Brakfontein Coal Resource Competent Person's Report

Report Prepared for:

Coal of Africa Limited & Peel Hunt LLP

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EXECUTIVE SUMMARY

This report replaces any previous resource reports for the Brakfontein Project. Gemecs has been engaged by Coal of Africa Limited (the "Client") to update the Competent Person's Report for the Brakfontein coal resource project in accordance with the AIM rules and guidelines as set out by the AIM Note for Mining, Oil and Gas Companies. This report is addressed to the Client and its Nominated Adviser, Peel Hunt LLP. Gemecs understands that this report will be included as part of an AIM admission document to be published by the Client (the "Admission Document"). For the purposes of the AIM rules for Companies, Gemecs is responsible for this report as part of the Admission Document and declares that it has taken all reasonable care to ensure that the information contained in this report is, to the best of its knowledge, in accordance with the facts and contains no omission likely to affect its import. Gemecs consents to the inclusion of this report, and reference to any part of this report, in the Admission Document.

The Brakfontein project is currently owned by Universal Coal plc. During 2012, Universal Coal plc ("Universal") completed a third phase of infill diamond drilling exploration work on the various portions of Brakfontein 264 IR located in the Delmas district, Mpumalanga province, South Africa. A total of 39 additional boreholes were drilled to increase the geological confidence of the coal resource in selected areas planned for mining.

Together with these additional boreholes, some material changes were made to the geological model as part of the process to enhance the geological confidence in the coal resources. Detailed plans were obtained of the historical underground mined out areas located in the project area, and this information was also incorporated into the geological model. A decision was made to remove all the old boreholes previously used in the creation of the geological model, as the area is now covered with new boreholes drilled by Universal Coal and the data is of a better standard and quality.

The net result of these changes is that the coal resource gross tonnes estimation has decreased from 87.7 million tonnes down to **75.8 million tonnes**, compared to previous estimations.

Additional work was done to identify specific resource areas that can be mined from both opencast and underground mining methods. Relevant surface constraints and cut-off parameters were applied to these areas. A geological loss factor was applied to the in situ tonnes, ranging between 10-15% depending on the resource categories. Mineable in situ coal

resources from these blocks amount to **39.1 million tonnes**, of which 24.2 million tonnes is estimated for opencast, and 14.9 million tonnes for underground.

Coal products that can be produced from this project are typical export, inland and local power station thermal coal products. A low volatile coal product is also present which is suitable for the local inland metallurgical market. A primary (export) coal product at a CV of 27.5MJ/kg, and a secondary (power station CV 21.0MJ/kg) product at a cut-point density of 1.80 is presented for the OC1, OC2 and OC3 areas. In general, average primary product yields vary between 20.7%-57.8% and secondary product yields between 31.3%-61.1% for the high volatile coal products from these pits. Average total product yields (primary and secondary combined) vary between 81.8-89.1%.

A summary table of resources by status with net attributable tonnes is presented below in Table 1.

Table 1. Brakfontein Project – Summary of coal resources by status

Summary of resources by status					
Coal	**Gross in situ tonnes**		**Mineable in situ tonnes**		
Category	**Gross in situ tonnes**	**Net Attributable**	**Mineable in situ tonnes**	**Net Attributable**	**Operator**
	Tonnes (Mt)	**Tonnes (Mt)**	**Tonnes (Mt)**	**Tonnes (Mt)**	
Measured	31.70	15.94	16.80	8.45	
Indicated	39.4	19.8	19.8	10.0	
Inferred	4.7	2.4	2.5	1.3	
Total	**75.8**	**38.1**	**39.1**	**19.7**	**Universal Coal Development III (Pty) Ltd**

1. QUALIFICATIONS OF CONSULTANT

Gemecs (Pty) Ltd ("Gemecs") is a medium-sized geological company which renders geological and mining consulting services to the mining industry. Its consultants have the required experience in preparing competent persons', technical advisors' and evaluation reports for mining and exploration companies.

Input is provided in terms of the JORC (Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves, 2012 Edition) and supported by the Australian Guidelines for Estimating and Reporting of Inventory Coal, Coal Resources and Coal Reserves, 2003 Edition.

Independence is assured by the fact that, neither the Competent Person, nor any of the Competent Person's directors, staff and associates involved in this report, hold any interest in the value of the "Client" or its subsidiary or associated companies, and do not have any interest in Universal and are independent of either Company's directors, senior management and advisers. Gemecs will receive a fee for the preparation of this report in accordance with normal professional consulting practice. This fee is not contingent on Admission or the outcome of this report and Gemecs receive no other benefit for the preparation of this report.

The information in this report that relates to Coal Resources for the Brakfontein Project is based on a resource estimate completed by Mr Nico Denner who is employed by Gemecs (Pty) Ltd. Mr Denner, Pr.Sci.Nat, B.Sc Hons (Geology), FGSSA, SEG, is a geologist with 20 years' experience in the South African mining industry and sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr Denner is a Member of South African Council for Natural Scientific Professions (Membership No. 400060/98) and consents to the inclusion of this information in the form and context in which it appears in this report. The author states that this report complies with the guidelines as stipulated in the JORC code, 2012 Edition and coal resources are reported in accordance with the JORC code.

Gemecs places reliance on Universal Coal plc that all legal information provided to Gemecs at the time of writing is both valid and accurate for the purpose of compiling this report, including tenure and Mineral Right status.

2. INTRODUCTION

Universal Coal plc (Universal) undertook an infill diamond drilling program during 2012 to increase the geological confidence of selected mineable areas and to update the previous resource statement on its Brakfontein coal project in South Africa. A total of 39 boreholes were drilled during 2012 and data obtained from these boreholes was used to update the previous geological model and resource report. Furthermore, historical boreholes were removed from the new geological model. This was done due to sufficient coverage of new boreholes drilled by Universal Coal being available, substituting the older lower confidence boreholes. More detailed plans were obtained of the historical mined out areas located on the project area, and this information was also incorporated into the geological model and taken into account for coal resource estimation purposes.

This report is an update on the previous resource estimation and resource report produced by Gemecs and dated 31 January 2012. This report is based on the latest geological model and includes all the latest borehole, analytical data and mining plans available as at mid-2013, excluding historical borehole data previously used.

3. LOCALITY

The Brakfontein coal project is located on portions of the farm Brakfontein 264 IR in the Delmas district, Mpumalanga province, South Africa. It is located 20km east-southeast of the town of Delmas and 18km north of Leslie, next to the R50 Provincial road (Figure 1). The area is well serviced by roads and railways and sizeable towns are located at Springs and Delmas in the west and Witbank and Middelburg to the east.

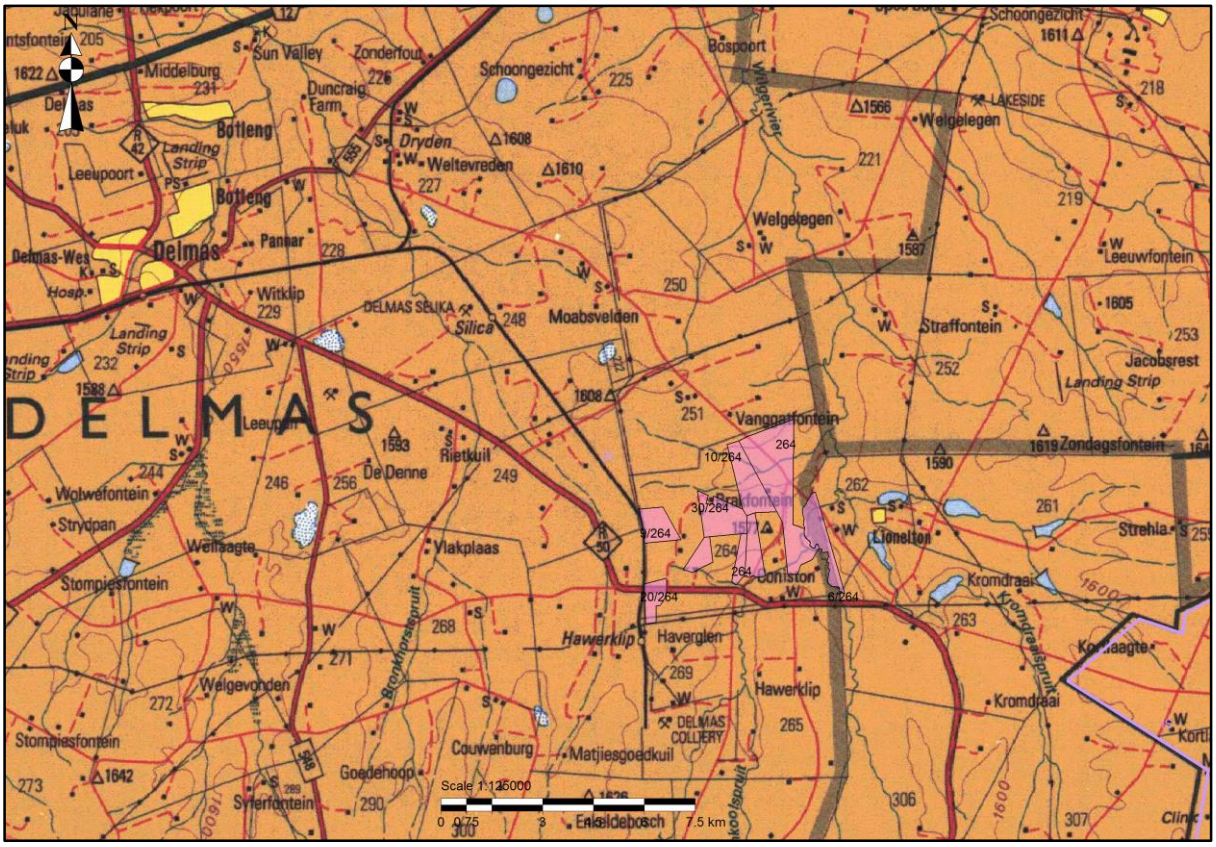

Figure 1. Locality plan

4. TENURE

The project is covered by a mining right MP30/5/1/2/2/10027MR, which was granted to Universal Coal Development III (Pty) Ltd by the Department of Mineral Resources on 25 July 2014. This right is still to be executed. Brakfontein Project is 50.29% owned by Universal Coal Development III (Pty) Ltd a subsidiary of Universal Coal. The following portions of the farm Brakfontein 264IR are included in the mining right covering an area of approximately 879ha:

- Portions 6, 8, 9, 10, 20, 26, 30 and the remaining extent.

The project has an Environmental Authorisation in terms of the National Environmental Management Act 107 of 1998, dated 16 October 2013. It is still awaiting the grant of a Water Use Licence in terms of the National Water Act 36 of 1998 as well as the approval of its Environmental Management Programme. Similarly there are a number of heritage sites of value on the properties which are likely to require approval from the South African Heritage Resources Agency to relocate or destroy.

A plan presenting these portions is presented in Figure 2 below. Details of these portions and surface ownership are presented in Table 2 overleaf.

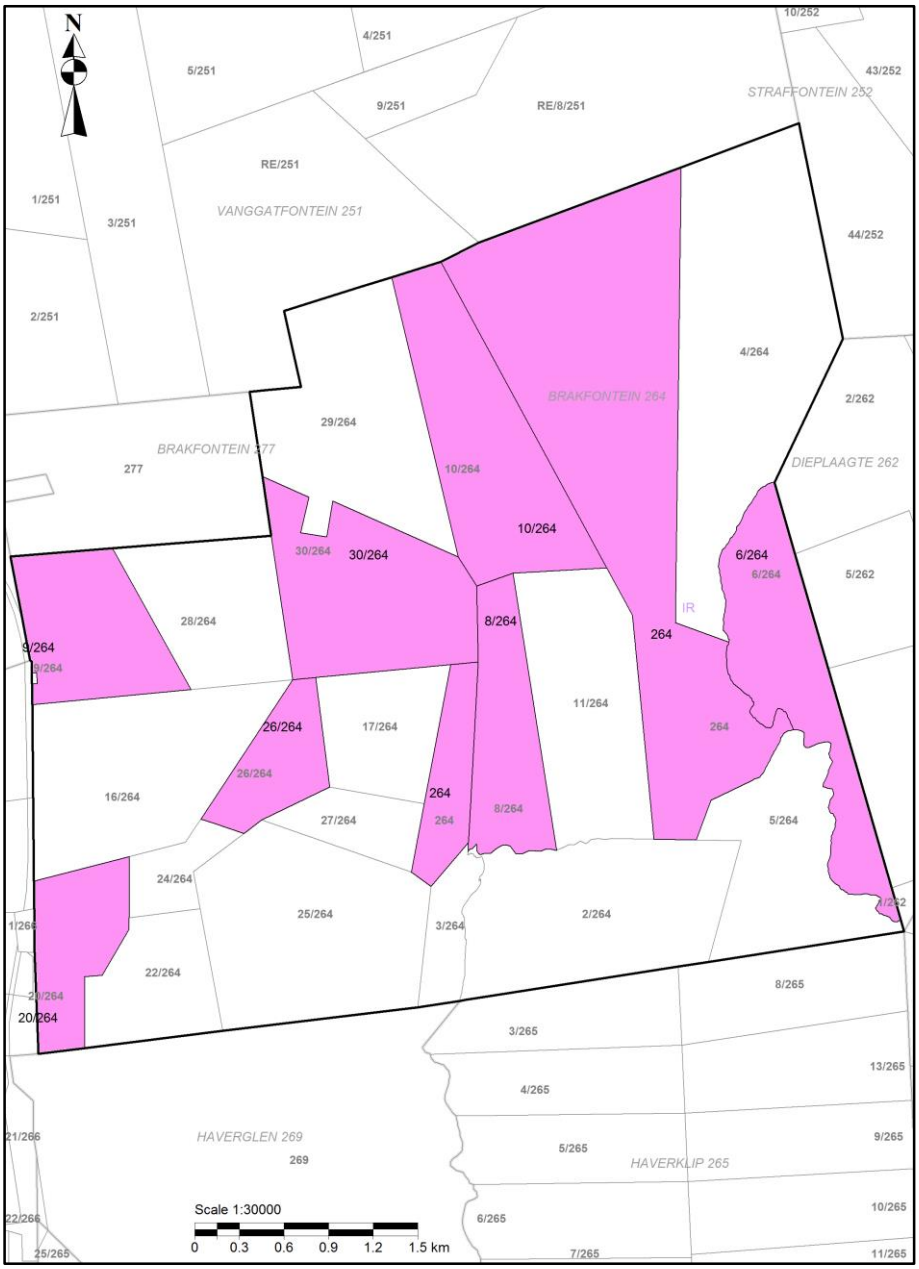

Figure 2. Plan indicating the relevant portions of the farm Brakfontein 264 IR

Table 2. Brakfontein Portions Mineral and Surface rights summary

Farm	Portion	Size (Ha)	Mineral Rights	Holder	Interest	Surface Rights	
			Mining Right			Owner	Access Agreements
Brakfontein 264IR	6	115.53	MP30/5/1/2/2/ 10027MR	Universal Coal Development III (Pty) Ltd	50.29%	Norwesco Inv. (Pty) Ltd	No
	8	74.65				Hannes Potgieter Trustfonds	Yes
	9	86.42				HP van Dyk	Yes
	10	139.71				Andries Schoeman Brakfontein Boerdery (Pty) Ltd	Yes
	20	59.51				Abundant Developments (Pty) Ltd	Yes
	26	46.44				Koos Uys en Seuns Boerdery cc	Yes
	30	130.23				Andries Schoeman Brakfontein Boerdery (Pty) Ltd	Yes
	RE	413.52				Andries Schoeman Brakfontein Boerdery (Pty) Ltd	Yes

5. GEOLOGY

5.1 Regional Geology of Witbank Coalfield

Brakfontein is located on the western margin of the Witbank Coalfield (Figure 3). The northern limit of the Coalfield is defined by the limit of the coal measures where it sub-outcrops against the pre-Karoo formations. The southern limit is regarded as running from several kilometres south of the Delmas Colliery in a generally north-easterly direction to a position somewhere just south of South Witbank Colliery. From this point eastwards for about 60km the limit is defined by the natural boundary of the so-called 'Smithfield Ridge' which is represented by a series of pre-Karoo inliers of Rooiberg felsites, and to the west the limit is where it sub-outcrops against the pre-Karoo formations (Figure 4).

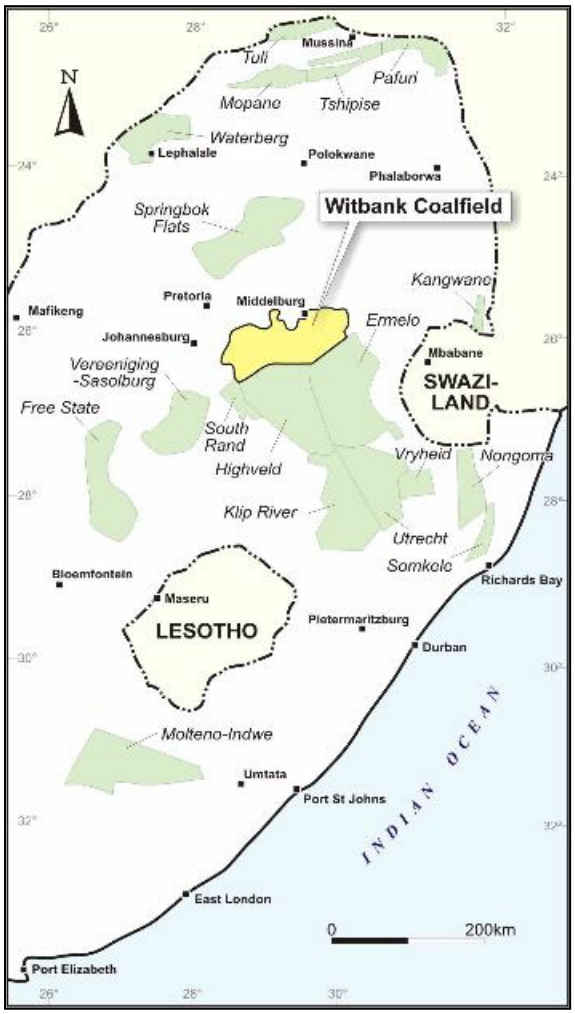

Figure 3. South African Coalfields

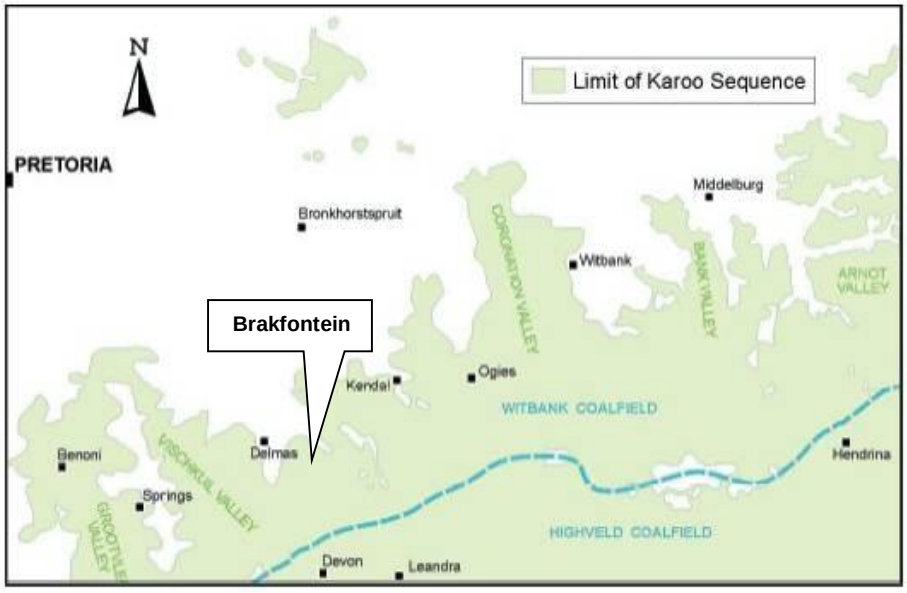

Figure 4. Witbank Coalfield

The sediments of the coal-bearing Ecca Group of the Karoo Sequence in this coalfield were deposited on an undulating pre-Karoo palæo-topographic terrain, which had a significant influence on the nature, distribution and thickness of the coal seams. Post-Karoo erosion has removed parts of the stratigraphic column, including substantial volumes of coal in some areas. A maximum of 180m of Karoo strata is preserved. The general effect of palæo-topography on the coal seams is illustrated in the following diagram:

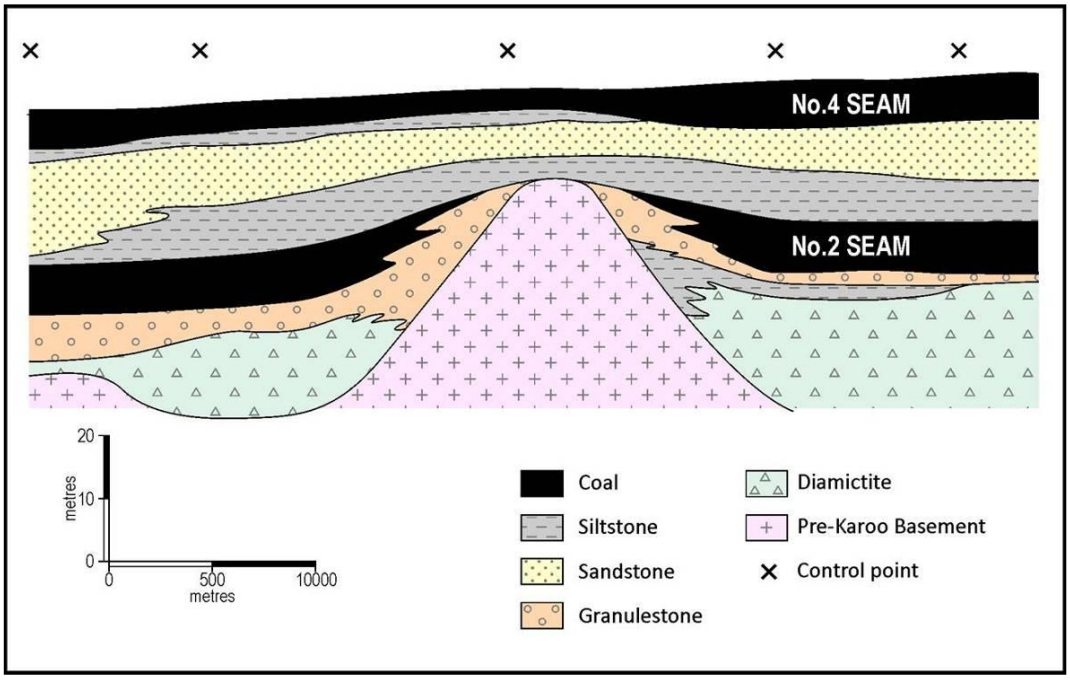

Figure 5. Undulating pre-Karoo palaeo-topographic terrain

The five classically recognized coal seams of the Witbank Coalfield, numbered from the base up as No's. 1, 2, 3, 4 and 5 respectively, are contained within a succession of some 70-75m in thickness (Figure 6). Inter-seam partings between coal seams remain remarkably constant over much of the coalfield, but become somewhat variable towards the northern limits of the coalfield where the various stratigraphic units are generally thinner.

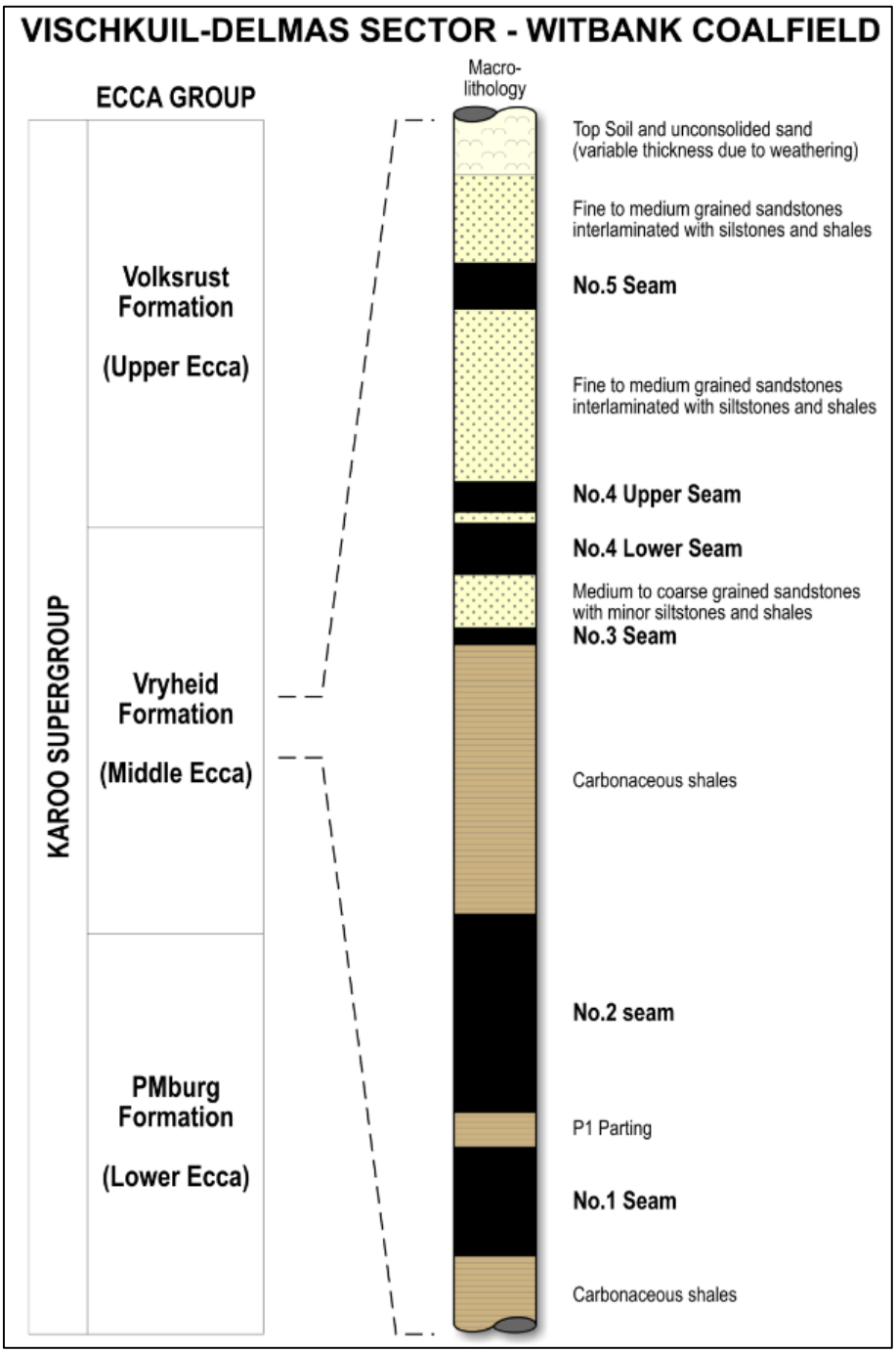

Figure 6. General stratigraphic sequence and coal seams of the Witbank Coalfield

Dolerite intrusions, in the form of dykes and sills, have adversely affected certain parts of the Coalfield. Large areas of coal-bearing ground have been devolatilized or burnt and rendered unsuited to exploitation. Transgressive sill intrusions can cause significant displacement of seams, which seriously affects exploitation in many areas.

5.2 Local Geology

The project area is mainly underlain by the coal-bearing Vryheid formation, part of the Ecca group (Pv) as presented on an excerpt of the 1:250 000 geological series map no. 2628 (East Rand) in Figure 7. The area is characterised by undulating pre-Karoo palæo-topographic terrain as illustrated in Figure 5. Some of these basement outcrops are indicated on the geological map and are predominantly of the Proterozoic Transvaal Supergroup (Vmd, Vdi, Vh). Drilling confirmed the presence of such outcrops, and locally Dwyka tillites underlying the coal seams also sub-outcrop. A prominent northwest-southeast sub-outcrop of basement rocks and Dwyka formations is present in the middle of the project area, dividing the coal resource locally, and negatively impacting on the No's. 4, 2 and 1 seam deposition along this boundary.

