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COAL of AFRICA LIMITED

Uitkomst Colliery (Pty) Ltd

Summary of Technical Review 2017

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SUMMARY

The Uitkomst Colliery situated some 20 km due northwest of the town of Utrecht in the KwaZulu Natal Province, South Africa. It is an operational underground colliery that extracts the Gus Coal Seam of the Utrecht Coalfield using conventional bord-and-pillar mining methods.

The Coal Resources and Coal Reserves of Uitkomst Colliery are classified, verified and reported according to the prescribed 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves ("JORC Code"). The classification of the Coal Resources and conversion of the underground GTIS Coal Resource to Saleable Coal Reserves was based on the South African National Standard 10320:2004. The Coal Resources and Coal Reserves are stated as 100% attributable to Uitkomst Colliery (Pty) Ltd. They have been prepared under the guidance of Competent Persons from independent consulting firm Minxcon (Pty) Ltd, in accordance with the principles and guidelines of the JORC Code and SANS 10320:2004.

The *in situ* mineral portfolio is summarised below, as extracted from a full Competent Persons report authored by Minxcon (Pty) Ltd, titled *Independent Competent Persons Report on the Uitkomst Colliery, KwaZulu Natal Province, South Africa*, prepared for Uitkomst Colliery (Pty) and with an effective date of 28 February 2017.

2017 Coal Resources

No historical Coal Resources have been publicly declared for the Uitkomst Colliery. The following tables provide the Coal Resources as estimated by Minxcon (Pty) Ltd for the Uitkomst Colliery as at 28 February 2017. The Coal Resources were categorised as Measured, Indicated and Inferred.

The GTIS tonnages are declared as average raw coal qualities on an uncontaminated, air-dried basis.

Uitkomst Colliery Measured and Indicated Coal Resources (GTIS) as at 28 February 2017

Resource Classification	RAW Coal Qualities							
	GTIS	RD	IM	ASH	VM	FC	CV	TS
	Mt	t/m³	%	%	%	%	MJ/kg	%
Measured	17.7	1.5	2.5	23.50	24.3	49.7	24.74	1.23
Indicated	4.9	1.5	2.5	23.81	23.9	49.8	24.61	1.15
Total	22.6	1.5	2.5	23.56	24.2	49.7	24.71	1.21

Uitkomst Colliery Inferred Coal Resources (GTIS) as at 28 February 2017

Resource Classification	RAW Coal Qualities							
	GTIS	RD	IM	ASH	VM	FC	CV	TS
	Mt	t/m³	%	%	%	%	MJ/kg	%
Inferred	4.3	1.5	2.4	22.86	23.5	51.2	25.12	1.04
Total	4.3	1.5	2.4	22.86	23.5	51.2	25.12	1.04

Notes:

1. The following abbreviations are used RD (Relative Density), IM (Inherent Moisture), VM (Volatile Matter), FC (Fixed Carbon), CV (Calorific Value), TS (Total Sulphur) and GTIS (Gross Tonnes in situ)
2. Mined out areas have been depleted.

The declared minable tonnes *in situ* (MTIS) Coal Resources are subject to the following criteria which are viewed as being reasonable for extraction: minimum seam thickness of 1.2 m, minimum seam depth of 25 m, and minimum raw coal volatile matter content of 20%. Geological losses have been applied to the GTIS for each Coal Resource category where Measured is discounted by 10%, Indicated by 15% and inferred by 20%. These discounts represent the dolerite dykes and structures not taken into account during the modelling process.

