <p>The tar_dec19_hm1 model, model report and resource estimates underwent an external third-party audit in May 2020 by JB Mining Services (JBMS). No deleterious findings or corrective actions were discovered by the auditor.</p>



Section 2 Reporting of Exploration Results

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

Criteria	Commentary
<p>Mineral tenement and land tenure status</p>	<p>North Surat Coal Pty Ltd, a subsidiary company of New Hope Group, currently holds tenure over MDL158 and MDL275.</p> <p>MDL158: Taroom</p> <ul style="list-style-type: none"> ▪ 3.3km south east of Taroom ▪ 100% ownership of North Surat Coal Pty. Ltd., a subsidiary of New Hope Group. ▪ Current exploration project ▪ Expiry at time of reporting: 30/11/2021 <p>MDL275: Taroom North</p> <ul style="list-style-type: none"> ▪ 8.2km south east of Taroom ▪ 100% ownership of North Surat Coal Pty. Ltd., a subsidiary of New Hope Group. ▪ Current exploration project ▪ Expiry at time of reporting: 31/10/2020 <p>The land use is predominantly grazing and cropping. Topographical relief consists of low, undulating land cleared for secondary use with no established national parks or areas of significance.</p> <p>No occurrences of tenure/permit overlap are present for this project area.</p> <p>The current native title claimants include the Iman People.</p>
<p>Exploration done by other parties</p>	<p>Exploration drilling in the general Taroom area has been carried out since 1967, when ATP41C was first granted to the Mines Administration.</p> <p>Boreholes within the project area have been drilled for/by the following parties:</p> <ul style="list-style-type: none"> ▪ Mount Isa Mines (MIM) ▪ Thiess Bros. ▪ CSTR ▪ Shell Coal (Australia) ▪ Cockatoo Coal Limited (CCL) & Mitsui ▪ New Hope Exploration (NHE) <p>Most of the exploration drilling data in the current database was generated in 2011-2012 during which time tenure was held by CCL/Mitsui. This data is generally regarded as reliable, including downhole geophysics for most holes and a good coverage of cored holes with coal quality analytical data. While some drilling data from the earlier explorers has been included in the model, many drill holes were excluded due to lack of downhole geophysical logs, insufficient RL information, or data discrepancy.</p> <p>All coal exploration boreholes drilled in 2018 & 2019 by New Hope Exploration have been utilised in the 2019 geological model.</p>
<p>Geology</p>	<p>The Taroom project is located 9km south-southeast of the township of Taroom and approximately 450km by road north-west of Brisbane. The Leichhardt Highway, an all-weather, sealed bitumen road crosses the central portion of the MDL from south to north.</p> <p>Intermittent watercourses traverse the project area, of which the most significant being Juandah Creek which flows downstream to the Dawson River. Juandah Creek forms part of the upper reaches of the Dawson River Catchment, a sub-basin of the larger Fitzroy River Catchment.</p> <p>The topography shows minor relief across the project area with intersections from the Juandah Creek tributaries. The coal measures gently dip to the south-west.</p> <p>Located within the northern Surat Basin on the eastern flank of the Mimosa Syncline, coal within the Taroom project is contained within the Taroom Coal Measures from the Walloon subgroup. The Taroom Coal Measures are overlain by the Tangalooma Sandstone. These coal measures have been re-correlated to regional naming convention to the Auburn, Bulwer and Condamine seam sequences.</p> <p>The coal seams intersected at Taroom are characterised as multiple thin plies, which coalesce in their respective parent seam units. With the marine sedimentary influx into the</p>



Criteria	Commentary
	<p>depositional system, some reworking and lensing of minor plies are evident. Core interburden analysis plays a key role in depositional environment definition.</p> <p>Sixty individual coal plies have been correlated and modelled as elements (daughters), with five compounds (parents). The individual seams have been assigned to seven seam groups. In decreasing stratigraphic order, the seam groups are the A (Auburn), B (Bulwer) and C (Condamine) seams. Coal seam plies coalesce and thicken in the centre of MDL158.</p> <p>Coal quality laboratory results are consistent with a thermal coal product suitable for both export and domestic markets.</p> <p>One fault was included in the MineScape geology model, with the possibility of other less significant faults being present.</p> <p>A thorough review of structural influence on the deposit was conducted in 2019. Statistical slope gradient analysis, cross-sectional and surface feature review concluded that only one confirmed fault structure could confidently be included in the geological model. This is consistent with the understanding that coal deposits in the Surat Basin are typified by minimal structural disturbance, with flat dips and minor faulting. Numerous proposed faults have been highlighted to aid future investigations.</p>
<p>Drill hole information</p>	<p>Drill hole collars have been surveyed accurately by qualified surveyors using survey datum GDA94 Zone 55 and Australian Height Datum (AHD).</p> <p>There are 747 drill holes in the MineScape GDB database, of which 495 holes have been recognised as having sufficient data for correction and correlation.</p> <p>455 reliable model holes have been selected for inclusion in the 2019 structural model, which includes 347 chip holes and 108 cored holes. Only the 27 recent coal quality holes drilled by NHE during 2018-2019 were used for the accompanying coal quality model. These 455 drill holes were used to create the tar_dec19_hm1 MineScape model and corresponding coal resource estimates at Taroom.</p> <p>292 drill holes were excluded from the geology model because they were:</p> <ul style="list-style-type: none"> ▪ considered unreliable, or ▪ too far outside the tenure to be useful in modelling, or ▪ too close to other holes and so of no value to the model, e.g. pilot holes or re-drills. <p>Most of the excluded drill holes are legacy holes that do not have geophysics.</p> <p>All drill holes included in the model are considered to have been drilled vertically and most holes have been geophysically logged. However, a number of legacy holes do not have any verticality data and therefore have been modelled as vertical holes. This may introduce some minor seam depth and thickness errors but should not materially impact the coal resource estimates.</p>
<p>Data aggregation methods</p>	<p>Although recent coal quality drill holes have been sampled into individual plies, some of the samples from earlier holes overlap individual seam boundaries and are composited over more than one seam. For this reason, the coal quality data from these drill holes was excluded in the model used for this resource estimate.</p> <p>The 2019 coal quality model has utilised the recent exploration core holes by NHE as the reliable basis for modelling. Detailed ply samples were taken in the field and where possible, composited into individual seams at the laboratory. Raw analysis has been carried out on a large number of samples and results form the basis for determining coal (<50% raw ash) versus non-coal (>50% raw ash) samples. The coal samples are selected and where possible, further combined to progress to washability analysis. The samples may then be further combined for clean coal composite (CCC) analysis if they form part of the same seam and have similar raw and washability properties. CCC sample instructions were generated from LIMN simulation calculations for a thermal coal product based on nominated product ash targets.</p> <p>All qualities were modelled on an air-dried basis and where relevant, coal samples were composited to seam intervals in MineScape using weighted average thickness and density.</p>
<p>Relationship between mineralisation widths and intercept lengths</p>	<p>All drill holes are assumed to be vertical, but because geophysical deviation data is not readily available to correct any deviation from vertical, there may be a small degree of error in true seam depths, however due to the very shallow seam dips, it is considered that this will not have any significant material impacts on coal resource estimates. Recent drilling in 2018-2019 by NHG have confirmed shallow seam dip to the south-west for the deposit.</p>



Criteria	Commentary
	<p>Coal measures deposited in the Surat Basin are relatively flat and continuous over significant distances. The Taroom project coal seams can generally be demonstrated to be essentially continuous across the MDL158, MDL275 and beyond. Exceptions to this continuity are in areas where the coal seams sub-crop and only minor Limit of Oxidation (LOX) drilling has occurred.</p> <p>There is quite a complicated pattern to the LOX lines generated in the geology model. This is due to a combination of a shallow dipping, multiple seam resource, variable topography, plus some anticipated impacts from the geological structures.</p> <p>The coal measures within the Taroom deposit are influenced by marine and near-estuarine influxes, which has resulted in reworking of some of the minor seams, outside of the predominant Bulwer and Condamine seam working sections. The reworking of these minor plies has been captured in photographic records of interburden.</p> <p>The coal resources at Taroom are also known to extend beyond MDL158 and MDL275, however, resource estimates have been limited to MDL158 and MDL275.</p>
Diagrams	<p>Drill hole location plan for holes used in the 2019 Taroom model is attached in Appendix 1 with representative cross sections in Appendix 2. JORC polygons for the main BM and CM seam groups are in Appendix 3.</p>
Balanced reporting	<p>Results from the NHG 2018-2019 drill program and subsequent tar_dec19_hm1 model are appropriately reported within NHG internal report '<i>Taroom Project Geological Model Report & Resource Estimates</i>' completed in May 2020. The report has been externally audited and endorsed by the auditor as comprehensive, compliant and unambiguous. Due to rounding, resource estimate figures within the report may appear slightly different to those released externally.</p>
Other substantive exploration data	<p>Regional 2D seismic line data exists for the Taroom project area. This has not been specifically utilised in the generation of the geological model or in resource estimation due in part to the shallow nature of the resource, however it has confirmed the shallow dip of the geological sequence with no significant structural discontinuities.</p> <p>One of the continuously cored drill holes from the NHG 2018-2019 program was subject to detailed geotechnical logging and sampling for conceptual mine design purposes. Acid Mine Drainage (AMD) samples were also acquired from the recent campaign with studies continuing.</p>
Further work	<p>Several opportunities exist to further progress the development of the Taroom deposit:</p> <ul style="list-style-type: none"> ▪ Measured resources can be sought with further coal quality sampling and analysis. ▪ Additional coal resource may be present along the eastern and southern margins of the project which can be confirmed with further drilling. ▪ Additional open chip holes to the north will increase confidence in seam continuity over this area. ▪ Legacy coal quality data can be reviewed for potential data regression work into plies for future models. ▪ More detailed sizing and washability analysis from large diameter core program(s) is highly recommended to assist further CHPP design studies. ▪ Development of analytical procedures suitable for bypass coal studies. ▪ Limit of Oxidation (LOX) drilling, particularly within the initial mine plan area. ▪ Fault delineation drilling around potential faults identified within the initial mine plan area. ▪ Additional cores targeting the lower seams would improve resource confidence.



Section 3 Estimation and Reporting of Mineral Resources

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

Criteria	Commentary
<i>Database integrity</i>	<p>The geological database used to construct the geological model is contained within Datamine's MineScape GDB module which contains rigorous data validation processes upon data loading to restrict invalid data entry.</p> <p>New drilling data added to the 2019 Taroom Model was obtained by New Hope Exploration from 30th July 2018 to 23rd June 2019, for which the drilling campaign included twenty-seven (27) continuously cored 100mm diameter core holes, with the exception of unconsolidated sub-surface material. In addition, two (2) water monitoring bores were drilled during this campaign.</p> <p>All new data has been validated and loaded to GDB for the project with checks for collar, collar survey, lithology, base of weathering logged, geophysical data loaded, coal quality information and additional tables such as geotechnical and geochemistry data. Additionally, a full database rebuild and data-recoding to Coal Log v2.1 has occurred. All legacy data has been validated, with 129 legacy boreholes corrected to geophysics, a large volume of coal quality data encoded and additional data loading including geophysical traces.</p>
<i>Site visits</i>	<p>The Competent Person for NHG has visited the Taroom deposit during the 2018-2019 exploration campaigns. NHE staff were on site throughout the recent exploration programs.</p>
<i>Geological interpretation</i>	<p>The regional structure is relatively homogenous and only one definitive fault was derived from the current data spacing for inclusion in this model. The deposit has shallow dips of 1-3 degrees to the south west.</p> <p>No intrusive or surface volcanics are known to have been identified during the exploration of MDL158 and MDL275.</p> <p>A rigorous seam re-correlation exercise was completed during 2019; coal seams were re-correlated across the deposit, resulting in a high level of geological confidence. Minor thinner plies (not currently of economic interest) tend to lens in and out, however the main Bulwer and Condamine seam packages are reliable. Coal seam/plies were renamed in alignment with regional coal measure nomenclature.</p>
<i>Dimensions</i>	<p>MDL158 and MDL275, which encompasses the Taroom deposit, has maximum dimensions of approximately 9km long and 10km wide, covering an area of approximately 5,875 hectares.</p> <p>The coal resources at Taroom are also known to extend past the mining tenure, however resource estimates have been limited to the within tenure held by New Hope Group.</p> <p>The coal resources primarily occur within the B and C seam groups.</p> <p>The upper seams in the sequence sub-crop in the east, resulting in complex LOX line geometry.</p> <p>The Taroom Coal Measures have a total vertical interval thickness of approximately 80m, from the A seam down to the C seam group.</p> <p>Depth of weathering ranges from 5 to 25 metres and averages 10-15 metres.</p>
<i>Estimation and modelling techniques</i>	<p>The model utilised for the estimation of coal resources was generated by NHG Resource Geologist and a consultant from Measured Group during December 2019 (tar_dec19_hm1) using MineScape software. The accompanying Coal Quality model was finalised in February 2020 once all analytical results became available.</p> <p>The tar_dec19_hm1 model updates and supersedes the previous 2015 model and forms the basis for the current reported Coal Resource estimates. The geological model is comprised of MineScape table and grid models as well as surfaces and incorporates all suitable structural and coal quality data available as at February 2020, with key changes based on the following areas:</p> <ul style="list-style-type: none"> ▪ Updated topographic dataset acquired by New Hope Group (NHG) in 2017. ▪ Exploration drilling carried out by NHG during 2018-2019. ▪ Results from a large re-correlation exercise undertaken by Geomine and overseen by NHG Resource Geologists. ▪ New Washability and coal quality raw/product information from the 2018-2019



Criteria	Commentary
	<p>program.</p> <p>Borehole data was accessed directly from the MineScape GDB database. Only holes drilled in 2018-2019 by NHE were utilised in this coal quality model, as holes were sampled as individual plies and have had reliable laboratory analysis conducted, including washability. The coal quality data for modelling includes coal types R, representing raw coal quality and T representing thermal product coal quality. For washability, cumulative Ash and Yield was modelled for each float cut-point relevant to the 2018-2019 laboratory test regime. Legacy coal quality data was reviewed and excluded on the basis that samples were taken in working sections as opposed to the required ply level. If suitable, these legacy drill holes were utilised for the stratigraphic/structure model.</p> <p>The Topography was modelled from data derived in 2017 through LiDAR survey with the following grid specifications;</p> <ul style="list-style-type: none"> ▪ Grid cell size 10 x 10m. ▪ Origin 778501 (x) and 7148616 (y). ▪ Rows in grid 1056, columns in grid 1132. ▪ Grid length 10.55km, width 11.31km with extents outside the boundaries of MDL158 and MDL275. <p>Grid specifications for the stratigraphic and coal quality models are as follows;</p> <ul style="list-style-type: none"> ▪ Grid cell size 50 x 50m. ▪ Origin 777277.285 (x) and 7147411.203 (y). ▪ Rows in grid 263, columns in grid 280. ▪ Grid length 13.1km, width 13.95km with extents outside the boundaries of MDL158 and MDL275. ▪ FEM interpolator (structure model) ▪ Inverse Distance, power 2, 3km search radius (coal quality model) <p>The stratigraphic model is defined by three (3) sequences:</p> <ul style="list-style-type: none"> ▪ Topographic sequence (non-conformable). ▪ Weathered sequence (conformable, trending with topography). ▪ Fresh sequence (conformable). <p>The seam intervals have been modelled as individual plies using the 'pinch' method, where intervals are pinched out halfway between drill holes where they exist and those where they do not. Due to the lensing nature of the coal plies, the 'pinch' method was deemed most suitable for the style of deposit.</p> <p>Resources were estimated using the MineScape Reserves -> Sample -> Polygon feature using limiting criteria outlined in section '<i>Cut-off parameters</i>' below. The data was output to excel for in-situ tonnage calculations using the Preston-Sanders formula.</p>
Moisture	<p>An in-situ Moisture (Mis) value of 12.8% was used in resource tonnage estimates. This was derived from a previous Pre-feasibility study which used the formula from ACARP report C10041 (2003): $Mis = 2.2168 + 1.3335 \times Mad$</p> <p>An average Mad of 7.9% was used in the above formula. Mad data from the recent NHG drill program was compared against this and found to be similar (7.3%).</p>
Cut-off parameters	<p>Coal Resources are limited to the following constraints:</p> <ul style="list-style-type: none"> ▪ Tenure boundaries MDL158 and MDL275. ▪ Priority Living Area (PLA) buffer around Taroom township. ▪ 100m buffer line east of Juandah Creek. ▪ Coal seam interval thickness is greater than 0.1m thick ▪ Raw ash is less than 50%. ▪ The CL seam group is further constrained by a 100m buffer around the economic margin, with areas outside this constrained to the basal seam of the CM seam group.
Mining factors or assumptions	<p>The Taroom Project is planned to be an open-cut, thin seam mining operation within the Surat Basin. It is well located relative to existing key infrastructure and the planned Surat Basin Rail line, which will provide a rail link to the coal ports at Gladstone.</p> <p>Results from a recent North Surat Project Pre-feasibility Study, incorporating the Taroom deposit, demonstrate that a viable mine plan is possible for the Taroom deposit.</p>