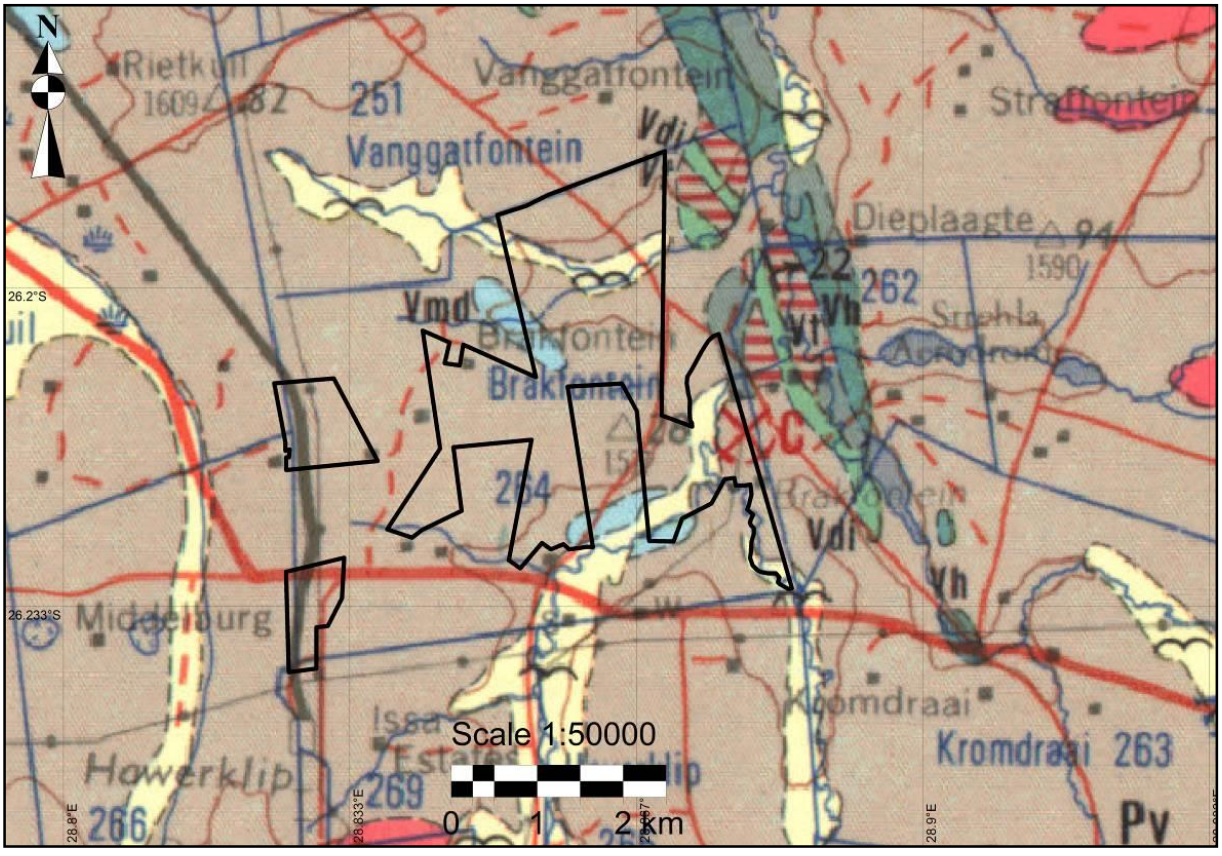

Figure 7. Geological map of Brakfontein

The No's. 1, 2 and 4 seams are the most prominent seams present. Deposition is, however, controlled by the palaeo floor, and not all the seams are present throughout the prospect permit area. The uppermost No.5 seam occurrence is limited due to the effect of surface weathering. The No.4 seam is a combination of the 4 Upper and 4 Lower seams, with a thin inconsistent parting present between the two seams. This coal seam is fairly well developed across the project area, unless in areas where it is negatively affected by basement sup-outcrops and surface weathering. The 4 Upper and 4 Lower seams have been modelled and reported separately due to the difference in the coal qualities. The No.3 seam is poorly developed and usually very thin or absent and of no economic importance. The No.2 seam is the most economic valuable seam in the area, but is also negatively affected by the palaeo topography, weathering and dolerite intrusions. No.1 seam occurrence is limited due to the palaeo floor, and distribution is erratic and limited across the area. Seam intersection values from boreholes are summarised below in Table 3.

Table 3. Seam statistics from borehole intersections

Seam	Number Intersections	Average thickness (m)	Minimum Thickness (m)	Maximum Thickness (m)
S5	9	1.11	0.74	2.20
S4U	45	2.70	0.76	4.54
S4L	69	2.69	0.25	4.36
S2	90	4.49	0.63	11.50
S1	39	0.94	0.11	2.27

The Dwyka/pre-Karoo basement formations forming the undulating floor are presented in Figure 8.

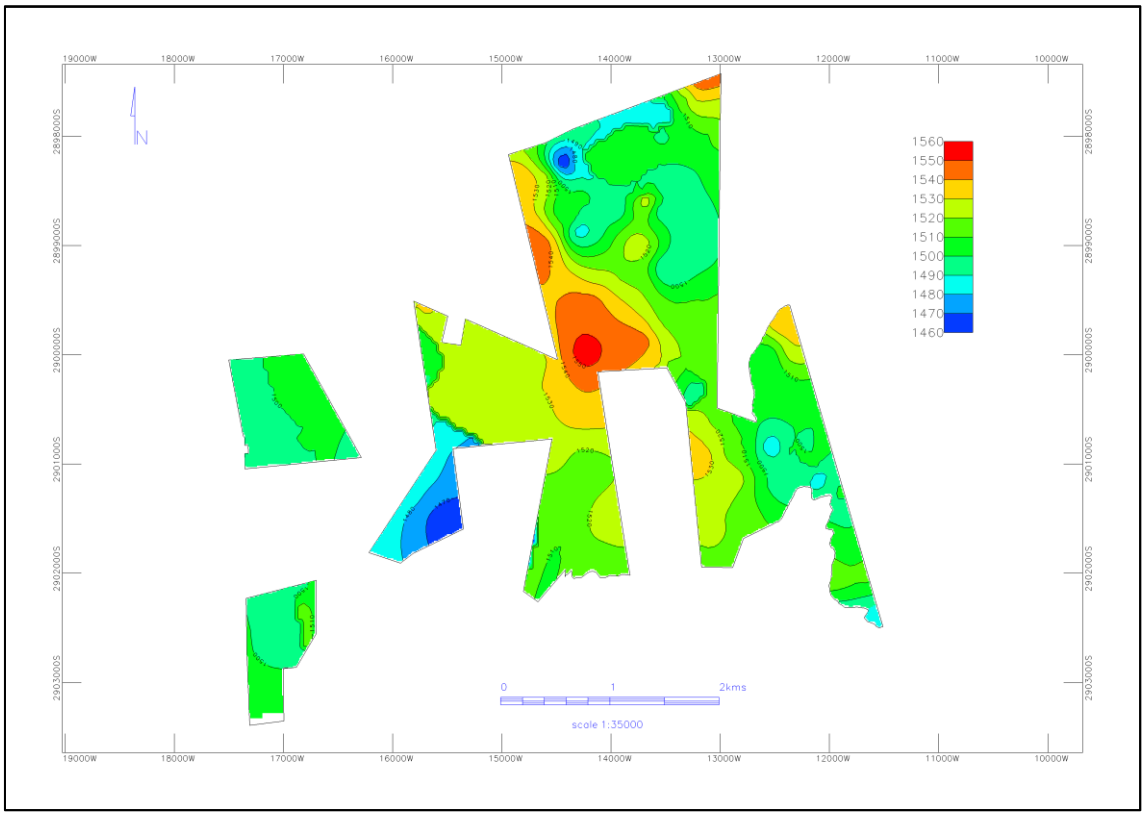

Figure 8. Dwyka/Basement floor – 10m elevation contours

Dolerite sills and dykes are common in the project area. These intersections of dolerite have a negative impact on the local coal qualities and seam conditions. Numerous dolerite intersections are present in the boreholes as logged. Dolerites occur both as sills and dykes, and in the case of sills it can cause significant displacement of the coal seam elevations, and/or cause a loss of the total coal seam(s). Two major north-south trending breakthrough dolerite features (faults) have been identified to the west of the project as a result of the dolerite sill intruding between the No.4 and No.2 seams. Smaller faults (possible dolerite breakthroughs), are also present at the Opencast 1 & 2 resource areas. Three sections are presented overleaf to illustrate the effect of dolerites, weathering and local sub outcrop of coal seams.

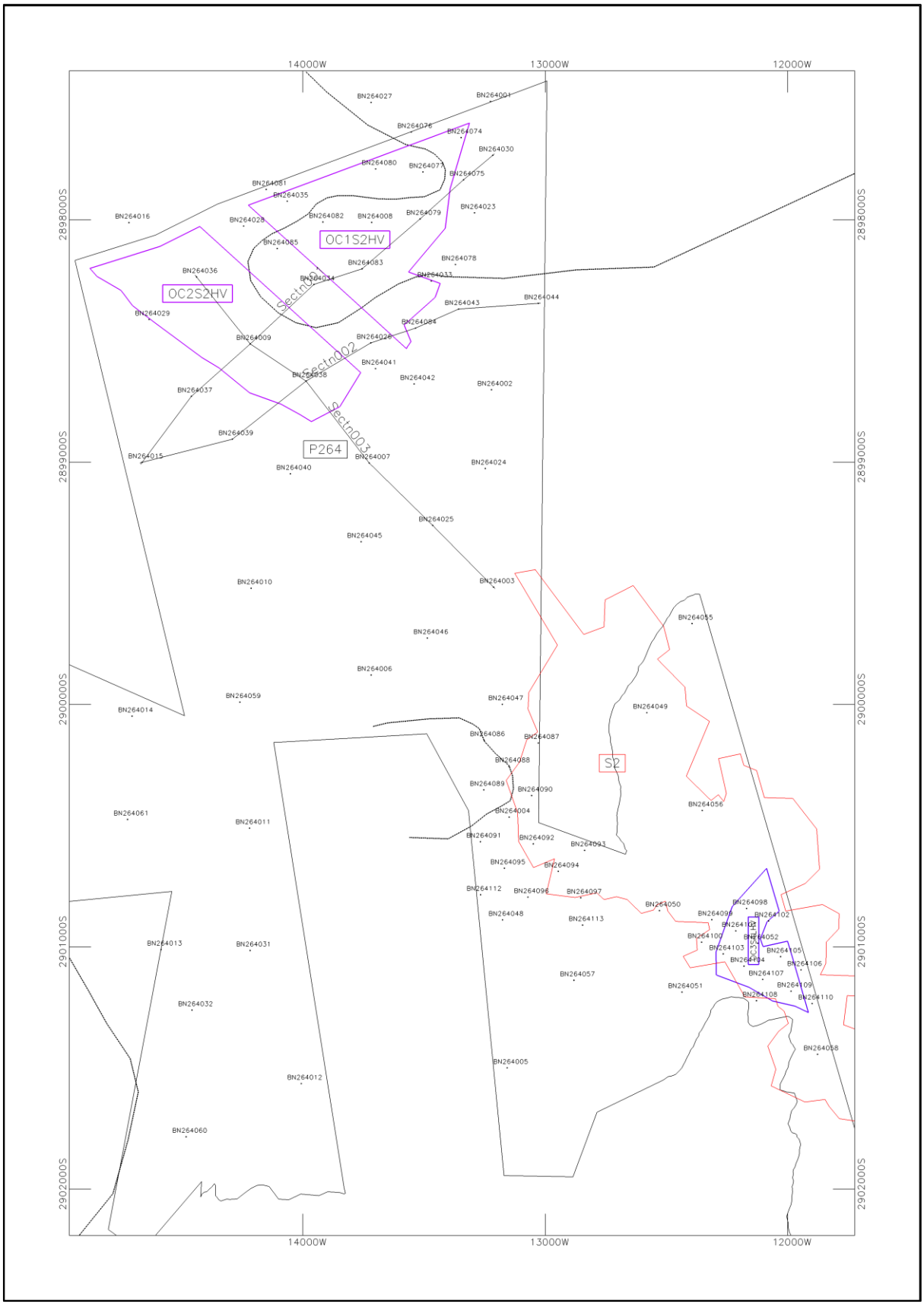

Figure 9. Borehole plan indicating section lines

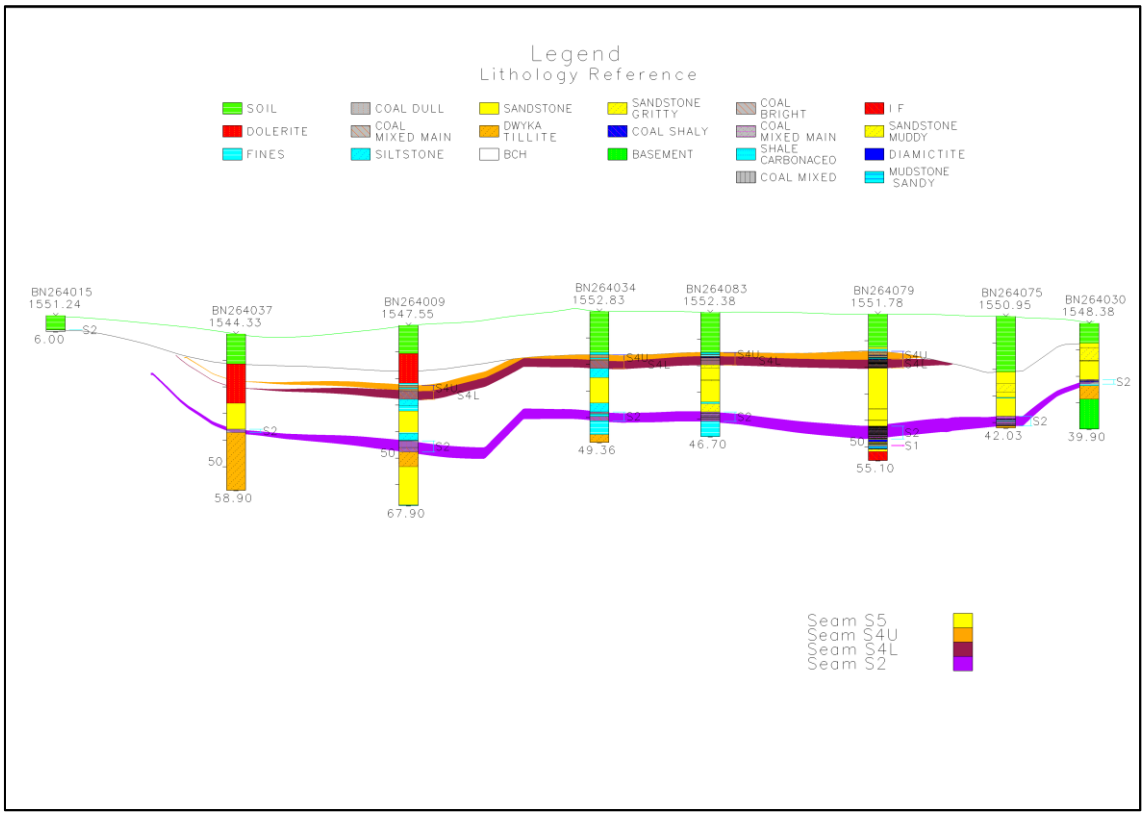

Figure 10. Section 001 illustrating dolerite sill breakthrough/fault on seams

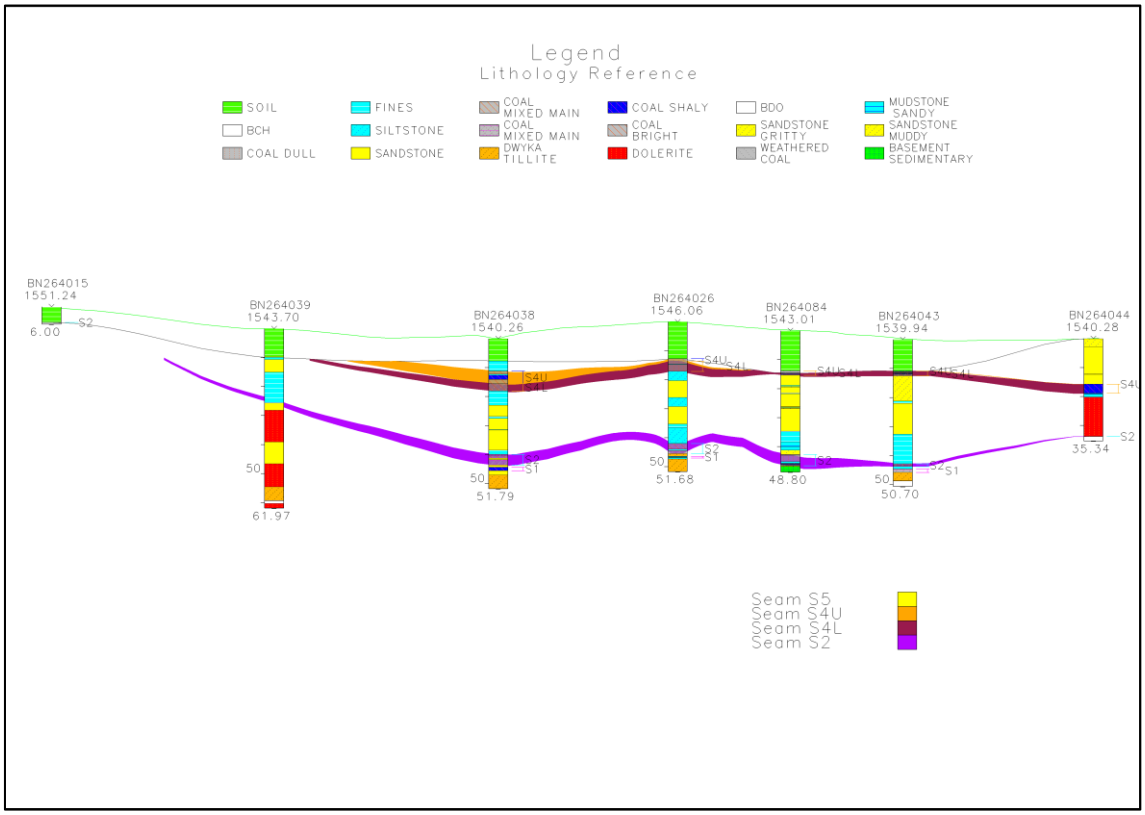

Figure 11. Section 002 illustrating normal seam structures with weathering

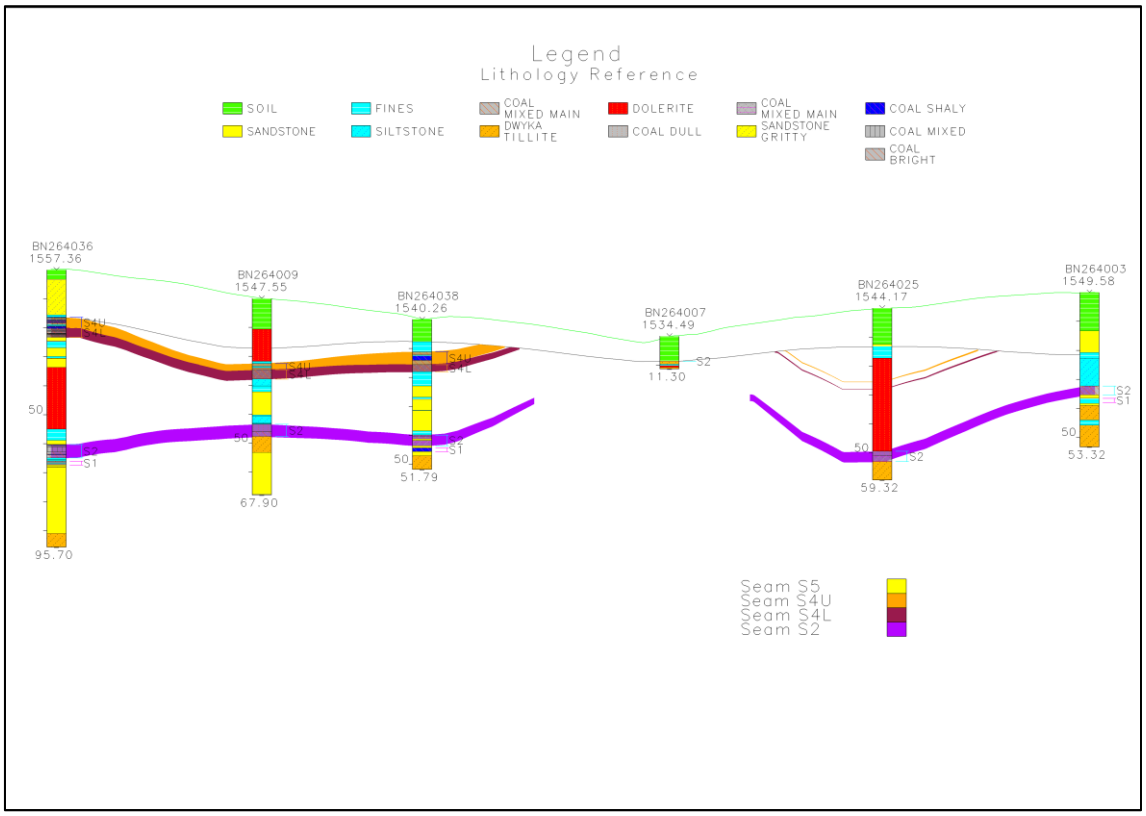

Figure 12. Section 003 illustrating normal seam structures with local basement sub outcrop

From the latest available detailed mine plans of the historical underground workings from the No. 2 seam in the east of the area, numerous dolerite intersections are indicated, and similar conditions are expected for the remainder of the mining area. Accurate estimations of possible dyke and sill intersections are, however, not possible from borehole interpretations only. To mitigate this shortcoming, a geological loss factor is applied to the coal resource tonnages for the mineable areas. This latest detailed historical mine plan, together with dolerite interpretation (in green), is presented in Figure 13.

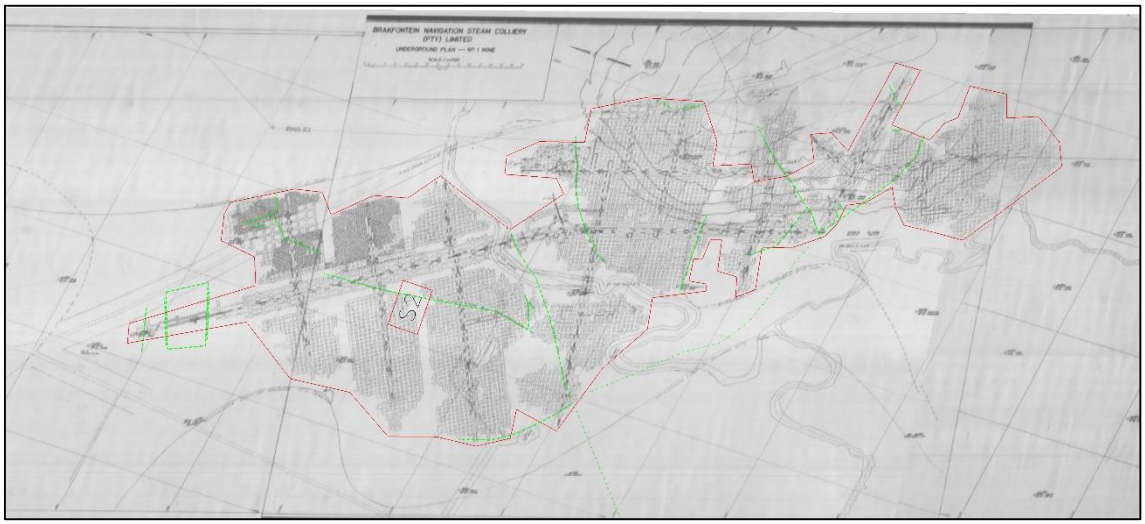

Figure 13. Underground plan of No.2 seam with dyke interpretation in green from Brakfontein Navigation Steam Colliery (Pty) Ltd

The effect of surface weathering is variable, but is on average 13m deep. Shallow coal at less than 15m below surface is usually negatively affected by the weathering. The presence of surface streams, wetlands and dolerite intersections can locally cause an increased weathering depth up to 25m deep. A plan presenting the weathering depths is presented overleaf in Figure 14.

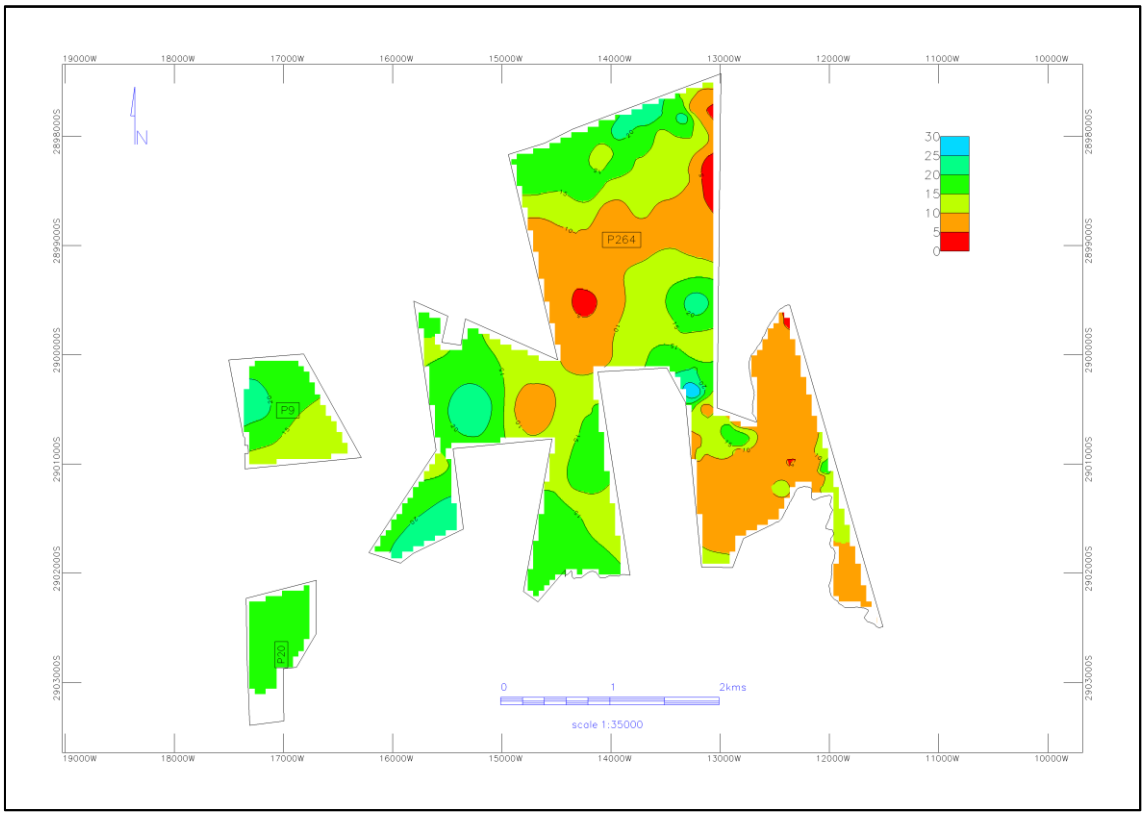

Figure 14. Limit of Weathering (LOW) thickness plan – 5m intervals

5.2.1 Coal Seams Structure Plans

Plans indicating each coal seam's physical characteristics, i.e. floor contours, seam thickness and depth below surface, are presented in Figures 15-29.