Uitkomst Colliery Measured and Indicated Coal Resource (MTIS) as at 28 February 2017

Resource Classification	RAW Coal Qualities							
	MTIS	RD	IM	ASH	VM	FC	CV	TS
	Mt	t/m³	%	%	%	%	MJ/kg	%
Measured	15.0	1.50	2.5	23.5	24.3	49.8	24.75	1.23
Indicated	4.3	1.51	2.5	23.8	23.9	49.8	24.62	1.14
Total	**19.3**	1.50	2.5	23.6	24.2	49.8	24.72	1.21

Uitkomst Colliery Inferred Coal Resource (MTIS) as at 28 February 2017

Resource Classification	RAW Coal Qualities							
	MTIS	RD	IM	ASH	VM	FC	CV	TS
	Mt	t/m³	%	%	%	%	MJ/kg	%
Inferred	4.0	1.50	2.4	23.4	23.4	50.9	25.02	1.03
Total	**4.0**	1.50	2.4	23.4	23.4	50.9	25.02	1.03

Notes:

1. The following abbreviations are used RD (Relative Density), IM (Inherent Moisture), VM (Volatile Matter), FC (Fixed Carbon), CV (Calorific Value), TS (Total Sulphur) and MTIS (Minable Tonnes *in situ*)
2. Cut-off are applied as a minimum of 1.2m seam width, minimum of 25m below surface, Minimum of 20% Volatile material.
3. Mined out areas have been depleted.
4. Geological loss applied to tonnes (Measured 10%, Indicated 15% and Inferred 20%).

2017 Coal Reserves

No historical Coal Reserves have been publicly declared for the Uitkomst Colliery. The following table provides the Coal Reserves as estimated by Minxcon (Pty) Ltd for the Uitkomst Colliery as at 28 February 2017. The Coal Reserves were categorised as Proved and Probable.

The Coal Reserve tonnages and Coal Saleable Reserve Tonnes are detailed in the table below.

Run of Mine Coal Reserves and Coal Saleable Reserves as at 28 February 2017

Reserve Classification	Area	RAW RoM Coal Qualities							
		Tonnes	Yield	IM	ASH	VM	FC	CV	TS
		Mt	%	%	%	%	%	MJ/kg	%
Run of Mine Coal Reserve									
Proven	UG	6.6	65.1	2.40	29.73	21.98	45.89	22.72	1.55
Probable	UG	1.8	64.2	2.45	31.37	20.69	45.48	22.05	1.58
Total	**UG**	**8.4**	**64.9**	**2.41**	**30.09**	**21.70**	**45.80**	**22.58**	**1.56**
Saleable Coal Reserve									
Proven	UG	4.2		2.81	12.00	27.80	57.46	28.91	0.93
Probable	UG	1.2		2.90	11.99	27.56	57.63	28.92	0.95
Total	**UG**	**5.4**		**2.83**	**12.00**	**27.75**	**57.50**	**28.91**	**0.94**

Notes:

1. As Received Saleable Coal Reserve Yield of 64.9%.
2. CV of 28.91 MJ/kg.
3. Washed to Ash of 12.0%.
4. Volatile Matter of 27.8%.

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1 INTRODUCTION

1.1 Terms of Reference

This document serves as an abridged Coal Resource and Coal Reserve statement report for the Uitkomst Colliery. Information and numbers presented here are extracted from a Competent Persons report titled *Independent Competent Persons Report on the Uitkomst Colliery, KwaZulu Natal Province, South Africa*, prepared for Uitkomst Colliery (Pty) Ltd by Minxcon (Pty) Ltd, an independent mining industry consulting firm, and with an effective date of 28 February 2017.

1.2 Project Overview

The Uitkomst Colliery is an operational underground colliery that extracts the Gus Coal Seam using conventional bord-and-pillar mining methods.

Uitkomst is a collective of the adjacent project areas Uitkomst Mine Area (or South Mine; operational), and Klipspruit Mine Area (or North Mine).