Criteria	Commentary
	<p>After a comparative evaluation of several mining alternatives, a preferred mine plan incorporates the following features:</p> <ul style="list-style-type: none"> ▪ Use of conventional strike line stripping operation with nominal 60m strip widths ▪ Use of large carry dozers ▪ Relocation of Back creek to the north-east in the early years of mine operation ▪ Relocation of the Leichardt Highway to the east of the tenement. <p>New Hope Group have demonstrated success in mining within thin seam open cut coal deposits, having operated the thin seam operation at New Acland mine since it was commissioned in 2002, along with a long history of mining similar deposits in the West Moreton district.</p>
Metallurgical factors or assumptions	<p>The recent North Surat Project Pre-feasibility Study proposes that the Taroom deposit will have a dedicated Coal Handling and Preparation Plant (CHPP) with two modules incorporating 600tph Dense Medium Cyclone (DMC), Reflux Classifier (RC) plus spirals with associated dewatering equipment designed to maximise the removal of high-ash slimes from the product. The selection of a DMC to beneficiate the -50 + 1.4mmw/w coal, RCs to process the -1.4mm w/w + 0.5mm and spirals treating -0.5 + 0.1mm, with -0.1 + 0mm discarded to tailings is considered to be a metallurgically robust design.</p>
Environmental factors or assumptions	<p>No limiting environmental factors are applied to the coal resources at Taroom.</p> <p>Land use within the Taroom Project area is predominantly grazing, with much of the region having been cleared for previous agricultural and pastoral activities by landholders.</p> <p>A large portion of the land over the Taroom deposit incorporates government trigger maps highlighting potential for SCA, which will need to be addressed in an Environmental Impact Statement (EIS).</p> <p>Mapping has identified most of the site as being non-remnant vegetation, with small areas of Endangered Regional Ecosystem (ERE) present, with some areas classified as 'Of Concern' and some 'Of Least Concern'.</p> <p>There currently exists an Indigenous Land Use Agreement (ILUA) with the Iman People #2 as the Native Title claimant over the area at the Taroom project. Native Title is not expected to be an issue for the Taroom Project.</p>
Bulk Density	<p>Resource tonnage estimates were derived from in-situ volumes multiplied by in-situ Relative Density (RDis). Relative Density results obtained from the laboratory are reported on an air-dried basis.</p> <p>RDis was derived using Preston-Sanders equation using air dried Relative Density (RDad):</p> $RDis = RDad(100-Mad)/((100-Mis)+RDad(Mis-Mad))$ <p>Where: RDis = in situ Relative Density RDad = air dried Relative Density Mis = in situ Moisture Mad = air dried Moisture</p> <p>RDad is exported as a variable value during the estimation process (i.e. averages per seam interval, per lease, per resource category) and the Preston-Sanders equation is used in the exported spreadsheet, using a constant Mis value of 12.8%, to determine RDis.</p>
Classification	<p>In support of drill hole spacing analysis, the following Resource classification was applied for polygon radii:</p> <p>Measured – 300m Indicated – 650m Inferred – 1500m</p> <p>Each Point of Observation is based on a cored hole with the following criteria met:</p> <ul style="list-style-type: none"> ▪ Cored hole with raw coal quality (raw ash and RD minimum) ▪ >95% core recovery for the seam group ▪ Downhole wireline geophysics (density, gamma & caliper) ▪ Collar survey <p>Confidence to predict seam continuity, thickness and coal quality was taken into consideration when positioning resource category limits. Geostatistical analysis, of</p>



Criteria	Commentary
	<p>thickness and raw ash generally support the classification criteria with findings supported by the Competent Person's view of the deposit.</p>
<p>Audits or reviews</p>	<p>A comprehensive data audit was completed in 2015 by a third party, database specialist and a model audit was also completed at this time by a third party, modelling specialist. Audit and data validation documentation was prepared by NHG Resource Geologist with assistance from Geomine prior to the 2019 geological model production. The database underwent a robust review to correct errors identified in 2015 prior to model generation.</p> <p>The data was subjected to a series of comprehensive validation and seam/ply correlation process resulting in a large number of corrections to interval depths, thicknesses, as well as edits to seam naming. All legacy data was validated with 129 legacy boreholes corrected to geophysics, a large volume of coal quality data encoded and additional data loading including geophysical traces.</p> <p>All new data underwent validation prior to loading into GDB. Additionally, a full database rebuild and data-recoding to Coal Log v2.1 occurred.</p> <p>An external audit of the model and resource estimation has been completed by JB Mining Services (JBMS) in May 2020, with no deleterious findings and endorsement of reporting of Coal Resources in accordance with the JORC Code 2012.</p>
<p>Discussion of relative accuracy/confidence</p>	<p>The continuously cored 2018-2019 NHG drill program enabled reviewing geologists to gain increased understanding of the sedimentary nature and influences of deposition of the Taroom Coal Measures in the area. Therefore, the deposit is well understood in relation to the geological setting.</p> <p>Drill holes are spaced closely enough for coal seam continuity and quality to justify Indicated and Inferred Resources status.</p> <p>Individual coal ply sub-crop locations are approximate and limited lox drilling has taken place, particularly to the North where the majority are expected to sub-crop. Additional drilling will be required to confirm if shallow mining in these areas are to take place.</p> <p>Minor faults with small throws may exist throughout the deposit, in addition to what has been included in the model.</p> <p>The MineScape 'pinch' model method is known to be conservative over other methods such as the 'zero' method, so it is possible that more coal exists than what has been modelled. Though, given the nature of the Walloon Coal Measures, the 'pinch' method has been deemed suitable by the estimator for this deposit.</p> <p>In general, supporting structural information (i.e. valid drill holes) is at a spacing of less than 350m, however in the northern part of MDL158, a small portion of Coal Resource has been classified as Indicated. The drill hole spacing in this area may be too sparse for seam continuity to justify the classification. On further investigation this was found to affect the BL and CM seam groups only, which make up 1.5% of the total Indicated Resource over the project, this is considered to be within the error of the estimate.</p> <p>Overall, in a broad sense, there is a high level of confidence in the lateral continuity of all the major coal seams in their respective resource areas to justify Indicated and Inferred Resource status.</p>



Section 4 Estimation and Reporting of Ore Reserves

Criteria	Commentary									
<p>Mineral Resource estimate for conversion to Ore Reserves</p>	<p>The Coal Resource estimate for the Taroom project used as a basis for the conversion to a Coal Reserve was derived from the 2019 geological model. The project is a Greenfield project in the Surat Basin. The 2019 geological model was updated with stratigraphy and washability information collected from an exploration campaign completed over the 2018/19 period. The 2019 geological model included sufficient data to support a washability quality model which is the basis of the Marketable Coal Reserve estimate for Taroom.</p> <p>The Taroom Reserves have been developed based on categorising the resource as Measured, Indicated or Inferred on a seam group basis, (i.e. A, BU, BM, BL, CU, CM, CL seam groups). This resource categorisation is identified within the MineScope quality model as the value 'rcat', with a value of;</p> <ul style="list-style-type: none"> 1 – Inferred coal resources 2 – Indicated coal resources 3 – Measured coal resources <p>The Coal Resources were then converted to Coal Reserves based on the following methodology;</p> <table border="0" style="margin-left: 40px;"> <tr> <td>Inferred Resource</td> <td>=</td> <td>No Reserves</td> </tr> <tr> <td>Indicated Resource</td> <td>=</td> <td>Probable Reserve</td> </tr> <tr> <td>Measured Resource</td> <td>=</td> <td>Proved Reserve</td> </tr> </table> <p>Volumes and coal qualities including washability were reserved in the MineScope modelling package and imported into XPAC where the mining modifying factors have been applied to develop recoverable and marketable reserves. The relevant XPAC scripts have then been run over the model to produce the Reserve estimation.</p> <p>The reported JORC Resources for Taroom are inclusive of the coal Reserves.</p>	Inferred Resource	=	No Reserves	Indicated Resource	=	Probable Reserve	Measured Resource	=	Proved Reserve
Inferred Resource	=	No Reserves								
Indicated Resource	=	Probable Reserve								
Measured Resource	=	Proved Reserve								
<p>Site visits</p>	<p>A site visit by the Competent Person (CP) to the Taroom Project area was undertaken in April 2017. The site visit also included the broader regional area of the North Surat Project, including visiting the local nearby town of Taroom that will be impacted heavily by the mining project.</p> <p>This site visit allowed the CP to understand the project topography, existing land uses to aid in rehabilitation planning and the existing creek that will need permanent relocation.</p>									
<p>Study status</p>	<p>The JORC code 2012 (clause 39) outlines the definition of a Pre-Feasibility Study (PFS) and how this is a minimum requirement for converting a Coal Resource estimate to a Coal Reserve estimate.</p> <p>The Taroom project was compiled with other Surat Basin assets owned by New Hope Group, into a larger project Pre-Feasibility Study known internally as the North Surat Project (NSP). Within this study, which consisted of four separate mining projects, each operation was assessed individually for its financial viability. This North Surat Project PFS was undertaken between 2017 and 2019 and the completion of this study is adequate to meet the JORC Code criteria for converting the Taroom Resource to a Coal Reserve.</p> <p>The PFS mine plan was developed by an external third-party consultancy with input from New Hope Group. Reasonable assumptions were used to develop modifying factors suitable for the style of open pit thermal coal resource. These modifying factors were used to convert the in-situ resource into a mining working section model for mine scheduling. As an options study, various mining methods and equipment selections were tested through the PFS, with financial modelling being used to evaluate the results over the Life of Mine (LOM) plans. The preferred optimal mine plan is supported by the best positive financial result. The revenue and cost assumptions used in the financial model were reasonable and appropriate for the style of mining and processing at Taroom. The financial modelling undertaken was completed in the PFS in a New Hope Group internal financial model.</p>									
<p>Cut-off parameters</p>	<p>The basis of the cut-off grade for the Taroom deposit was a margin rank completed over the project Run of Mine (ROM) working section model built inclusive of modifying factors as discussed further in this Table 1 report. A cash margin of AU\$5/t was adopted as the Reserve cut-off. The cost and revenue assumptions used were appropriate and reasonable</p>									



Criteria	Commentary																		
	<p>for this style of mining project. The costs used in the margin ranking were inclusive of capital depreciation and state government royalties.</p> <p>The margin ranking exercise was conducted both laterally and vertically through the stratigraphy. The Taroom deposit consists of multiple thin seams and working sections and a pit floor optimisation exercise was undertaken across the deposit on 100m x 100m individual reserve blocks. This determined the optimum pit floor horizon for each mining block by maximising the cumulative cash margin and then laterally a margin cut-off was applied to define the JORC Reserve limits of the pit shell. This work was undertaken in the Taroom XPAC working section model.</p> <p>Other cut-off parameters applied to the Taroom reserve as shown in Figure 2 include:</p> <ul style="list-style-type: none"> ▪ a 50m offset from the tenure boundary to the pit crest and a 45-degree batter down to the pit floor. The Mine Infrastructure Area (MIA) designed in the PFS is used as a Reserve cut-off. ▪ Juandah Creek in the West of the deposit is a significant drainage tributary and will not be mined through. A standoff of 100m from the creek bank has been identified as a pit crest limit with a 45-degree batter to the pit floor as the Reserve limit along the Juandah Creek section of the deposit. Flooding impacts have been addressed in the PFS and include measures such as flood protection levees along this creek line to protect the pit from inundation in flood events. ▪ The Taroom Priority Living Area (PLA) in the Northern section of the MDL has been identified as a Resource limit, with a 45-degree highwall batter applied to the pit floor to define the Reserve cut-off in this area. ▪ The Northern extent of the Back Creek permanent creek diversion is an environmental constraint on the project as the PFS identified this as an area of natural drainage path prior to exiting the mining lease. 																		
Mining factors or assumptions	<p>The Taroom Project is planned to be mined using an open cut mining method. The open cut mining method will be a combination of truck and excavator stripping and bulk dozer push of waste overburden and interburden. As the coal seams in the Taroom deposit are relatively thin, a coal mining method of dozer assist rip and stack will be utilised to rip and push up the coal to be mined into stockpiles on the mining bench. Front end loaders will then mine and load the coal into haul trucks to haul the coal to the Coal Handling and Preparation Plant for processing. Some thin interburden split out from the coal working sections will be handled the same way as the coal utilising the dozer assist rip and stack method. New Hope Group is experienced in this style of operations as this is the mining methodology at the New Acland Coal mine on the Darling Downs.</p> <p>A conservative 45-degree overall batter angle has been utilised as the geotechnical highwall and end wall batter angle for the Taroom project. A fully cored geotechnical hole was drilled in the deposit and investigated by a third-party consultant as part of the Taroom PFS. No concerns were raised from the findings of the geotechnical analysis from this geotech core hole with respect to highwall or pit floor instability.</p> <p>Several modifying factors have been utilised in order to create a working section ROM model from the in-situ geological model. As there is no existing mining operation at Taroom to reconcile the modifying parameters against, the CP is satisfied that the modifying factors adopted are valid for the style of mining project. These factors can be seen in the below Table.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr style="background-color: #d9ead3;"> <th>Description</th> <th>Unit</th> <th>Modifying Factor</th> </tr> </thead> <tbody> <tr> <td>Working section loss</td> <td>cm</td> <td>5</td> </tr> <tr> <td>Working section dilution</td> <td>cm</td> <td>5</td> </tr> <tr> <td>Dilution Relative Density</td> <td>g/cc (ad)</td> <td>2.42</td> </tr> <tr> <td>Dilution Raw Ash</td> <td>% (ad)</td> <td>80.0</td> </tr> <tr> <td>Minimum Mining Thickness</td> <td>m</td> <td>0.1</td> </tr> </tbody> </table> <p>Determination of Loss and Dilution:</p> <ul style="list-style-type: none"> • If the parting thickness of a particular seam is less than 10cm, then the seam is mined in a working section inclusive of the seam above it. And as such; 	Description	Unit	Modifying Factor	Working section loss	cm	5	Working section dilution	cm	5	Dilution Relative Density	g/cc (ad)	2.42	Dilution Raw Ash	% (ad)	80.0	Minimum Mining Thickness	m	0.1
Description	Unit	Modifying Factor																	
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Criteria	Commentary
	<ul style="list-style-type: none"> ▪ Dilution = parting volume ▪ Loss = no loss • If the coal thickness is less than 10cm and is not included with the seam above it then the seam is not recoverable <ul style="list-style-type: none"> ▪ Dilution = no dilution ▪ Loss = total coal volume • In all other occasions' coal loss and dilution is given as per the values as displayed in above and is applied to each working section. <p>The mining modifying factors were applied to the in-situ resources by way of an Xpac XCM script after the in-situ tonnages have been reserved within MineScape directly from the geological model. The dilution RD and raw ash quality parameters were determined from averages of dilution samples taken across the 27-core hole exploration program NHG undertook in 2018 and 2019.</p> <p>The mine plan and cashflow positive blocks for the Taroom project is made up of a combination of both Indicated and Inferred Resources. The total Inferred Resource included in the mining pit shell is 27Mt which is 12% of the total mining plan tonnes in the Taroom Project. The remaining 88% of tonnes in the mine plan are of Indicated Resource status.</p>
<p>Metallurgical factors or assumptions</p>	<p>The PFS for the Taroom project identified that the coal beneficiation at Taroom will be undertaken with a conventional DMC circuit for coarse coal and Reflux Classifier and spirals to treat the fines. This is trusted and reliable technology for thermal coal processing. As this is a Greenfield project, this infrastructure will be required to be built when the project becomes operational.</p> <p>The washability data used to determine wash plant yield is based primarily on laboratory float/sink washability data on samples that have not been pre-treated. Sample mass constraints due to the thin seam nature of the deposit, combined with cost implications of obtaining pre-treated data on the high number of samples means laboratory float/sink has been used as the basis for estimating product yield. There is no current operational data to reconcile against, so an analysis has been undertaken to determine the CHPP efficiency likely to be achieved by comparing this lab float/sink data with pre-treated and simulated samples. There are five historical large core diameter boreholes drilled on the project by the previous tenure owner which were subjected to a drop shatter and sizing pre-treatment program and washability analysis. This data was simulated by a NHG Principle Process Engineer on a sample basis without dilution to give an understanding of the simulated processing results from pre-treated coal samples to produce a 10.5% ash product.</p> <p>The plan is to produce a single thermal coal product. As further detail is obtained on the coal washability in the future this assumption may be changed. All of the samples from the 27 core holes drilled in the 2018/19 Taroom exploration program were crushed and sized to -11.2mm +0.125mm and float/sunk at varying density cut points to produce ash and yield results. For the purposes of generating a CHPP efficiency regression for a JORC Reserve, this laboratory washability data was compared with the simulated pre-treated data from historic large diameter cores. Raw Ash (%ad) regressions were generated from both the available data points for laboratory washability data and the simulated pre-treated data. The ratio of these two regressions were used to define the estimated CHPP efficiency factor and can be expressed as follows:</p> <p>CHPP efficiency = Simulated pre-treated data regression / crushed float/sink regression = (-2.1125*raw ash+121.13)/(-2.0215*raw ash+124.53)</p> <p>The density cut point used in the Taroom Reserve model is 1.55 g/cc to determine the product ash and yield for the coal portion of the product stream. The CHPP efficiency factor is applied to the recovered coal on the modelled laboratory float/sink values.</p> <p>The waste dilution portion of the product stream was also subject to a pre-treatment program and washability analysis to produce a product ash and yield of the dilution material at Taroom. These dilution samples were taken in the 2018/19 exploration program at Taroom. The following quality and washability results are a weight average of the sample results from the dilution testing program for the Taroom project:</p>