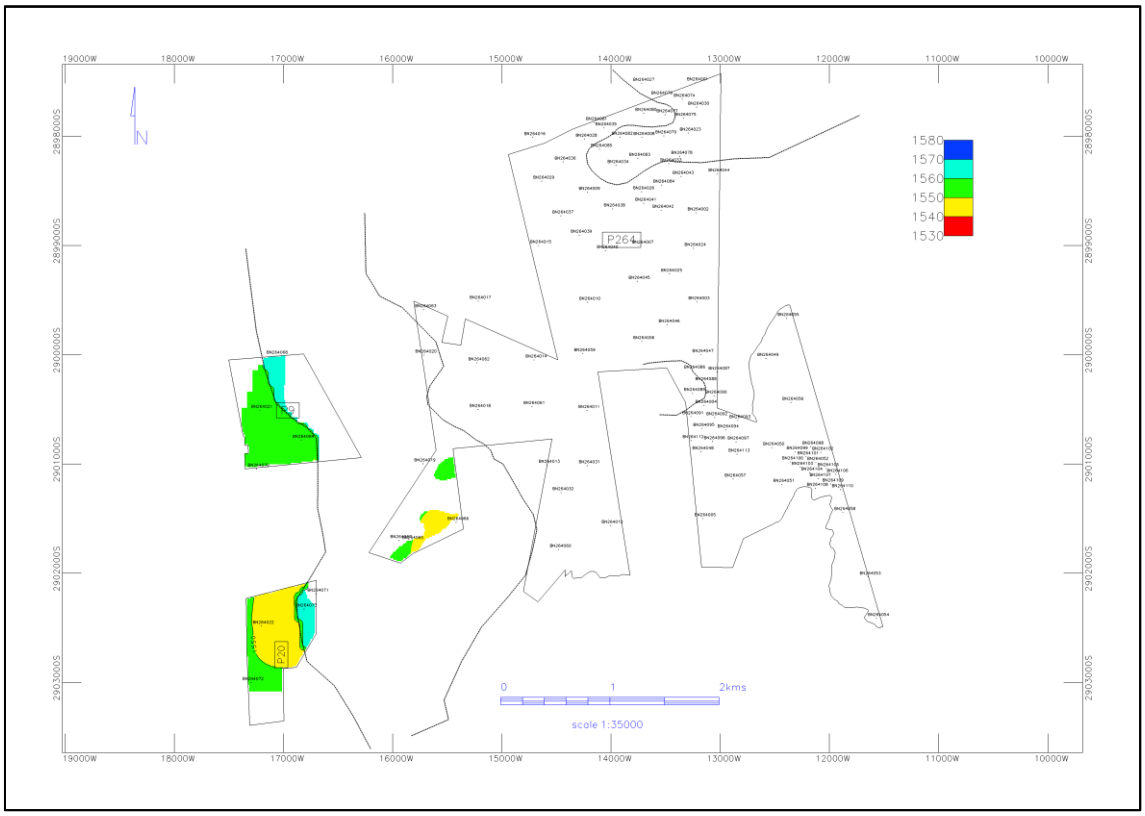

Figure 15. Seam 5 Floor elevation (mamsl)

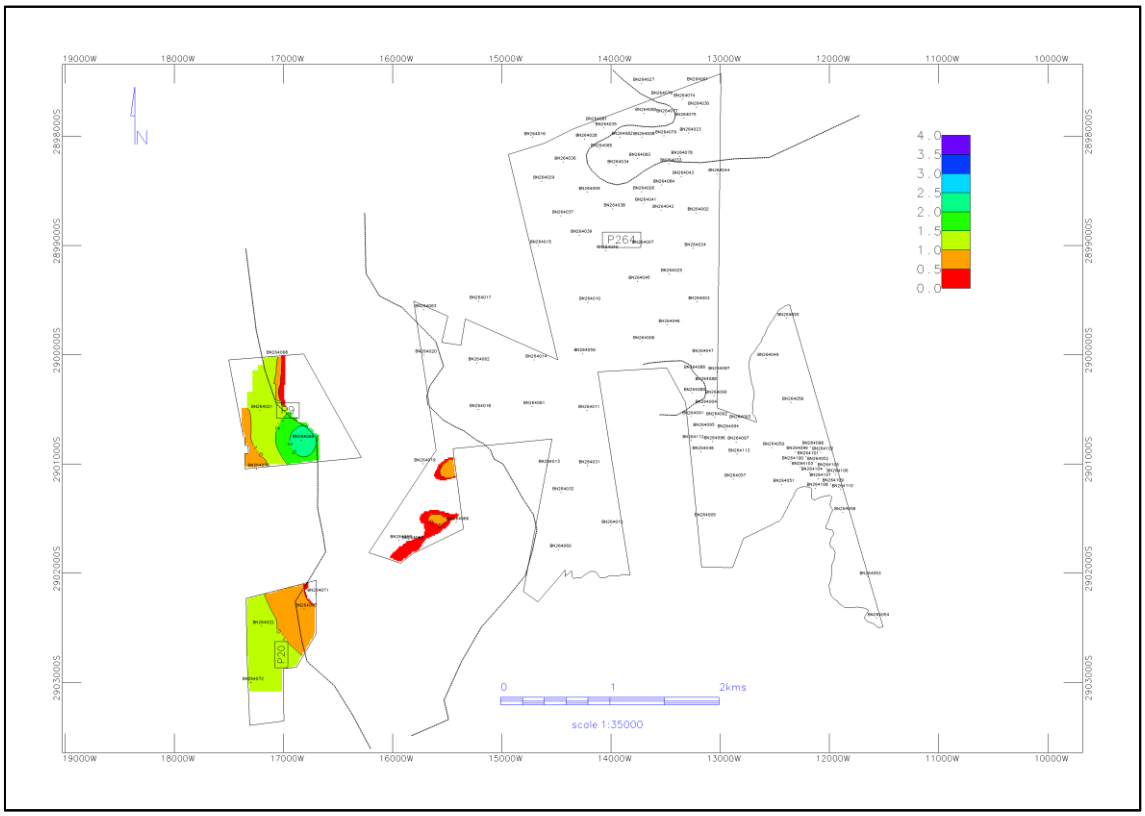

Figure 16. Seam 5 Seam thickness (m)

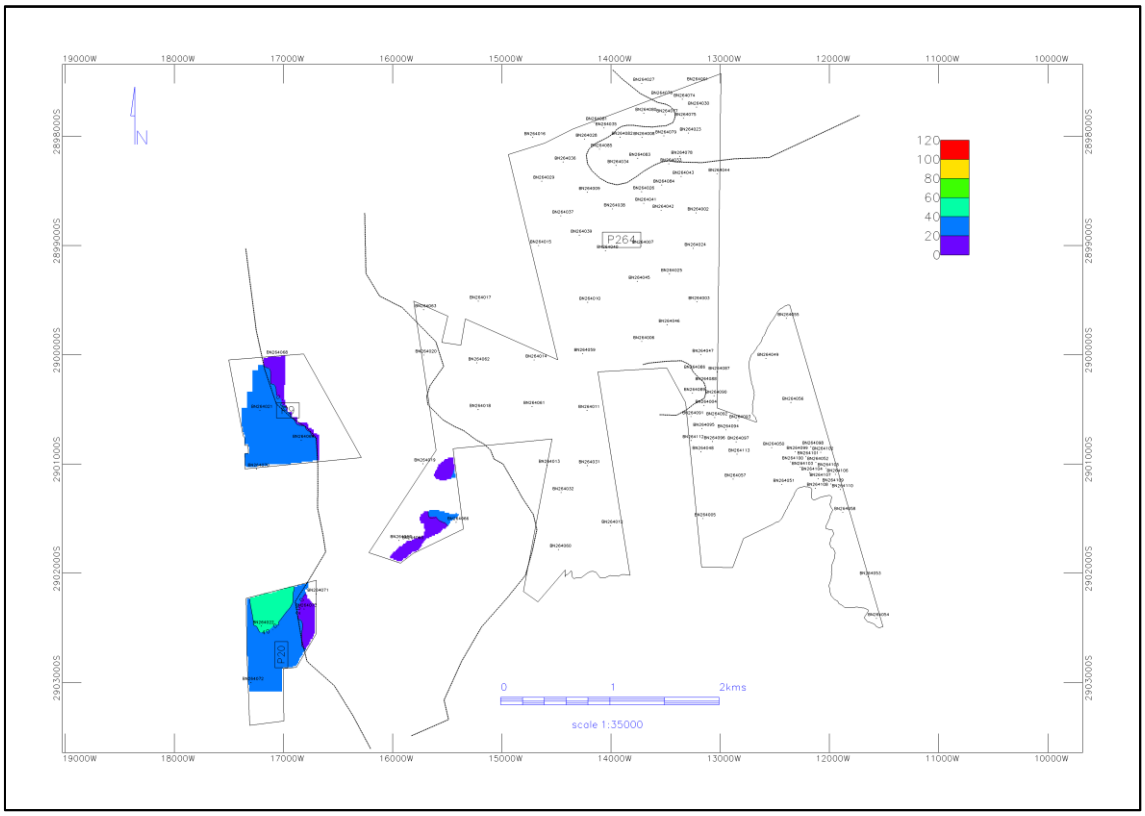

Figure 17. Seam 5 Depth below surface (m)

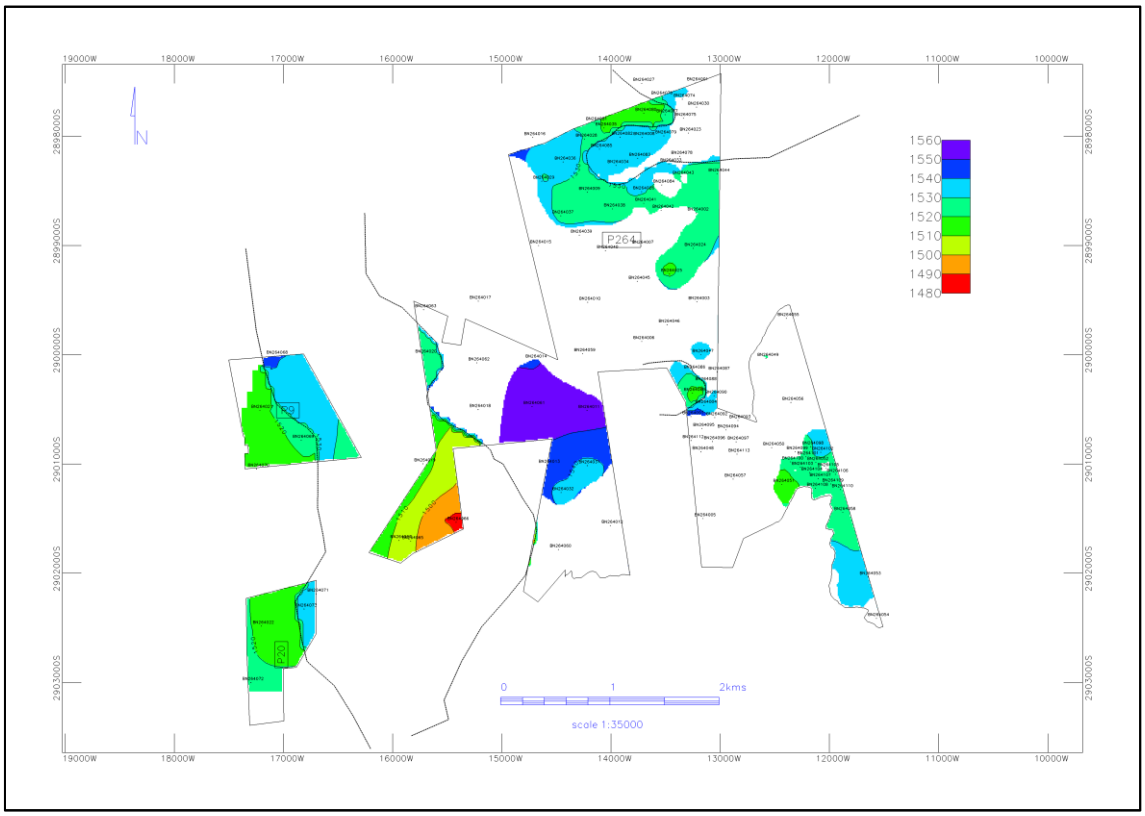

Figure 18. Seam 4 Upper Floor elevation (mamsl)

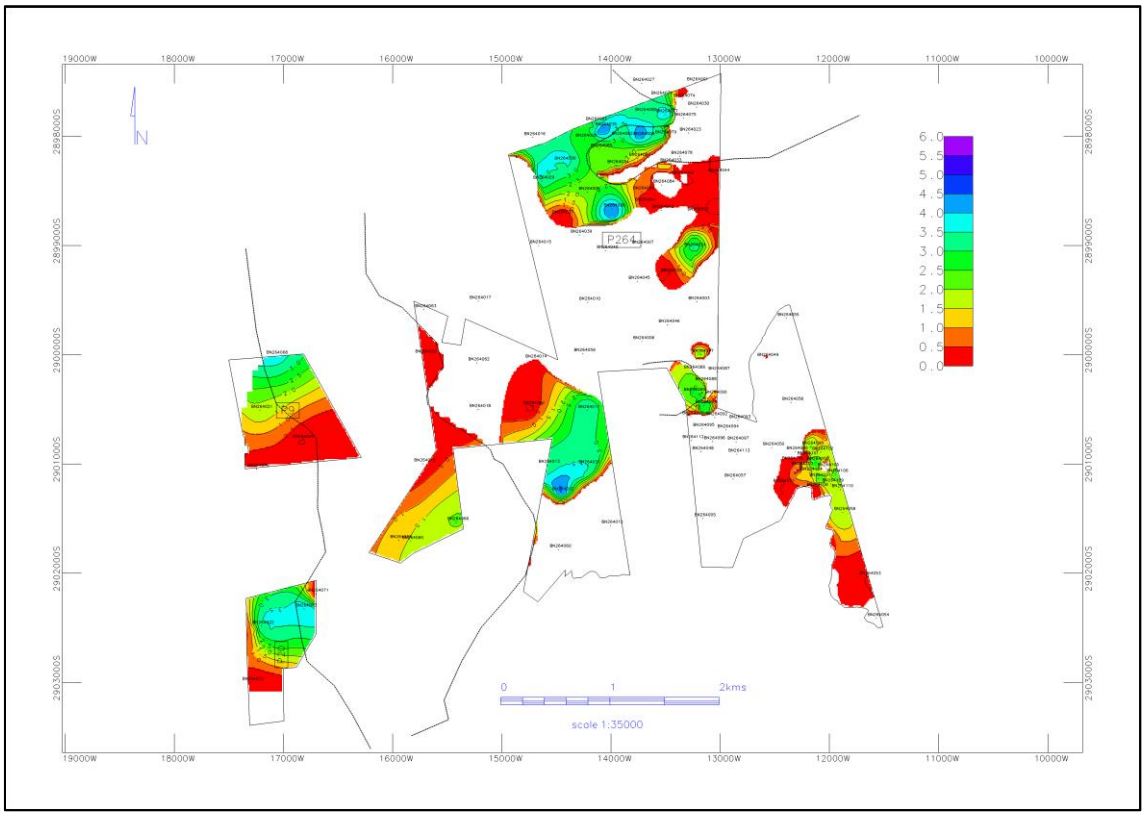

Figure 19. Seam 4 Upper Seam thickness (m)

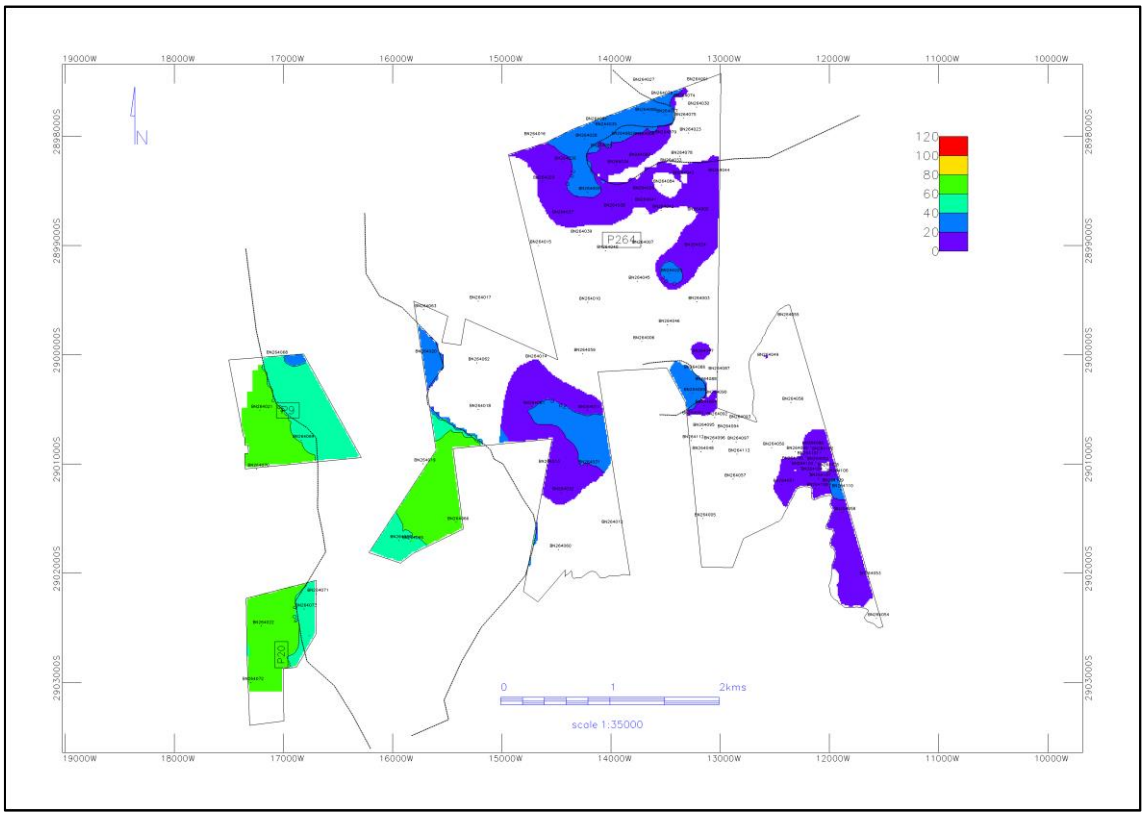

Figure 20. Seam 4 Upper Depth below surface (m)

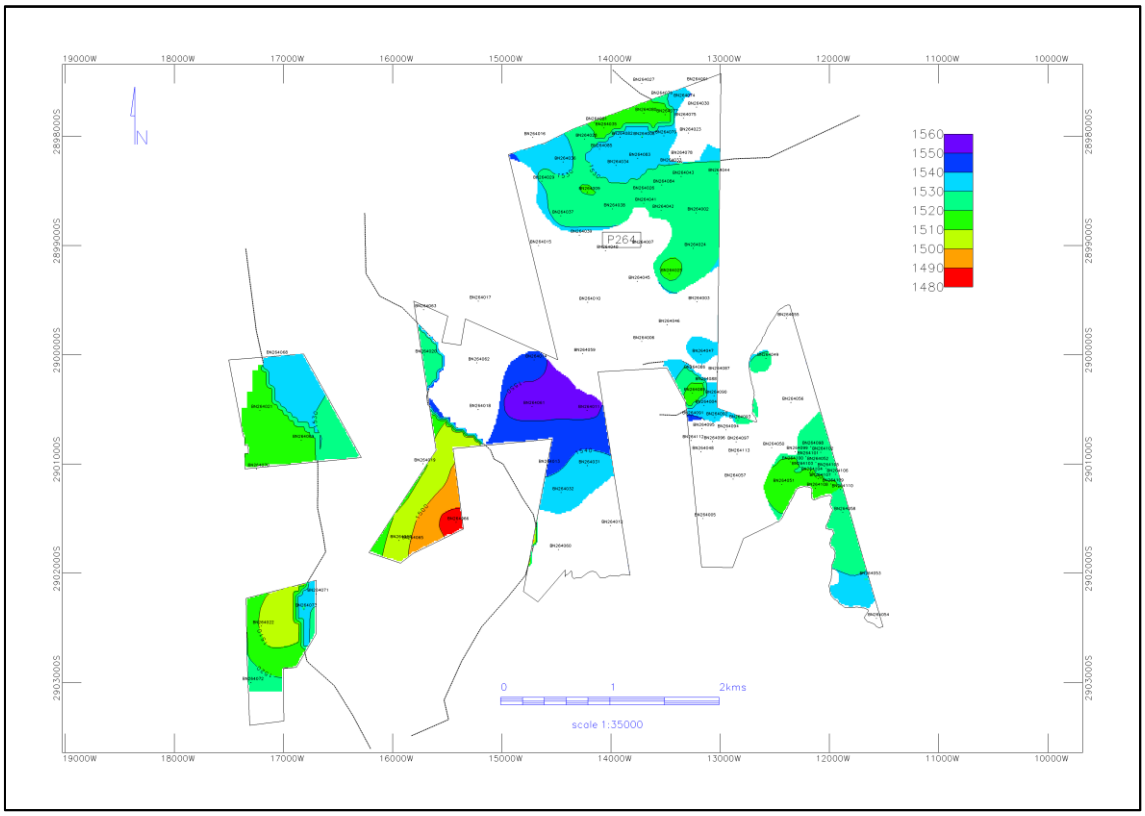

Figure 21. Seam 4 Lower Floor elevation (mamsl)

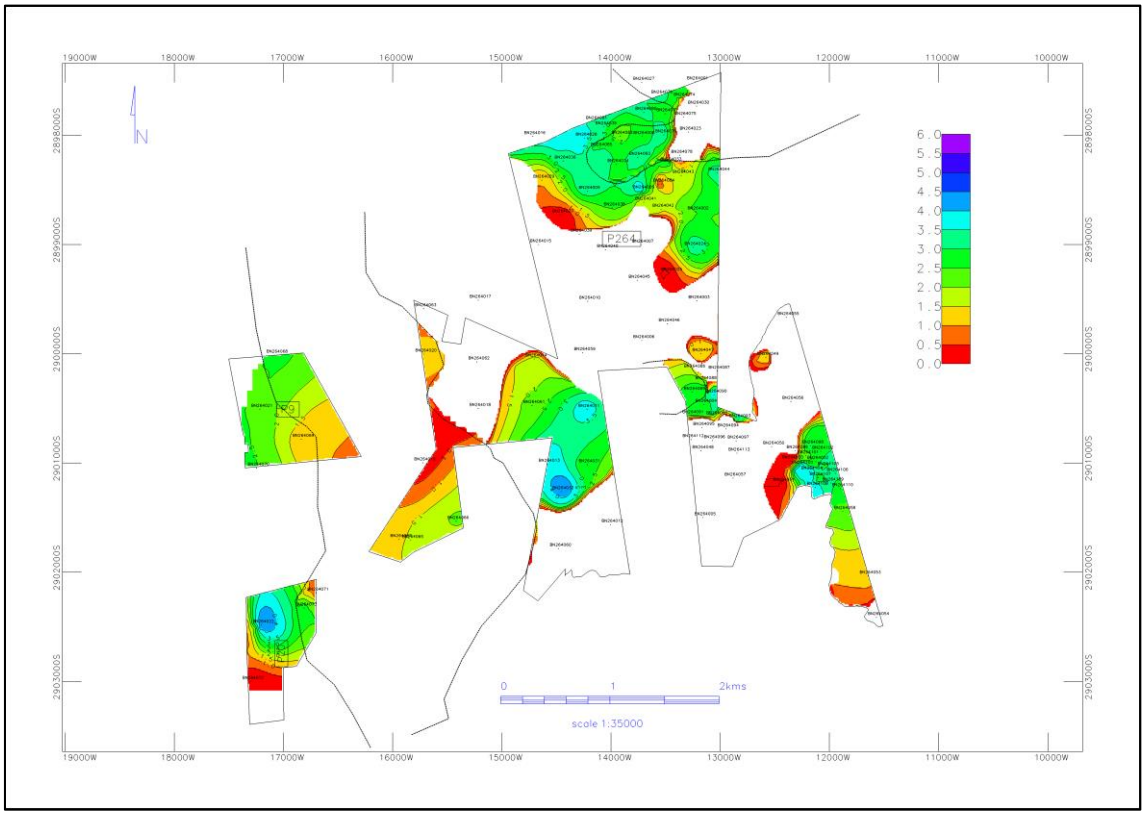

Figure 22. Seam 4 Lower Seam thickness (m)

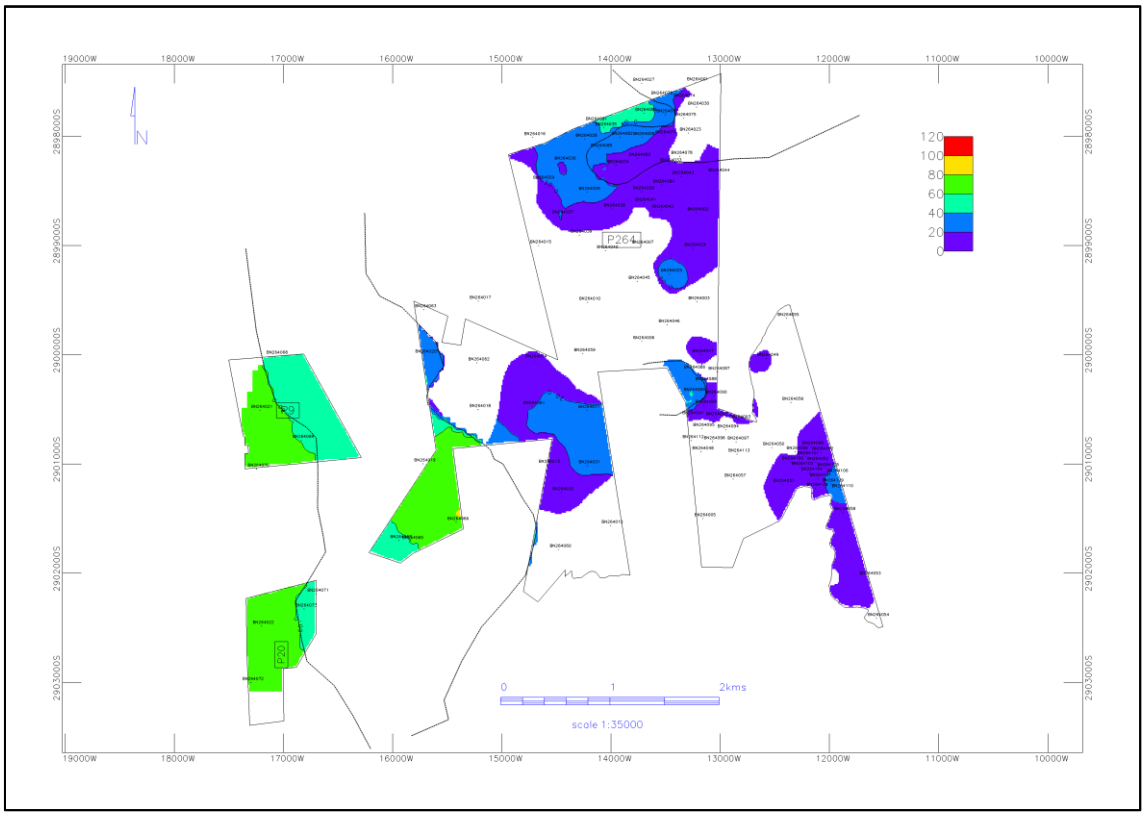

Figure 23. Seam 4 Lower Depth below surface (m)

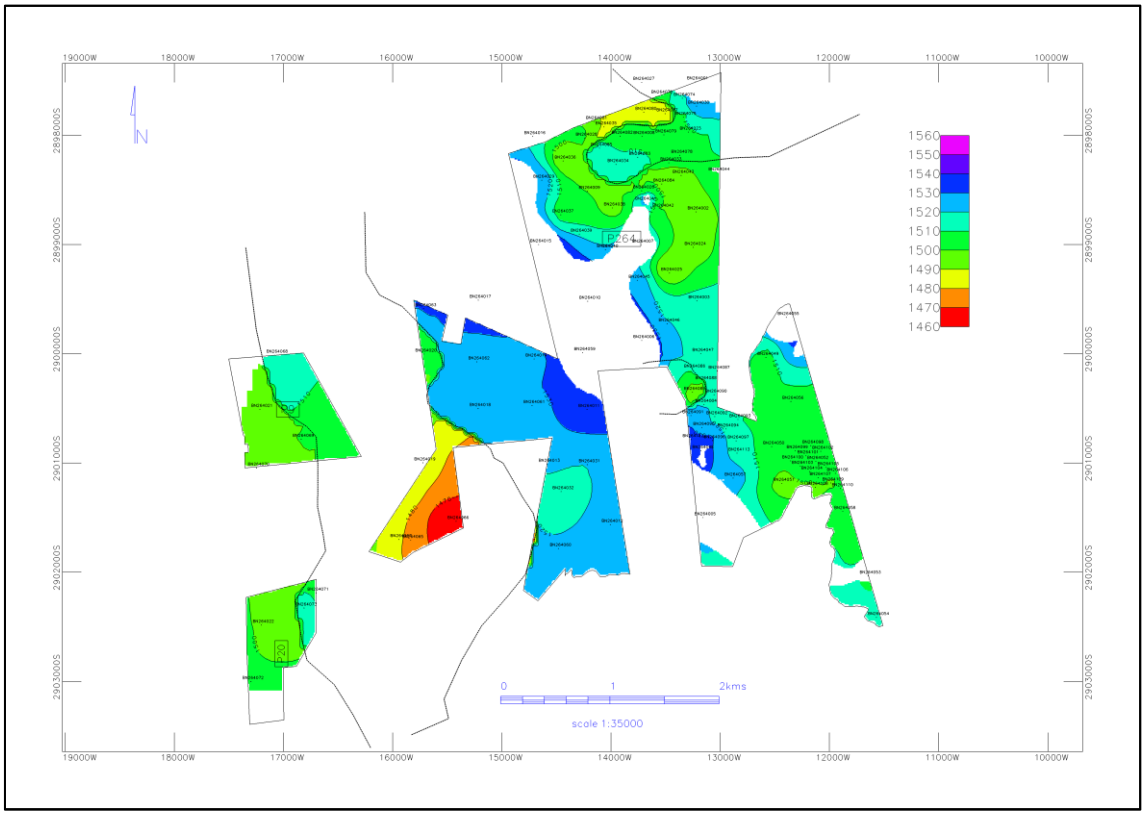

Figure 24. Seam 2 Floor elevation (mamsl)

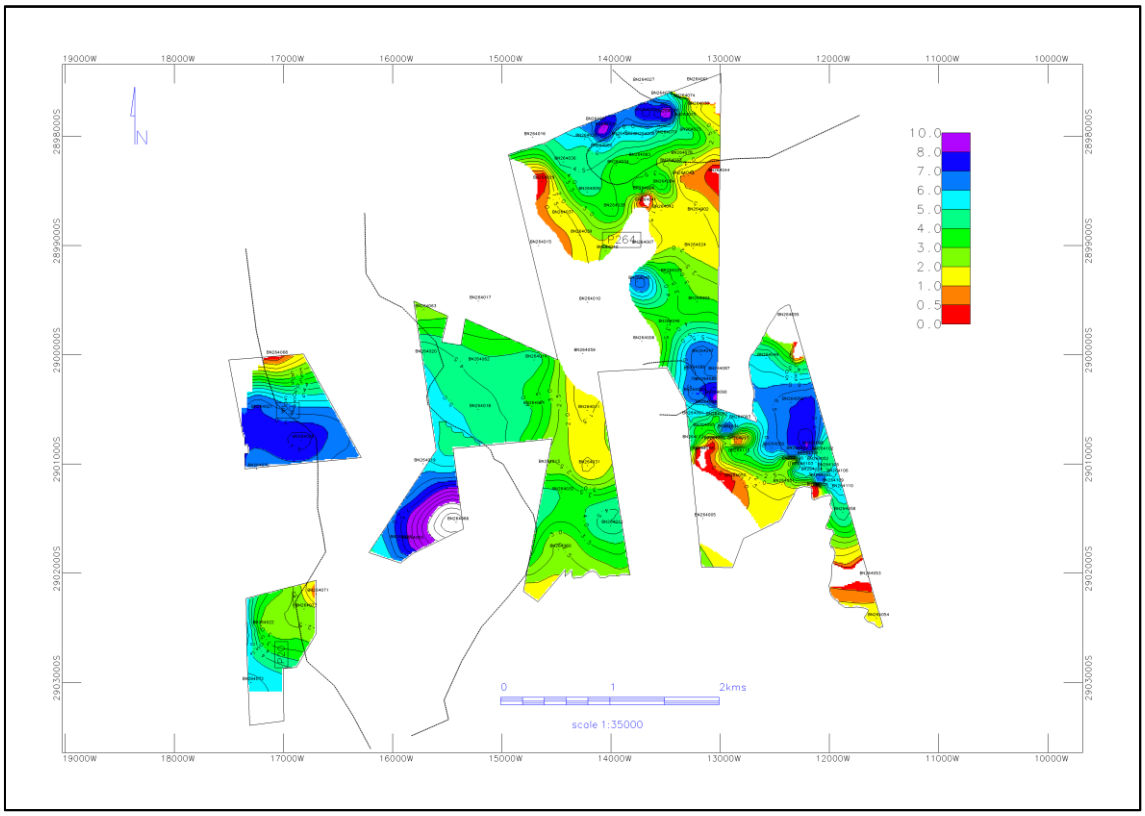

Figure 25. Seam 2 Seam thickness (m)