1.3 Project Location

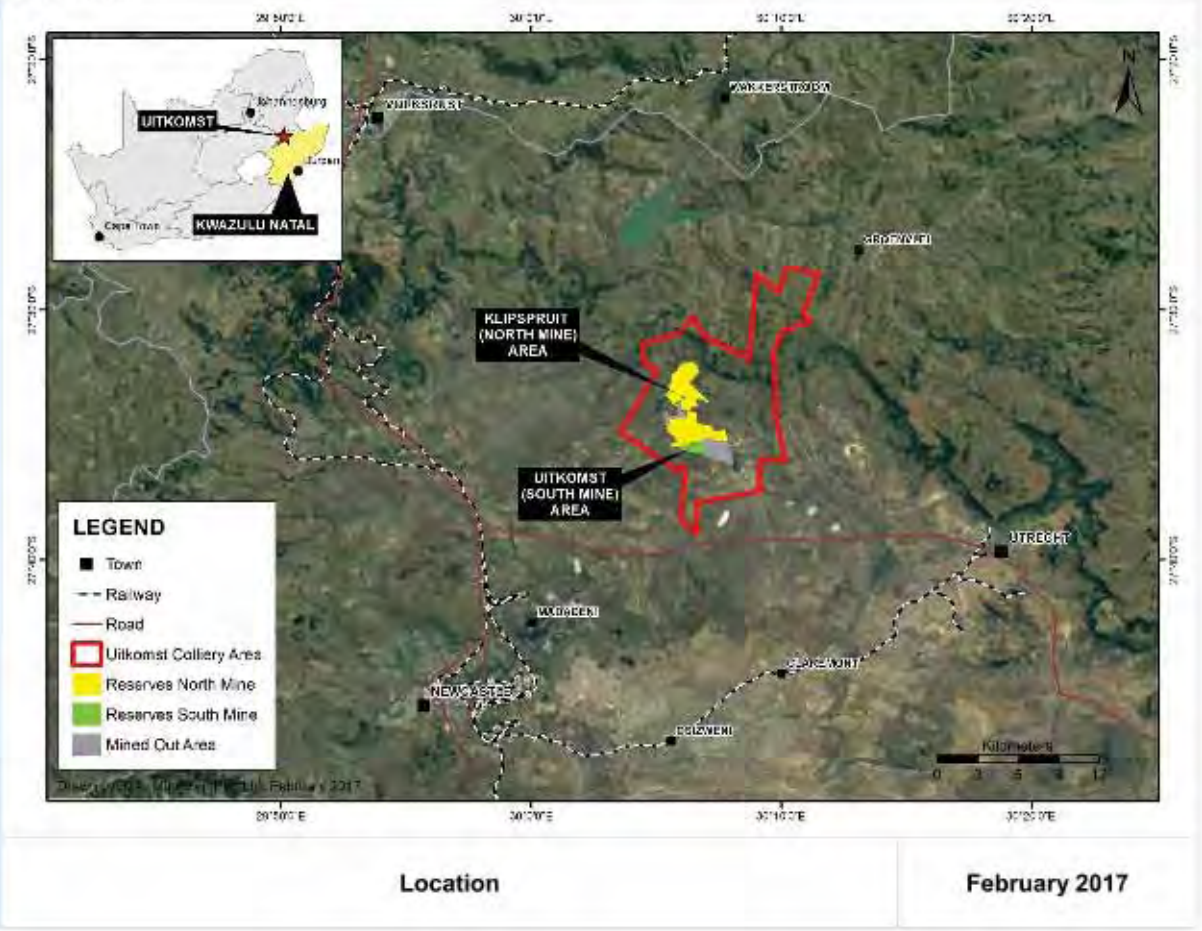
The Uitkomst Colliery is situated some 20 km due northwest of the town of Utrecht and 23 km northeast of the town of Newcastle in the KwaZulu Natal Province, South Africa, in the magisterial district of Utrecht. The Project is situated roughly midway directly between the Richards Bay Coal Terminal, which lies 225 km southeast as-the-crow-flies (580 km by rail), and Johannesburg CBD, which lies 260 km northwest.

Uitkomst is located on various portions of the farms Klipspruit 178 HT, Vaalbank 103 HT, Waterval 157 HT, Margin 420 HT, Rusterwacht 151 HT, Uitkomst 95 HT, Jericho C 413 HT, Jericho 400 HT, Jericho A 414 HT, Jackalsdraai 299 HT and Kweekspruit 22 HT.

The Project Areas are accessible via a well-maintained road network and railway line runs to the west of the Project. The Wykom Rail Siding is located 5.7 km north of the town of Newcastle.