Criteria	Commentary		
	Description	Unit	Result
	Dilution Raw Ash	% (ad)	80.0
	Dilution Product Ash	% (ad)	17.8
	Dilution Product Yield	%	2.2
	<p>The above dilution parameters were applied to the dilution portion of the product stream in the generation of Marketable Reserves.</p> <p>To determine energy of the product coal on a GAR basis, the energy was determined based on a linear regression relative to product ash on a dry basis and then adjusted for a GAR moisture basis.</p>		
Environmental	<p>The Taroom Project is currently an MDL tenure and not an approved Mining Lease. No Environmental Impact Statement (EIS) has been completed for the project. The Taroom project will require an EIS for the project and also an associated product coal transport corridor to link into the Surat Basin Rail (SBR) State Development Area Corridor. The Taroom Project will also require a Mining Lease and Environmental Authority (EA) for both the project and the transport corridor. The Taroom Project will be required to address any objections raised at the local, state and federal level against this project in the future when in the public comment period.</p> <p>New Hope Group already owns some freehold land titles within the Taroom project area, however more land parcels impacted by the mining project and its transport corridor will need to be either purchased outright or settled through compensation agreements with the title owner.</p> <p>There currently exists an Indigenous Land Use Agreement (ILUA) with the Iman People #2 as the Native Title claimant over the area at the Taroom project. Native Title is not expected to be an issue for the Taroom Project.</p> <p>The Northern perimeter of the MDL tenure and mining limit lies within 3km of the Taroom town limits. The PFS mine schedule does not have this northern end of the project area being mined until halfway through the mine life – approximately year 10. It is however planned to dump waste material in an out of pit dump at the northern end of the Taroom project from the beginning of the mine project life. The noise impacts on sensitive receptors for this will need to be assessed and managed through the EIS for the project.</p> <p>Waste rock classification is underway but not yet been completed on the waste overburden, interburden and CHPP rejects material from the Taroom project. Samples have been collected from the 2018/19 exploration program and are undergoing geochemistry leach testing at the time of writing this JORC report.</p>		
Infrastructure	<p>The Taroom Project is a Greenfield mine project and there is no current infrastructure in place to support the operation. The PFS for this project investigated and designed to a PFS level of engineering detail the infrastructure required to support the Taroom project. The PFS also located the site infrastructure on the preferred location on the tenure boundary with respect to the coal resource.</p> <p>For onsite infrastructure the following is required to be constructed and is included in the capital expenditure in the project financial model;</p> <ul style="list-style-type: none"> ▪ Mine Infrastructure Area (MIA) ▪ Mine administration office ▪ Coal Handling and Preparation Plant (CHPP) ▪ Run of Mine (ROM) pad, crushing and sizing stations ▪ ROM coal haul road ▪ Product handling stockpiles and Train Load Out (TLO) ▪ Environmental Dams and Sediment Dams ▪ Raw water supply pipeline and Raw Water Dams ▪ Out of Pit Tailings Dams ▪ Significant permanent creek diversion of Back Creek ▪ Flood protection levee's from Juandah Creek ▪ Site access road ▪ Site electrical power reticulation <p>Significant offsite infrastructure to support the Taroom project is also required to be constructed and was designed and located in the preferred locations in the PFS. This offsite</p>		



Criteria	Commentary
	<p>infrastructure was included in the capital expenditure in the project financial model. This includes the following;</p> <ul style="list-style-type: none"> ▪ 190km of Surat Basin Rail (SBR) – costed in the financial model as third party funded construction and Taroom Project pays a \$/t below rail user tariff for capital recovery costs including investment return. This connects the Taroom project coal logistics network into the Moura rail line system and into the existing Port of Gladstone coal export terminals. ▪ 30km private rail spur and balloon loop connecting Taroom Project site to the SBR ▪ Significant permanent relocation of existing 11km section of state-controlled Leichhardt Highway to an offsite 18km diversion. ▪ Nathan Dam construction on Dawson River - costed in the financial model as third party funded construction and Taroom Project pays a capital recovery cost as a bulk water supply usage tariff. ▪ Raw water supply pipeline to site from existing Woolleebee pipeline – 27.5km pipeline. ▪ Approximately 100km of 132kV HV power supply transmission line from existing Wandoan South substation. 50km of this is to be shared with other NHG projects in the area. ▪ Temporary construction accommodation camp, permanent accommodation village for transient workforce and permanent housing accommodation in Taroom town. <p>Taroom town service upgrades to support population increase.</p>
<p>Costs</p>	<p>The Taroom Project has a set of revenue and cost assumptions that were applied within a margin ranking analysis that defines the economic cut-off limits for the project and thereby defining the extent of the JORC Reserves. The margin ranking analysis was applied to the mining model to update the positive margin coal included within the most recent geological model. The JORC Reserves is also backed by a detailed financial model developed as part of the PFS which was derived from a first principles analysis.</p> <p>The Taroom project is a Greenfield project requiring significant capital infrastructure to be built to support the mining operation and its product logistics. The infrastructure was designed externally by WSP Consultants to a class 4 level engineering design and cost estimated by an independent third-party estimator. There is significant capital cost incurred for onsite and offsite infrastructure and this cost is depreciated over the total project product tonnes as per the PFS.</p> <p>Mining equipment capital costs were estimated from an internal NHG equipment capital cost database. This mining equipment capital cost was divided by the total volume mined over the LOM and added to the cash unit costs as the basis for an input into the margin ranking analysis.</p> <p>The unit operating costs were derived from the project PFS. These operating costs were built up from a first principles analysis based on equipment and roster selection to suit the PFS mine plan. Site administration support, staff labour and progressive rehabilitation of mined land was also included in the site operating cost build up. Offsite logistics costs for road transport, rail and port costs were sourced from independent third-party consultants based on first principles analysis. Offsite marketing and corporate support as well as Queensland State Government legislated coal royalties as a function of revenue pricing were included in the project operating costs.</p> <p>These costs benchmark closely to existing NHG operations in similar style open cut thermal coal deposits mined by NHG in Southern Queensland. This benchmarking exercise gives the CP an adequate level of confidence in the operating cost assumptions used in the Taroom margin ranking analysis.</p>
<p>Revenue factors</p>	<p>The revenue and exchange rate long term forecasts used in the margin ranking analysis for the Taroom project were derived from an internal New Hope Group long-term thermal coal price forecast. This NHG long term forecast is derived from a variety of industry analyst price forecasts. The average price over the Life of Mine period of the project being 2025 to 2047 in real terms was used in the margin ranking exercise for Taroom.</p> <p>The coal price forecast was based on the Newcastle benchmark thermal coal 6000kcal/kg NAR index price and energy adjusted based on the Taroom product energy values. No other penalties or discounts were applied to the coal price.</p>
<p>Market assessment</p>	<p>The Taroom project addressed in the PFS the marketability of a new Surat brand of coal into the seaborne thermal coal market. It is believed that there will be sufficient demand in</p>



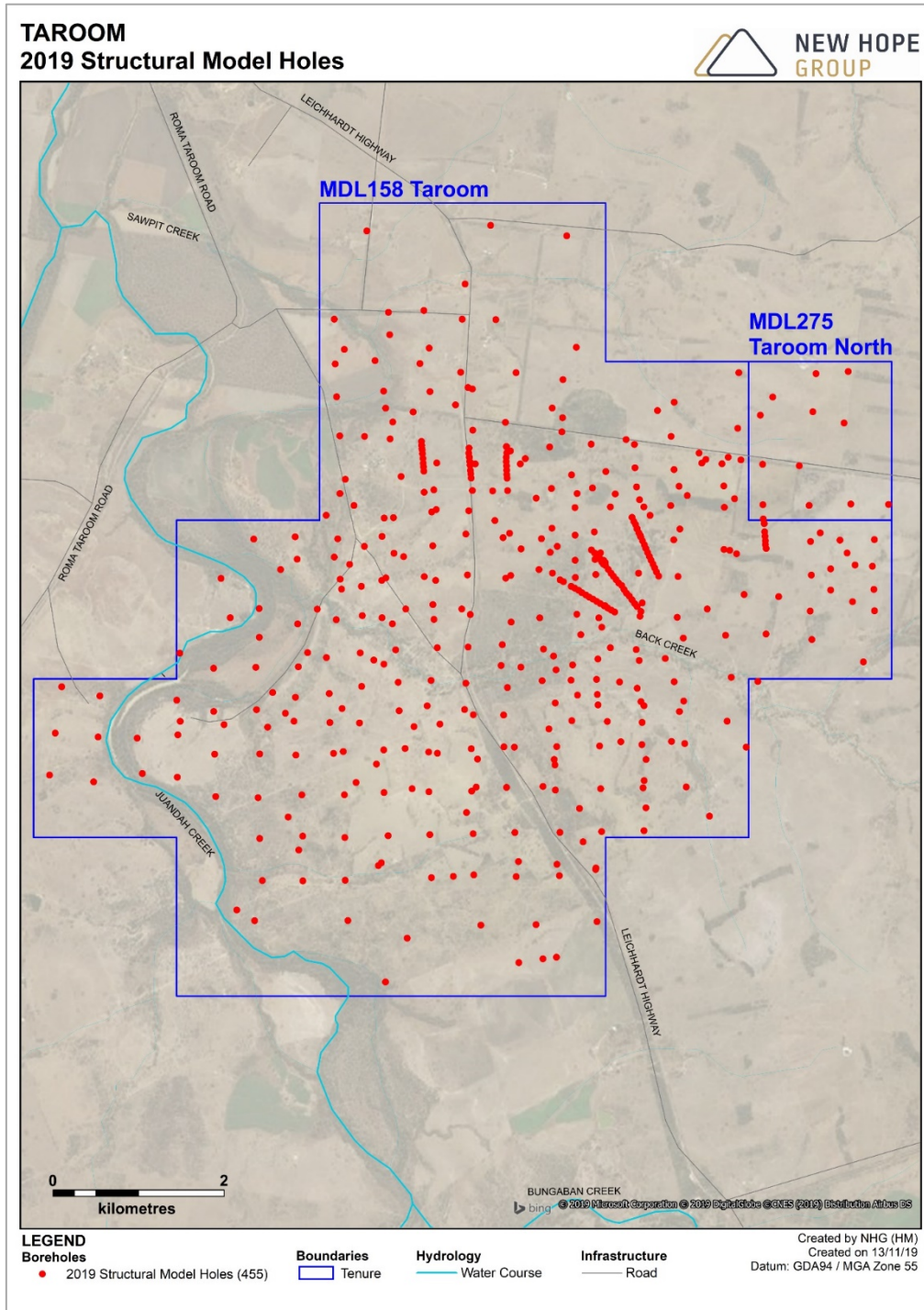
Criteria	Commentary
	<p>the seaborne thermal coal market, especially through South East Asia to incentivise the development of a new coal basin by the mid to late 2020's.</p> <p>The Taroom project will need to secure new large volume thermal coal market contracts with this coal. The Taroom product coal will be a high energy coal benchmarked against the Newcastle Index 6322kcal/kg GAR thermal coal.</p> <p>A known coal quality issue with Taroom is the low HGI (average 37) meaning it is a harder coal to mill for the customer. This is offset with other advantageous coal qualities such as comparably low CO₂ and NO_x emissions and low sulphur, which enable the Taroom coal to be sold as a high-quality blend coal to improve lower quality coals such as Indonesian coals sold into Asia. A full marketing assessment and strategy is addressed in the North Surat Project PFS.</p>
Economic	<p>A full economic analysis of the Taroom Project was undertaken within the North Surat Project PFS. As this was an options study, various mining options and strategies were tested within the PFS. The preferred mining strategy from the economic analysis delivered a positive financial result adequate to support a positive Net Present Value (NPV) for the Taroom project.</p> <p>It is the Competent Persons view that this analysis provides a solid projection of the economic viability of the Reserve at Taroom. The details of the internally generated economic evaluation are commercially sensitive and are not disclosed in this Table.</p>
Social	<p>New Hope Group has a long history of operating coal mines in Queensland and has made a significant positive contribution to the communities surrounding its operations – namely Ipswich and the Darling Downs communities. New Hope Group places a considerable level of effort to positively influence any matters in relation to its social licence to operate.</p> <p>This is planned to continue within the local Taroom community through sponsorship of local organisations and the formation of the Community Reference Group. As the project is in its infancy and not yet been through the mining approvals journey, significant effort will be required to establish a new social license to operate a new Greenfield coal mine in the Surat Basin. NHG owns a main street property in Taroom which is envisaged to be the community office in the future when the Environmental Impact Statement (EIS) and public objections period commences. This will be the conduit that NHG uses to manage its community expectations and social license to operate.</p> <p>Some key items that will require particular attention will be the following:</p> <ul style="list-style-type: none"> ▪ New housing and permanent accommodation village in Taroom town ▪ Proximity of Northern mine boundary to town of Taroom and operating around sensitive receptors ▪ Relocation of Leichhardt Highway ▪ Permanent creek diversion of Back Creek <p>The North Surat Project is likely to make substantial long-term contributions to community wellbeing at the local, regional and State level. However, the NSP as a whole (inclusive of the Taroom project), including the infrastructure corridors has the potential for significant social impacts for local communities, Councils and service providers that will need to be properly managed. The development of this coal basin within the vicinity of the current regional towns will need to ensure local employment targets are developed and strategies created to ensure they are achieved. The strategies implemented will need to also take into consideration the benefits to local businesses, the impacts on social infrastructure, as well as housing and accommodation requirements as significant increases in populations are seen in the surrounding towns. A Social Impact Assessment is to be conducted as the Taroom project progresses closer to development.</p>
Other	<p>A project risk register was developed for Taroom as part of the PFS.</p> <p>A risk to the Taroom Reserve is that the project has not yet been assessed against the State government statutory approvals process. The project is currently a Mineral Development Licence tenure status, with no Mining Lease or associated Environmental Authority granted.</p> <p>Impacted landholder consents are not completed within the entirety of the tenure bounds and this will be required prior to award of any Mining Lease.</p>
Classification	<p>The Taroom deposit contains Indicated and Inferred Coal Resources in the 2019 Taroom geological model. There are currently no Measured Resources. The Resources are categorised within the quality variable 'RCAT' within the geological model. This variable is</p>