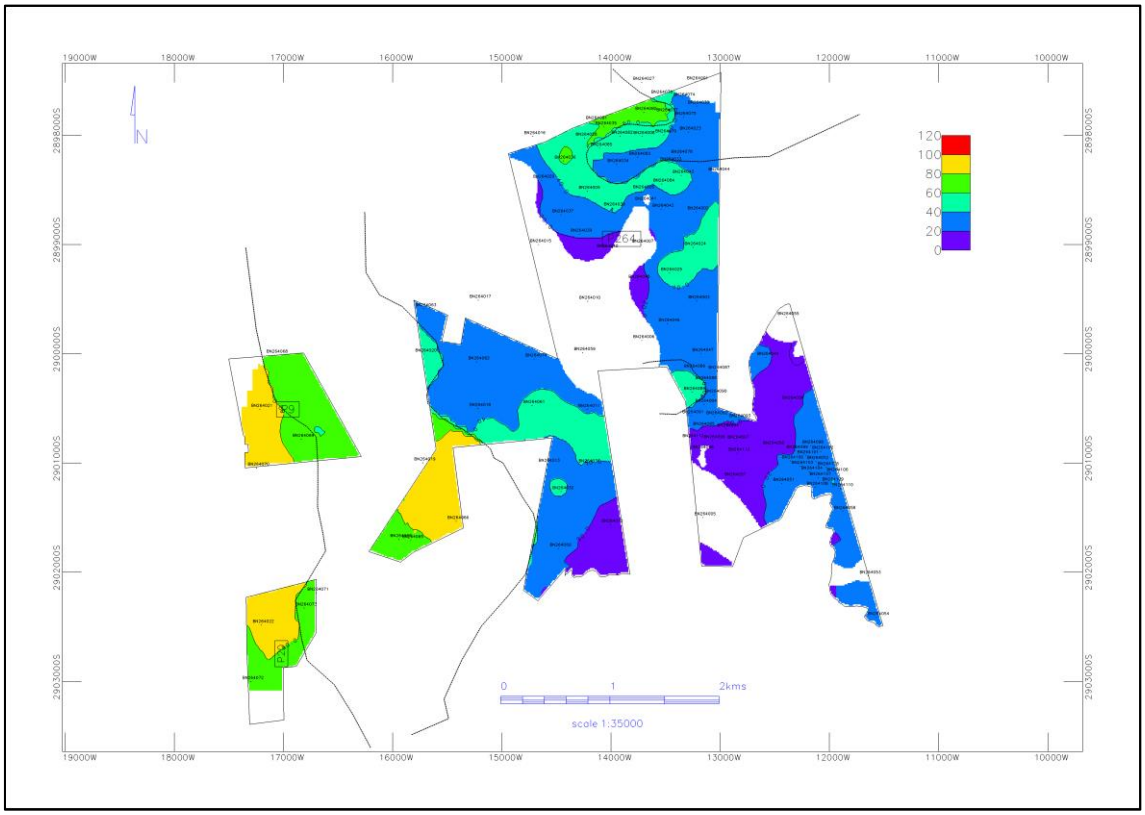

Figure 26. Seam 2 Depth below surface (m)

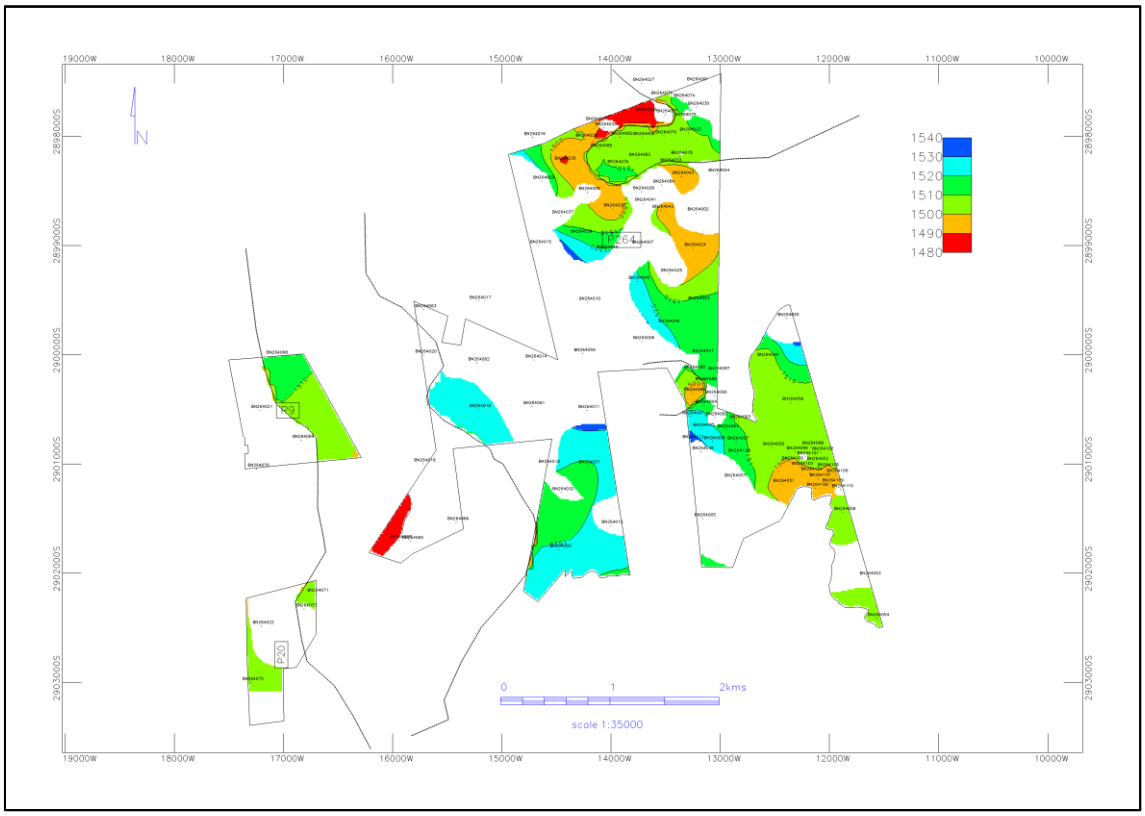

Figure 27. Seam 1 Floor elevation (mamsl)

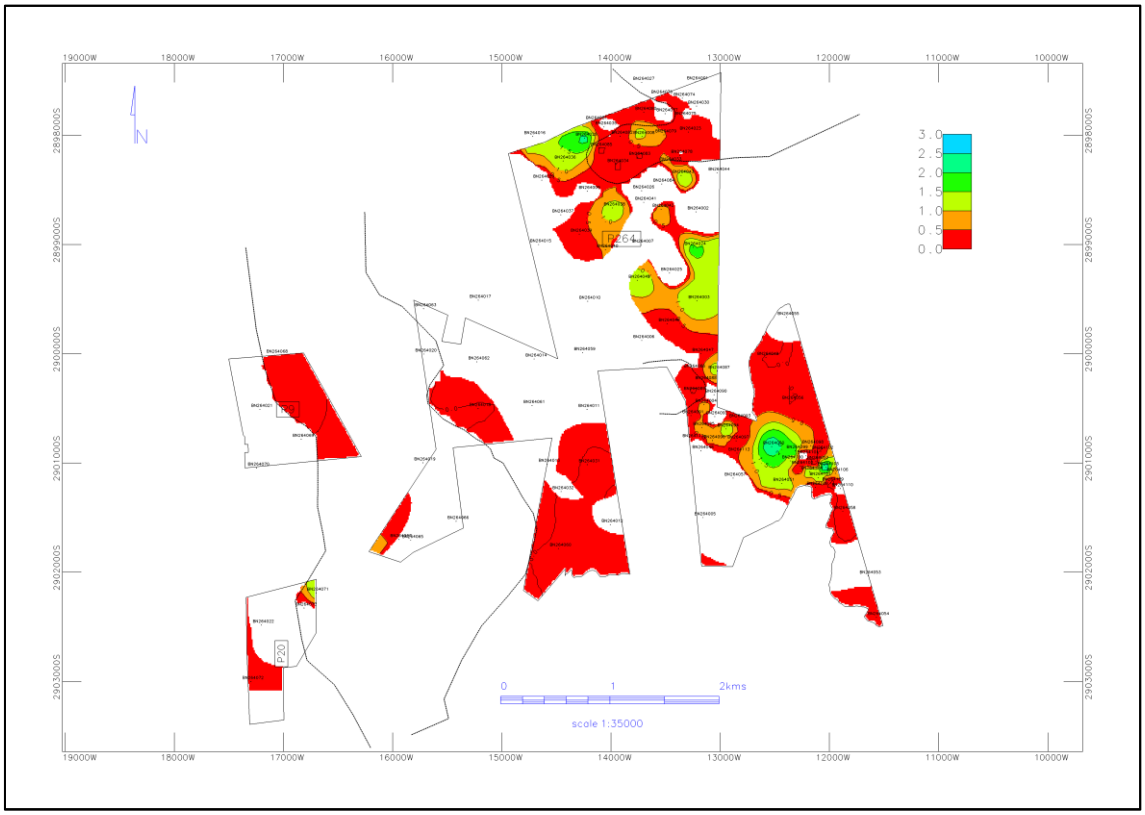

Figure 28. Seam 1 Seam thickness (m)

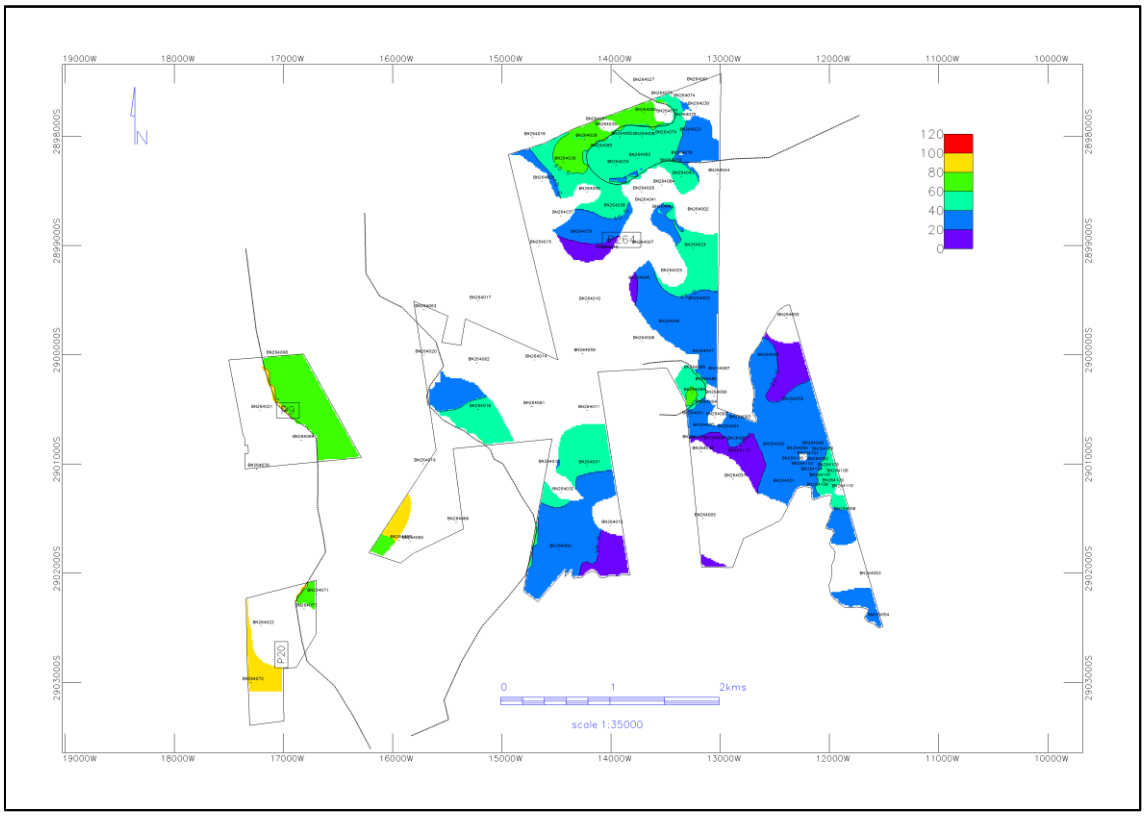

Figure 29. Seam 1 Depth below surface (m)

6. EXPLORATION AND DATA

6.1 Drilling

A total of 225 boreholes are present in the database. Of these, 114 boreholes are historical holes, with occasional limited lithological and coal analytical information recorded. A fair number of these boreholes are also situated outside the portions covered by the prospecting right. The remaining 111 boreholes were drilled by Universal Coal, with acceptable seam sampling coverage, detailed geological descriptions and geophysical data.

The Universal Coal drilling was done in phases:

- Between 2009 and 2011, Universal Coal drilled 72 holes at an average grid spacing of 250m x 250m and totalling 3813.77m.
- In 2012, Universal Coal completed another 39-hole infill drilling program, totalling 1,667.28m, aimed at drilling out additional high-quality open-pit areas, towards the northern and south eastern extent of the area, identified during the initial drilling phase. This drilling was completed at a drill spacing of approximately 150m x 150m.

All boreholes were cored fully using a conventional TNW size barrel (60.5mm core diameter). An assessment of core recovery was made by the geologist in the field using the recovered thickness versus thickness reported in the geophysical log. If core recovery for a coal seam fell below 95 %, the borehole was re-drilled.

All boreholes were sealed after drilling, and sites were rehabilitated to acceptable standards.

6.2 Survey

Planned borehole positions were staked in the field using a handheld GPS. Actual borehole positions were sited as close as possible to the planned position, taking into account site accessibility and local surface features. The pegged positions were again surveyed using a handheld GPS, and both X and Y coordinates as well as the ground elevation were recorded for each borehole. After the completion of the borehole, a registered surveyor was contracted to perform the final collar survey for each borehole. The final survey was done using a dual frequency GPS with base station, with an accuracy of 10mm. A surface DTM survey was also completed by a qualified surveyor to cover the initial mining areas. All borehole collars were checked against this DTM surface for accuracy. All borehole coordinates are surveyed in the Local 29 survey system and Hartebeesthoek 94 datum.

6.3 Logging

All borehole cores (total length) were depth marked, geologically logged and photographed and then sampled by independent, qualified and experienced coal geologists employed by Gemecs. All borehole cores were logged following industry-accepted coal lithological descriptions, procedures and methods. All logging carried out was qualitative in nature. Every aspect of the drill core was recorded in a standard data capturing template, using a standard set of description codes, and transferred to a dedicated borehole database for further validation.

All boreholes intersecting coal were geophysically logged by Geoline Services. A standard suite of geophysical sondes was run, including both long and short-spaced density (g/cc), gamma and caliper. All geophysical tools were calibrated prior to arrival on site. Hardcopy prints of the total borehole layout, as well as detailed printouts of the coal seam horizons, were made available on site. Electronic data files (LAS), as well as soft copy PDF versions, were received at a later stage and imported to the geological database.

6.4 Sampling

Sampling of coal seams was undertaken only once the coal seam was logged accurately and in detail, together with the available hardcopy of the geophysical detailed logging results. Sample increments were based on variations in coal characteristics in conjunction with density data obtained from wireline logs.

Whole core was sampled as per the South African industry standard and described as required in SANS 10320:2004. Where any core loss occurred, this was recorded on the sampling sheet. Only coal seams with satisfactory core recovery were sampled.

All coal seams and intra seam non-coal partings intersected were usually sampled separately depending on the thickness of the parting. As a guide, partings with a thickness of more than 30cm were sampled on their own and if less than 30cm, they were included with a coal sample.

All coal samples were treated with due care during handling in order to minimise any change to the originally sampled material. The samples were bagged in 250 micron thick polyurethane bags. A specially printed Gemecs paper sample tag was placed inside the bag with the coal and a further tag affixed to the uppermost fold-over of the bag. Each sample mass was recorded using an electronic scale before being submitted to the coal laboratory. For each sample the unique sample ID, sample thickness and sample mass was recorded on the borehole log sheet. In addition, the client name, project ID as well as date was added to the

sample ticket. The sample mass is not included on the sample ticket to the lab, as the lab is required to weigh and report each sample mass before analysis as a sample control measure.

All samples submitted to the coal laboratory are completed on a standard Gemecs sample instruction book in triplicate, with the required analytical instructions for each sample. Upon delivery at the lab, all samples are checked and signed off as delivered to the lab.

6.5 Coal Analyses

The Phase 1 borehole samples were analysed by Inspectorate Laboratory (a Bureau Veritas Group company) in Middelburg, Mpumalanga, South Africa and the Phase 2 borehole samples by the SGS Trichardt Laboratory in Mpumalanga, South Africa.

Both laboratories are SANAS accredited and comply with South African Bureau of Standards and ISO standards for sample preparation and sub sampling and analysis.

All coal samples were crushed to a top size of 25mm before analysis, a size deemed appropriate for the type and nature of the coal at Brakfontein.

For each sample the following tests/analyses were performed:

- The raw Relative Density ("RD") was determined using the water displacement method.
- The sample was air dried to eliminate all surface moisture and the air dried mass was recorded.
- The air-dried sample was crushed and screened and divided into –0.5mm and +0.5-25mm fractions.
- Proximate analysis (raw) was done on the two size fractions including inherent moisture content (C030-403W - Based on SABS 925), ash content (C030-401W - based on ISO 1171:97), volatile matter content (C030-404W - based on ISO 562:98) and fixed carbon (by difference).
- Raw gross calorific value (MJ/Kg) (C030-405W - based on ISO 1928:95) and total sulphur content (C030-402W - based on ASTM:D4239-04a (Method B)) were determined for each size fraction.
- Calculation of reconstituted raw coal values for total sample.
- Washability tests (Float & Sink) were conducted on all specified samples. Wash densities plus sink were analysed on a 0.10 interval using the following densities: (F1.40, 1.50, 1.60, 1.70, 1.80, 1.90 and S1.90). The samples were screened and then submerged in a chemical solution at specific densities starting with the lowest (F1.40). The float was removed, dried and weighed and the sink moved onto the next barrel

containing a higher density solution. This process was repeated until the maximum requested density (F1.90) was reached. After the washing process, a representative sample of the different float fractions were submitted for a variety of laboratory tests on an air dried basis, including gross calorific value (CV), inherent moisture (IM), volatile matter (VM), total sulphur (TS) and ash (AS) contents, which were calculated as percentages. Fixed carbon content (FC) was calculated by difference.

- Calculation of cumulative wash values for each cut-point density and of reconstituted raw coal values for each washability test sample.
- Ultimate analyses, ash analysis, ash flow temperature, abrasiveness index and hard grove index test work/analyses were done on representative samples.

Where the laboratory detected irregular analytical results, a duplicate sample was re-analysed. Where this procedure did not resolve the irregularity, a duplicate sample was sent to an external laboratory for verification.

Both Inspectorate and SGS make use of a custom-designed LIMS with traceability to all raw data. All data calculations are done automatically and are first line checked by the laboratory supervisors for duplicate results and all out of tolerance results are repeated. Completed projects are handed over to the Customer Liaison Officer. Data is extracted to Microsoft Excel where it is pulled into graphs (macro operated) with pre-set limits using calorific value/ash correlation with upper and lower tolerance values. All results are also manually evaluated by experience and all suspect results, together with all results that deviate by 2 points below or above the pre-set check value, are repeated.

All analytical results were received from the lab in both electronic and hard copy formats. Electronic files were used to import the raw as well as fractional coal washability data into the borehole database for further checks and data validation.

6.6 Data Verification

Historical borehole data was received from Universal Coal in electronic format. Gemecs was responsible for the core logging and sampling of the 2011 & 2012 borehole exploration programs, including the relevant data management. All the borehole and analytical data was imported and stored using Micromine's Geobank borehole database. Data was standardised to the same data standard and validations and checks were performed within the database.

The electronic input data consisted of the following:

- Borehole collar survey file
- Borehole lithology descriptions

- Borehole seam interpretations
- Borehole informal unit interpretations
- Downhole geophysical logs
- Original analytical report sheets from the coal laboratory
- Historical borehole information as supplied by the Council of Geosciences.

All these original electronic files were imported into the borehole database. This included borehole collars, lithological descriptions, unit interpretations, geophysical logs and raw and fractional analyses. Lithological descriptions were verified against the downhole geophysical logs, and coal seam correlations validated. Coal seam intersection depths were adjusted according to the downhole geophysical data where necessary.

A number of analytical data verification routines were used to validate all the raw and washability data as received from the laboratory. Anomalies were identified, queried and corrected where possible, otherwise flagged and removed from the final modelling dataset.

Non-coal partings that were not sampled within the coal seams that could possibly be included in seam selections were identified. Dummy raw proximate analytical quality values were added based on the lithology, to ensure that the full seam is covered by sampling results. No washability data was reported for historical boreholes, and only raw coal values were supplied. All the coal samples with washability data were normalised in the borehole database to produce cumulative washability data on a sample basis that was used in the modelling of the different coal washability products.

7. GEOLOGICAL MODELLING

7.1 Borehole Summary

A total of 225 boreholes are present in the database. Of these, 114 boreholes are historical holes and excluded from the latest geological model. Only the latest 111 boreholes drilled by Universal Coal, with acceptable seam sampling coverage, detailed geological descriptions and geophysical data are used in the updated geological model. Borehole types are used to identify these various boreholes as listed below. Note that only boreholes with a type starting with U are used in the latest model.

- H – Historical boreholes – no/limited analytical data
- HB – Historical borehole – barren (no coal)
- XC – Borehole excluded due to suspect collar coordinates

- XK – Borehole excluded due to suspect seam correlations
- U – Boreholes drilled by Universal Coal
- UD/HD – Universal/Historical borehole with dolerite intersection (no coal)
- UB – Universal borehole – barren (no coal)
- UH – Borehole that holed into underground workings
- U3 – Phase 3 exploration by Universal

A full list of drill holes completed to date at Brakfontein is attached in Appendix A.

Figure 30 illustrates the borehole positions with the boreholes drilled by Universal Coal in black (used in model) and the old historical boreholes in red (removed from model).

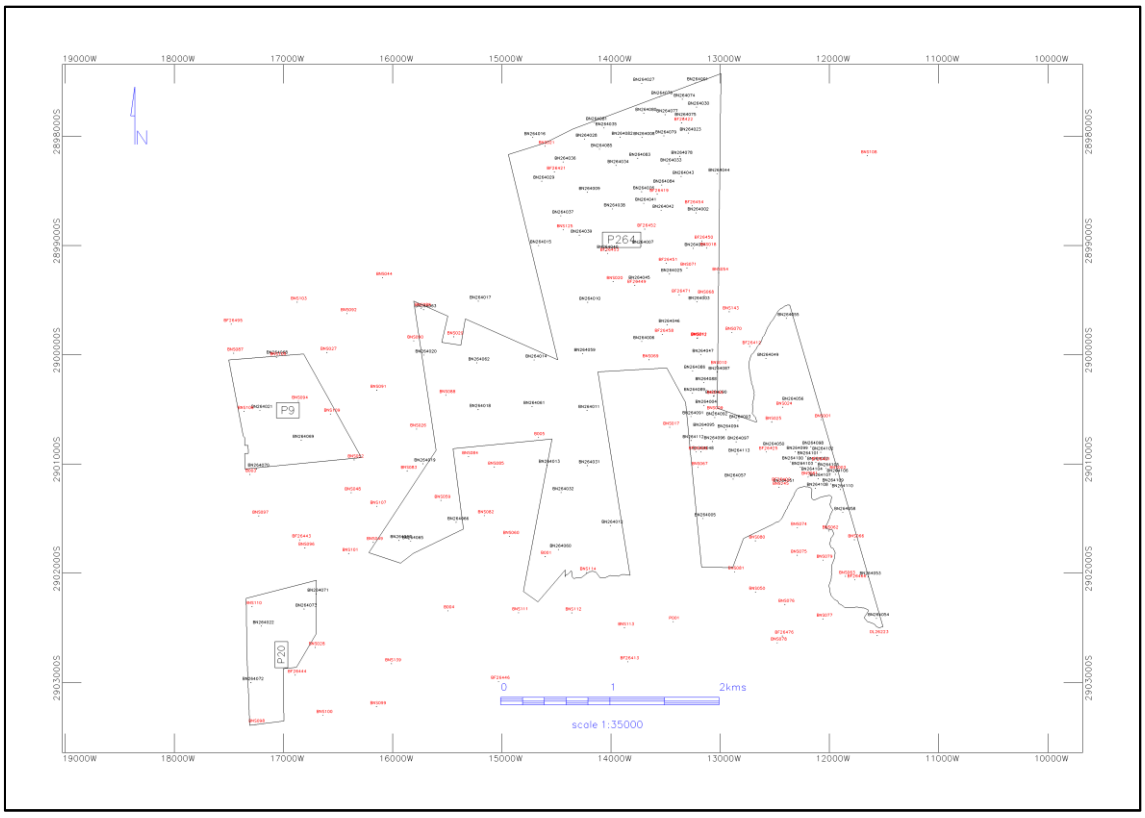

Figure 30. Borehole plan indicating borehole positions

7.2 Structural Modelling

Geological modelling was performed using Geovia Minex™ software. Minex provides the best geology and mine planning tools for coal and other stratified deposits, ensuring resources are evaluated accurately and mined efficiently. Although all the seams from No.5 seam (S5) to No.1 seam (S1) have been intersected in some boreholes, only No.4U & 4L seams (S4U &

S4L), No.2 seam (S2), and No.1 seam (S1) appear to have some economic potential. The No.5 seam development is limited to the western portions only and coal seam distribution is negatively affected by weathering. The No.3 seam (S3) is thin where developed, and is often not present in boreholes and therefore not continuous across the area to allow any modelling thereof.

Cross sections were used extensively to ensure all coal seam correlations are consistent, and were verified against the lithological logging as well as downhole geophysical logs as best possible. Known outcrops of Transvaal basement and Dwyka sub-outcrops are present in the area, making the seam correlations more difficult due to thinning and truncation of the seams. In some areas, seam correlations are also challenging due to the presence of dolerite dykes and sills.

The surface topography was modelled using the borehole collars only. Recently, a detailed surface survey over selected areas was obtained. Comparisons with the borehole collars were done, and in general all borehole collars show a difference of less than 0.8m in elevation. For each borehole, the softs' (no coal and soil recovered at top) limit of weathering depth as recorded was used to model the softs (SFT) as well as the weathering surface (LOW).

The stratigraphical seam sequence was validated in Minex before structural modelling commenced. This is done to check if all the seams are in the correct stratigraphical order, that no negative seam thicknesses are present, and to report on any missing seams. Missing seams (boreholes that did not intersect seams due to basement, dolerite or weathering) were interpolated and thicknesses set to zero, to ensure a full stratigraphical sequence for modelling and also to ensure that the negative borehole intersections (boreholes that did not intersect any coal seams) are honoured in the modelling process. Where boreholes intersected underground workings, the actual roof elevation was used to interpolate the coal seam thickness, and used in the geological model accordingly.

Basic statistics and histograms within Minex were also used and plotted for each seam's variables to check and validate the input data. No data was excluded from the modelling.

Each coal seam was modelled on a grid of 50x50m using the general purpose gridding (growth algorithm) in Minex. Roof and floor surfaces were created in 3 dimensional space for each coal seam, as well as a thickness grid. Coal extrapolation was limited to 150m from the last borehole with data which is deemed to be appropriate for this geological setting and data distribution (less than half the measured borehole spacing).

Possible faults, as interpreted from coal seam difference in elevations between boreholes, were digitized into the model. These structures were used together with the boreholes in the grid modelling to compute the roof and floor surfaces of each coal seam, taking the faults into account to offset these surfaces according to the relative displacement.

The palaeo basement/Dwyka floor was also modelled to create a pre-coal deposition floor model surface. This very undulating palaeo floor surface has a negative effect locally on mainly the lower coal seams. The final structural model was created using the topographic surface and weathering limit as cutting surfaces at the top, and the Dwyka surface at the base to remove coal where it intersects and overlaps these surfaces.

Secondary grids, for example, depth below surface and strip ratios, were calculated for each seam by means of the grid arithmetic function using the modelled grid surfaces.

This final model was validated to actual borehole intersections to ensure the integrity of the model.

7.3 Coal Quality Modelling

Raw coal qualities were modelled for each coal seam using the general purpose gridding (growth algorithm) in Minex. Basic statistics and histograms, as well as some cross correlation plots within Minex, were used to check and validate the samples as well as seam composite quality data. No data was excluded from the modelling process.