There are no climatic factors that will impact operations.

Figure 1: Location



Location	February 2017

2 GEOLOGICAL SETTING

2.1 Regional Geology

All of the known coal deposits in South Africa are hosted in sedimentary rocks of the Karoo Basin which covers approximately 60% of South Africa and is filled with units of the Karoo Supergroup.

The Karoo Supergroup is lithostratigraphically subdivided into the Dwyka, Ecca, Beaufort and Stormberg groups, succeeded by the Drakensburg Formation. The lithologies are representative of depositional environments including glacial, deep marine (including turbidite), shallow marine, deltaic, fluvial, lacustrine through to aeolian deposits. Within the Main Karoo Basin, the Karoo Supergroup as depicted in the figure below, comprises the Dwyka Formation, Ecca Group and Beaufort Group overlain in turn by the Stormberg Group and Drakensberg Group. Sediments reach 12,000 m thickness, overlain by thick flood basalts of the Drakensberg Group.

Within the Karoo Basin, 19 coalfields have been defined based on variations in sedimentation, origin, formation, distribution and quality of the coals. The coals range in age from Early Permian (Ecca Group) through to Late Triassic (Molteno Formation, Stormberg Group) and are predominantly bituminous to anthracite in rank, which is a classification in terms of metamorphism under the influence of temperature and pressure. The Gus Seam is stratigraphically located in the Vryheid Formation within the Ecca Group.