Criteria	Commentary
	<p>reserved as a quality and summarised in the XPAC ROM working section model. The cashflow positive mining blocks incurring a >\$5/t cash margin have been classified into Indicated and Inferred tonnages within the JORC mining blocks. The Indicated coal resources have been converted to a Probable coal Reserve. There are currently no Proved coal reserves in the Taroom project.</p> <p>The available coal washability data in the washability quality model enabled the production of a Probable Marketable Reserve to be reported as required by the JORC code for coal Reserves. There are no Proved Marketable Reserves.</p> <p>This result appropriately reflects the Competent Persons' view of the Taroom deposit.</p>
Audits or reviews	<p>There have been no external audits/reviews of the Taroom project Coal Reserves estimate. Audits relating to the process used to develop Reserve Estimates and the reporting of these Reserves have been completed. The results state that the process and level of reporting is adequate.</p>
Discussion of relative accuracy/ confidence	<p>For the purposes of developing this JORC Coal Reserve estimate, it is the Competent Persons' view that the main factors which could influence the relative accuracy and confidence of this Reserve estimate are discussed as follows;</p> <ol style="list-style-type: none"> 1. The Taroom Reserve is based on sharing offsite logistics costs with other future greenfield operations in the Surat Basin. There needs to be >15Mtpa minimum railed from the Surat Basin to financially support the construction of the Surat Basin Rail infrastructure. Taroom is forecast to ramp up to 8.5Mtpa product coal, whereby logistics costs need to be shared with either other NHG North Surat Projects or competitors' projects in the Surat Basin. 2. The Taroom Reserve is based on a long-term coal price estimate, which forecasts a step change in seaborne thermal coal demand in the mid to late 2020's as per industry analyst advice outlined in the project PFS. This sustained step change in coal price is required to incentivise the opening of the Surat Basin to the export market. 3. The Northern area of the Taroom mining project may be impacted and the mine plan need to be modified once noise and dust modelling is undertaken through an EIS. It may not be possible to mine the reserve along the Northern tenure boundary due to environmental constraints from proximity to sensitive receptors. 4. Flooding impacts of Juandah Creek on neighbouring properties may require changes to the flood protection levee placement along this creek boundary and sterilise further Reserves along the Juandah Creek alignment. 5. The modifying factors used for Taroom are estimates only, appropriate for the style of the Resource. There is a moderate level of confidence in the factors used as New Hope Group operates similar style projects in the Darling Downs and West Moreton regions of South East Queensland. As Taroom is a Greenfield project, it is difficult to get a high level of confidence in the modifying factors used without being able to reconcile against actual production data. 6. There is a moderate level of confidence in the washability data collected from the 2018/19 exploration program based on crushed, -11.2mm +0.125mm size fraction and float/sunk in laboratory conditions. Whilst this is not representative of actual CHPP operation it was compared with large diameter borehole pre-treated washability data to create a CHPP efficiency regression which was applied to the Taroom laboratory washability data. The Taroom project requires additional large diameter boreholes across the deposit for pre-treated washability analysis on the separate size fractions. This data can then be simulated for CHPP operation and a unification process can be completed to pseudo pre-treat all crushed washability data. This will increase the level of confidence in the Taroom Marketable Reserve. The CHPP yield is a large driver for project revenue, which greatly impacts the project economic viability.



Appendix 1: Taroom Model holes





Appendix 2:

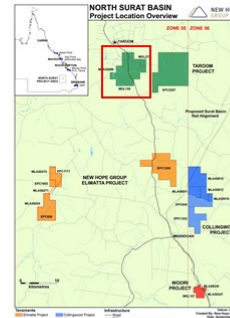
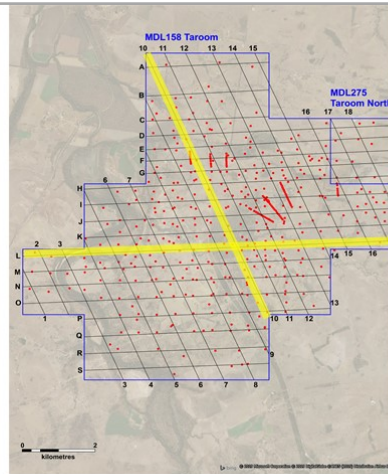
Taroom Representative Cross Sections

TAROOM DEPOSIT Representative Sections

The below sections are representative of the Taroom Deposit overall seam dip and continuation.

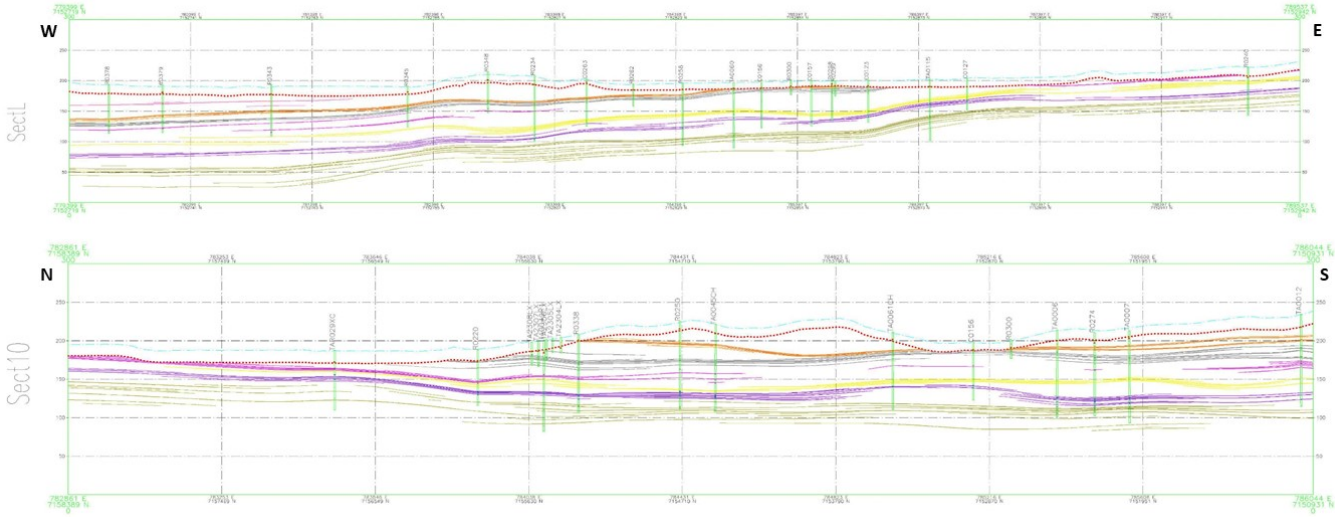
Seams dip to the south of the deposit and sub-crop to the north and east. Recent, deeper drilling has confirmed the Condamine seam extent.

Additional sections can be referenced in the Appendix.



Legend

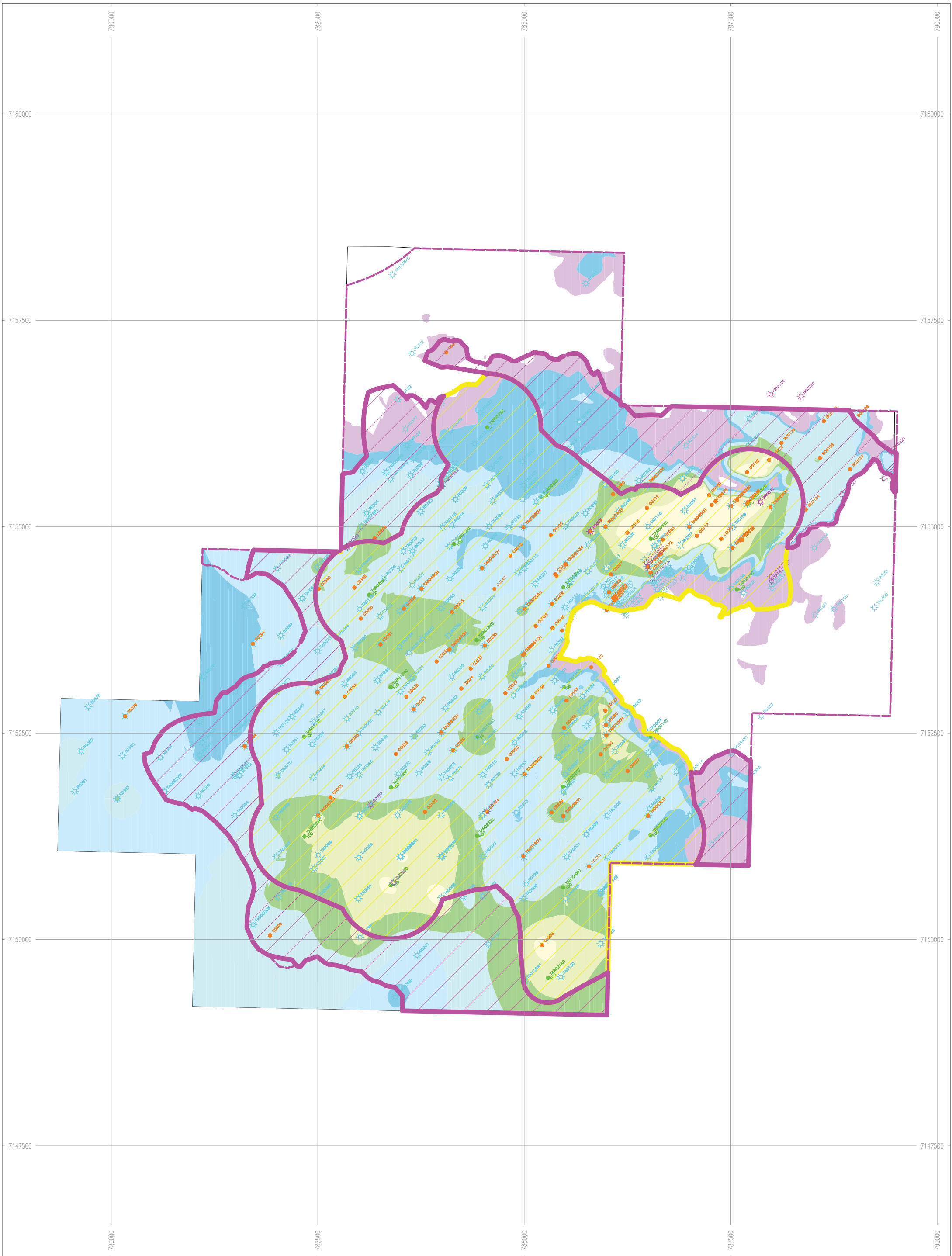
- TOPO
- BHWE
- A SEAM
- BU SEAM
- BM SEAM
- BL SEAM
- CU SEAM
- CM SEAM
- CL SEAM





Appendix 3:

Taroom JORC Polygons for BM and CM Seam Groups



LEGEND

- Hole/ore Recovery %
- Cored and Analysed Intersection of seam group, with wireline log
- Cored and Analysed Intersection of seam group, without wireline log
- Open Hole Intersection of seam group, with wireline log
- Cored intersection of seam group, Legacy Hole
- Open Hole Intersection of seam group, without wireline log

Thickness (m)

- <1
- 1-2
- 2-3
- 3-4
- 4-5
- 5-6
- 6-7
- 7-8

NOTES

- Yellow hatch = Indicated
- Magenta hatch = Inferred

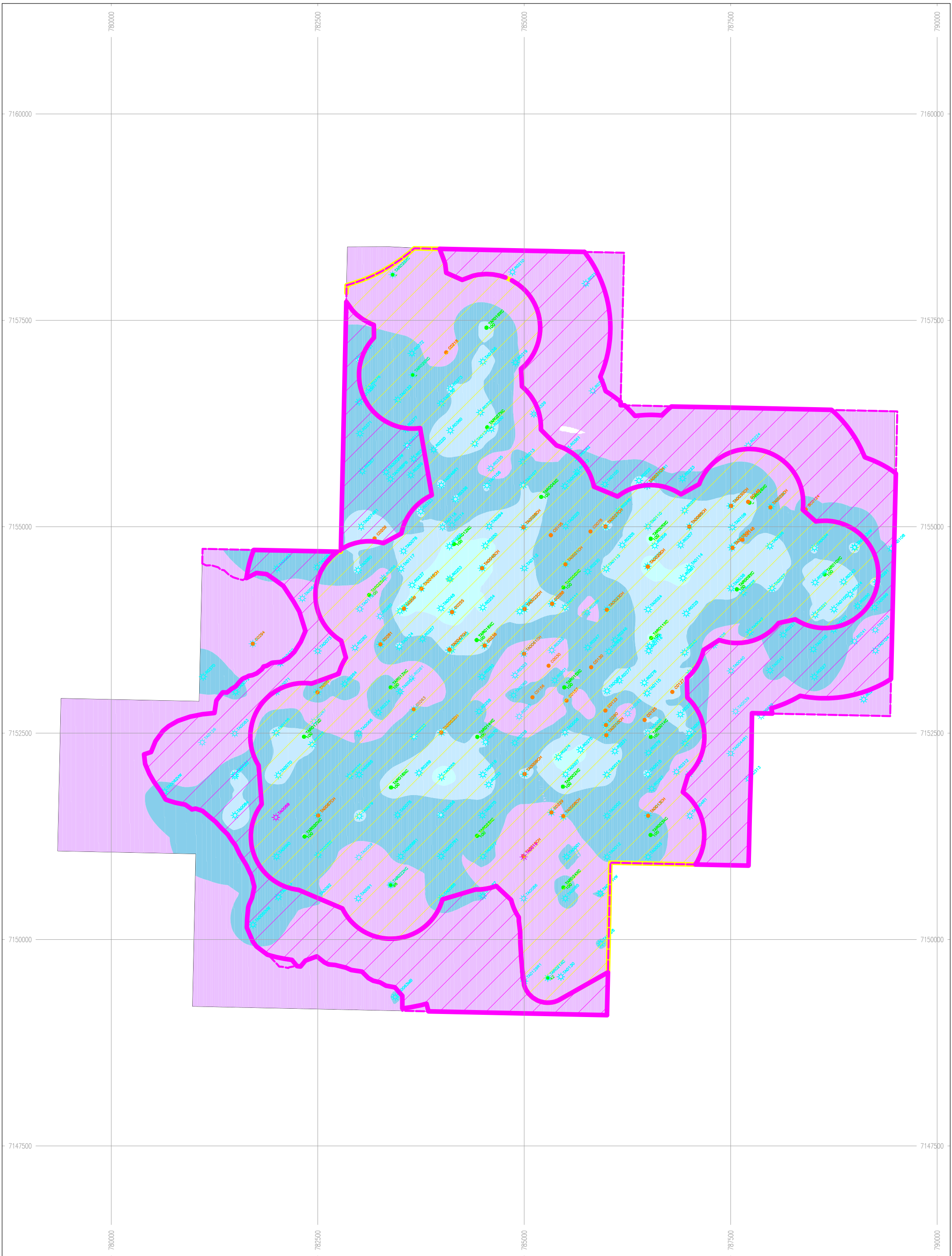


TAROOM PROJECT

**Points of Observation with Thickness
BM Seam Group FINAL**

Structure Model Date:	tar_dec19_hm1
Quality Model Date:	{DATE}
Quality Model:	Quality Model Date
Plot file:	Filename
Design File:	design file
Layer Name:	layer

Scale:	1:40000
Date:	23rd April, 2020
Drawn: HM	
Revision: Rev no	FigureFig no



LEGEND		Thickness (m)	NOTES
	Cored and Analysed Intersection of seam group, with wireline log	<1	Yellow hatch = Indicated
	Cored and Analysed Intersection of seam group, without wireline log	1-2	Magenta hatch = Inferred
	Open Hole Intersection of seam group, with wireline log	2-3	
	Cored Intersection of seam group, Legacy Hole	3-4	
	Open Hole Intersection of seam group, without wireline log	4-5	

		TAROOM PROJECT	
		Points of Observation with Thickness CM Seam Group FINAL	
Structure Model Date: tar_dec19_hm1	Quality Model Date: {DATE}	Scale: 1:40000	Date: 23rd April, 2020
Plot file: Filename	Design File: design file	Layer Name: layer	Drawn: HM
			Revision: Rev no
			Figure Fig no



Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections)