Raw coal qualities modelled are: Relative Density (RD), Calorific Value (CV), Ash (AS), Inherent Moisture (IM), Fixed Carbon (FC), Volatile Matter (VM) and Total Sulphur (TS). Dry ash-free volatiles (DAVF) were calculated from the relevant model grids and reported along with the raw coal qualities. All coal qualities reported hereafter are on an air-dried basis. Coal seam qualities were composited in Minex, based on the final coal seam selections. Modelled grids for each quality variable were created on a 50x50m grid. Model grid expansion was limited to 150m from the last known sampling point.

Coal product washability was performed using the Minex washability module and reported for a number of different primary and secondary coal products as specified below. These various options were reported for each of the coal resource areas and for each seam. This will allow sufficient coal product quality data for each seam to allow for optimal mine planning scenarios going forward.

- Primary coal product at RD 1.90

- Primary coal product at RD 1.80
- Primary coal product for a target CV of 27.5MJ/kg, and secondary product at RD 1.80.
- Primary coal product for a target CV of 26.5MJ/kg, and secondary product at RD 1.90 & RD1.80.
- Primary coal product for a target CV of 26.0MJ/kg, and secondary product at RD 1.90 & RD1.80.
- Primary coal product for a target CV of 25.5MJ/kg, and secondary product at RD 1.90 & RD1.80.
- Primary coal product for a target CV of 24.5MJ/kg, and secondary product at RD 1.90 & RD1.80.
- Primary coal product for a target CV of 23.5MJ/kg, and secondary product at RD 1.90 & RD1.80.

8. COAL RESOURCE ESTIMATION

8.1 Previous Resource Estimations

Gemecs previously reported on the coal resources in the report "Brakfontein project coal resource report" dated 31 Jan 2012. Since the 2012 report, a number of changes were made to the geological model that resulted in material changes to the reported coal resource estimations. The major changes that were made are listed below and described in more detail in the above-mentioned report's relevant sections:

- Old boreholes drilled (before Universal Coal) were removed from the model
- Additional infill drilling was done in selected areas
- Updated plans of underground workings received (the new mined out areas are bigger than previously estimated)
- Modelling estimation techniques refined
- Coal resource areas reviewed and adjusted according to the new model
- Resource classification criteria for measured coal resources adjusted

The net outcome of these changes results in lower coal resource tonnage estimation down from 87.7 million tonnes to 75.8 million tonnes for the total resource area.

8.2 Site Visits

Gemecs was actively involved with the onsite management of the exploration programme since 2011. During this time, our geologists visited the site frequently and included occasional site visits by the author. The coal resource estimation is based on a geological model created by Gemecs during 2014, and includes all available borehole information, wireline logging and coal analytical data stored in a borehole data base. All other related information such as mined out areas were received from Universal Coal.

8.3 Resource Areas

The project resource area is defined by three separate polygon areas consisting of either individual or a number of farm portions of the farm Brakfontein 264. Known historical underground mined out areas for both the No.2 and No.4 seams were added from the latest mining underground plans. Recently, the underground detailed plans of the old Brakfontein Navigation Steam Colliery were acquired, which allowed for the update of the mined out areas as these were previously estimated only. These mined out areas are indicated in red relative to the project resource areas in black (Figure 31). All the underground mined out areas are excluded from the reported coal resources.

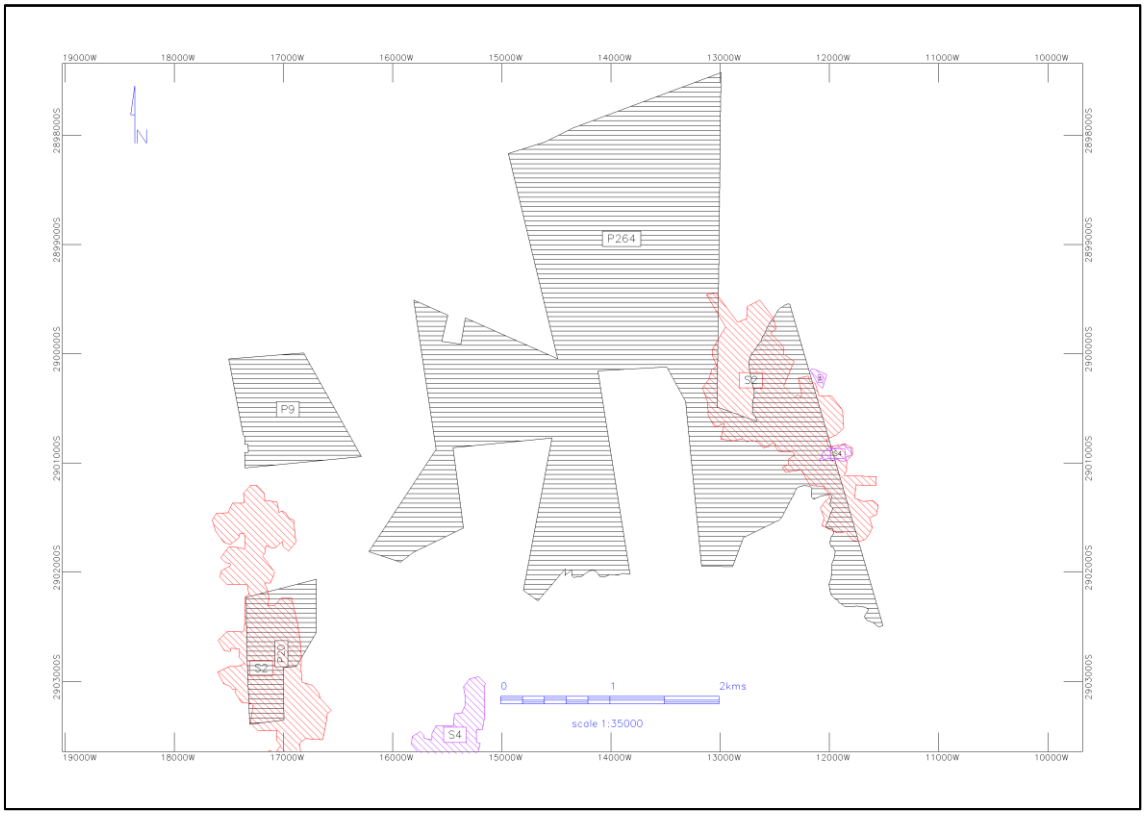

Figure 31. Project area with mined out areas

8.4 Resource Classification

Coal resource classification was done according to the JORC code guidelines. The relationship between coal resource and coal reserve categories is presented in Figure 32. Resource confidence levels were applied following the guidelines based on borehole spacing as documented in the Australian Guidelines for Estimating and Reporting of Inventory Coal, Coal Resources and Coal Reserves 2003 edition. The 2014 edition recommends that an assessment of the confidence in the estimation of significant variables should be undertaken. As the geological model and resource estimation was completed before the 2014 release, such an assessment was not done. The minimum borehole spacing for the measured resource category was, however, reduced to 350m (previously 500m). This was done to accommodate the structural complexity and coal variability in the resource area due to the underlying undulating basement topography and dolerite intersections that can be expected. The indicated resource classification is still kept at a minimum borehole spacing of 1000m and the inferred resource class up to a minimum borehole spacing of 2000m. Only boreholes where the relevant seam was represented by raw coal analyses were considered as point observations to be used for resource classification.

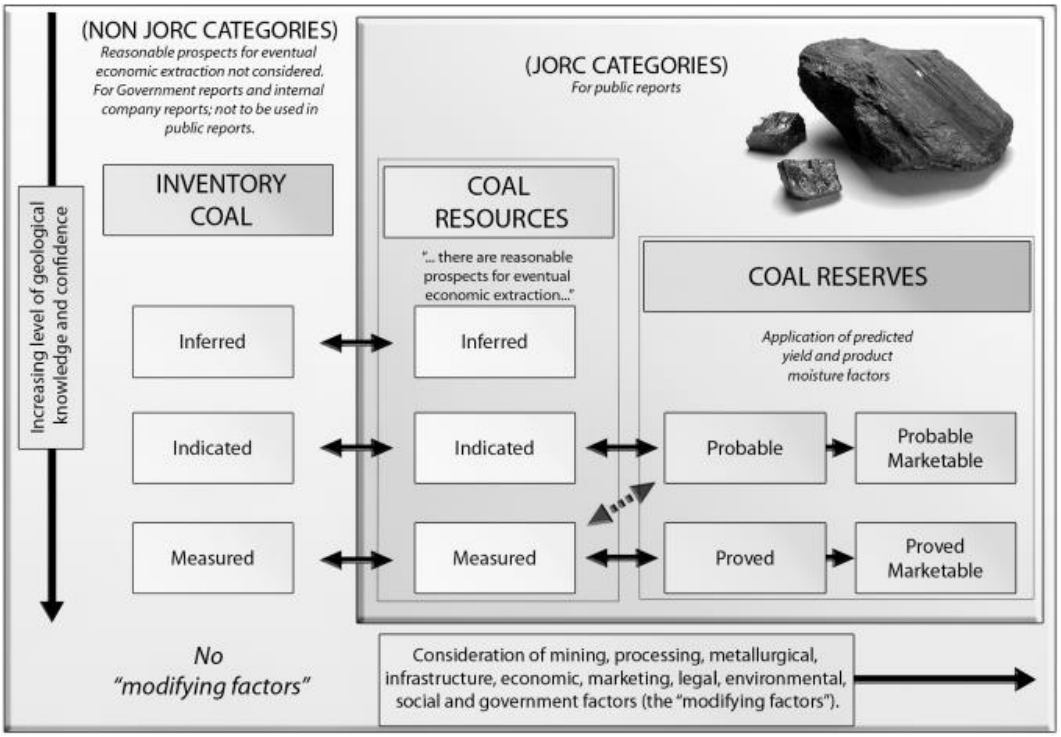

Figure 32. Relationship between inventory coal, coal resources and coal reserves (Australian Guidelines for the Estimation and Classification of Coal Resources)

Figures 33 - 35 illustrate the resource classification for the No. 4U, 4L & 2 seams. Measured resource areas are shown in green, Indicated in yellow and Inferred in red. Coal resource classification for the various resource categories (with previous percentages in brackets) is as follows:

- Measured 41.8% (80.5%), Indicated 52.0% (17.0%) and Inferred 6.2% (2.5%).

The lower measured resource category is a direct result of the reduction of the borehole spacing to 350m, as well as the removal of the historical boreholes from the latest geological model. Although there is a drop in the overall measured resource category, this is not a concern, as the immediate planned mineable resource areas are mostly drilled up to the measured resource category.

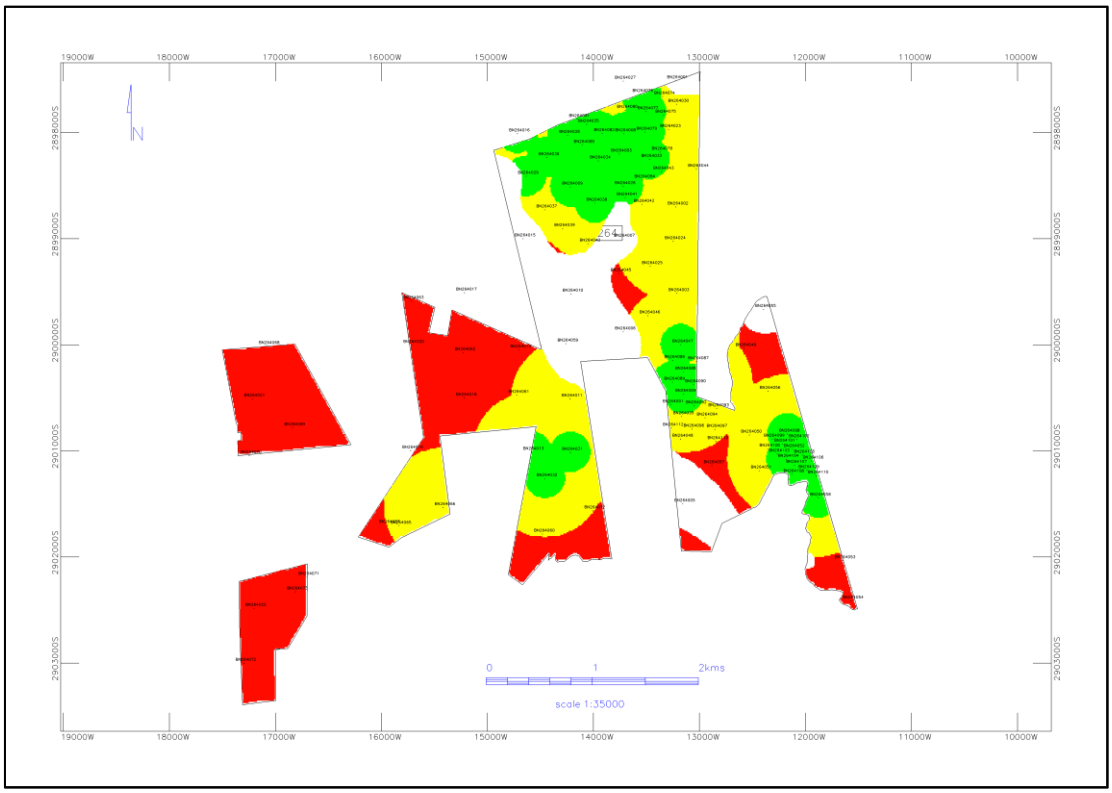

Figure 33. Seam 4Upper Resource Classification

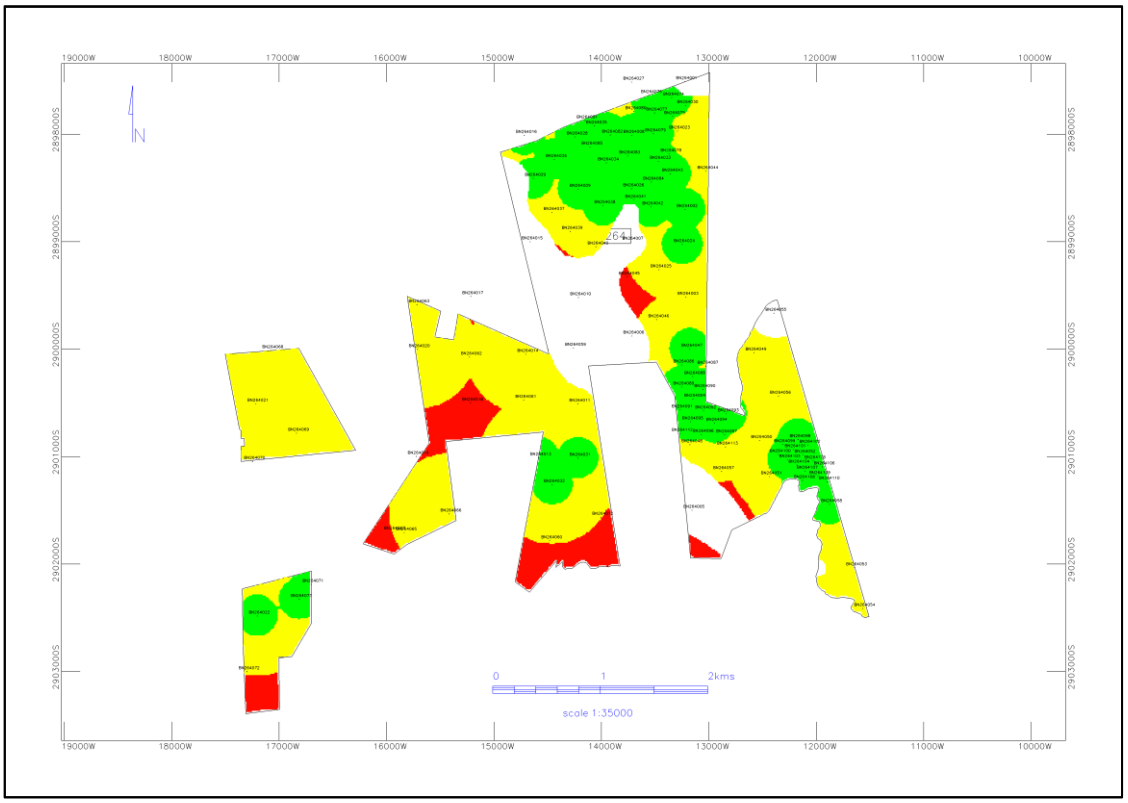

Figure 34. Seam 4Lower Resource Classification

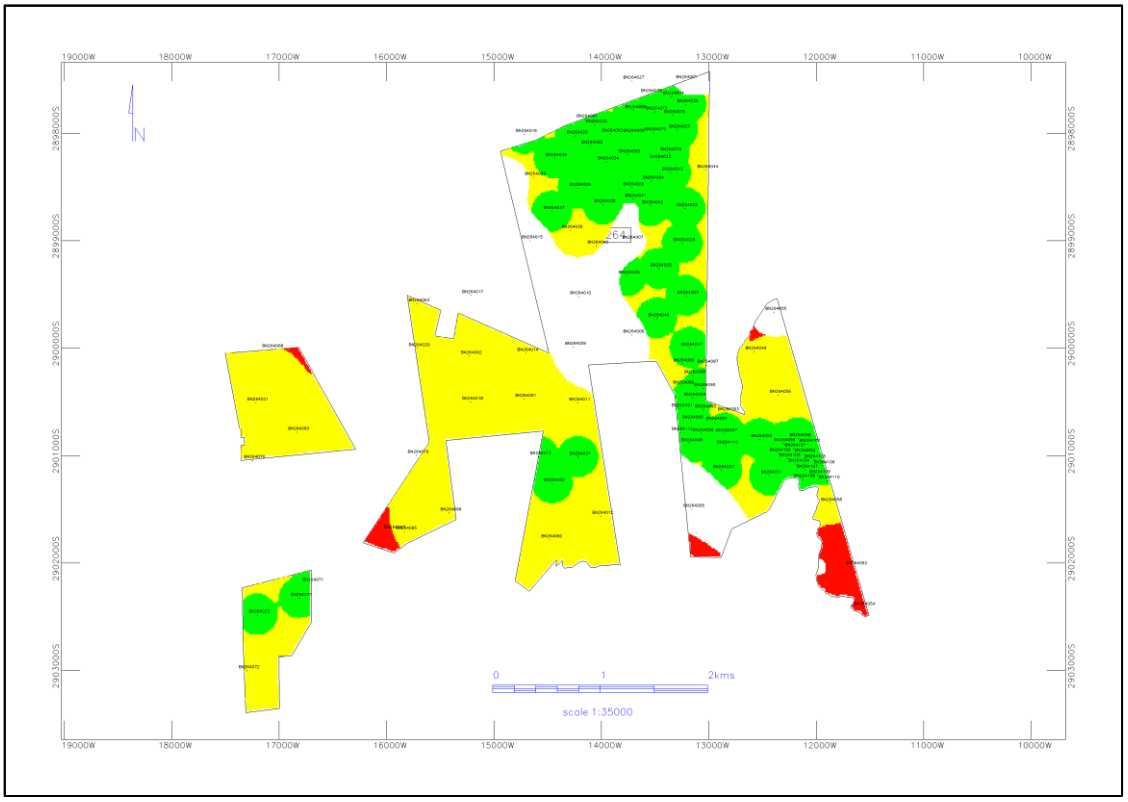

Figure 35. Seam 2 Resource Classification

8.5 Coal Resource Estimation Assumptions

Gross in situ coal resources were reported for each seam within the individual resource area's boundaries. Coal resources are reported on an in situ basis, and all coal qualities are reported on an air dried basis. A minimum seam thickness of 0.5m was applied to all coal seams to exclude thin uneconomical coal seams. No coal quality cut-offs were applied for reporting of the coal resource tonnes, although a split was made between high and low volatile coal using the Dry Ash Free Volatile (DAF) cut-off at 23% in the reporting of coal resources for individual mineable resource areas. Coal mined out from historical underground mining areas, as well as coal sterilized due to these mining activities, has been excluded from the resource estimation. Provisional mineable areas are defined for both opencast and underground mining methods, and coal resources are reported for these areas on an individual basis. These assumptions are discussed at a later stage in the report.

Relative densities were applied to the coal volumes according to the density model grid for each seam. Average relative densities for each coal seam are summarized below:

Table 4. Average Relative Densities per coal seam

Seam	RD
S5	1.66
S4U	1.80
S4L	1.58
S2	1.60
S1	1.85

8.6 Coal Resource Statement

No changes are reported compared to previous coal resource statements. Gross in situ coal resources for the Brakfontein project is estimated at **75.8 million tonnes**.

Net attributable tonnes based on the 50.29% interest held by Universal Coal Development III is stated at **38.1 million tonnes** gross in situ.

Gross in situ coal resources is tabled for each separate area of the Brakfontein project as presented previously in Figure 31, namely portion 9 (P9), portion 20 (P20) and portion 264 (P264), and is reported per seam for each resource class. All raw coal qualities is stated on an air dried basis. Coal resources include both high and low volatile coal qualities as present at the Brakfontein project. Refer to Tables 5-9 presented overleaf for details.

Table 5. Coal Resource Estimation for the Brakfontein Project – Ptn20

Resource Area	Resource Class	Seam	Resource Area (ha)	Gross In situ Tonnes (Mt)	Seam Thickness (m)	Depth Below Surface (m)	RD	CV (MJ/Kg)	AS (%)	IM (%)	VM (%)	FC (%)	TS (%)	DAF (%)
P20	MEASURED	S5	59.3	0.00										
P20	INDICATED	S5	59.3	0.70	1.02	34	1.49	23.5	22.6	3.5	19.9	54.0	1.21	26.8
P20	INFERRED	S5	59.3	0.00										
P20	**All**	**S5**	**59.3**	**0.70**	**1.02**	**34**	**1.49**	**23.5**	**22.6**	**3.5**	**19.9**	**54.0**	**1.21**	**26.8**
P20	MEASURED	S4U	59.3	0.00	0									
P20	INDICATED	S4U	59.3	0.00	0									
P20	INFERRED	S4U	59.3	1.97	2.59	63	1.83	12.1	50.0	3.2	15.9	30.9	0.62	33.8
P20	**All**	**S4U**	**59.3**	**1.97**	**2.59**	**63**	**1.83**	**12.1**	**50.0**	**3.2**	**15.9**	**30.9**	**0.62**	**33.8**
P20	MEASURED	S4L	59.3	0.91	2.88	65	1.56	21.7	26.5	4.4	21.2	47.9	0.89	30.6
P20	INDICATED	S4L	59.3	0.79	2.28	68	1.58	21.0	28.5	4.5	20.7	46.3	0.93	30.9
P20	INFERRED	S4L	59.3	0.00	0									
P20	**All**	**S4L**	**59.3**	**1.71**	**2.60**	**66**	**1.57**	**21.4**	**27.4**	**4.4**	**21.0**	**47.2**	**0.91**	**30.7**
P20	**Total Coal**			**4.38**										

****** Note: S2 mined out from underground, S1 removed from reported resources (sterilised)***

Table 6. Coal Resource Estimation for the Brakfontein Project – Ptn9

Resource Area	Resource Class	Seam	Resource Area (ha)	Gross In situ Tonnes (Mt)	Seam Thickness (m)	Depth Below Surface (m)	RD	CV (MJ/Kg)	AS (%)	IM (%)	VM (%)	FC (%)	TS (%)	DAF (%)
P9	MEASURED	S5	86.1	0.00										
P9	INDICATED	S5	86.1	1.02	1.35	30	1.74	14.0	46.5	4.1	12.3	37.0	0.79	25.4
P9	INFERRED	S5	86.1	0.00										
P9	**All**	**S5**	**86.1**	**1.02**	**1.35**	**30**	**1.74**	**14.0**	**46.5**	**4.1**	**12.3**	**37.0**	**0.79**	**25.4**
P9	MEASURED	S4U	86.1	0.00										
P9	INDICATED	S4U	86.1	0.00										
P9	INFERRED	S4U	86.1	1.59	1.80	55	1.92	8.5	57.2	4.7	9.8	28.3	0.56	24.9
P9	**All**	**S4U**	**86.1**	**1.59**	**1.80**	**55**	**1.92**	**8.5**	**57.2**	**4.7**	**9.8**	**28.3**	**0.56**	**24.9**
P9	MEASURED	S4L	86.1	0.00										
P9	INDICATED	S4L	86.1	2.56	1.88	57	1.81	14.2	44.5	4.8	7.7	43.2	1.18	15.4
P9	INFERRED	S4L	86.1	0.00										
P9	**All**	**S4L**	**86.1**	**2.56**	**1.88**	**57**	**1.81**	**14.2**	**44.5**	**4.8**	**7.7**	**43.2**	**1.18**	**15.4**
P9	MEASURED	S2	86.1	0.00										
P9	INDICATED	S2	86.1	7.14	6.00	75	1.63	20.5	32.6	4.2	13.4	49.9	0.83	21.7
P9	INFERRED	S2	86.1	0.06	2.13	65	1.71	17.6	37.0	4.0	15.0	44.4	0.66	25.4
P9	**All**	**S2**	**86.1**	**7.19**	**5.97**	**75**	**1.63**	**20.5**	**32.6**	**4.2**	**13.4**	**49.9**	**0.83**	**21.7**
P9	**Total Coal**			**12.36**										

Table 7. Coal Resource Estimation for the Brakfontein Project – Ptn264

Resource Area	Resource Class	Seam	Resource Area (ha)	Gross In situ Tonnes (Mt)	Seam Thickness (m)	Depth Below Surface (m)	RD	CV (MJ/Kg)	AS (%)	IM (%)	VM (%)	FC (%)	TS (%)	DAF (%)
P264	MEASURED	S5	916.3	0.00										
P264	INDICATED	S5	916.3	0.03	0.60	19	1.77	13.7	46.9	3.3	7.4	42.4	0.76	15.1
P264	INFERRED	S5	916.3	0.00										
P264	**All**	**S5**	**916.3**	**0.03**	**0.60**	**19**	**1.77**	**13.7**	**46.9**	**3.3**	**7.4**	**42.4**	**0.76**	**15.1**
P264	MEASURED	S4U	916.3	6.41	2.52	19	1.78	14.1	45.5	3.6	14.3	36.6	1.10	28.3
P264	INDICATED	S4U	916.3	3.15	1.72	33	1.76	14.1	44.3	3.7	13.5	38.4	1.15	26.4
P264	INFERRED	S4U	916.3	0.14	1.09	54	1.71	16.3	39.5	4.6	12.6	43.2	0.68	22.6
P264	**All**	**S4U**	**916.3**	**9.69**	**2.24**	**24**	**1.77**	**14.1**	**45.0**	**3.6**	**14.0**	**37.3**	**1.11**	**27.6**
P264	MEASURED	S4L	916.3	8.64	2.63	19	1.55	21.8	26.6	4.2	18.2	51.0	1.17	26.2
P264	INDICATED	S4L	916.3	4.60	1.84	28	1.55	21.6	27.0	4.3	15.8	52.9	1.21	22.9
P264	INFERRED	S4L	916.3	0.18	1.11	52	1.59	20.0	30.7	4.1	13.4	51.9	1.21	20.5
P264	**All**	**S4L**	**916.3**	**13.42**	**2.34**	**23**	**1.55**	**21.7**	**26.8**	**4.2**	**17.3**	**51.7**	**1.18**	**25.0**
P264	MEASURED	S2	778.3	14.79	3.45	37	1.60	19.9	31.5	4.4	18.8	45.4	1.15	29.1
P264	INDICATED	S2	778.3	18.57	3.93	38	1.52	22.1	25.1	5.1	16.1	53.6	1.26	23.0
P264	INFERRED	S2	778.3	0.71	4.69	49	1.55	20.1	30.6	4.8	18.1	46.5	1.72	27.5
P264	**All**	**S2**	**778.3**	**34.06**	**3.74**	**38**	**1.56**	**21.1**	**28.0**	**4.8**	**17.3**	**49.9**	**1.22**	**25.7**
P264	MEASURED	S1	778.3	0.95	0.97	44	1.80	14.2	46.9	3.5	16.0	33.7	0.91	31.6
P264	INDICATED	S1	778.3	0.87	0.99	35	1.77	14.9	44.6	3.3	12.7	39.1	0.51	24.4
P264	INFERRED	S1	778.3	0.02	0.57	76	1.91	11.2	54.6	2.9	13.4	29.0	0.36	31.5
P264	**All**	**S1**	**778.3**	**1.83**	**0.98**	**40**	**1.79**	**14.5**	**45.9**	**3.4**	**14.4**	**36.2**	**0.72**	**28.2**
P264	**Total Coal**			**59.04**										

****** Note: Some S2 mined out from underground, S1 removed from reported resources (sterilised)***

Table 8. Coal Resource Estimation for the Brakfontein Project – Total Project Area Summary by seam

Resource Area	Resource Class	Seam	Resource Area (ha)	Gross In situ Tonnes (Mt)
Brakfontein	All	S5	1061.7	1.75
Brakfontein	All	S4U	1061.7	13.26
Brakfontein	All	S4L	1061.7	17.68
Brakfontein	All	S2	864.4	41.26
Brakfontein	All	S1	778.3	1.83
Brakfontein	**Total Coal**			**75.77**

Table 9. Brakfontein Project – Summary of coal resources by status

Summary of resources by status					
Coal	**Gross in situ tonnes**		**Mineable in situ tonnes**		
Category	**Gross in situ tonnes**	**Net Attributable**	**Mineable in situ tonnes**	**Net Attributable**	**Operator**
	Tonnes (Mt)	**Tonnes (Mt)**	**Tonnes (Mt)**	**Tonnes (Mt)**	
Measured	31.70	15.94	16.80	8.45	
Indicated	39.4	19.8	19.8	10.0	
Inferred	4.7	2.4	2.5	1.3	
Total	**75.8**	**38.1**	**39.1**	**19.7**	**Universal Coal Development III (Pty) Ltd**

8.7 Mineable Coal Resource Areas

Potential mineable coal resource areas were identified and reported separately for the Brakfontein project area. These mineable areas were identified as possible areas that can currently be mined using either opencast or underground mining techniques. These areas take into account the limitations of relevant surface features as well as additional constraints and cut-off parameters. It must be noted that these areas can change in future based on changing future economic assumptions and/or the application of additional cut-off parameters. Current cut-off parameters applied are discussed in the next paragraph. Plans presenting these mineable resource areas are presented below.