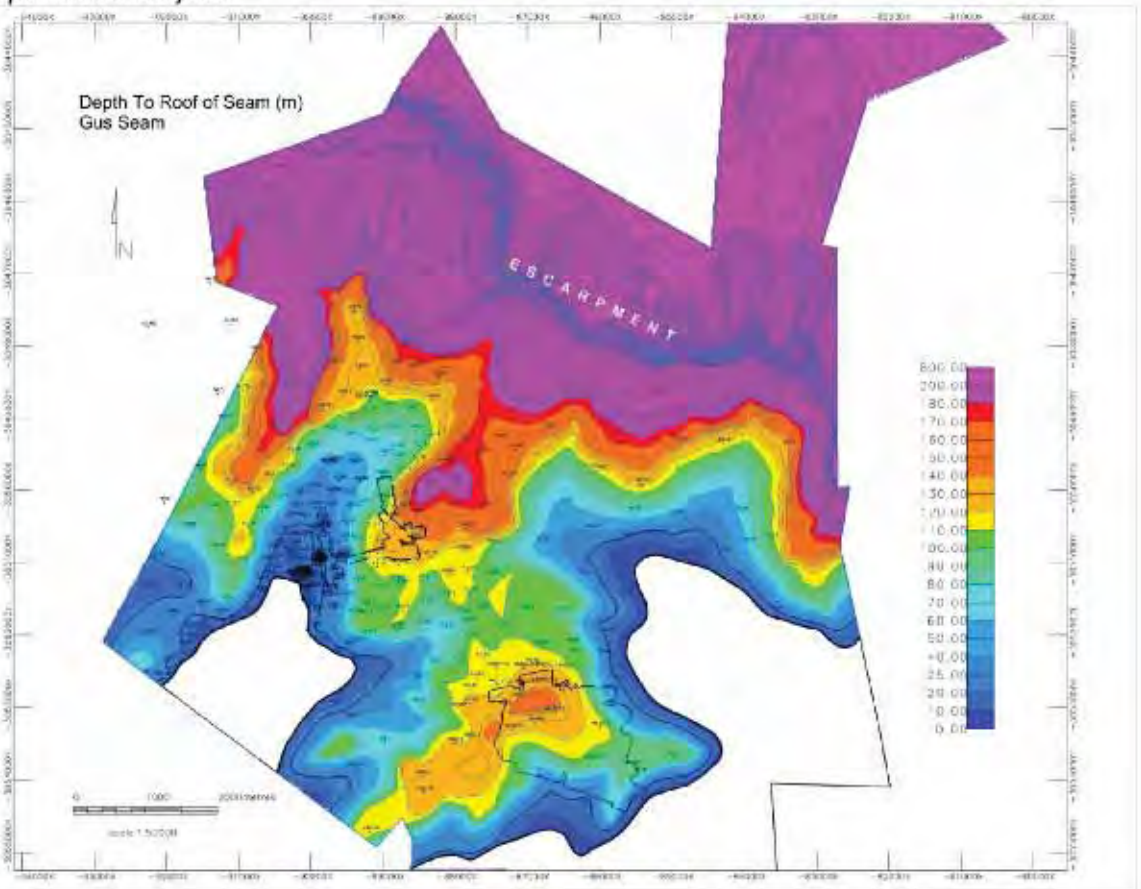
2.2 Local and Property Geology

Uitkomst falls within the Utrecht Coalfield, which has a total of nine recognised coal seams which are developed to varying extents across the coalfield. At Uitkomst, only two seams are developed, namely the Alfred and Gus Seams. The Gus Seam is however the only seam of economic importance at Uitkomst Colliery, this due to the Alfred Seam being poorly developed and sporadic or too thin for economic extraction on the Uitkomst property.

The Gus Seam comprises banded bright, dull and lustrous coal in varying proportions with the lower portion of the seam invariably being of better quality than the upper part. The seam usually contains one or more fine- to medium-grained sandstone partings towards the top which may be up to 20 cm in thickness.

The seam thickness varies between 0.8 cm and 1.9 m in a north-south trending zone in the central area of the mining lease area. To the south, the seam outcrops into the Dorpspruit and Kweekspruit Valleys. The seam extends north under the escarpment where the depth of seam is approximately 300 m below surface. The seam depth rapidly increases to the north to approximately 800 m below surface.