Criteria	Commentary
<p>Sampling techniques</p>	<p>New Hope Group (NHG) acquired the Woori exploration project from Joint Venture owners, Cockatoo Coal (Surat Coal Pty Ltd 51%) and Mitsui (49%). NHG acquired Cockatoo Coal's portion in late 2014 and subsequently acquired the remaining Mitsui ownership in 2015, taking NHG share to 100% ownership. All of the geological data for this project was transferred to NHG as part of this arrangement and as such, this portion of the database is considered 'legacy' data.</p> <p>Legacy drilling campaigns at Woori have taken on various forms, including chip drilling, core drilling for coal quality analysis. New Hope Exploration (NHE) drilled five coal quality core holes in 2019.</p> <p>NHE have a set of Field Operations Procedures which establish the minimum requirements for each exploration task, including the best practices for the collection of geological data for use in resource models. All staff are deemed competent by New Hope Group (NHG) and hold relevant qualifications and training competencies required to carry out these duties.</p> <p>Drilling campaigns at Woori have taken on various forms, including chip drilling; and core drilling for coal quality, and geotechnical analysis. When drilling chip holes, for every metre drilled, the drill cuttings (chips) are laid out in individual piles representing that metre for the geologist to describe in their lithology logs.</p> <p>Chip samples for both legacy and NHE exploration campaigns have been taken and lithologically described at 1m intervals. Core samples have been lithologically described in high detail.</p> <p>Metre markers on the mast of the drill rig assist the Drillers Offsider's in identifying where the sample interval boundaries are located. It is standard practice for the Drillers Offsider's to collect drill cuttings in a sieve, which gets emptied onto the ground so that the top of the pile is representative of the top of the metre sample. These lithologies and depths are later confirmed with geophysics.</p> <p>All core holes are logged and sampled directly from the core table in the field. The depths are measured using a tape measure per core run, with an understanding of the depth in the hole from Drillers measurements. Core recovery and loss is recorded and used to assist in depth correction to downhole geophysics.</p> <p>Standard coal quality core sampling parameters are defined to ensure consistency in sampling:</p> <ul style="list-style-type: none"> ▪ All coal in the drill hole is sampled, regardless of thickness; ▪ Any changes in coal brightness is sampled separately; ▪ All carbonaceous material in proximity to coal seams is sampled, regardless of thickness; ▪ All stone bands are sampled separately, regardless of thickness, except large interburden (>50cm) which is only sampled when required for geotechnical or dilution analysis; ▪ All lithology changes within the stone bands are sampled separately; ▪ If the coal in one run is continued in the next run they are split into two samples to ensure there is no risk in sample loss between core runs; ▪ Core loss in the middle of a sample is not allowed. Separate samples above and below core loss are taken, this is a very rare occurrence. ▪ Core photos were taken at 0.5m intervals, and these reflect sound drilling and handling techniques. ▪ The use of a tape measure for recording core run recoveries and for measuring sample intervals, also provides a useful reference for the photos. ▪ Based on review of available sampling and analytical data for Woori cores, coal quality core sampling procedures appear to have followed satisfactory rigor in terms of the sample depth, thickness and core recovery management. NHE analysis procedures are highly detailed and results are validated by both the laboratory and NHG on receipt.



Criteria	Commentary
	<p>Once the drilling of the hole is complete, downhole geophysical logging is carried out on all holes that intersect coal. As a minimum, dual density (long-spaced density & short-spaced density), gamma and caliper trace data are collected in each hole. In recent times, it has become standard to log all holes with the deviation tool. Sonic data is also acquired in some holes across the deposit. Where holes are drilled for geotechnical purposes, the acoustic scanner tool is also utilised.</p> <p>NHE own and operate their own fleet of geophysical logging trucks. All logging staff are appropriately licensed and hold relevant qualifications & training competencies to carry out the task and are deemed competent by NHG. Boreholes are logged immediately after drilling and data is readily available for geological interpretation.</p> <p>NHE have drilled a calibration hole at New Acland, which allows the logging truck operators to ensure the tools are appropriately depth calibrated. NHE have the ability to test the Dual Density tools against known density values (water tank & aluminium block). These tests are sent to DGRT Pty Ltd to verify against six known calibration curves developed by NHE, to ensure the tools are appropriately calibrated. The tools are adjusted if required.</p> <p>Geophysical tools are serviced annually by DGRT Pty Ltd at Acacia Ridge in Brisbane, QLD. There are four main geophysics tools used for logging coal exploration holes:</p> <ul style="list-style-type: none"> ▪ Auslog A605 Dual Density Tool: Sample interval 2cm; logging speed 4m/min; reading time 0.3sec. Density calibration is detailed above. Gamma is calibrated to a thorium source. Caliper is calibrated to readings of 50.8, 101.6, 152.4, 203.2 and 254mm using a standard gauge. NHE calibrate the caliper to point to point calibration, as opposed to a line of best fit. ▪ Auslog A605FR Dual Density Tool: Sample interval 0.05cm; logging speed 3.3m/min; reading time 0.3sec. Density calibration is detailed above. Gamma is calibrated to a thorium source. Caliper is calibrated to readings of 50.8, 101.6, 152.4, 203.2 and 254mm using a standard gauge. NHE calibrate the caliper to point to point calibration, as opposed to a line of best fit. ▪ Auslog A698 Deviation Tool: Sample interval 5cm; logging speed 6m/min; reading time 0.5sec. Factory calibration settings have been applied for this tool. ▪ Auslog A799 Full Wave Sonic tool: Sample interval 10cm; logging speed 4m/min; reading time 1.5sec. Factory calibration settings have been applied for this tool. <p>281 out of 321 holes in the geological database have geophysical data. A total of 28 holes have verticality data for the Woori project, though due to the lack of structural complexity in the deposit, deviation of boreholes is negligible, and it is not expected to have any material impact on coal resource estimates. Downhole resistivity and acoustic scanner logs were also collected during the 2019 drilling campaign.</p> <p>All major coal units have been sampled for analysis, although some minor coaly units have been excluded from analysis due to thickness being deemed below minimum mining thickness, and thus having insufficient mass for analysis. NHE sampling is based on individual lithology units, and ply samples are combined across individual seams to represent the mining intervals. Roof and floor samples (two 10cm samples of each, so 20cm in total for each roof and floor) have been taken.</p> <p>All coal quality samples are sent to ALS (ACIRL) at Richlands, Queensland, which is an accredited laboratory under the National Association of Testing Authorities (NATA). In compliance with NATA, all samples are prepared and analysed using methodologies stipulated in the Australian Standards, the estimator visited the lab and ran through the procedures and processes.</p> <p>The available coal quality analytical reports for holes drilled by Cockatoo Coal have been generated from samples sent to SGS Minerals Gladstone / Coal and Tech Services (CATS) SGS Australia Pty Ltd and ALS for LOX hole samples. Legacy holes were managed by ACIRL and THIESS BRO. Pty Limited – Mining Division. It is understood that these laboratories were accredited by National Association of Testing Authorities (NATA), and in compliance with NATA, all samples are believed to have been prepared and analysed using methodologies stipulated in the Australian Standards.</p>
Drilling techniques	<p>Holes have been drilled on the Woori project by the following companies: -</p> <ul style="list-style-type: none"> ▪ Brigalow Mines Pty Ltd



Criteria	Commentary
	<ul style="list-style-type: none"> ▪ Northpac Resources ▪ Cockatoo Coal ▪ New Hope Exploration <p>There are 28 holes with verticality data. Given the limited collection of downhole deviation data, and lack of evidence to the contrary, it is considered that all holes drilled to date were planned to be vertical holes, designed to intersect the horizontally stratified Walloon Coal Measures.</p> <p>Holes are drilled using either air or water as a drilling medium. Environmentally safe muds are sometimes used to control water flow, hole stability, or gas flow.</p> <p>Chip holes at Woori are primarily used to define coal seam thickness and continuity and to help identify major geological structures. Although chip drilling is used to very broadly define seam sub-crop areas, a significant amount (84 holes) of Limit of Oxidation (LOX) drilling has been undertaken. Robust chip holes are also used to support Points of Observation i.e. where geophysical logging has been completed on the holes.</p> <p>Coal quality samples appear to have most commonly been collected from holes with a core size (diameter) of 102mm, which has become an industry standard for open cut coal quality coring.</p>
Drill Sample Recovery	<p>Core Depth and Sample Reconciliation data is recorded for recovered thicknesses, including sample recovery and core loss for each core run.</p> <p>Coal seam depths and thickness are confirmed when the geophysical logging is completed.</p> <p>Core loss and core expansion are accounted for in the field, by using observations in the core. For example, core recovery thickness discrepancies, broken core, crushed zones, swelling lithologies and groove marks caused by over-drilling are all indicators of these core states, and with careful data recording and confirmation with geophysics, can be assessed and appropriately logged to record an accurate geological interpretation of the downhole lithology.</p> <p>The drilling supervisor is notified when core loss in coal is greater than 5% or if substandard core is being presented to the geologist. The decision to re-drill the hole is discussed. If there are problems with core or sample recovery, the hole is not used in the geological model, this is a rare occurrence in the Woori deposit.</p> <p>For representation and sample recovery purposes, the full sample length measured on the core board is placed into the sample bags, without contaminating other samples or lithology units.</p> <p>Drilling fluids and clays are cleaned off the core prior to recording lithological information</p> <p>Separating adjacent samples is typically carried out using a paint scraper. If the core is a bit harder in one area, a hammer and bolster is used to break the core at this point.</p> <p>To avoid sample contamination, as much of the surrounding lithology is scraped off the samples before it is placed in the bag.</p> <p>The core table is cleaned between runs to reduce the risk of sample contamination.</p>
Logging	<p>When drilling chip holes, for every metre drilled, the drill cuttings (chips) are laid out in individual piles representing one metre intervals for the geologist to examine and to describe in their lithology logs. The available lithological logs suggest that this method has been used for the Woori project chip sampling.</p> <p>For core holes, accurate core length and depth measurements have been taken, and these have been reviewed by internal resource geologists and through third party audits.</p> <p>The field geologists have examined the cored intervals in reasonable detail, and then have transcribed their observations into the lithology logs as the geologist logs the core.</p> <p>Cored intervals have been photographed both on the core table and in some cases, also in core boxes. These core photographs are a useful record to help manage data quality control, to establish core loss/expansion, to compare with sample recovery methods, to assist in core sample laboratory testing instructions, and as a permanent record of borehole lithology. Core photos were taken at half-metre intervals whilst on the core table and show the use of a tape measure for recording core run recoveries and for measuring sample intervals. Photographic records of washed chip samples are displayed as wet samples for true colour and lithological determination.</p>



Criteria	Commentary
	<p>281 holes at the Woori project have downhole geophysical data. Dual density (long-spaced density & short-spaced density), gamma and caliper trace data are available. The detailed density log has been used to accurately correct seam roof and floor depths.</p> <p>Although it is considered an industry standard to log all holes with the deviation (verticality) tool, this has only been undertaken on 28 holes at Woori.</p> <p>NHE logged sonic geophysical data on the 5 core holes across the deposit, as well as resistivity and acoustic scanner.</p> <p>Downhole geophysical logging services, for the legacy data set, have been performed predominantly (if not exclusively) by Weatherford Pty. Ltd. It is a well-established downhole logging company and their operational procedures and data quality are highly regarded in industry.</p> <p>An audit of geophysical LAS file header data indicated that regular tool calibration procedures were in place.</p> <p>All data collected in the field, including any photography, is saved electronically for future reference.</p>
<p>Sub-sampling techniques and sample preparation</p>	<p>Lithology records show that the Woori project core samples appear to have been collected in accordance with acceptable coal industry practice.</p> <p>Core samples were retained as uncut, cylindrical cores, cut at 1 metre intervals where required to be boxed.</p> <p>Lithological descriptions have been detailed and relevant defects in the core have been logged. Core sample intervals generally appear to have been taken in a logical manner based on the coal brightness and presence of stone bands.</p> <p>A typical core size of 100mm diameter has been sampled for coal quality across the project. This core size allows for collection of coal material with adequate dimensions for laboratory sample pre-treatment and is well suited to coal quality determination.</p> <p>Core is generally sampled immediately after drilling, once it reaches the surface. To ensure that sample integrity is maintained, geology-purposed plastic sample bags are used for sample preservation.</p> <p>NHE have developed a unique sample numbering system to prevent sample number duplication, which would result in exclusion from the geological model. Sample numbers are printed on waterproof sample tags, which are stapled to the sample bag, facing outwards, so that it can be clearly identified. To ensure that the sample is sealed off completely, the sample bag is twisted off and folded over itself before zip-tying it closed.</p> <p>All coal quality samples are sent to ALS (ACIRL) at Richlands, Brisbane, which is an accredited laboratory under the National Association of Testing Authorities (NATA). In compliance with NATA, all samples are prepared and analysed using methodologies stipulated in the Australian Standards.</p> <p>Coal quality analysis at Woori is carried out in three stages: (1) Raw Coal Analysis; (2) Washability Analysis; and, (3) Clean Coal (Product) Analysis. Following the Australian Standards, the laboratory representatively splits the samples into portions in order to perform the coal quality analysis required. For Woori, one-eighth of the sample is used for Raw Analysis and the remaining seven-eighths reserved for Washability analysis, completed after the Raw Analysis results are reported. Clean Coal Composite analysis is completed on a cumulative cut point which targets an ash product and is nominated based on the results of Washability analysis.</p> <p>For Woori legacy core data;</p> <ul style="list-style-type: none"> ▪ The available legacy lithology records show that the Woori cores appear to have been collected in accordance with acceptable coal industry practice. Lithological descriptions have been made and where relevant defects in the core have been logged. Core sample intervals generally appear to have been taken in a logical manner based on the coal brightness and presence of stone bands. ▪ 102mm diameter core has generally been sampled for coal quality. This core size allows collection of coal material with adequate dimensions for laboratory sample pre-treatment and is well suited to coal quality determination. ▪ Size (length) of cored samples is generally satisfactory for the purpose of coal quality determination. Collection of separate samples for stone intervals adjacent to the coal units has been undertaken and is considered good practice, enabling



Criteria	Commentary
	<p>flexibility in preparation of composite seam units for more detailed analysis.</p> <p>Downhole geophysical data appears to have been routinely used to validate and correct the seam depth intervals and used along with core photography to validate core loss/expansion.</p>
<p>Quality of assay data and laboratory tests</p>	<p>All coal quality samples acquired by NHE are sent to ALS (ACIRL) at Richlands, Brisbane, which is an accredited laboratory under the National Association of Testing Authorities (NATA) to perform analytical testing to the ISO 17025 and ISO 9001 Standards (Certificate number 15784-857). In compliance with NATA, all samples are prepared and analysed using methodologies stipulated in the Australian Standard AS4264.1-2009 for coal and coke sample preparation.</p> <p>NATA accreditation involves regular external audits of the management, training and control procedures in the laboratory to ensure that the processes are documented, precise, accurate and validated. As such, the quality of testing is appropriate.</p> <p>All testing is performed using well-recognised national or international processes (standards) which are considered appropriate for the testing and analysis of coal samples.</p> <p>Coal quality samples collected by Cockatoo Coal were sent to SGS Minerals Gladstone / Coal and Tech Services (CATS) SGS Australia Pty Ltd, which was NATA accredited laboratory. In compliance with NATA, it is believed that these samples were prepared and analysed using methodologies stipulated in the Australian Standards. For old holes, samples were sent to THIESS BROS. Pty Limited – Mining Division, ACRL and CCI. LOX samples were sent to ALS.</p> <p>These laboratories routinely undertake internal “round robin” testing between labs to ensure consistency of analytical results and procedures.</p> <p>The available legacy coal quality reports show that coal quality analysis at Woori was generally performed in five stages: Raw Coal Analysis (1. Ply (non-composite), 2. Composite lab analysis, 3. Composite calculated values lab analysis); (4) Washability Analysis; and (5) Clean Coal (Product) Analysis.</p> <p>Following the Australian Standards, there is evidence that the laboratories have split the samples into suitable quotients in order to perform the coal quality analysis required.</p> <p>Sample pre-treatment and sized analysis have been undertaken on some core samples. This is considered the best method for generating robust washability and clean coal analysis results required to accurately predict CHPP processing and product qualities. In the assessment of coal quality, this more detailed data should be given preferential status.</p>
<p>Verification of sampling and assaying</p>	<p>All NHE lithology data is entered directly into LogCheck data entry software in the field, which has been designed specifically for coal exploration. LogCheck has been programmed with validation criteria to ensure all data loaded is clean of critical data entry errors. All validation tools and dictionaries are password protected.</p> <p>The geophysical logs are loaded into LogCheck and compared with the lithology observed by the geologist through the Graphic Editor module. Once the correlation between the coal seam observations in the lithology and the geophysics has been established, the lithology depths are adjusted to match the geophysical signatures. A copy of the original lithology log is stored in backup in case errors occur in the depth adjustment process.</p> <p>The corrected field log is reviewed and validated by the Resource Geologist before being loaded into the database for seam correlation. When all seam names have been confirmed as correct, sample summaries are generated from LogCheck, giving the sample number, sample depths and description of the sample against seam names, which provide the basis for laboratory coal quality instructions. Laboratory instructions are then provided on a seam-by-seam basis.</p> <p>At the laboratory, all samples are registered into both Coal8 & LabSys – ALS’s own sample tracking software systems (approved by NATA). This registration is confirmed by Project Manager against the original client instructions, and each sample and its subsequent children are affixed with a designated sticker containing all the sample details and a barcode. Samples are analysed according to client procedures. As samples are analysed the barcode is used to log each result to that sample.</p> <p>Results are quarantined and repeated if they do not meet the requirements of the appropriate Australian or ISO Standards. Controls are run with each batch of samples to ensure the testing apparatus is operating properly. Project Managers and Laboratory</p>