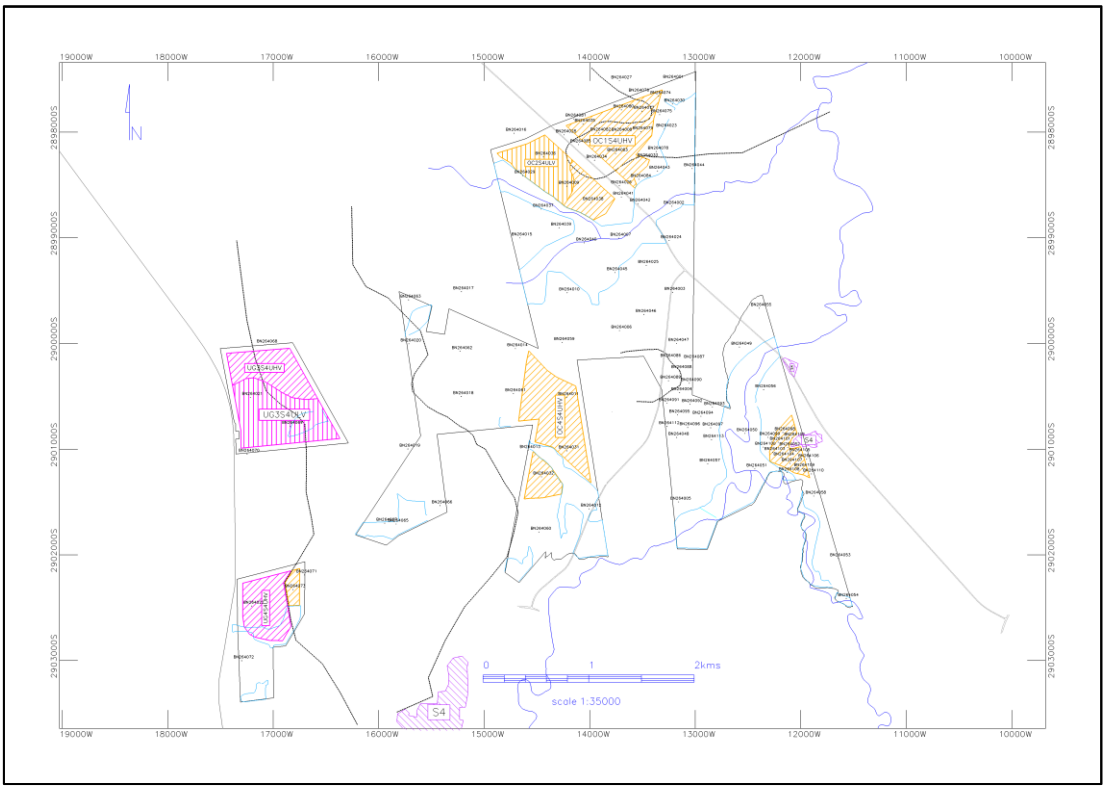

Figure 36. Seam 4U Mineable Resource blocks (orange areas – opencast, pink areas – underground)

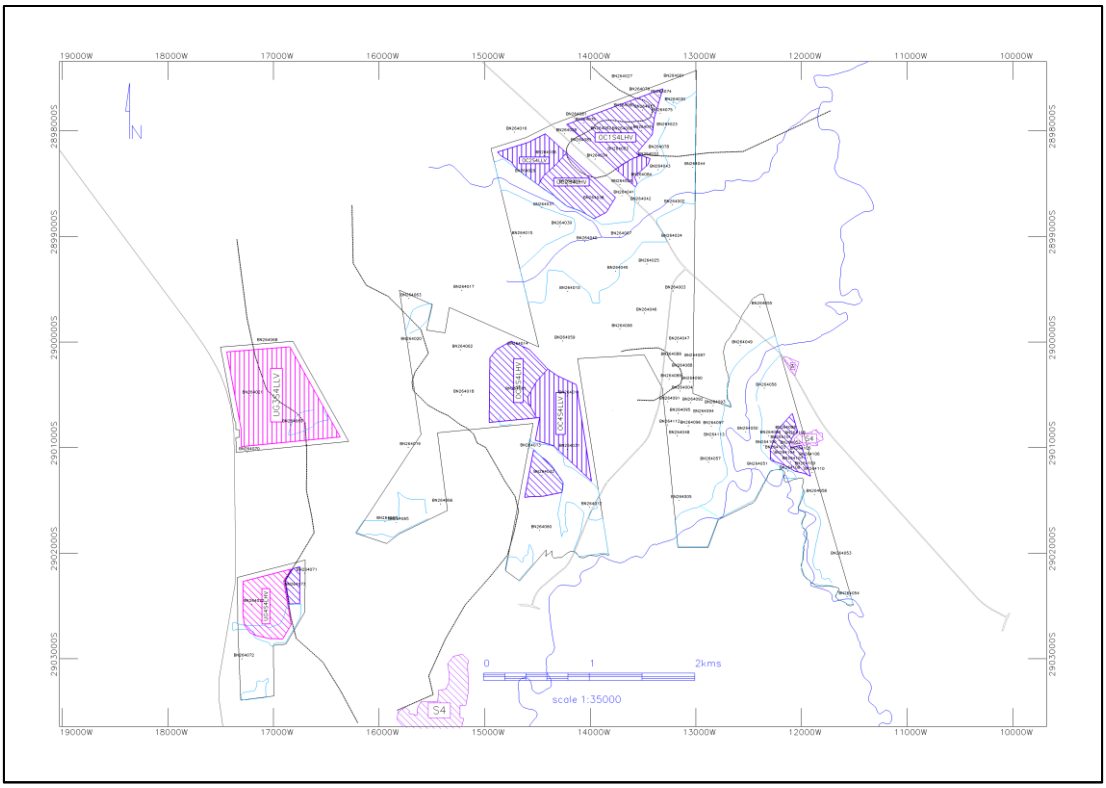

Figure 37. Seam 4L Mineable Resource blocks (purple areas – opencast, pink areas – underground

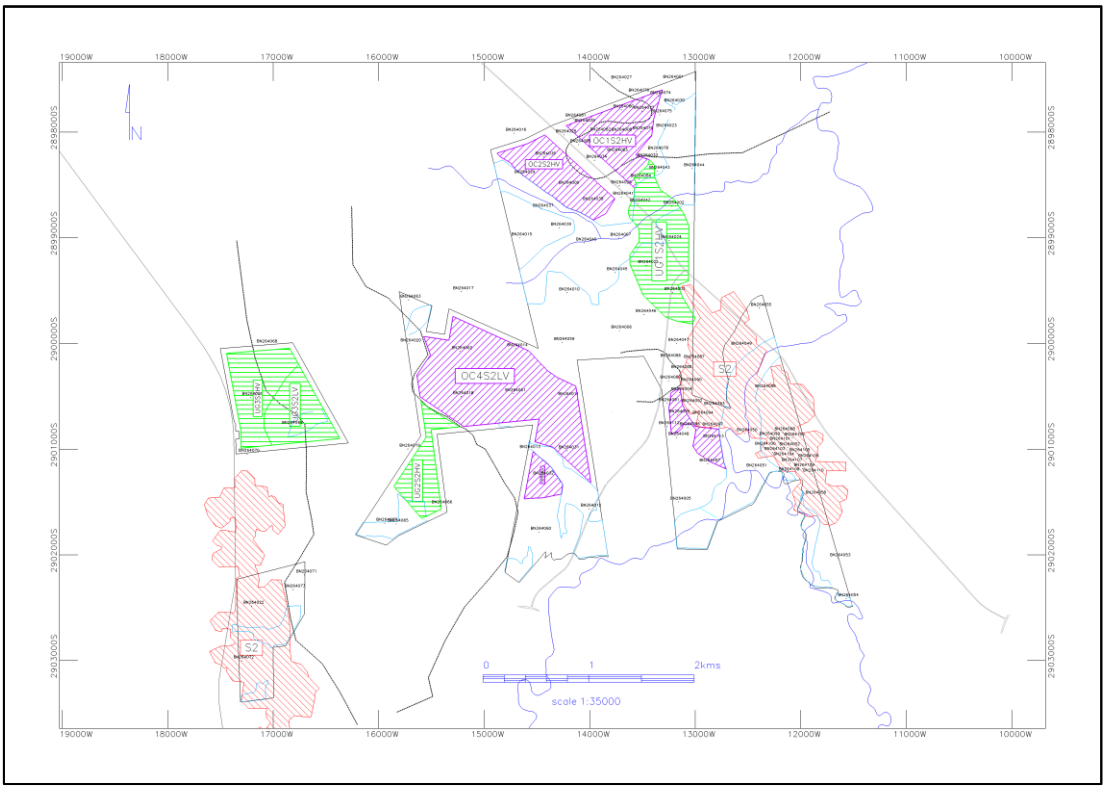

Figure 38. Seam 2 Mineable Resource blocks (purple areas – opencast, green areas – underground, red – mined out areas)

8.7.1 Opencast Cut-Off Parameters

The following cut-off parameters and guidelines were used in defining potential mineable opencast areas:

- Minimum seam thickness of 0.50m
- Combined in situ strip ratio for S4U, S4L & S2 of less than 5 cubic metres/tonne
- Resource boundaries taken up to known wetland areas
- Resource boundaries reduced to 100m from roads
- Resource boundaries reduced to 50m from the project boundary
- Opencast areas sub-divided per seam on a dry ash-free volatile (DAF) basis, to classify low volatile areas where the DAF<23% and high volatile areas where DAF>23%
- Known mined out areas are excluded from the resource areas
- A geological loss of 10% is applied to the measured coal resource category, and a 15% geological loss to the indicated and inferred coal resource categories for all seams.

8.7.2 Underground Cut-Off Parameters

The following cut-off parameters and guidelines were used in defining potentially mineable underground areas:

- Minimum seam thickness of more than 1.50m
- Depth below surface of coal seam to be more than 30m
- Resource boundaries reduced to 50m from the project boundary
- Underground areas sub-divided per seam on a dry ash-free volatile (DAF) basis, to classify low volatile areas where the DAF<23% and high volatile areas where DAF>23%
- Known mined out areas are excluded from the resource areas
- A geological loss of 10% is applied to the measured coal resource category, and a 15% geological loss to the indicated and inferred coal resource categories for all seams.

8.7.3 Mineable Coal Resource Estimation

Based on the above-mentioned criteria, a number of potentially mineable blocks are defined for the No.4U, No.4L as well as No.2 coal seams. The No.5 seam, where present in the opencast areas, was reported together with the No.4U & 4L seams, as the assumption is made that this coal will also be mineable. The No.1 seam where present, is also reported with the No.2 seam opencast coal in the resource tables. Total coal resources from these mineable areas amount to **39.1 million tonnes** of which **24.2 million tonnes** is estimated for the opencast and **14.9 million tonnes** for the underground areas. A summary of the various resource tables for opencast and underground areas with raw coal qualities are presented in the tables below.

Table 10. Mineable Coal Resources summary

AREA	SEAM S2 & S1	SEAM S4 & S5	MINEABLE IN SITU TONNES (Mt)
TOTAL OPENCAST	11.9	12.3	24.2
TOTAL UNDERGROUND	9.7	5.2	14.9
TOTAL MINEABLE	**21.6**	**17.5**	**39.1**

Table 11. Mineable Opencast Coal Resource for the No.5, No.4U and No.4L seams

Opencast Areas								Raw Coal Qualities							
Resource Block	Resource Class	Seam Name	Resource Area (m^2)	Mineable In situ Tonnes	Seam Thickness (m)	Average Depth Below Surface (m)	Ave Strip ratio (S4U/S4L)	RD	CV	AS	IM	VM	FC	TS	DAF
OC1S4UHV	MEASURED	S4U	379 396	1 305 900	2.80	23		1.77	14.7	43.7	4.0	16.2	36.1	1.23	30.9
OC1S4UHV	INDICATED	S4U	379 396	48 450	3.40	38		1.78	14.3	45.1	4.0	15.7	35.2	1.18	30.8
	Total Coal	**S4U**	**379 396**	**1 354 350**	**2.82**	**24**		**1.77**	**14.7**	**43.8**	**4.0**	**16.2**	**36.1**	**1.23**	**30.9**
OC1S4LHV	MEASURED	S4L	336 202	1 262 700	2.79	25	2.8	1.57	21.7	26.0	4.3	21.0	48.5	1.19	30.2
OC1S4LHV	INDICATED	S4L	336 202	37 400	3.02	42	3.6	1.54	22.5	24.3	4.4	22.0	49.2	1.15	30.8
	Total Coal	**S4L**	**336 202**	**1 300 100**	**2.80**	**26**	**2.8**	**1.57**	**21.7**	**25.9**	**4.3**	**21.0**	**48.5**	**1.19**	**30.2**
OC1 S4 HV	**Total Coal**	**S4**	**715 598**	**2 654 450**	**5.62**			**1.67**	**18.1**	**35.0**	**4.1**	**18.6**	**42.2**	**1.21**	**30.6**
OC1S4LLV	MEASURED	S4L	43 193	146 700	2.38	15	3.6	1.59	20.6	29.5	4.4	13.2	52.8	0.96	20.1
	Total Coal	**S4L**	43 193	**146 700**	**2.38**	15	3.6	**1.59**	**20.6**	**29.5**	**4.4**	**13.2**	**52.8**	**0.96**	**20.1**
OC1 S4 LV	**Total Coal**	**S4**	**43 193**	**146 700**	**2.38**			**1.59**	**20.6**	**29.5**	**4.4**	**13.2**	**52.8**	**0.96**	**20.1**
OC2S4UHV	MEASURED	S4U	136 809	609 300	2.88	15		1.81	13.5	47.5	3.2	14.0	35.4	0.62	28.3
OC2S4UHV	INDICATED	S4U	136 809	3 400	2.32	11		1.80	13.6	47.0	2.7	12.6	37.7	0.86	25.1
	Total Coal	**S4U**	**136 809**	**612 700**	**2.88**	**15**		**1.81**	**13.5**	**47.5**	**3.2**	**14.0**	**35.4**	**0.62**	**28.3**
OC2S4LHV	MEASURED	S4L	227 464	850 500	2.72	20	2.0	1.59	20.4	29.9	3.5	19.9	46.7	1.14	29.9
OC2S4LHV	INDICATED	S4L	227 464	20 400	1.93	21	2.8	1.55	21.5	27.4	3.2	17.7	51.6	0.99	25.6
	Total Coal	**S4L**	**227 464**	**870 900**	**2.70**	**20**	**2.0**	**1.59**	**20.4**	**29.8**	**3.5**	**19.8**	**46.8**	**1.14**	**29.8**

Opencast Areas								Raw Coal Qualities							
Resource Block	**Resource Class**	**Seam Name**	**Resource Area (m^2)**	**Mineable In situ Tonnes**	**Seam Thickness (m)**	**Average Depth Below Surface (m)**	**Ave Strip ratio (S4U/S4L)**	**RD**	**CV**	**AS**	**IM**	**VM**	**FC**	**TS**	**DAF**
OC2 S4 HV	**Total Coal**	**S4**	**364 273**	**1 483 600**	**5.58**			**1.68**	**17.6**	**37.1**	**3.4**	**17.4**	**42.1**	**0.92**	**29.2**
OC2S4ULV	MEASURED	S4U	243 421	1 003 500	2.91	20		1.72	16.0	41.9	3.3	11.0	43.8	0.99	20.2
OC2S4ULV	INDICATED	S4U	243 421	50 150	2.20	17		1.71	16.1	40.5	3.2	11.5	44.8	0.93	20.5
	Total Coal	**S4U**	**243 421**	**1 053 650**	**2.87**	**20**		**1.72**	**16.0**	**41.8**	**3.3**	**11.0**	**43.9**	**0.99**	**20.2**
OC2S4LLV	MEASURED	S4L	152 722	519 300	2.74	22	2.0	1.51	23.0	24.7	3.6	15.7	55.9	1.01	22.0
OC2S4LLV	INDICATED	S4L	152 722	38 250	2.52	16	2.5	1.54	22.2	25.6	3.6	17.3	53.4	0.93	24.4
	Total Coal	**S4L**	**152 722**	**557 550**	**2.72**	**22**	**2.0**	**1.51**	**22.9**	**24.8**	**3.6**	**15.8**	**55.7**	**1.00**	**22.2**
OC2 S4 LV	**Total Coal**	**S4**	**396 143**	**1 611 200**	**5.60**			**1.65**	**18.4**	**35.9**	**3.4**	**12.7**	**48.0**	**0.99**	**20.9**
OC3S4UHV	MEASURED	S4U	108 589	263 700	1.64	13		1.88	12.7	51.0	3.5	17.2	28.3	1.87	38.1
	Total Coal	**S4U**	**108 589**	**263 700**	**1.64**	**13**		**1.88**	**12.7**	**51.0**	**3.5**	**17.2**	**28.3**	**1.87**	**38.1**
OC3S4LHV	MEASURED	S4L	108 589	443 700	3.03	14	1.8	1.50	24.0	20.8	4.6	23.7	51.0	1.98	31.7
	Total Coal	**S4L**	**108 589**	**443 700**	**3.03**	**14**	**1.8**	**1.50**	**24.0**	**20.8**	**4.6**	**23.7**	**51.0**	**1.98**	**31.7**
OC3 S4 HV	**Total Coal**	**S4**	**217 178**	**707 400**	**4.67**			**1.64**	**19.8**	**32.1**	**4.2**	**21.3**	**42.5**	**1.94**	**34.1**
OC4S4UHV	MEASURED	S4U	405 900	411 300	2.98	20		1.83	11.6	50.1	3.5	12.9	33.5	0.81	27.8
OC4S4UHV	INDICATED	S4U	405 900	1 054 850	2.39	19		1.79	13.2	46.4	3.4	16.4	33.8	1.31	32.6
	Total Coal	**S4U**	**405 900**	**1 466 150**	**2.55**	**19**		**1.80**	**12.8**	**47.4**	**3.4**	**15.5**	**33.7**	**1.18**	**31.3**
OC4S4LHV	INDICATED	S4L	301 051	780 300	1.98	17	5.1	1.55	22.4	25.1	4.4	18.3	52.2	1.34	25.9
OC4S4LHV	INFERRED	S4L	301 051	850	1.55	17	7.0	1.60	20.3	29.4	5.2	16.8	48.6	1.38	25.6

Opencast Areas								Raw Coal Qualities							
Resource Block	**Resource Class**	**Seam Name**	**Resource Area (m^2)**	**Mineable In situ Tonnes**	**Seam Thickness (m)**	**Average Depth Below Surface (m)**	**Ave Strip ratio (S4U/S4L)**	**RD**	**CV**	**AS**	**IM**	**VM**	**FC**	**TS**	**DAF**
	Total Coal	**S4L**	**301 051**	**781 150**	**1.98**	**17**	**5.1**	**1.55**	**22.4**	**25.1**	**4.4**	**18.3**	**52.2**	**1.34**	**25.9**
OC4 S4 HV	**Total Coal**	**S4**	**706 951**	**2 247 300**	**4.53**			**1.71**	**16.2**	**39.6**	**3.8**	**16.5**	**40.2**	**1.23**	**29.4**
OC4S4LLV	MEASURED	S4L	333 189	357 300	2.81	23	2.3	1.59	20.0	30.5	4.0	12.6	52.9	0.78	19.2
OC4S4LLV	INDICATED	S4L	333 189	990 250	3.16	22	2.2	1.56	21.5	27.1	3.6	13.8	55.6	0.95	19.8
	Total Coal	**S4L**	**333 189**	**1 347 550**	**3.07**	**22**	**2.2**	**1.57**	**21.1**	**28.0**	**3.7**	**13.5**	**54.9**	**0.91**	**19.6**
OC4 S4 LV	**Total Coal**	**S4**	**333 189**	**1 347 550**	**3.07**			**1.57**	**21.1**	**28.0**	**3.7**	**13.5**	**54.9**	**0.91**	**19.6**
OC5S4UHV	MEASURED	S4U	99 823	315 000	3.18	14		1.83	12.0	49.5	3.8	17.2	29.4	1.00	36.9
	Total Coal	**S4U**	**99 823**	**315 000**	**3.18**	**14**		**1.83**	**12.0**	**49.5**	**3.8**	**17.2**	**29.4**	**1.00**	**36.9**
OC5S4LHV	MEASURED	S4L	99 823	437 400	3.54	16	2.1	1.57	20.8	28.4	3.2	18.8	49.7	0.88	27.4
OC5S4LHV	INDICATED	S4L	99 823	5 100	1.01	14	8.6	1.56	21.0	28.1	3.2	18.7	50.1	0.88	27.2
	Total Coal	**S4L**	**99 823**	**442 500**	**3.51**	**16**	**2.2**	**1.57**	**20.8**	**28.4**	**3.2**	**18.8**	**49.7**	**0.88**	**27.4**
OC5 S4 HV	**Total Coal**	**S4**	**199 646**	**757 500**	**6.69**			**1.68**	**17.1**	**37.2**	**3.4**	**18.1**	**41.3**	**0.93**	**31.3**
OC6S4UHV	INDICATED	S5	37 876	32 300	0.83	18	14.8	1.48	23.9	21.5	3.7	25.3	49.5	0.71	33.8
	Total Coal	**S5**	**37 876**	**32 300**	**0.83**	**18**	**14.8**	**1.48**	**23.9**	**21.5**	**3.7**	**25.3**	**49.5**	**0.71**	**33.8**
OC6S4UHV	INFERRED	S4U	37 876	191 250	3.27	46		1.82	13.3	47.8	3.6	18.0	30.6	0.43	37.0
	Total Coal	**S4U**	**37 876**	**191 250**	**3.27**	**46**		**1.82**	**13.3**	**47.8**	**3.6**	**18.0**	**30.6**	**0.43**	**37.0**
OC6S4LHV	MEASURED	S4L	37 876	117 000	2.22	49	5.5	1.55	21.8	25.8	4.3	22.1	47.7	1.20	31.6
	Total Coal	**S4L**	**37 876**	**117 000**	**2.22**	**49**	**5.5**	**1.55**	**21.8**	**25.8**	**4.3**	**22.1**	**47.7**	**1.20**	**31.6**

Opencast Areas								Raw Coal Qualities							
Resource Block	**Resource Class**	**Seam Name**	**Resource Area (m^2)**	**Mineable In situ Tonnes**	**Seam Thickness (m)**	**Average Depth Below Surface (m)**	**Ave Strip ratio (S4U/S4L)**	**RD**	**CV**	**AS**	**IM**	**VM**	**FC**	**TS**	**DAF**
OC6 S4 HV	**Total Coal**	**S4**	**75 752**	**308 250**	**5.49**			**1.72**	**16.4**	**39.7**	**3.9**	**19.5**	**36.9**	**0.71**	**35.0**
UG3S4ULV	INDICATED	S5	438 029	680 000	1.44	31	14.6	1.79	12.6	50.0	4.1	11.0	34.9	0.69	24.9
	Total Coal	**S5**	**438 029**	**680 000**	**1.44**	**31**	**14.6**	**1.79**	**12.6**	**50.0**	**4.1**	**11.0**	**34.9**	**0.69**	**24.9**
UG4S4UHV	INDICATE	S5	238 885	307 700	1.01	38	25.0	1.50	23.2	23.4	3.6	16.7	56.3	0.96	22.8
	Total Coal	**S5**	**238 885**	**307 700**	**1.01**	**38**	**25.0**	**1.50**	**23.2**	**23.4**	**3.6**	**16.7**	**56.3**	**0.96**	**22.8**

Table 12. Mineable Opencast Coal Resource for the No.2 and No.1 seams

Opencast Areas								Raw Coal Qualities							
Resource Block	Resource Class	Seam Name	Resource Area (m^2)	Mineable In situ Tonnes	Seam Thickness (m)	Average Depth Below Surface (m)	Ave Strip ratio (S2/S4U/S4L)	RD	CV	AS	IM	VM	FC	TS	DAF
OC1S2HV	MEASURED	S2	379 396	2 822 400	5.23	48	2.8	1.59	21.0	28.2	4.4	23.7	43.8	1.15	35.1
		S2		**2 822 400**	**5.23**	**48**	**2.8**	**1.59**	**21.0**	**28.2**	**4.4**	**23.7**	**43.8**	**1.15**	**35.1**
OC1S2HV	MEASURED	S1	379 396	81 900	0.72	53		1.81	12.2	49.2	3.7	16.1	31.1	0.37	34.1
		S1		**81 900**	**0.72**	**53**		**1.81**	**12.2**	**49.2**	**3.7**	**16.1**	**31.1**	**0.37**	**34.1**
OC1S2HV	**Total Coal**			**2 904 300**											
OC2S2HV	MEASURED	S2	380 230	1 729 800	3.77	45	2.6	1.55	21.3	28.5	3.8	20.4	47.3	1.31	30.3
OC2S2HV	INDICATED	S2	380 230	116 450	2.09	31	2.7	1.48	22.9	24.3	3.8	19.4	52.6	1.43	27.0
		S2		**1 846 250**	**3.66**	**44**	**2.6**	**1.55**	**21.4**	**28.2**	**3.8**	**20.3**	**47.7**	**1.32**	**30.1**
OC2S2HV	MEASURED	S1	380 230	326 700	1.05	52		1.79	15.5	44.6	3.5	17.9	33.9	0.96	34.6
OC2S2HV	INDICATED	S1	380 230	17 000	0.69	46		1.72	17.2	39.6	3.6	18.9	37.9	0.83	33.5
		S1		**343 700**	**1.03**	**52**		**1.79**	**15.6**	**44.3**	**3.5**	**18.0**	**34.1**	**0.95**	**34.5**
OC2S2HV	**Total Coal**			**2 189 950**											
OC4S2LV	MEASURED	S2	1 175 401	269 100	1.73	39	2.7	1.95	8.9	57.4	5.3	10.6	26.8	0.47	29.0
OC4S2LV	INDICATED	S2	1 175 401	5 301 450	3.73	35	3.9	1.54	22.1	25.3	5.1	13.8	55.8	1.22	19.8
		S2		**5 570 550**	**3.64**	**35**	**3.8**	**1.56**	**21.5**	**26.8**	**5.1**	**13.7**	**54.5**	**1.19**	**20.2**
OC4S2LV	**Total Coal**			**5 570 550**											
OC5S2LV	MEASURED	S2	99 823	489 600	3.78	37	2.2	1.65	18.3	34.0	6.6	10.5	49.0	0.98	17.7

Opencast Areas								Raw Coal Qualities							
Resource Block	**Resource Class**	**Seam Name**	**Resource Area (m^2)**	**Mineable In situ Tonnes**	**Seam Thickness (m)**	**Average Depth Below Surface (m)**	**Ave Strip ratio (S2/S4U/S4L)**	**RD**	**CV**	**AS**	**IM**	**VM**	**FC**	**TS**	**DAF**
OC5S2LV	INDICATED	S2	99 823	66 300	3.96	31	4.5	1.59	20.1	30.0	5.8	11.3	53.0	1.16	17.6
		S2		**555 900**	**3.80**	**36**	**2.5**	**1.64**	**18.5**	**33.5**	**6.5**	**10.6**	**49.5**	**1.00**	**17.7**
OC5S2LV	**Total Coal**			**555 900**											
OC7S2LV	MEASURED	S2	132 049	601 200	3.10	15	3.0	1.63	19.4	33.7	4.1	14.0	48.3	1.83	22.5
		S2		**601 200**	**3.10**	**15**	**3.0**	**1.63**	**19.4**	**33.7**	**4.1**	**14.0**	**48.3**	**1.83**	**22.5**
OC7S2LV	MEASURED	S1	132 049	45 900	0.58	22		1.90	11.8	54.0	3.2	9.4	33.5	1.27	22.2
OC7S2LV	INDICATED	S1	132 049	850	0.61	13		1.82	13.8	49.1	3.3	10.3	37.3	0.44	21.8
		S1		**46 750**	**0.58**	**22**		**1.90**	**11.8**	**53.9**	**3.2**	**9.4**	**33.6**	**1.25**	**22.2**
OC7S2LV	**Total Coal**			**647 950**											