Criteria	Commentary
	<p>Managers/Supervisors approve these results. The use of twinned holes has not been completed on the Woori project by NHE.</p> <p>Laboratory Project Managers collate and validate the data, looking for abnormalities in the results. The primary means of validation include looking for known trends in the data, by creating cross plots of the results on a seam by seam basis. Typical industry practices include the comparison of the following (for example):</p> <ul style="list-style-type: none"> ▪ Ash vs. Relative Density ▪ Volatile Matter vs. Ash ▪ Specific Energy vs. Volatile Matter ▪ Ash vs. Total Sulphur <p>The laboratory provides the results in a variety of formats:</p> <ul style="list-style-type: none"> ▪ Preliminary results templates, which provide all data for each stage of analysis in one Excel file, and is updated with data at the completion of each stage of analysis; ▪ CSV templates of the final data in the correct format for loading directly into the geological database; and, ▪ Final PDF reports that are deemed to be the final result for the coal quality analysis for each sample. These reports also list the sample instruction provided by the client, and the Australian Standard methodologies utilised in the analysis. These reports are signed off by the Laboratory Manager as being a true representation of analysis for those samples contained within the report. <p>All coal quality data obtained from the laboratory is entered into the geological database on completion of analysis for each hole, using standard load specifications, so as to reduce the risk of typographic errors, and minimise data handling. The coal quality models are built directly from the database. No changes are made to the results, unless verification checks confirm an anomalous result, which are edited individually to match the final laboratory result after an investigation is undertaken.</p> <p>The geological database has built-in validation parameters to ensure all data is entered correctly. This database has restricted access and is password protected.</p> <p>All geological data is stored both electronically and in hardcopy, using New Hope Group practices outlined in Field Operations Procedure's & Guidance Notes.</p> <p>For the Woori deposit, legacy downhole geophysical logs have been routinely used to "depth adjust" the chip and core lithologies recorded by the geologist i.e. the coal seam roof and floor depths in the lithology logs are adjusted to match the geophysical signatures. This process also provides a good method for verification of coal seam thickness as well as correlation consistency.</p> <p>Coal seam names for Woori have been consistently assigned by the geology team based on stratigraphic position and verified by geophysical signatures.</p> <p>The available lithology, geophysical and coal quality records and reports are located on the NHG server where they are filed in a logical order.</p> <p>A review of selected analytical data has shown that the seam depths and thicknesses have largely been corrected using LAS data. The laboratory sample intervals also generally match these LAS intervals (from short spaced density logs).</p> <p>Standard coal quality data validation procedures undertaken when constructing the geological model have included data trend analysis, review of coal quality data cross plots e.g. Ash vs. Relative Density, and additional statistical reviews.</p> <p>Coal quality data from laboratory reports have been entered into the geological databases. A visual check for washability and clean coal was performed for all available reports to verify the database values match the laboratory reported values and this was found to be the case. Data for raw coal quality has been compared and verified.</p> <p>These coal quality databases have been used to build coal quality grid models. Other than the required seam depth, thickness and seam correlation-based naming edits, no modifications appear to have been made to the analytical results. Where data validation checks identify an anomalous result, this data may be documented, or possibly even</p>



Criteria	Commentary
	<p>excluded if the modeler felt it was sufficiently misleading or biased the local data trends.</p> <p>Sample data containing seam groups with insufficient core recovery are excluded from the resource estimates.</p> <p>The geological database also has built-in validation parameters to help ensure data is entered correctly and there are no obvious errors.</p> <p>Available geological data is stored both electronically and in hardcopy, using New Hope Group standardised practices, and has restricted access.</p>
Location of data points	<p>All location data within the Woori project is represented using the GDA94 Map Grid of Australia (MGA) Zone 55 projection. All elevation data is recorded in Australian Height Datum (AHD).</p> <p>All planned drill holes are located using handheld GPS units. After completion of drilling, all drill hole collars (locations) are surveyed by registered surveyors for the provision of coordinates to the geological model.</p> <p>All borehole collars (locations) are surveyed by registered surveyors. Surveys are carried out using RTK GPS which has a relative positional accuracy of approximately 50mm. Boreholes surveys are connected to the State Control Network to ensure absolute positional accuracy of approximately 100mm. Positional coordinates of Surveyed boreholes are then supplied to New Hope in the required project horizontal and vertical datum.</p> <p>The topographical surface used in the geological model was created through the acquisition of LiDAR data on a 2m grid across the deposit in 2017.</p>
Data spacing and distribution	<p>The average drill hole spacing across the Woori deposit varies from 250-500m. The spacing of coal quality cored holes used in the model woori_200211 for this resource estimate is approximately 1000m.</p> <p>Through examination of cored seam intersections and geophysical data (for open and cored holes) across the deposit a reasonable degree of confidence can be demonstrated for the lateral continuity of coal seams within the resource areas at Woori.</p> <p>All resource estimations are limited to the Woori MDL187.</p> <p>As with most developed coal quality databases a mixture of composite working section and more recent ply data exists in the database. This results in some inconsistency between coal quality data points, but this is not uncommon in coal quality databases. Only recent core holes drilled by NHE in 2019, with detailed ply coal quality information, have been used in this updated resource estimation.</p> <p>Feedback from the external auditor supports the drill spacing utilised in the classification applied with minor recommendations for future works proposed.</p>
Orientation of data in relation to geological structure	<p>Within MDL187, the Woori deposit has an overall dip of approximately 1-2° to the south-west.</p> <p>Holes were drilled vertically to intersect the relatively flat-lying coal seam strata and this is considered to provide the optimal sampling orientation strategy.</p> <p>Geological variations and seam-complexities are minimal. Due to the nature of the Surat Basin coal deposits, depositional variation of coal measures is the likely cause of seam continuation divergence, rather than structural discontinuity. For an open cut coal environment, the discovery of additional minor faulting is unlikely to affect the resource categorisation across this project.</p> <p>Raw coal quality samples have been taken at a suitably regular spacing across the deposit and on a seam-by-seam basis, in order to achieve a reasonably unbiased representation of the coal quality. As is common in exploration projects of this nature, the lower (deeper) seams tend to be under-represented in the core sampling (as generally reflected in their resource status) and this is an area that could be addressed to firm up some resources.</p> <p>Geophysical deviation data in legacy holes has generally not been used to correct any deviation of the borehole from vertical. As a result, some minor depth and thickness errors are expected in the model, but again, this is not likely to have any significant material impact on resources. All recent drilling programs have included the acquisition of verticality data.</p>



Criteria	Commentary
<p>Sample security</p>	<p>All samples are taken directly after they have been drilled and lithologically / geotechnically logged.</p> <p>Samples are stored in a cool, dry, shady location if they are waiting to be dispatched to the ALS laboratory in line with industry standards.</p> <p>Sample numbers are printed on unique NHE waterproof sample tags, which are stapled to the sample bag, facing outwards, so that they can be clearly identified. Each sample is placed directly into the sample bag and is sealed off completely by twisting the sample bag and folding it over itself, before zip-tying it closed. This is to prevent moisture escaping, and the deterioration of coal properties.</p> <p>Once the samples have been placed inside their corresponding plastic sample bags, they are placed inside large poly-weave sacks, which are then sealed and clearly labelled with New Hope’s specific information. Information about the samples in these poly-weave sacks is recorded on the “Core Depth and Reconciliation Sheet”, which is then scanned into the electronic document filing system, with the original hard copy stored in the appropriate hard-copy borehole file</p> <p>Samples are then placed in 44-gallon drums and dispatched as soon possible, usually within 24 hours of borehole completion.</p> <p>The outside of the sample drums are clearly labelled with “New Hope Group” and the delivery address for the ALS laboratory. Also, the project name, hole number, number of poly-weave sacks in the drum, the drum number and the total number of drums for the hole.</p> <p>If necessary, a drum liner is used to keep moisture out of the drums.</p> <p>A core sample consignment note must be completed before the samples can be dispatched. The number of sample bags and drums is noted on this consignment note. A copy of the sample consignment note must remain with the sample drums when dispatched, and a copy is retained, and an electronic copy is kept on file.</p> <p>On arrival at the lab the samples are checked to ensure that all the samples have arrived as per the consignment note and a record of the samples received are filed electronically.</p> <p>With previous project holders, numerous coal quality (and other) samples have been collected and dispatched to various laboratories, however no specific consignment information has been recorded in the legacy dataset obtained by New Hope Group during project acquisition. Intermittent sample dispatch documentation is available, but this is not comprehensive.</p> <p>Core photos are available, and these support the methodical collection and handling of core samples.</p>
<p>Audits or reviews</p>	<p>A full due diligence was undertaken by NHG prior to purchase from previous owners in 2014. Data reviews and audits have been completed by both NHG technical staff and external consultants since.</p> <p>Prior to development of the woori_200211 model, a comprehensive data review and seam re-correlation with a new seam and ply nomenclature was completed.</p> <p>All new data has been validated and loaded to GDB for the project. Additionally, a full database rebuild and data-recoding to Coal Log v2.1 has occurred. All legacy data has been validated with 273 legacy boreholes corrected to geophysics, a large volume of coal quality data encoded and additional data loading including geophysical traces. High level detail of this database rebuild project is documented and saved on NHG’s network drive, which captures all amendments made to the database and builds on third party audits.</p> <p>Borehole validations checked that all holes were loaded into the database with collar, collar survey, lithology, base of weathering logged, geophysical data loaded, coal quality information.</p> <p>The coal quality and geotechnical laboratories utilised are NATA accredited and as such they are subject to audit by external auditors.</p> <p>The woori_200211 model, model report, and resource estimates underwent an external</p>



Criteria	Commentary
	third-party audit in May 2020 by JB Mining Services (JBMS). No deleterious findings or corrective actions were discovered by the auditor.



Section 2 Reporting of Exploration Results

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

Criteria	Commentary
<p>Mineral tenement and land tenure status</p>	<p>North Surat Coal Pty Ltd, a subsidiary company of New Hope Group, currently holds tenure over MDL187.</p> <p>MDL187: Woori</p> <ul style="list-style-type: none"> ▪ 17km south of Wandoan ▪ 100% ownership of North Surat Coal Pty. Ltd., a subsidiary of New Hope Group. ▪ Current exploration project ▪ Expiry at time of reporting: 30/09/2021 <p>The land use is predominantly grazing and cropping. Topographical relief consists of low, undulating land cleared for secondary use with no established national parks or areas of significance.</p> <p>The Woori Project is overlapped by two granted ATP's and two PLA's held by Arrow Energy.</p> <p>The Iman People are the current native title claimants.</p>
<p>Exploration done by other parties</p>	<p>Exploration drilling in the general Woori area has been carried out since 1967.</p> <p>Boreholes within the project area have been drilled for/by the following parties:</p> <ul style="list-style-type: none"> ▪ Brigalow Mines Pty Ltd ▪ Northpac Resources ▪ Cockatoo Coal (CCL) ▪ New Hope Exploration (NHE) <p>Most of the exploration drilling data in the current database was generated in 2010 during which time tenure was held by CCL. This data is generally regarded as reliable, including downhole geophysics for most holes and a good coverage of cored holes with coal quality analytical data. While some drilling data from the earlier explorers has been included in the model, many drill holes were excluded due to lack of downhole geophysical logs, insufficient RL information, or data discrepancy.</p> <p>All coal exploration boreholes drilled in 2019 by New Hope Exploration have been utilised in the 2020 geological model.</p>
<p>Geology</p>	<p>The Woori Project is located approximately 400 km north-west of Brisbane and 320 km south-west of Rockhampton, between the Central Queensland towns of Miles and Wandoan on the Leichhardt Highway. Access to the Project area is from Wandoan via the Leichhardt Highway. Access within the tenement area is via Fosters Road.</p> <p>The topography of the tenure shows a variation of 45m of elevation. The southern portion has an average of 313m RL, while the east edge near Juandah creek has an elevation of 269m RL.</p> <p>The overall interpretation of the deposit is a simple structure of west-south-westerly dipping coal measures, sub-cropping beneath thin soil cover. In locations where creeks and paleochannels transect the deposit, alluvium cover is known to occur, re-working of thin coal plies is evident, and more sandstone in proportion to coal is observed implying that areas of higher topographic relief host more coal bearing strata. Minimal faulting has been interpreted from the borehole data to date.</p> <p>The Woori deposit has an approximate strike of north-west to south-east. Sediments dip at an average of 1-2 degrees to the southwest, with seams sub-cropping in the northeast. Local variations in both strike and dip occur across Woori.</p> <p>Weathered material consists of mainly weathered claystone, clay and sandstone. Near the north east area of the tenure near the Juandah Creek the top formation consists of weathered gravels and other alluvium. Areas of high topographic relief have a deeper weathering profile, this is particularly evident in the southern end of the tenure.</p>



Criteria	Commentary
	<p>The Woori project lies within the Juandah Coal Measures. Deposition of the Juandah Coal Measures occurred during the late Middle Jurassic period in freshwater fluvial, lacustrine and paludal environments. Sediments comprise lithic and felspathic labile sandstones, siltstone, mudstones and coal.</p> <p>The nomenclature for the woori_200211 is different to the regional seam nomenclature. The choice to call the seam groups Guluguba was due to the location of the deposit and the legacy naming convention used in previous geological models.</p> <p>The Woori Project consists of the Guluguba coal sequence and the Argyle seams. This includes the Guluguba Rider, Guluguba Upper, Guluguba Middle, Guluguba Lower and Argyle Seam. A full review and re-correlation with a new ply nomenclature was formulated with the updated 2020 structural model and resource estimation. All legacy data was reviewed and ply's renamed.</p> <p>The five coal seam groups comprise 44 plies with ply thickness ranging from 0.1m to 2m. Major coal seams were separated into plies when the parting thickness was greater than 10cm. Each significant ply in the seam group was separated in descending stratigraphic with the following numbers, 1,2,3 and 4. Each major seam was then separated into plies using letters, A, B, and C, with rider seams starting with R (e.g. GL1R and GU1R).</p>
Drill hole information	<p>Drill hole collars have been surveyed accurately by qualified surveyors using MGA94 Zone 56 and Australian Height Datum (AHD).</p> <p>There are 321 drill holes in the MineScape GDB database, of which 278 holes have been recognised as having sufficient data for correction and correlation. 251 reliable model holes have been selected for inclusion in the 2020 structural model. This includes 195 chip holes and 56 cored holes. Only the 5 recent coal quality holes drilled by NHE during 2019 were used for the accompanying coal quality model. These holes were used to create the 2020 MineScape model and consequently to define the resource at Woori.</p> <p>70 drill holes were excluded from the geology model because they were:</p> <ul style="list-style-type: none"> ▪ considered unreliable, or ▪ too close to other holes and so of no value to the model, e.g. pilot holes or re-drills. <p>Most of the excluded holes are legacy holes that do not have geophysics or lithology logs.</p> <p>All holes included in the model are considered to have been drilled vertically and most holes have been geophysically logged. However, a number of legacy holes do not have any verticality data and therefore have been modelled as vertical holes. This may introduce some seam depth and thickness errors but should not materially impact the coal resources.</p>
Data aggregation methods	<p>Although recent coal quality drill holes have been sampled into individual plies, some of the samples from earlier holes overlap individual seam boundaries and are composited over more than one seam. For this reason, the coal quality data from these drill holes was excluded in the model used for this resource estimate.</p> <p>The 2019 coal quality model has utilised the recent exploration core holes by New Hope Group as the reliable basis for modelling. Detailed ply samples were taken in the field and, where possible, composited into individual seams at the laboratory. Raw analysis is carried out on a large number of samples where raw ash results form the basis for determining coal (<50% raw ash) versus non-coal (>50% raw ash) samples. The coal samples are selected and where possible, further combined to progress to washability analysis. The samples may then be further combined for clean coal composite (CCC) analysis if they form part of the same seam and have similar raw and washability properties. CCC sample instructions were generated from LIMN simulation calculations for a thermal coal product based on nominated product ash targets.</p> <p>All qualities were modelled on an air-dried basis and where relevant, coal samples were composited to seam intervals in MineScape using weighted average thickness and density.</p>
Relationship between mineralisation widths and intercept lengths	<p>All drill holes are assumed to be vertical, but because geophysical deviation data is not readily available to correct any deviation from vertical, there may be a small degree of error in true seam depths, however due to the very shallow seam dips, it is considered that this will not have any significant material impacts on coal resource estimates. Recent drilling in 2019 by NHG have confirmed shallow seam dip to the south-west for the deposit.</p>