Table 13. Mineable Underground Coal Resource for the No.4U and No.4L seams

Underground Areas							Raw Coal Qualities							
Resource Block	Resource Class	Seam Name	Resource Area (m^2)	Mineable In situ Tonnes	Seam Thickness (m)	Average Depth Below Surface (m)	RD	CV	AS	IM	VM	FC	TS	DAF
UG3S4UHV	INFERRED	S4U	244 629	725 900	2.27	47	1.86	10.6	52.9	4.2	11.7	31.2	0.73	26.9
	Total Coal	**S4U**	**244 629**	**725 900**	**2.27**	**47**	**1.86**	**10.6**	**52.9**	**4.2**	**11.7**	**31.2**	**0.73**	**26.9**
UG3 S4U HV	**Total Coal**	**S4**	**244 629**	**725 900**	**2.27**	**47**	**1.86**	**10.6**	**52.9**	**4.2**	**11.7**	**31.2**	**0.73**	**26.9**
UG3S4ULV	INFERRED	S4U	438 029	477 700	1.29	63	2.05	4.1	66.2	5.5	5.9	22.3	0.21	20.9
	Total Coal	**S4U**	**438 029**	**477 700**	**1.29**	63	**2.05**	**4.1**	**66.2**	**5.5**	**5.9**	**22.3**	**0.21**	**20.9**
UG3S4LLV	INDICATED	S4L	682 658	1 852 150	1.90	57	1.81	14.4	43.9	4.8	7.5	43.9	1.15	14.8
	Total Coal	**S4L**	**682 658**	**1 852 150**	**1.90**	57	**1.81**	**14.4**	**43.9**	**4.8**	**7.5**	**43.9**	**1.15**	**14.8**
UG3 S4 LV	**Total Coal**	**S4**	**1 120 687**	**2 329 850**	**3.19**	**58**	**1.86**	**12.3**	**48.5**	**4.9**	**7.2**	**39.5**	**0.96**	**16.1**
UG4S4UHV	INFERRED	S4U	238 885	1 079 500	2.90	68	1.83	11.7	50.7	3.0	15.2	31.0	0.68	32.9
	Total Coal	**S4U**	**238 885**	**1 079 500**	**2.90**	**68**	**1.83**	**11.7**	**50.7**	**3.0**	**15.2**	**31.0**	**0.68**	**32.9**
UG4S4LHV	MEASURED	S4L	238 885	584 100	3.43	73	1.56	21.8	26.6	4.4	21.2	47.8	0.8	30.7
UG4S4LHV	INDICATED	S4L	238 885	438 600	2.78	70	1.57	21.3	27.8	4.5	21.0	46.7	0.9	31.0
	Total Coal	**S4L**	**238 885**	**1 022 700**	**3.14**	**72**	**1.56**	**21.6**	**27.1**	**4.4**	**21.1**	**47.3**	**0.84**	**30.8**
UG4 S4 LV	**Total Coal**	**S4**	**477 770**	**2 102 200**	**6.04**	**70**	**1.70**	**16.4**	**39.4**	**3.7**	**18.0**	**38.8**	**0.76**	**31.9**

Table 14. Mineable Underground Coal Resource for the No.2 seam

Underground Areas							Raw Coal Qualities							
Resource Block	**Resource Class**	**Seam Name**	**Resource Area (m^2)**	**Mineable In situ Tonnes**	**Seam Thickness (m)**	**Average Depth Below Surface (m)**	**RD**	**CV**	**AS**	**IM**	**VM**	**FC**	**TS**	**DAF**
UG1S2HV	MEASURED	S2	587 028	1 789 200	2.52	39	1.64	18.0	36.0	3.9	19.1	41.1	0.82	31.5
UG1S2HV	INDICATED	S2	587 028	389 300	2.78	34	1.58	20.2	31.2	4.0	18.9	45.9	1.01	29.2
	Total S2			**2 178 500**	**2.57**	**38**	**1.63**	**18.4**	**35.1**	**3.9**	**19.1**	**42.0**	**0.86**	**31.1**
UG2S2HV	MEASURED	S2	243 227	0										
UG2S2HV	INDICATED	S2	243 227	2 299 250	7.70	87	1.44	23.6	20.0	6.1	22.8	51.1	1.15	30.8
	Total S2			**2 299 250**	**7.70**	**87**	**1.44**	**23.6**	**20.0**	**6.1**	**22.8**	**51.1**	**1.15**	**30.8**
UG3S2HV	MEASURED	S2	365 530	0										
UG3S2HV	INDICATED	S2	365 530	2 393 600	5.27	81	1.70	17.1	38.1	4.0	16.6	41.5	0.74	28.7
UG3S2HV	INFERRED	S2	365 530	8 500	1.94	65	1.72	17.1	38.0	3.9	15.6	43.0	0.65	26.8
	Total S2			**2 402 100**	**5.26**	**81**	**1.70**	**17.1**	**38.1**	**4.0**	**16.6**	**41.5**	**0.74**	**28.7**
UG3S2LV	MEASURED	S2	317 128	0										
UG3S2LV	INDICATED	S2	317 128	2 864 500	6.67	68	1.59	22.9	29.1	4.4	10.4	56.2	0.86	15.7
UG3S2LV	**Total S2**			**2 864 500**	**6.67**	**68**	**1.59**	**22.9**	**29.1**	**4.4**	**10.4**	**56.2**	**0.86**	**15.7**

8.8 Coal Quality and Products

Coal washability tests were performed for various coal product options and scenarios as described under paragraph 7.3 "Coal Quality Modelling". Theoretical washability results from borehole intersections indicate that most of the coal will have to be processed through wash plants to achieve saleable coal products. Different coal products ranging from typical power station coal quality, high quality export coal to local domestic products including lean coal/low volatile coal products can be produced from the various seams.

For the purposes of this report, only coal products for the most imminent opencast areas will be summarised and presented. These are the OC1 (No.2 and No.4L high volatile coal), OC2 (No.2 and No.4L high volatile coal) and OC3 (No. 4L high volatile coal only). A primary (export) coal product at a CV of 27.5MJ/kg, and a secondary (power station CV 21.0MJ/kg) product at a cut-point density of 1.80 is presented. In general, average primary product yields vary between 20.7%-57.8% and secondary product yields between 31.3%-61.1% for the high volatile coal products from these pits. Average total product yields (primary and secondary combined) vary between 81.8-89.1%. Table 15 below presents a summary of the average yields for the above-mentioned resource areas for both primary and secondary products. Tables 16-18 overleaf summarise the average product qualities for each of the three resource areas per coal seam.

Table 15. Average coal product yields per resource area

	No. 2 Seam			No. 4L Seam		
Resource Area	**Primary yield at 27.5CV**	**Secondary yield at RD1.80**	**Total Product yield**	**Primary yield at 27.5CV**	**Secondary yield at RD1.80**	**Total Product yield**
OC1	32.2%	50.4%	82.6%	33.0%	52.8%	85.8%
OC2	37.6%	44.4%	82.0%	20.7%	61.1%	81.8%
OC3	-	_		57.8%	31.3%	89.1%

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Table 16. Coal product qualities for OC1 area

Opencast Areas				PRD AT 27.5CV						SEC PRD AT RD 1.80						
Resource Block	Resource Class	Seam	Mineable Tonnes (Mt)	PYL	PCV	PAS	PIM	PVM	PTS	SYL	SCV	SAS	SIM	SVM	STS	TOTAL YIELD
OC1S4LHV	MEASURED	S4L	1.263	32.9	27.5	12.3	4.8	25.4	0.91	52.8	21.3	26.7	4.3	20.0	0.86	**85.7**
OC1S4LHV	INDICATED	S4L	0.037	36.3	27.5	12.3	4.9	26.5	0.91	53.0	21.6	26.1	4.4	20.6	0.90	**89.3**
OC1 S4L	**TOTAL S4L**	**S4L**	**1.300**	**33.0**	**27.5**	**12.3**	**4.8**	**25.4**	**0.91**	**52.8**	**21.3**	**26.7**	**4.3**	**20.0**	**0.86**	85.8
OC1S2HV	MEASURED	S2	2.822	32.2	27.5	11.8	5.1	30.3	0.74	50.4	21.0	28.0	4.5	22.0	0.76	**82.6**
OC1 S2	**TOTAL S2**	**S2**	**2.822**	**32.2**	**27.5**	**11.8**	**5.1**	**30.3**	**0.74**	**50.4**	**21.0**	**28.0**	**4.5**	**22.0**	**0.76**	82.6

Table 17. Coal product qualities for OC2 area

Opencast Areas				PRD AT 27.5CV						SEC PRD AT RD 1.80						
Resource Block	Resource Class	Seam	Mineable Tonnes (Mt)	PYL	PCV	PAS	PIM	PVM	PTS	SYL	SCV	SAS	SIM	SVM	STS	TOTAL YIELD
OC2S4LHV	MEASURED	S4L	0.851	20.5	27.5	13.1	3.7	25.3	0.91	61.3	21.5	27.1	3.8	19.8	0.61	**81.8**
OC2S4LHV	INDICATED	S4L	0.020	27.9	27.5	13.6	3.3	22.3	0.91	55.2	22.1	25.8	3.5	17.5	0.69	**83.1**
OC2 S4L	**Total S4L**	**S4L**	**0.871**	**20.7**	**27.5**	**13.1**	**3.7**	**25.2**	**0.91**	**61.1**	**21.5**	**27.1**	**3.8**	**19.7**	**0.61**	**81.8**
OC2S2HV	MEASURED	S2	1.730	36.2	27.5	13.2	4.1	26.0	0.89	45.6	21.1	28.5	4.1	18.9	1.07	**81.8**
OC2S2HV	INDICATED	S2	0.116	57.4	27.5	13.2	3.9	22.2	0.88	28.0	20.0	30.8	3.8	16.8	1.38	**85.4**
OC2 S2	**TOTAL S2**	**S2**	**1.846**	**37.6**	**27.5**	**13.2**	**4.1**	**25.7**	**0.89**	**44.4**	**21.0**	**28.7**	**4.1**	**18.8**	**1.09**	**82.0**

Table 18. Coal product qualities for OC3 area

Opencast Areas				PRD AT 27.5CV						SEC PRD AT RD 1.80						
Resource Block	Resource Class	Seam	Mineable Tonnes (Mt)	PYL	PCV	PAS	PIM	PVM	PTS	SYL	SCV	SAS	SIM	SVM	STS	TOTAL YIELD
OC3S4LHV	MEASURED	S4L	0.444	57.8	27.5	12.1	5.1	26.7	0.79	31.3	20.9	28.5	4.3	20.0	0.98	**89.1**
OC3 S4L	**Total S4L**	**S4L**	**0.444**	**57.8**	**27.5**	**12.1**	**5.1**	**26.7**	**0.79**	**31.3**	**20.9**	**28.5**	**4.3**	**20.0**	**0.98**	**89.1**

8.8.1 Coal Quality Plans

A number of plans are presented below to illustrate some selected coal qualities for the different seams as presented in the coal quality tables.