Criteria	Commentary
	<p>Coal measures deposited in the Surat Basin are relatively flat and continuous over significant distances. The Woori project coal seams can generally be demonstrated (using geophysically correlated drill hole intersections) to be essentially continuous across the MDL187 and beyond.</p> <p>The coal measures within the Woori deposit are depositionally driven, influenced by marine and near-estuarine influxes which result in minor seam reworking outside of the predominant Guluguba and Argyle seam working sections. The reworking of these minor plies has been captured in photographic records of interburden.</p> <p>The coal resources at Woori are also known to extend beyond MDL187, however, resource estimates have been limited to MDL187.</p>
Diagrams	Drill hole location plan for holes used in the 2020 Woori structural model is attached in Appendix 1 with representative cross sections in Appendix 2. JORC polygons for the main GU and GL seam groups are in Appendix 3.
Balanced reporting	Results from the NHG 2019 drill program and subsequent woori_200211 model are appropriately reported within NHG internal report 'Woori Model Report_woori_200211_final' completed in May 2020. The report has been externally audited and endorsed as comprehensive, compliant and unambiguous. Due to rounding, resource estimate figures within the report may appear slightly different to those released externally.
Other substantive exploration data	Three of the continuously cored drill holes from the 2019 program had geotechnical permeability core samples taken. The core samples were analysed to find the hydraulic conductivity data of the Injune Creek Group interburden within the Woori deposit. Acid Mine Drainage (AMD) samples were also acquired from the recent campaign with studies continuing.
Further work	<p>A number of opportunities exist to further progress the development of the Woori deposit:</p> <ul style="list-style-type: none"> ▪ Measured resources can be sought with further drilling. ▪ Additional open chip holes to the north will increase confidence in seam continuity over this area. ▪ Legacy coal quality data can be reviewed for potential data regression work into plies for future models. ▪ More detailed sizing and washability analysis from large diameter core program(s) is highly recommended to assist further CHPP design studies. ▪ Development of analytical procedures suitable for bypass coal studies. ▪ Limit of Oxidation (LOX) drilling, particularly within the initial mine plan area. ▪ Additional cores targeting the lower seams would improve resource confidence.



Section 3 Estimation and Reporting of Mineral Resources

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

Criteria	Commentary
<p>Database integrity</p>	<p>The geological database used to construct the geological model is contained within Datamine's MineScape GDB module which contains rigorous data validation processes upon data loading to restrict invalid data entry.</p> <p>New drilling data added to the 2020 Woori Model was obtained by New Hope Exploration's drill rig No.2 from 07th April 2019 to 24th April 2019, for which the drilling campaign included five (5) continuously cored 100mm diameter core holes, with the exception of unconsolidated sub-surface material. Laboratory analysis commenced in June 2019 and concluded in November 2019.</p> <p>All new data has been validated and loaded to GDB for the project with checks for collar, collar survey, lithology, base of weathering logged, geophysical data loaded, coal quality information, and additional tables such as geotechnical and geochemistry data. Additionally, a full database rebuild and data-recoding to Coal Log v2.1 has occurred. All legacy data has been validated with 273 legacy boreholes corrected to geophysics, a large volume of coal quality data encoded and additional data loading including geophysical traces. High level detail of this database rebuild project has been documented.</p>
<p>Site visits</p>	<p>The Competent Person for NHG has visited the Woori deposit during the 2019 exploration campaigns. NHG staff were on site throughout the recent exploration programs.</p>
<p>Geological interpretation</p>	<p>A rigorous re-correlation exercise was undertaken in 2020, reviewing available downhole geophysical signatures in detail. This resulted in an increased level of understanding of the nature, seam splitting and physical characteristics of the deposit.</p> <p>The regional structure is relatively homogenous and only one definitive fault was derived from the current data spacing for inclusion in this model. The deposit has shallow dips of 1-2 degrees to the south west.</p> <p>No intrusive or surface volcanics have been identified during the exploration of MDL187.</p> <p>Coal seams were correlated across the deposit resulting in a high level of confidence in geophysical seam signature consistency. Minor thinner plies (not of economic interest) tend to lens in and out, however the Guluguba Upper and Lower seam group and the A1 Seam from the Argyle seam displayed a consistent geophysical seam signature. Coal seam/plies were renamed in alignment with regional coal measure nomenclature.</p>
<p>Dimensions</p>	<p>MDL187, which encompasses the Woori deposit, has maximum dimensions of approximately 3.6km long and 3.6km wide, covering an area of approximately 913 hectares. The coal resources at Woori are also known to extend past the mining tenure, however resource estimates have been limited to the within tenure held by New Hope Group.</p> <p>The coal resources primarily occur within the GU and GL seam groups. The upper seams in the sequence sub-crop in the east. The Woori deposit within the Juandah Coal Measures have a total vertical interval thickness of approximately 70-80m, from the GR seam down to the A seam group.</p> <p>Depth of weathering ranges from 4 to 26 metres and averages 10-15 metres.</p>
<p>Estimation and modelling techniques</p>	<p>The model used for the estimation of coal resources was generated by a NHG Resource Geologist and Measured Group, during April 2020 (woori_2000211) using MineScape software. The accompanying Coal Quality model was finalised in May 2020 once all analytical results became available.</p> <p>The woori_200211 model updates and supersedes the 2015 model and forms the basis for the current reported Coal Resource estimates. The geological model is comprised of MineScape table and grid models as well as surfaces and incorporates all suitable structural and coal quality data available as at May 2020, with key changes based on the following areas:</p> <ul style="list-style-type: none"> ▪ Updated topographic dataset acquired by New Hope Group (NHG) in 2017. ▪ Exploration drilling completed by NHG during 2019. ▪ Results from a large re-correlation and ply re-naming exercise carried out by the NHG Resource Geologist.



Criteria	Commentary
	<ul style="list-style-type: none"> ▪ New Washability and coal quality raw/product information from the 2019 program. <p>Borehole data was accessed directly from the MineScape GDB database that was rebuilt in 2020 by the NHG Resource Geologist. Only holes drilled in 2019 by NHG were utilised in this coal quality model as holes were sampled as individual plies and have had reliable laboratory analysis conducted, including washability. The coal quality data for modelling includes coal types R, representing raw coal quality, and T representing thermal product coal quality. For washability, cumulative Ash and Yield was modelled for each float cut-point relevant to the 2019 laboratory test regime. Legacy coal quality data was reviewed and excluded on the basis that samples were taken in working sections as opposed to the required ply level, though if suitable, these drill holes were utilised for the stratigraphic/structure model.</p> <p>The Topography was modelled from data derived in 2017 through LiDAR survey with the following grid specifications;</p> <ul style="list-style-type: none"> ▪ Grid cell size 25 x 25m. ▪ Origin 201410 (x) and 7090303 (y). ▪ Rows in grid 1056, columns in grid 1132. ▪ Grid length 4.2km, width 4.625km with extents outside the boundaries of MDL187. <p>Grid specifications for the stratigraphic and coal quality models are as follows;</p> <ul style="list-style-type: none"> ▪ Grid cell size 25 x 25m. ▪ Origin 201410 (x) and 7090303 (y). ▪ Rows in grid 1056, columns in grid 1132. ▪ Grid length 4.2km, width 4.625km with extents outside the boundaries of MDL187. ▪ FEM interpolator (structure model) ▪ Inverse Distance, power 2, 5km search radius (coal quality model) <p>The stratigraphic model is defined by three (3) sequences:</p> <ul style="list-style-type: none"> ▪ Topographic sequence (non-conformable). ▪ Weathered sequence (conformable, trending with topography). ▪ Fresh sequence (conformable). <p>The seam intervals have been modelled as individual plies using the 'pinch' method, where intervals are pinched out halfway between drill holes where they exist and those where they do not. Due to the nature of the Walloon Coal Measures, the 'pinch' method was deemed most suitable for the style of deposit.</p> <p>Resources were estimated using the MineScape Reserves -> Sample -> Polygon feature using limiting criteria outlined in section 'Cut-off parameters' below. The data was output to excel for in-situ tonnage calculations using the Preston-Sanders formula.</p>
Moisture	<p>An in-situ Moisture (Mis) value of 13.8% was used in resource tonnage estimates.</p> <p>This was derived from a previous Pre-feasibility study which used the formula from ACARP report C10041 (2003): $Mis = 2.2168 + 1.3335 \times Mad$</p> <p>Mad = air dried moisture (inherent moisture)</p> <p>The in-situ moisture for the Woori Model was calculated by finding weighted average of the seams air-dried tonnes against the calculated in-situ moisture for each seam. The weighted average in-situ moisture for the Woori deposit was 13.8%.</p>
Cut-off parameters	<p>Coal Resources are limited to the following areal constraints:</p> <ul style="list-style-type: none"> ▪ Tenure boundary MDL187. ▪ 50m buffer west of a historical rail line applied with area to the east of the buffer line excluded from the resource estimation. <p>Coal seam interval thickness is greater than 0.1m thick and raw ash less than 50%. The resource was constrained to a strip ratio 1:10 for the full seam sequence (GR1A to A4).</p> <p>In consultation with NHG Mining Engineers, an in-situ strip ratio of up to 1:10 has been assessed as having economical potential, as some of the lower coal seam groups may be able to be processed without washing (bypass) due to low raw ash and other favourable characteristics.</p>
Mining factors or assumptions	<p>The Woori Project may be amenable to an open-cut, thin seam mining operation within the Surat Basin.</p>



Criteria	Commentary
	<p>Comparable mining operations in deposits similar to the Woori project incorporate the following features and guidelines:</p> <ul style="list-style-type: none"> ▪ Use of conventional strike line stripping operation with nominal strip widths of 60m ▪ Use of large carry dozers and mid to large size excavators ▪ Front end loaders for coal mining due to the thin seam nature of the coal ▪ A wash plant for coal handling and processing <p>New Hope Group have demonstrated success in mining within thin seam open cut coal deposits, having operated the thin seam operation at New Acland mine since it was commissioned in 2002 along with significant mining history in the West Moreton region.</p>
Metallurgical factors or assumptions	<p>It is anticipated the coal will require to be crushed, sized and washed in order to be suitable for sale. The New Acland Coal Handling and Preparation Plant is considered typical of the processing infrastructure that would be needed.</p>
Environmental factors or assumptions	<p>No limiting environmental factors are applied to the coal resources at Woori.</p> <p>Land use within the Woori Project site is predominantly cattle grazing.</p> <p>Regional Ecosystem (RE) mapping currently identifies a significant portion of the site as being non-remnant vegetation. There is however, one small area of ERE as well as some minor areas of 'Of Concern' RE's.</p> <p>In regard to MNES, the ecology survey identified one fauna species listed as Vulnerable under the EPBC Act, being the Greater Glider. When assessed against the Significant Impact Guidelines however, the potential impacts of the Project are considered unlikely to result in a significant impact on the Greater Glider species as a whole, or its local population.</p> <p>The Guluguba State School is a heritage item on the Western Downs Regional Council heritage register. The school is not identified as a State significant heritage place. Any proposed impact to the Guluguba State School, will be approached through engagement with appropriate community stakeholders, through the EIS process. Should an impact be proposed to this heritage place, a Heritage Impact Assessment will also be prepared to ensure compliance with the QHA.</p>
Bulk Density	<p>Resource tonnage estimates were derived from in-situ volumes multiplied by in-situ Relative Density (RDis). Relative Density results obtained from the laboratory are reported on an air-dried basis.</p> <p>RDis was derived using Preston-Sanders equation using air dried Relative Density (RDad):</p> $RDis = RDad(100-Mad)/((100-Mis)+RDad(Mis-Mad))$ <p>Where: RDis = in situ Relative Density RDad = air dried Relative Density Mis = in situ Moisture Mad = air dried Moisture</p> <p>RDad is exported as a variable value during the estimation process (i.e. averages per seam interval, per resource category) and the Preston-Sanders equation is used in the exported spreadsheet, using a constant Mis value of 13.8%, to determine RDis.</p>
Classification	<p>In support of drill hole spacing analysis, the following Resource classification was applied for polygon radii:</p> <p>Measured – 300m Indicated – 650m Inferred – 1500m</p> <p>Each Point of Observation is based on a cored hole with the following criteria met:</p> <ul style="list-style-type: none"> ▪ Cored hole with raw coal quality (raw ash and RD minimum) ▪ >95% core recovery for the seam group ▪ Downhole wireline geophysics (density, gamma & caliper) ▪ Collar survey <p>Confidence to predict seam continuity, thickness, and coal quality was taken into consideration when positioning resource category limits. Statistical analysis of the thickness and raw ash generally support the classification criteria.</p>

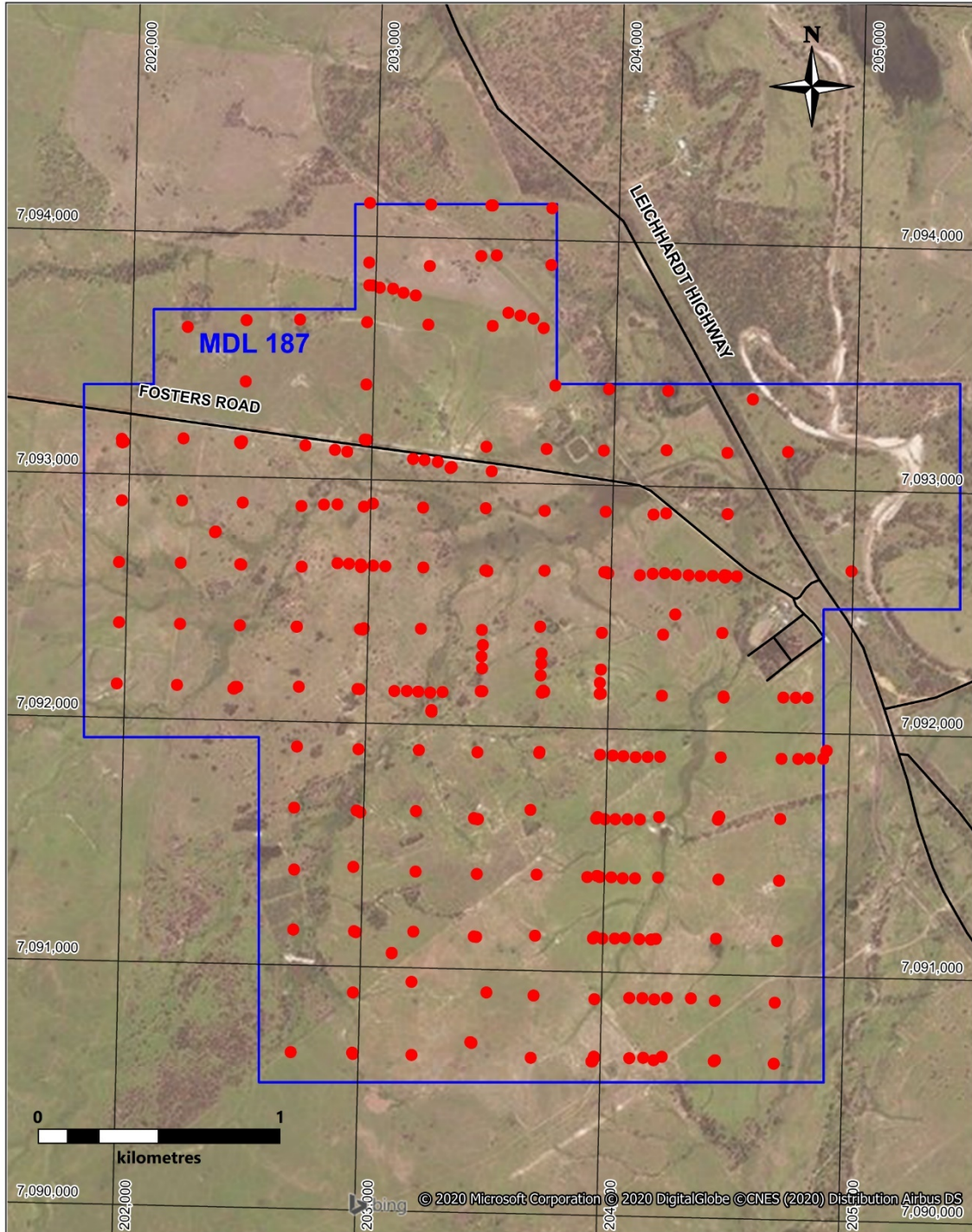


Criteria	Commentary
<p>Audits or reviews</p>	<p>A comprehensive data audit was completed in 2015 by a third-party database specialist, and a model audit was also completed at this time by a third-party geological modelling specialist. Audit and data validation documentation was prepared by a NHG Resource Geologist, prior to the 2020 geological model production. The database underwent a robust review to correct errors identified in 2015 prior to model generation.</p> <p>The data was subjected to a series of comprehensive validation and seam/ply correlation process resulting in a large number of corrections to interval depths, thicknesses, as well as edits to seam naming. All legacy data was validated with 273 legacy boreholes corrected to geophysics, a large volume of coal quality data encoded and additional data loading including geophysical traces.</p> <p>All new data underwent validation prior to loading into GDB for the project. Additionally, a full database rebuild and data-recoding to Coal Log v2.1 occurred.</p> <p>An external model and resource estimation audit was completed by JB Mining Services (JBMS) in May 2020 with no deleterious findings and endorsement of reporting of Coal Resources in accordance with the JORC Code 2012.</p>
<p>Discussion of relative accuracy/confidence</p>	<p>The continuously cored 2019 NHG drill program enabled reviewing geologists to gain increased understanding of the sedimentary nature and influences of deposition of the Woori deposit and Juandah Coal Measures in the area. Therefore, the deposit as a whole is well understood in relation to the geological setting.</p> <p>Drill holes are generally at a spacing of less than 350m and are spaced closely enough for coal seam continuity and quality to justify Indicated and Inferred Resources status. Individual coal ply sub-crop locations are approximate and limited lox drilling has taken place. Additional drilling will be required to confirm if shallow mining in these areas are to take place.</p> <p>The MineScape ‘pinch’ model method is known to be conservative over other methods such as the ‘zero’ method, it is possible that more coal exists than what has been modelled. Given the lensing nature of the Walloon Coal Measures, the ‘pinch’ method has been deemed suitable by the estimator for this deposit.</p> <p>In the northern part of MDL187, a small portion of Coal Resource has been classified as Indicated. The drill hole spacing in this area may be too sparse for seam continuity to justify the classification. On further investigation this was found to affect the GM, GL and A seam groups only, making up 1.8% of Indicated Resource over this area which is considered to be within the error of the estimate.</p> <p>Resource polygons were generated for both seam group and also coal ply in some cases. All coal quality core holes were assessed against the criteria core recovery >95%. Where a sample from an individual ply did not meet this criteria, the affected sample was not used as a Point of Observation for that ply, with resource confidence downgraded accordingly.</p> <p>Overall, there is a high level of confidence in the lateral continuity of all the major coal seams in their respective resource areas to justify Indicated and Inferred Resource status.</p>



Appendix 1: Woori Model holes

Woori Project 2020 Structural Model Holes



Legend

- Roads
- Structural model holes
- Tenure MDL187

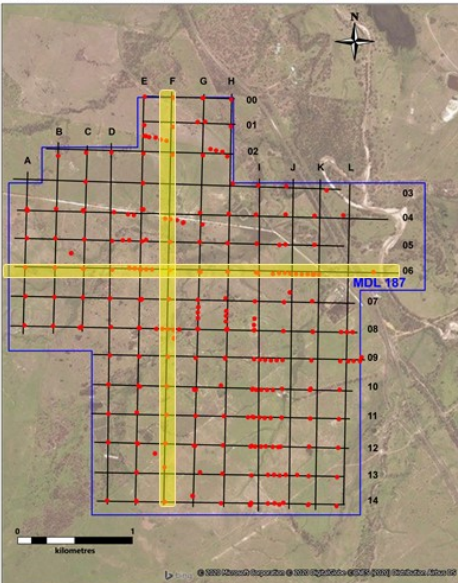
Created BY: New Hope Group (DD)
 Date: 07/05/2020
 Projection: GDA94 / Zone 56



Appendix 2:

Woori Representative Cross Sections

Woori Project
2020 Structural Model with Section Lines



Legend
• Structural Model Holes
— Model Sections
□ Tenure

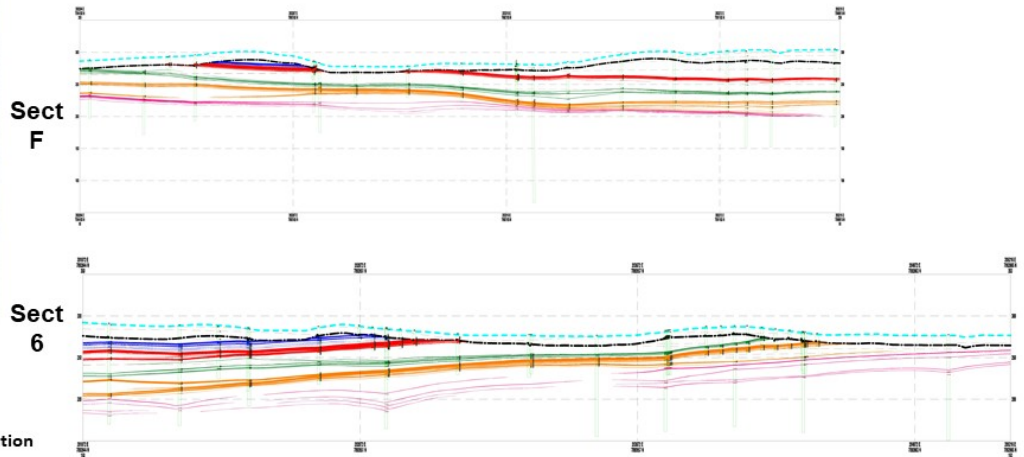
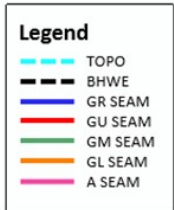
Created BY: New Hope Group (DD)
Date: 26/05/2020
Projection: GDA84 / Zone 56



WOORI DEPOSIT

Representative Sections

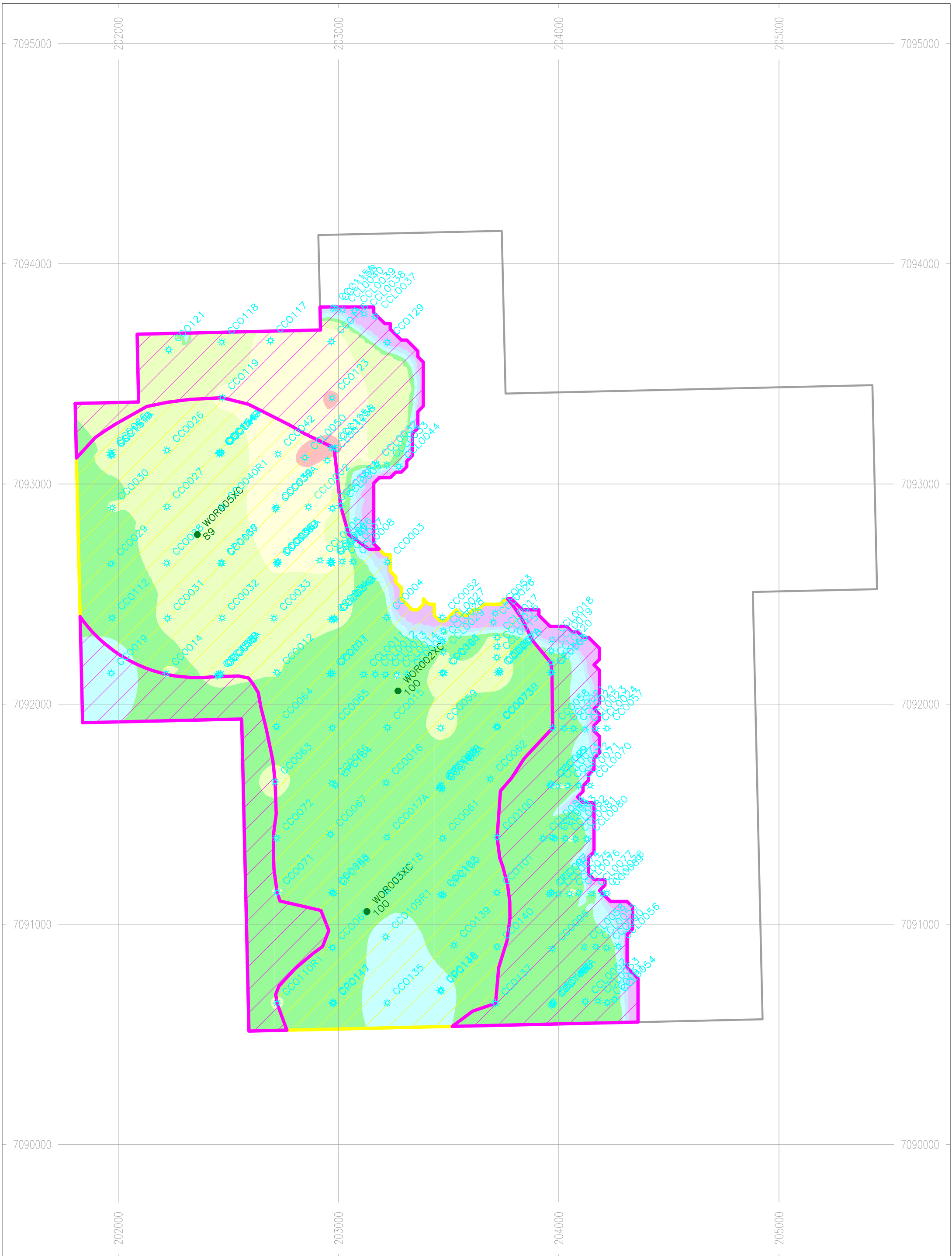
The below sections are representative of the Woori Deposit overall seam dip and continuation. The deposit dips slightly to the Southwest and sub crops to the Northeast



***3x Vertical (Z) Exaggeration**



Appendix 3: Woori JORC Polygons for GU and GL Seam Groups



LEGEND

- Cored and Analyzed Intersection of seam group, with wireline log
- Legacy Hole Intersection of seam group, with wireline log
- Open Hole Intersection of seam group, without wireline log

Thickness (m)

- <1
- 1-2
- 2-3
- 3-4
- 4-5
- 5-6
- 6-7

NOTES

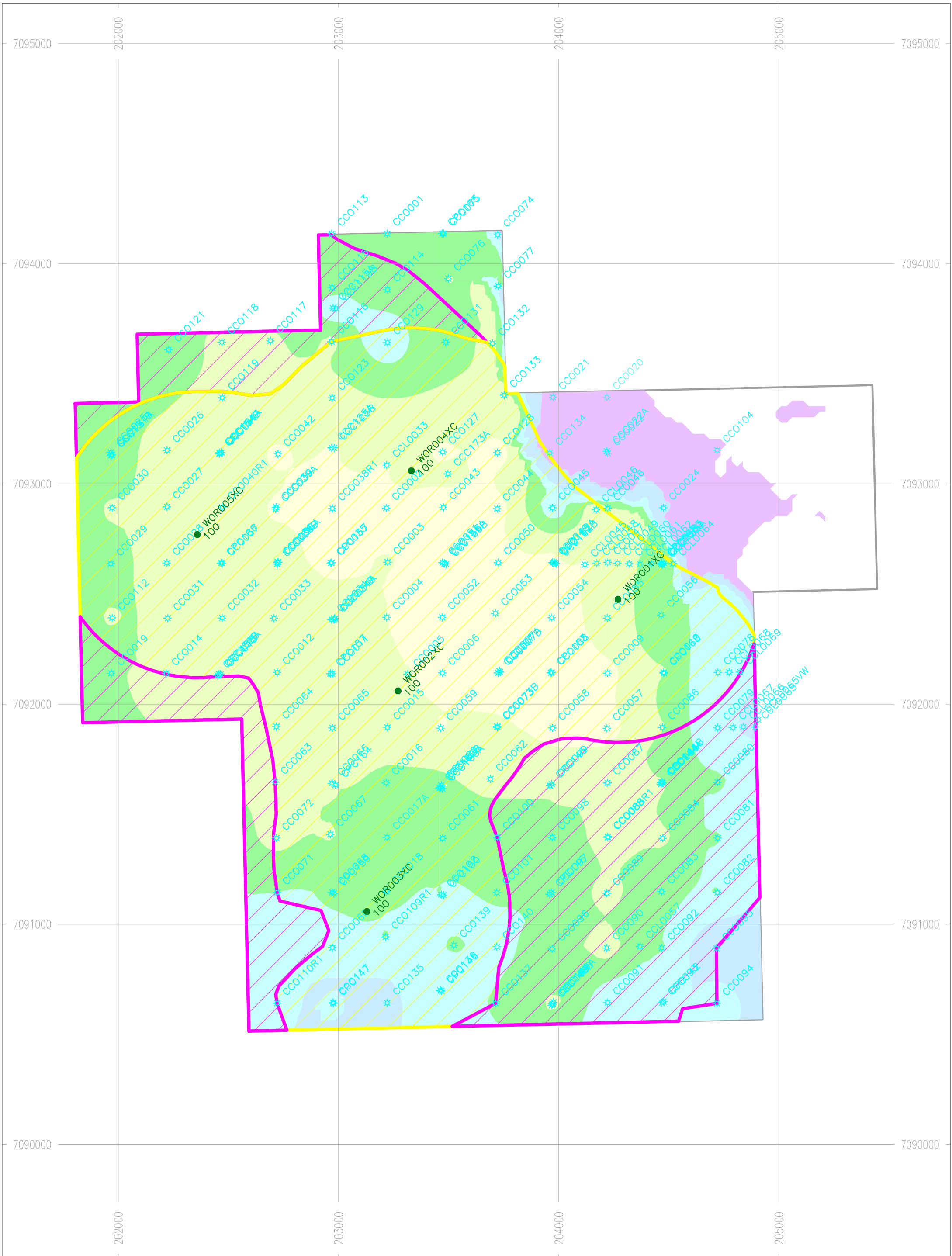
Yellow Hatch = Indicated
Magenta Hatch = Inferred



Woori Project
Points of Observation with Coal Thickness
GU Seam Group FINAL

Structure Model Date: woori_200211
Structure Model: 22/04/2020
Quality Model Date: Quality Model Date
Quality Model: Quality Model Date

Scale: 1:15000
Date: 30th June, 2020
Drawn: DD
Revision:
Figure



LEGEND

- Cored and Analyzed Intersection of seam group, with wireline log
- Legacy Hole Intersection of seam group, with wireline log
- Open Hole Intersection of seam group, without wireline log

Thickness (m)

- <1
- 12
- 23
- 34
- 45
- 56

NOTES

Yellow Hatch = Indicated
Magenta Hatch = Inferred



Woori Project

Points of Observation with Coal Thickness
GL Seam Group FINAL

Structure Model Date:	woori_200211
Quality Model Date:	22/04/2020
Quality Model:	Quality Model Date
Plot file:	Filename
Design File:	design file
Layer Name:	layer

Scale:	1:15000
Date:	30th June, 2020
Drawn:	DD
Revision:	
Figure	