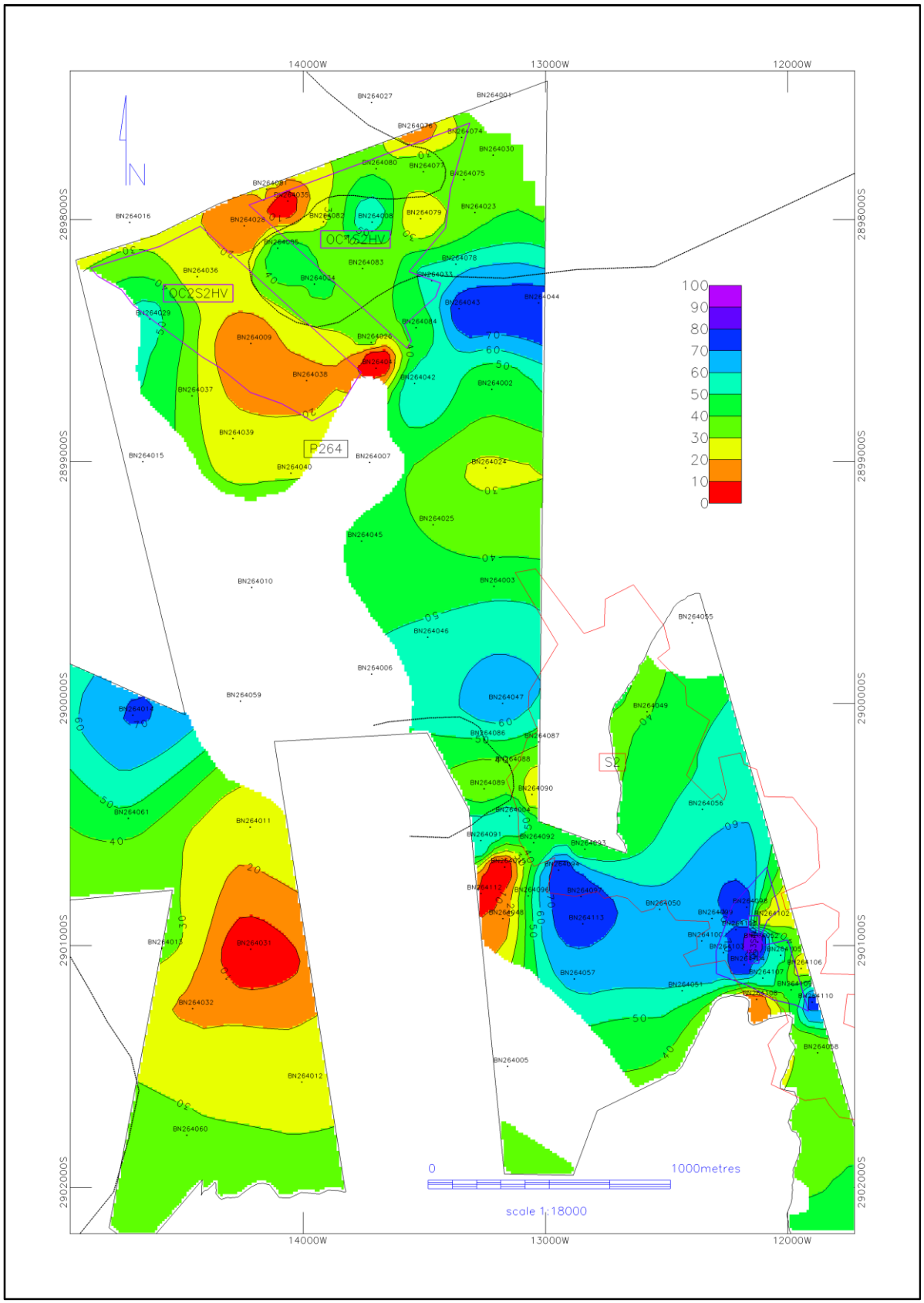

Figure 39. Seam 4L – Primary product yield at 27.5MJ/kg

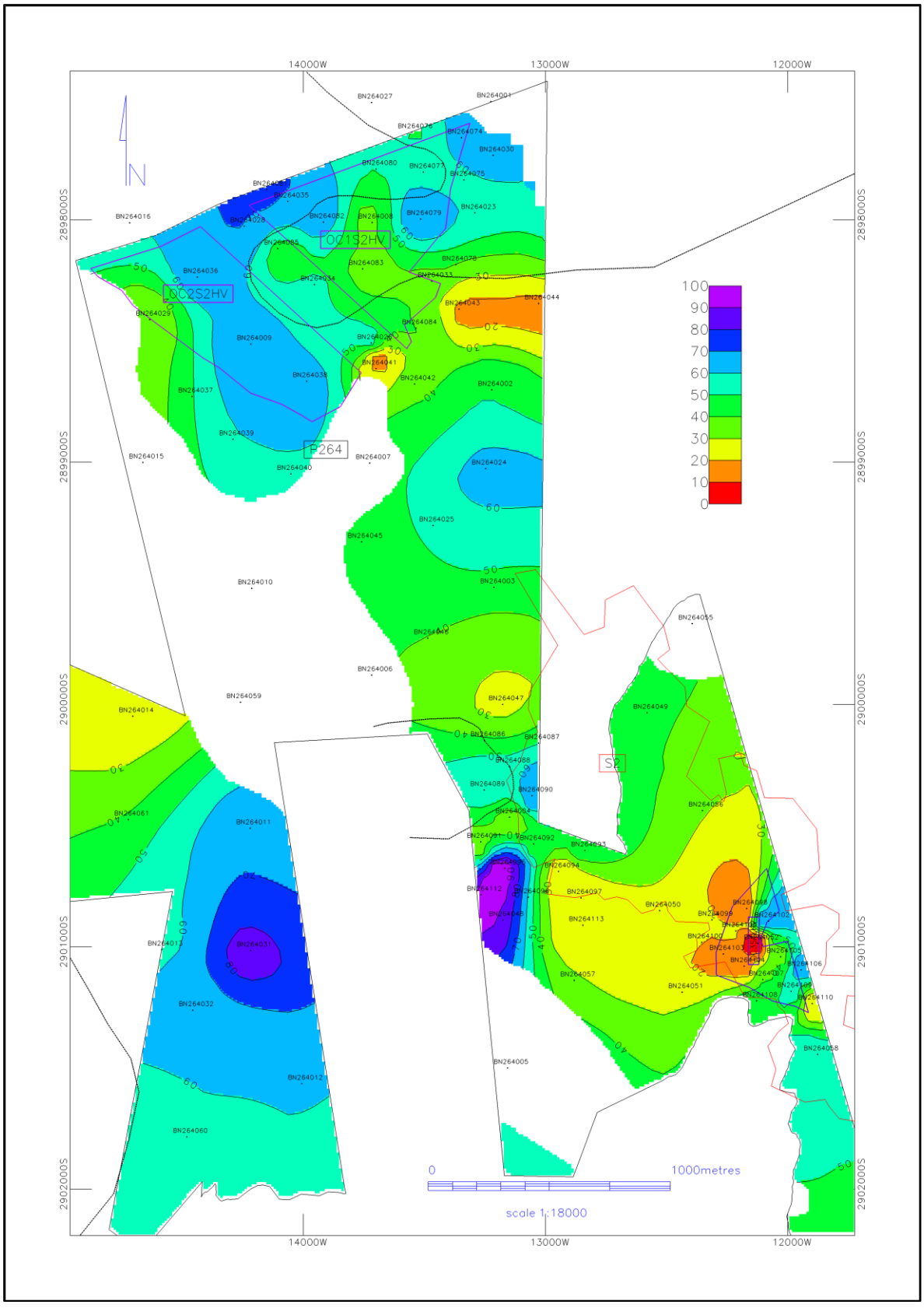

Figure 40. Seam 4L – Secondary product yield at RD1.80

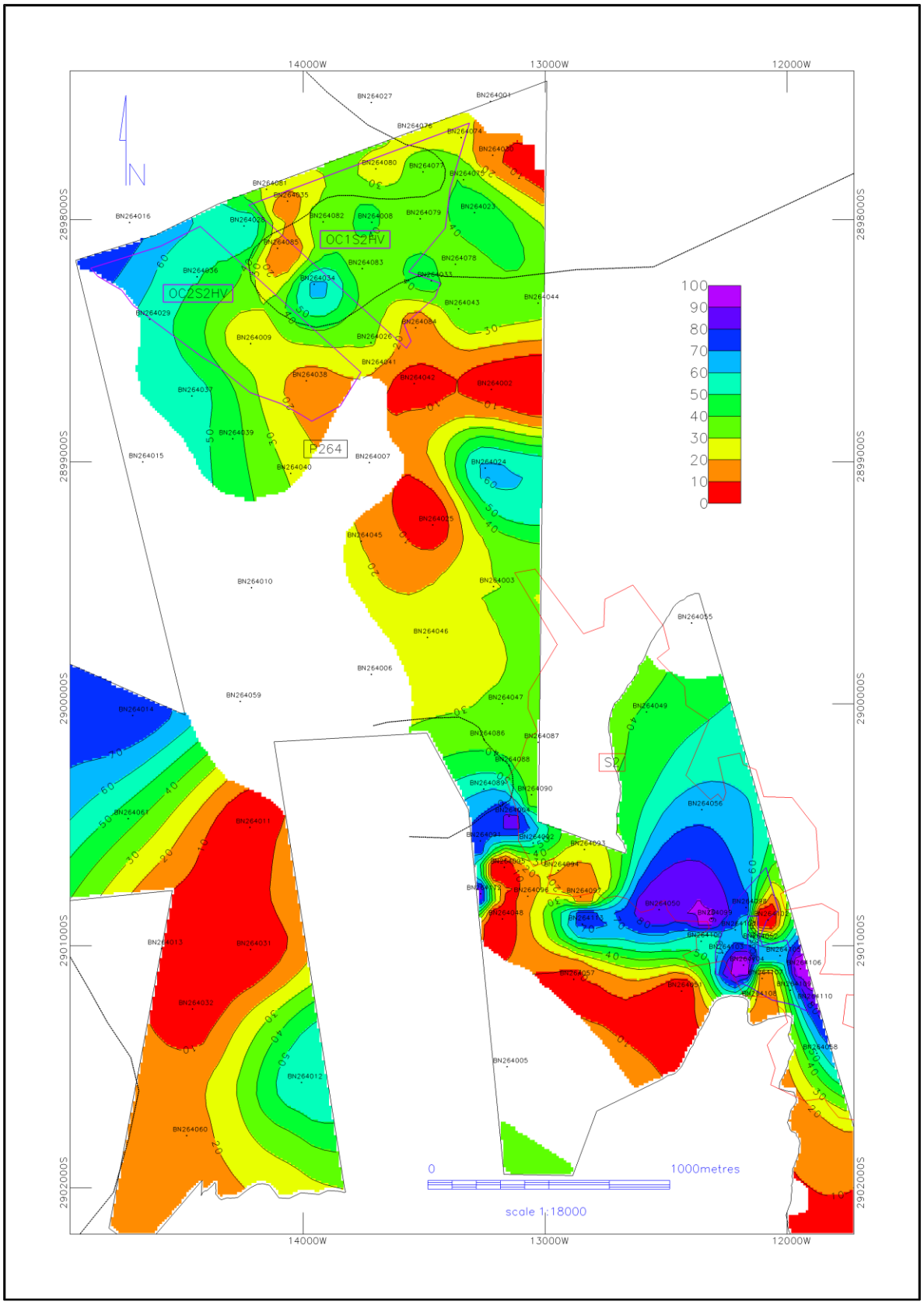

Figure 41. Seam 2 – Primary product yield at 27.5MJ/kg

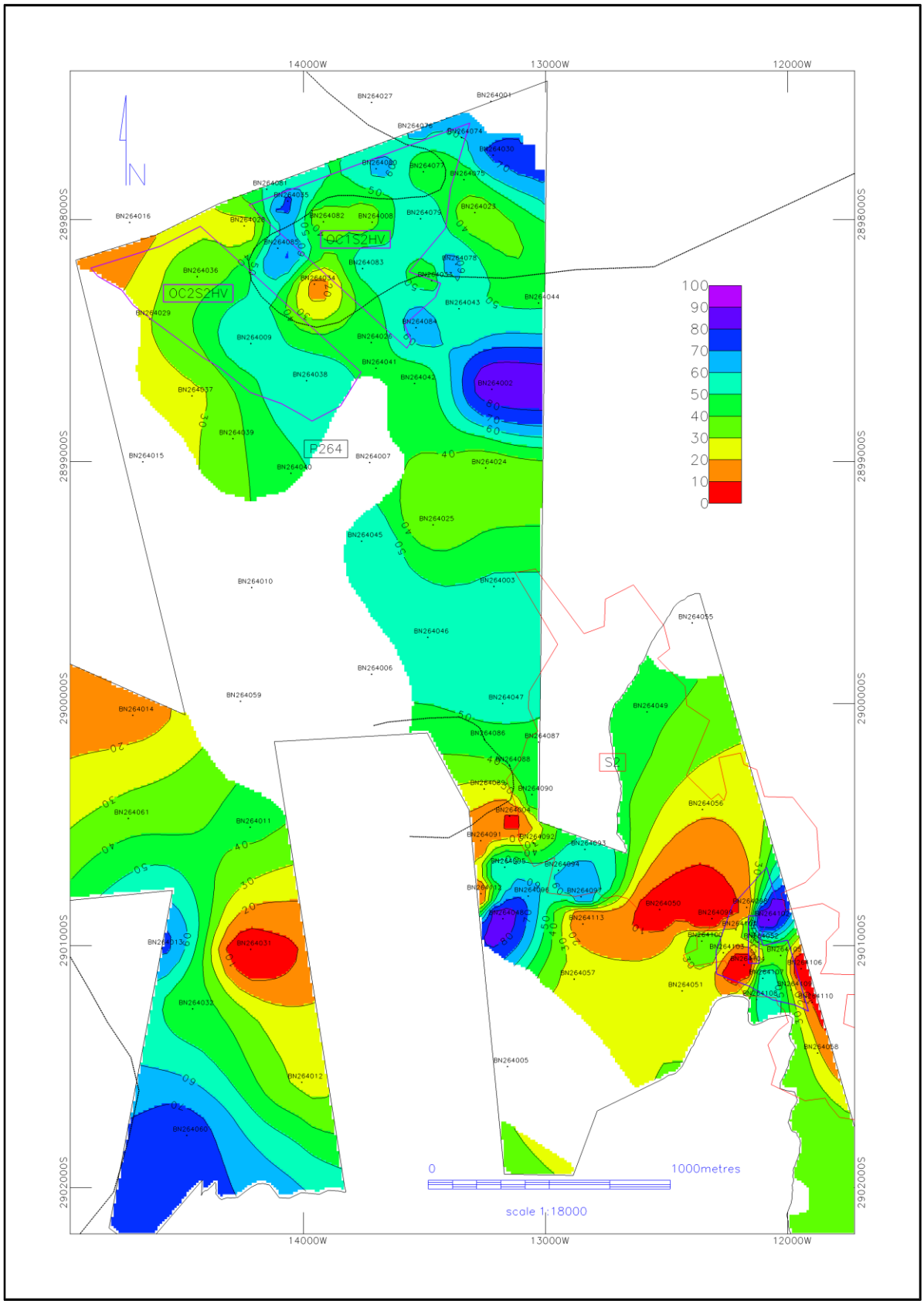

Figure 42. Seam 2 – Secondary product yield at RD1.80

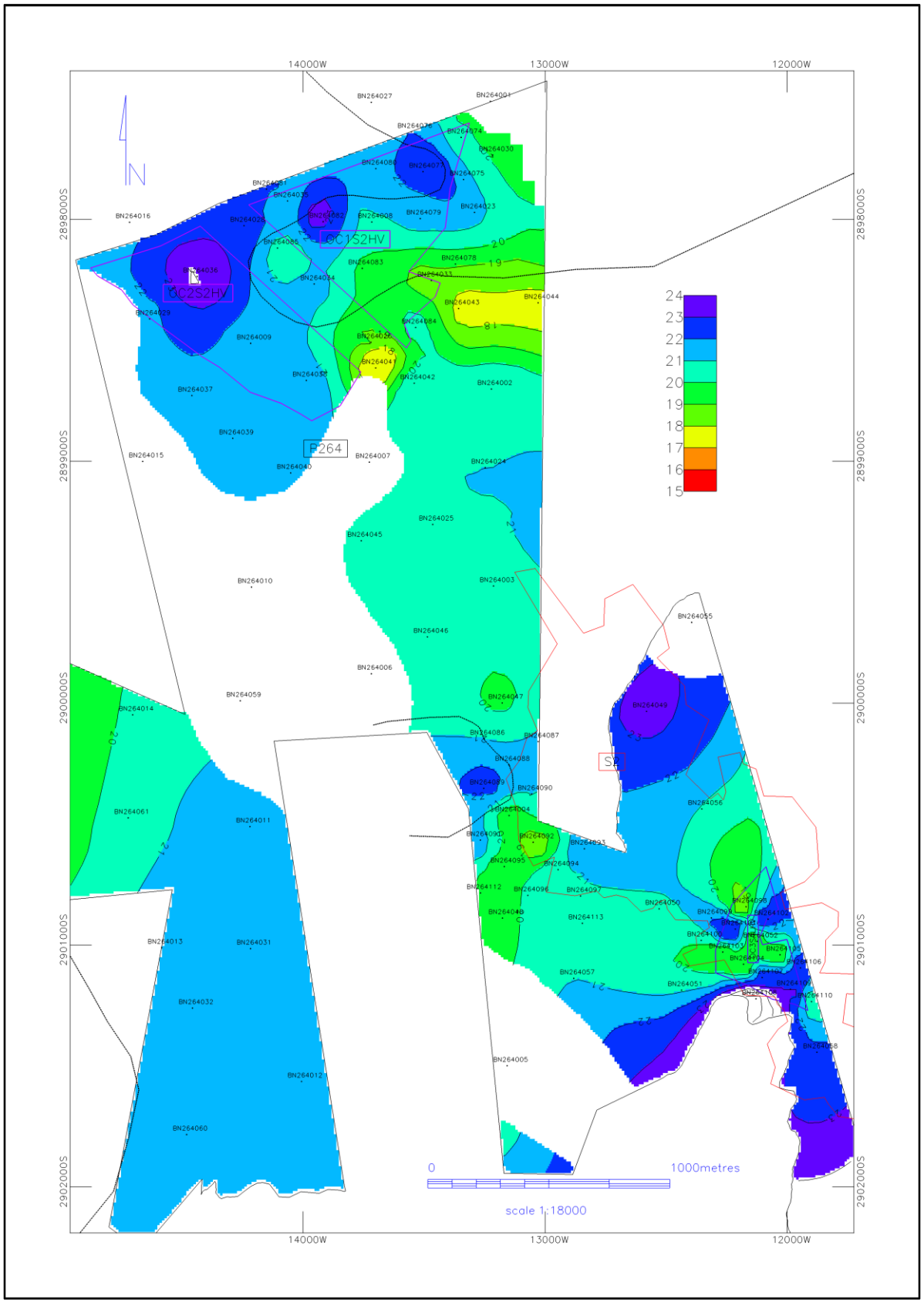

Figure 43. Seam 4L – Secondary CV at RD1.80

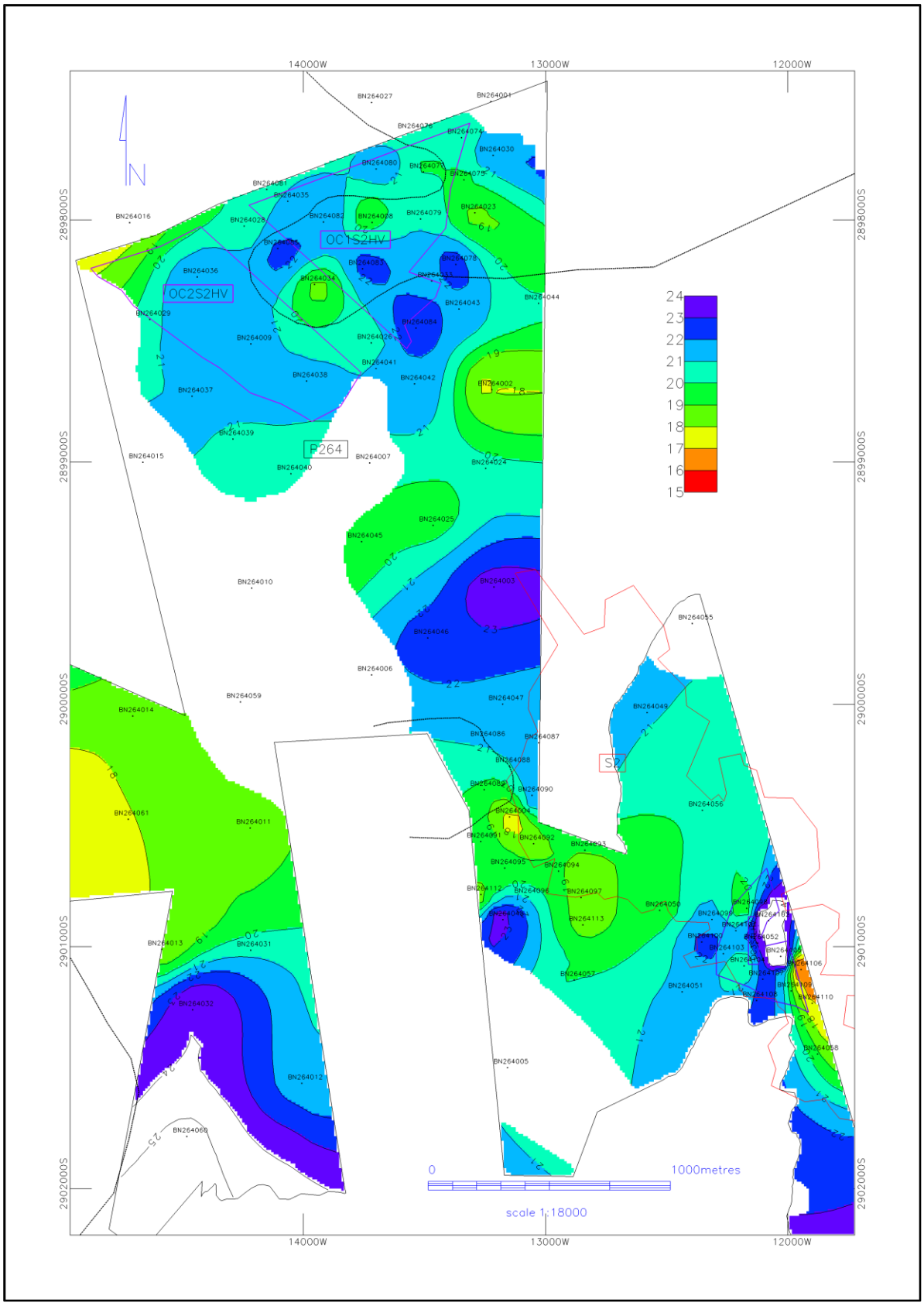

Figure 44. Seam 2 – Secondary CV at RD1.80

9. GEOLOGICAL RISKS

Table 19. Geological risk table

Risk	Risk Rating	Mitigation Action	Remarks
Resource confidence	Low	Infill drilling to be aligned with mining plan	Mineable resource areas mainly Measured and Indicated
Mining confidence - Opencast	Low	Infill drilling required	Infill drilling required to <150m intervals to allow more accurate geological information for detailed scheduling and monthly planning
Mining confidence - Underground	Low	Infill drilling required	Infill drilling required to <300m intervals to allow more accurate geological information for detailed scheduling and monthly planning
Coal qualities	Low	Infill drilling required	Local variation can occur near dolerite intrusions and around sub outcrop areas
Geological structure	Low	Infill drilling required Aeromagnetic survey	Dolerite dykes and small-scale faulting cannot be predicted with a high level of confidence from borehole drilling only. A geological loss factor is applied to mitigate the estimation.

APPENDIX A

List of borehole collars

BHID	X	Y	Z	TYPE	EOH	COORDSYS
B001	-14603.00	-2901847.00	1551.10	H	31.85	Lo29_WGS84
B002	-17378.00	-2899497.00	1580.10	XHB	38.10	Lo29_WGS84
B003	-17308.00	-2901096.00	1590.10	H	98.44	Lo29_WGS84
B004	-15493.00	-2902344.00	1552.00	HB	25.30	Lo29_WGS84
B005	-14665.00	-2900758.00	1556.90	H	45.72	Lo29_WGS84
BF26401	-12095.69	-2900989.30	1549.00	H	38.84	Lo29_WGS84
BF26402	-12458.39	-2901176.30	1532.00	H	29.87	Lo29_WGS84
BF26409	-13220.38	-2900890.30	1556.00	H	36.27	Lo29_WGS84
BF26412	-12729.69	-2899924.30	1552.00	H	42.60	Lo29_WGS84
BF26413	-13847.28	-2902810.29	1534.00	HB	13.41	Lo29_WGS84
BF26419	-13576.98	-2898530.80	1551.00	H	50.01	Lo29_WGS84
BF26421	-14518.78	-2898326.80	1563.00	H	71.17	Lo29_WGS84
BF26422	-13354.00	-2897879.00	1557.00	H	51.56	Lo29_WGS84
BF26425	-12577.09	-2900890.30	1530.00	H	26.11	Lo29_WGS84
BF26440	-12135.29	-2901612.29	1535.00	XC	70.69	Lo29_WGS84
BF26441	-12144.00	-2901584.00	1536.50	XC	86.17	Lo29_WGS84
BF26443	-16851.87	-2901694.79	1587.00	H	92.07	Lo29_WGS84
BF26444	-16892.27	-2902932.29	1577.00	H	90.95	Lo29_WGS84
BF26445	-15700.18	-2902869.79	1563.00	XHB	53.40	Lo29_WGS84
BF26446	-15030.28	-2902990.79	1555.00	H	56.05	Lo29_WGS84
BF26449	-13782.68	-2899365.30	1537.00	H	14.02	Lo29_WGS84
BF26450	-13168.28	-2898959.30	1532.00	H	39.47	Lo29_WGS84
BF26451	-13494.78	-2899163.30	1535.00	H	39.50	Lo29_WGS84
BF26452	-13691.74	-2898850.84	1547.00	H	47.24	Lo29_WGS84
BF26453	-14030.84	-2899073.34	1543.00	H	49.07	Lo29_WGS84
BF26454	-13256.14	-2898636.84	1539.00	HB	35.97	Lo29_WGS84
BF26458	-13530.54	-2899813.84	1552.00	H	38.40	Lo29_WGS84
BF26466	-11766.45	-2902060.33	1540.00	H	67.44	Lo29_WGS84
BF26471	-13375.74	-2899451.34	1543.00	H	44.02	Lo29_WGS84
BF26476	-12430.95	-2902575.33	1545.00	H	36.91	Lo29_WGS84
BF26495	-17478.33	-2899720.34	1580.00	H	84.40	Lo29_WGS84
BN264001	-13226.26	-2897511.74	1554.26	UD	53.30	Lo29_WGS84
BN264002	-13222.03	-2898701.47	1531.11	U	53.39	Lo29_WGS84
BN264003	-13213.59	-2899516.01	1549.58	U	53.32	Lo29_WGS84
BN264004	-13149.09	-2900464.69	1552.42	U	37.85	Lo29_WGS84
BN264005	-13157.43	-2901499.61	1530.73	UB	11.30	Lo29_WGS84
BN264006	-13718.63	-2899878.54	1558.43	UB	17.32	Lo29_WGS84
BN264007	-13726.56	-2899003.74	1534.49	UB	11.30	Lo29_WGS84

BHID	X	Y	Z	TYPE	EOH	COORDSYS
BN264008	-13716.58	-2898010.86	1555.98	U	59.32	Lo29_WGS84
BN264009	-14217.20	-2898512.43	1547.55	U	67.90	Lo29_WGS84
BN264010	-14213.56	-2899520.43	1548.56	UB	6.00	Lo29_WGS84
BN264011	-14219.94	-2900510.56	1576.08	U	59.28	Lo29_WGS84
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BN264013	-14585.17	-2901011.28	1562.67	U	52.31	Lo29_WGS84
BN264014	-14704.64	-2900048.39	1562.10	U	57.43	Lo29_WGS84
BN264015	-14663.21	-2899000.98	1551.24	UB	6.00	Lo29_WGS84
BN264016	-14717.53	-2898011.81	1562.20	U	59.32	Lo29_WGS84
BN264017	-15216.07	-2899510.09	1549.27	U	24.91	Lo29_WGS84
BN264018	-15217.49	-2900501.55	1565.23	U	47.27	Lo29_WGS84
BN264019	-15723.55	-2900998.68	1576.08	U	107.30	Lo29_WGS84
BN264020	-15714.11	-2900003.48	1559.04	U	71.32	Lo29_WGS84
BN264021	-17215.97	-2900509.50	1590.43	U	109.97	Lo29_WGS84
BN264022	-17203.05	-2902483.85	1587.72	U	116.76	Lo29_WGS84
BN264023	-13292.09	-2897971.47	1546.72	U	53.32	Lo29_WGS84
BN264024	-13247.82	-2899026.41	1538.72	U	65.38	Lo29_WGS84
BN264025	-13464.68	-2899261.19	1544.17	U	59.32	Lo29_WGS84
BN264026	-13720.08	-2898508.31	1546.06	U	51.68	Lo29_WGS84
BN264027	-13718.74	-2897515.84	1560.14	U	74.39	Lo29_WGS84
BN264028	-14244.43	-2898026.22	1562.04	U	65.32	Lo29_WGS84
BN264029	-14634.65	-2898411.45	1550.96	U	54.09	Lo29_WGS84
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BN264033	-13470.76	-2898252.87	1546.42	U	47.22	Lo29_WGS84
BN264034	-13954.59	-2898267.12	1552.83	U	49.36	Lo29_WGS84
BN264035	-14064.47	-2897923.84	1560.93	U	83.15	Lo29_WGS84
BN264036	-14438.73	-2898236.05	1557.36	U	95.70	Lo29_WGS84
BN264037	-14459.988	-2898728.640	1544.331	U	58.90	Lo29_WGS84
BN264038	-13986.97	-2898665.68	1540.26	U	51.79	Lo29_WGS84
BN264039	-14290.90	-2898905.42	1543.70	UD	61.97	Lo29_WGS84
BN264040	-14051.76	-2899048.21	1537.50	UC	23.98	Lo29_WGS84
BN264041	-13700.48	-2898614.27	1542.81	U	21.90	Lo29_WGS84
BN264042	-13541.20	-2898677.45	1536.17	U	44.51	Lo29_WGS84
BN264043	-13357.75	-2898368.52	1539.94	U	50.70	Lo29_WGS84
BN264044	-13029.35	-2898345.10	1540.28	U	35.34	Lo29_WGS84
BN264045	-13759.90	-2899328.61	1543.63	U	38.83	Lo29_WGS84
BN264046	-13486.84	-2899726.11	1553.21	U	39.60	Lo29_WGS84
BN264047	-13177.41	-2899999.31	1550.62	U	49.57	Lo29_WGS84
BN264048	-13176.66	-2900888.89	1545.58	U	13.90	Lo29_WGS84

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BN264049	-12581.17	-2900034.06	1536.78	UH	23.88	Lo29_WGS84
BN264050	-12529.05	-2900850.56	1526.27	U	41.53	Lo29_WGS84
BN264051	-12436.28	-2901186.79	1527.067	U	35.80	Lo29_WGS84
BN264052	-12124.43	-2900985.38	1541.98	UH	30.90	Lo29_WGS84
BN264053	-11645.00	-2902034.35	1540.89	U	40.66	Lo29_WGS84
BN264054	-11569.43	-2902413.29	1538.72	U	53.55	Lo29_WGS84
BN264055	-12394.76	-2899666.44	1546.06	UB	20.18	Lo29_WGS84
BN264056	-12352.72	-2900437.53	1529.40	UH	17.51	Lo29_WGS84
BN264057	-12881.86	-2901138.20	1534.46	U	9.47	Lo29_WGS84
BN264058	-11877.24	-2901443.68	1541.79	U	19.37	Lo29_WGS84
BN264059	-14260.26	-2899990.36	1563.80	UB	12.19	Lo29_WGS84
BN264060	-14481.69	-2901783.84	1546.50	U	37.91	Lo29_WGS84
BN264061	-14723.43	-2900474.49	1573.16	U	53.13	Lo29_WGS84
BN264062	-15229.16	-2900074.39	1558.12	U	17.04	Lo29_WGS84
BN264063	-15716.88	-2899587.80	1554.67	U	35.53	Lo29_WGS84
BN264065	-15834.785	-2901708.371	1565.863	UB	57.05	Lo29_WGS84
BN264066	-15419.27	-2901534.16	1566.82	U	107.15	Lo29_WGS84
BN264067	-15943	-2901700	1561.00	UC	50.20	Lo29_WGS84
BN264068	-17077.33	-2900013.31	1585.77	U	66.70	Lo29_WGS84
BN264069	-16837.39	-2900782.65	1578.57	U	82.60	Lo29_WGS84
BN264070	-17247.06	-2901045.22	1590.84	U	100.97	Lo29_WGS84
BN264071	-16702.35	-2902189.50	1580.68	U	77.60	Lo29_WGS84
BN264072	-17298.15	-2903000.81	1590.38	U	84.50	Lo29_WGS84
BN264073	-16811.54	-2902328.09	1581.40	U	72.05	Lo29_WGS84
BN264074	-13347.415	-2897660.991	1554.823	U3	39.05	Lo29_WGS84
BN264075	-13337.468	-2897835.053	1550.951	U3	42.03	Lo29_WGS84
BN264076	-13553.006	-2897638.324	1559.009	U3	63.76	Lo29_WGS84
BN264077	-13504.663	-2897802.915	1556.449	U3	72.8	Lo29_WGS84
BN264078	-13370.875	-2898184.481	1543.784	U3	39.09	Lo29_WGS84
BN264079	-13516.475	-2897996.608	1551.778	U3	55.1	Lo29_WGS84
BN264080	-13699.947	-2897790.224	1559.549	U3	81.88	Lo29_WGS84
BN264081	-14151.565	-2897874.881	1561.189	U3	70.6	Lo29_WGS84
BN264082	-13917.562	-2898009.316	1557.664	U3	58.18	Lo29_WGS84
BN264083	-13755.843	-2898202.542	1552.375	U3	46.7	Lo29_WGS84
BN264084	-13535.345	-2898447.041	1543.005	U3	48.8	Lo29_WGS84
BN264085	-14105.933	-2898118.739	1557.988	U3	60.8	Lo29_WGS84
BN264086	-13253.056	-2900147.383	1554.553	U3D	54.87	Lo29_WGS84
BN264087	-13029.059	-2900158.894	1548.483	U3	36.08	Lo29_WGS84
BN264088	-13149.864	-2900255.227	1553.206	U3D	21.46	Lo29_WGS84
BN264089	-13253.927	-2900352.521	1556.452	U3	66	Lo29_WGS84
BN264090	-13056.393	-2900375.978	1549.413	U3	40.21	Lo29_WGS84

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BN264091	-13267.774	-2900566.412	1557.713	U3	35.85	Lo29_WGS84
BN264092	-13049.35	-2900575.384	1547.4	U3	32.65	Lo29_WGS84
BN264093	-12837.766	-2900602.144	1537.321	U3	21.1	Lo29_WGS84
BN264094	-12946.728	-2900688.697	1541.688	U3	27.73	Lo29_WGS84
BN264095	-13169.045	-2900675.949	1551.67	U3	26.93	Lo29_WGS84
BN264096	-13071.764	-2900795.072	1542.001	U3D	18.39	Lo29_WGS84
BN264097	-12854.048	-2900797.659	1534.192	U3	23.96	Lo29_WGS84
BN264098	-12170.04	-2900841.747	1541.278	U3	48.85	Lo29_WGS84
BN264099	-12313.315	-2900888.118	1532.463	U3	34.2	Lo29_WGS84
BN264100	-12355.338	-2900981.003	1529.601	U3	38.64	Lo29_WGS84
BN264101	-12214.609	-2900934.328	1536.944	U3	26.66	Lo29_WGS84
BN264102	-12079.159	-2900893.286	1544.08	U3	43.26	Lo29_WGS84
BN264103	-12266.321	-2901029.437	1532.428	U3	23.8	Lo29_WGS84
BN264104	-12180.343	-2901079.668	1536.205	U3	46.2	Lo29_WGS84
BN264105	-12029.591	-2901040.607	1544.673	U3	52.12	Lo29_WGS84
BN264106	-11945.161	-2901095.078	1546.847	U3	54.08	Lo29_WGS84
BN264107	-12103.301	-2901134.805	1539.634	U3	54.8	Lo29_WGS84
BN264108	-12129.198	-2901222.398	1534.96	U3	37.77	Lo29_WGS84
BN264109	-11986.36	-2901183.206	1544.867	U3	41.82	Lo29_WGS84
BN264110	-11899.647	-2901234.021	1546.103	U3	37.18	Lo29_WGS84
BN264112	-13267.228	-2900785.332	1552.4	U3	21.3	Lo29_WGS84
BN264113	-12846.214	-2900910.375	1532.145	U3	22.2	Lo29_WGS84
BNS001	-12075.00	-2900594.00	1545.30	H	38.84	Lo29_WGS84
BNS002	-12528.00	-2900721.00	1533.00	XC	29.87	Lo29_WGS84
BNS003	-11938.00	-2901066.00	1542.30	H	43.05	Lo29_WGS84
BNS009	-13063.00	-2900521.00	1556.00	H	35.71	Lo29_WGS84
BNS010	-13028.00	-2900106.00	1545.30	H	38.46	Lo29_WGS84
BNS011	-13208.00	-2899846.00	1552.90	HD	29.77	Lo29_WGS84
BNS012	-13212.00	-2899849.00	1551.40	H	46.89	Lo29_WGS84
BNS017	-13463.00	-2900664.00	1565.10	H	27.66	Lo29_WGS84
BNS018	-13125.00	-2899024.00	1537.70	H	46.18	Lo29_WGS84
BNS020	-13981.00	-2899331.00	1543.80	H	22.83	Lo29_WGS84
BNS021	-14605.00	-2898092.00	1566.70	H	72.36	Lo29_WGS84
BNS024	-12429.00	-2900481.00	1530.10	H	30.56	Lo29_WGS84
BNS025	-12528.00	-2900616.00	1527.00	H	26.06	Lo29_WGS84
BNS026	-15781.00	-2900681.00	1578.80	H	83.18	Lo29_WGS84
BNS027	-16602.00	-2899980.00	1576.40	H	78.64	Lo29_WGS84
BNS028	-16709.00	-2902679.00	1574.00	H	74.55	Lo29_WGS84
BNS029	-15441.00	-2899836.00	1553.90	H	40.23	Lo29_WGS84
BNS044	-16092.00	-2899295.00	1556.30	H	51.87	Lo29_WGS84
BNS048	-16380.00	-2901263.00	1578.80	H	74.35	Lo29_WGS84

BHID	X	Y	Z	TYPE	EOH	COORDSYS
BNS049	-16178.00	-2901717.00	1578.80	H	84.28	Lo29_WGS84
BNS050	-12677.00	-2902173.00	1548.40	H	30.56	Lo29_WGS84
BNS052	-16353.00	-2900963.00	1574.30	H	81.81	Lo29_WGS84
BNS053	-15286.00	-2902139.00	1520.90	XC	40.92	Lo29_WGS84
BNS054	-13014.00	-2899252.00	1545.30	H	53.36	Lo29_WGS84
BNS059	-15558.00	-2901334.00	1554.50	H	90.70	Lo29_WGS84
BNS060	-14930.00	-2901663.00	1542.30	H	83.18	Lo29_WGS84
BNS061	-12195.00	-2901120.00	1536.20	H	44.22	Lo29_WGS84
BNS062	-12006.00	-2901614.00	1534.70	H	40.69	Lo29_WGS84
BNS063	-11853.00	-2902028.00	1536.20	H	35.13	Lo29_WGS84
BNS066	-11771.00	-2901694.00	1537.10	H	36.96	Lo29_WGS84
BNS067	-13203.00	-2901031.00	1541.70	HD	24.99	Lo29_WGS84
BNS068	-13146.00	-2899460.00	1549.60	H	59.97	Lo29_WGS84
BNS069	-13653.00	-2900046.00	1560.00	HD	35.20	Lo29_WGS84
BNS070	-12893.00	-2899796.00	1549.00	H	48.01	Lo29_WGS84
BNS071	-13305.00	-2899206.00	1541.70	H	44.32	Lo29_WGS84
BNS074	-12294.00	-2901584.00	1536.50	H	26.01	Lo29_WGS84
BNS075	-12295.00	-2901836.00	1544.10	H	41.53	Lo29_WGS84
BNS076	-12408.00	-2902287.00	1545.30	H	37.21	Lo29_WGS84
BNS077	-12060.00	-2902419.00	1537.70	H	40.23	Lo29_WGS84
BNS078	-12478.00	-2902637.00	1549.00	HB	28.65	Lo29_WGS84
BNS079	-12059.00	-2901881.00	1540.80	H	45.57	Lo29_WGS84
BNS080	-12678.00	-2901704.00	1536.50	H	25.48	Lo29_WGS84
BNS081	-12869.00	-2901987.00	1536.50	H	32.69	Lo29_WGS84
BNS082	-15161.00	-2901473.00	1545.90	H	52.12	Lo29_WGS84
BNS083	-15867.00	-2901065.00	1569.70	H	80.57	Lo29_WGS84
BNS084	-15305.00	-2900933.00	1574.30	H	83.03	Lo29_WGS84
BNS085	-15069.00	-2901028.00	1569.70	H	78.49	Lo29_WGS84
BNS086	-13011.00	-2900087.00	1563.60	XC	46.91	Lo29_WGS84
BNS087	-17456.00	-2899986.00	1580.40	H	91.59	Lo29_WGS84
BNS088	-15513.00	-2900371.00	1560.00	H	30.48	Lo29_WGS84
BNS089	-15738.00	-2899577.00	1560.60	HD	38.81	Lo29_WGS84
BNS090	-15807.00	-2899873.00	1560.30	H	64.77	Lo29_WGS84
BNS091	-16146.00	-2900325.00	1567.90	H	71.55	Lo29_WGS84
BNS092	-16418.00	-2899623.00	1574.00	H	80.09	Lo29_WGS84
BNS093	-16282.00	-2901581.00	1565.10	XK	80.01	Lo29_WGS84
BNS094	-16864.00	-2900426.00	1580.40	H	94.82	Lo29_WGS84
BNS096	-16804.00	-2901768.00	1587.40	H	95.88	Lo29_WGS84
BNS097	-17226.00	-2901476.00	1592.00	H	98.98	Lo29_WGS84
BNS098	-17260.00	-2903386.00	1591.70	H	107.44	Lo29_WGS84
BNS099	-16148.00	-2903222.00	1579.50	H	90.04	Lo29_WGS84

BHID	X	Y	Z	TYPE	EOH	COORDSYS
BNS100	-16639.00	-2903301.00	1585.30	H	97.92	Lo29_WGS84
BNS101	-16403.00	-2901820.00	1572.80	H	72.67	Lo29_WGS84
BNS103	-16875.00	-2899519.00	1568.80	H	51.23	Lo29_WGS84
BNS105	-17064.00	-2900027.00	1575.80	H	76.83	Lo29_WGS84
BNS106	-17361.00	-2900519.00	1581.90	HD	101.50	Lo29_WGS84
BNS107	-16147.00	-2901388.00	1575.80	H	82.78	Lo29_WGS84
BNS108	-11653.00	-2898179.00	1587.10	H	89.92	Lo29_WGS84
BNS109	-16570.00	-2900543.00	1571.50	H	44.98	Lo29_WGS84
BNS110	-17288.00	-2902306.00	1594.70	H	103.07	Lo29_WGS84
BNS111	-14847.00	-2902362.00	1539.20	H	31.01	Lo29_WGS84
BNS112	-14360.00	-2902363.00	1531.60	H	39.14	Lo29_WGS84
BNS113	-13877.00	-2902500.00	1534.70	H	13.41	Lo29_WGS84
BNS114	-14226.00	-2901994.00	1537.70	H	9.25	Lo29_WGS84
BNS125	-14438.00	-2898857.00	1543.50	H	52.93	Lo29_WGS84
BNS139	-16011.00	-2902828.00	1568.80	H	48.67	Lo29_WGS84
BNS143	-12918.00	-2899607.00	1552.00	H	64.31	Lo29_WGS84
BNS145	-12461.00	-2901213.00	1527.60	HD	47.32	Lo29_WGS84
BNS146	-13062.00	-2900379.00	1552.30	HD	53.34	Lo29_WGS84
BNS148	-13029.00	-2900644.00	1549.90	XHB	55.47	Lo29_WGS84
DL26223	-11562.25	-2902570.83	1537.00	H	35.00	Lo29_WGS84
EN30181	-17056.13	-2900592.84	1600.00	XC	92.12	Lo29_WGS84
EN30182	-17056.13	-2900592.84	1600.50	XC	78.65	Lo29_WGS84
P001	-13430.00	-2902444.00	1538.90	H	20.42	Lo29_WGS84

APPENDIX B

Terms and Definitions

- **'The JORC Code 2012 Edition'**. Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves.

- **'The Coal Guidelines 2014 Edition'**. Australian Guidelines for the Estimation and Classification of Coal resources.

- A ***'Competent Person'*** is a minerals industry professional who is a Member or Fellow of the Australasian Institute of Mining and Metallurgy, or of the Australian Institute of Geoscientists, or of a 'Recognised Professional Organisation' (RPO), as included in a list available on the JORC and ASX websites. These organisations have enforceable disciplinary process including the powers to suspend or expel a member.

- An ***'Inferred Coal Resource'*** is that part of a Coal Resource for which quantity and grade (or quality) are estimated on the basis of limited geological evidence and sampling. Geological evidence is sufficient to imply but not verify geological and grade (or quality) continuity. It is based on exploration, sampling and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes.

  An Inferred Coal Resource has a lower level of confidence than that applying to an Indicated Coal Resource and must not be converted to a Coal Reserve. It is reasonably expected that the majority of Inferred Coal Resources could be upgraded to Indicated Coal Resources with continued exploration.

- An ***'Indicated Coal Resource'*** is that part of a Coal Resource for which quantity, grade (or quality), densities, shape and physical characteristics are estimated with sufficient confidence to allow the application of Modifying Factors in sufficient detail to support mine planning and evaluation of the economic viability of the deposit.

  Geological evidence is derived from adequately detailed and reliable exploration, sampling and testing gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes, and is sufficient to assume geological and grade (or quality) continuity between points of observation where data and samples are gathered.

An Indicated Coal Resource has a lower level of confidence than that applying to a Measured Coal Resource and may only be converted to a Probable Coal Reserve.

- A ***'Measured Coal Resource'*** is that part of a Coal Resource for which quantity, grade (or quality), densities, shape and physical characteristics are estimated with confidence sufficient to allow the application of Modifying Factors to support detailed mine planning and final evaluation of the economic viability of the deposit.

  Geological evidence is derived from detailed and reliable exploration, sampling and testing gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes, and is sufficient to confirm geological and grade (or quality) continuity between points of observation where data and samples are gathered.

  A Measured Coal Resource has a higher level of confidence than that applying to either an Indicated Coal Resource or an Inferred Coal Resource. It may be converted to a Proved Coal Reserve or under certain circumstances to a Probable Coal Reserve.

- ***Geological loss factor***

  Discount factor applied in the case of gross in situ tonnage to account for as yet unobserved geological features that can occur between points of observation.

- ***Gross in situ coal resource*** (GTIS)

  Tonnage and coal quality, at specified moisture content, contained in the full coal seam above the minimum thickness cut-off and relevant coal quality cut-off parameters, as defined by the competent person.

  NOTE: The seam height does not include any external dilution or contamination material. No loss factors shall be applied to a gross in situ coal resource.

- ***Mineable in situ coal resource*** (MTIS)

  Tonnage and coal quality, at a specified moisture content, contained in the coal seams, or sections of the seams, which are proposed to be mined at the theoretical mining height, excluding dilution and contamination material, with a specific mining method and after the relevant minimum and maximum mineable thickness cut-off and relevant coal quality cut-off parameters have been applied.

  NOTE: The geological loss factor is applied to the mineable in situ coal resource tonnage.