Gus Seam Depth below Surface



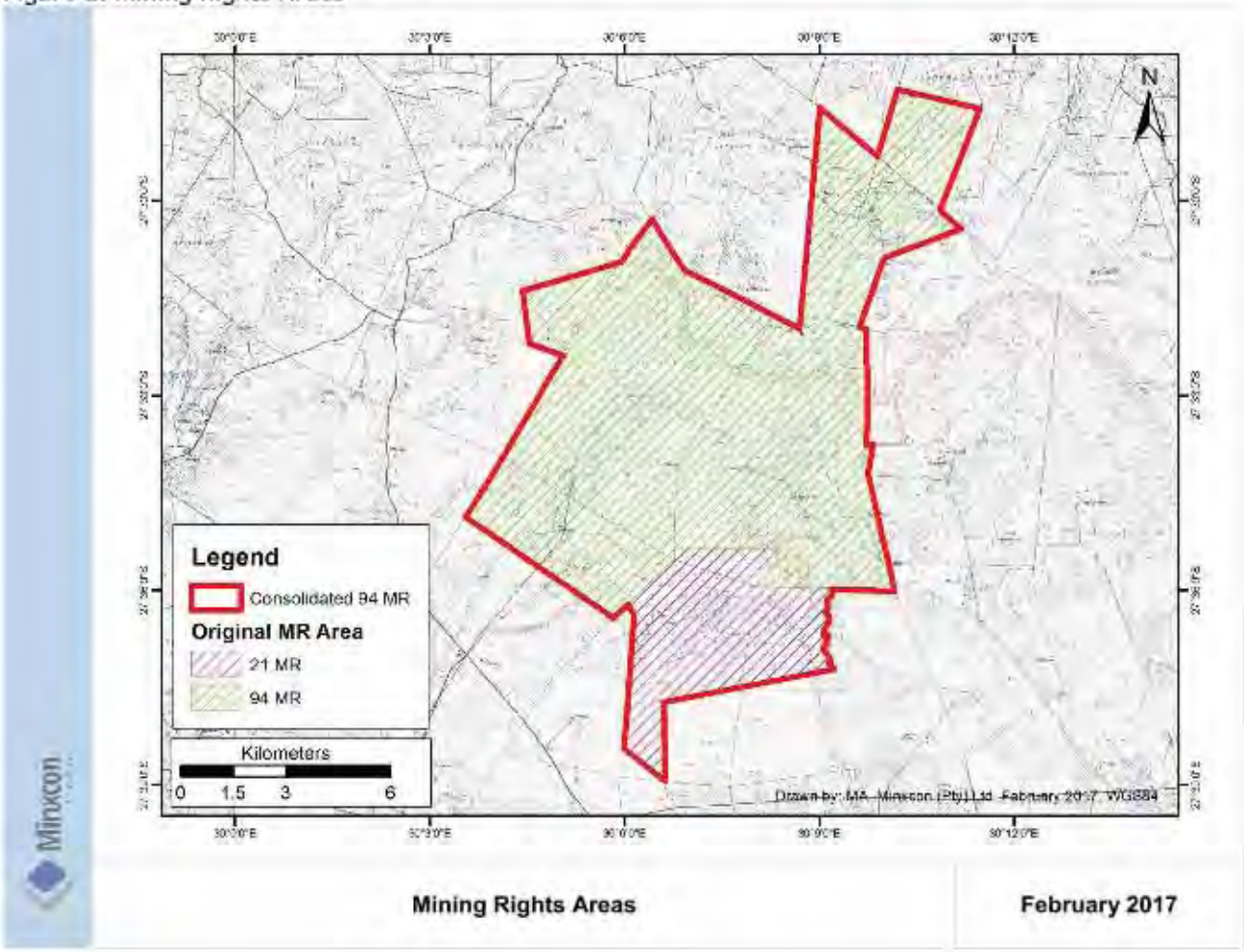
3 MINERAL RIGHTS

Uitkomst Colliery (Pty) Ltd is the holder of a consolidated mining right for Coal issued by the Department of Mineral Resources ("DMR") under reference KZN30/5/1/2/2/94 MR ("94 MR").

The consolidated mining right 94 MR incorporates properties that previously formed part of a mining right with DMR reference KZN30/5/1/2/2/21 MR ("21 MR"), as well as those properties held under the original mining right 94 MR. The total area covered by the consolidated mining right 94 MR is 11,136.8366 hectares.

The consolidated mining right 94 MR has an expiry date of 02 October 2023.

Figure 2: Mining Rights Areas



As part of the consolidated mining right, revised and consolidated environmental and social permits have been approved and are in place. A water use licence is in place for Uitkomst Colliery, but is currently under revision for application for a consolidated licence for the larger area.

The surface rights for the farm portions where mine and plant infrastructure are situated, are owned by the Qophumlando Communal Property Association, with whom a lease agreement is in place. For all other farm portions, no access is required. If such is required, the individual farmers will be approached and agreements implemented. Portion 23 of the farm Klipspruit 178 HT is owned by Welgedacht Exploration Company Limited. An offer of purchase has been made for the property.

4 EXPLORATION

Exploration was conducted over the lease area though a number of entities from the 1950s to present.

The drilling was conducted by Iscor and Anglovaal Limited with the latter operating through their subsidiary companies of Grinaker Desert Spar Limited and Newcastle Coal Mines (Pty) Ltd. Later drilling investigations were completed by Welgedacht Exploration Company (Pty) Ltd (a subsidiary company of Kangra Coal Limited), McAlpine and Brandywine. The table to follow provides a summary of the drilling conducted during the different drilling campaigns by the respective previous owners.

Table 1: Historic Drilling Campaigns

Year	BHs	Company	Driller	Geologist	Laboratory
1971	21	Iscor	Probably Iscor	Cillie JF, Cuipers R	FRI
1978 to 1979	20	Iscor	Probably Iscor	Randel RP, Trevelyan-Jones M	Iscor[$]
1983	16	St George Mining	Unknown	Lamming PJ	
1980 to 1988	268	Grinaker Desert Spar or Grinaker Mining (subsidiary of Anglovaal)	Republic, Precision, IRC, Drillwell, Willi Thorn, Sarel Strydom, Explodrill, Partition Enterises, Drillform, Terraseach	Sanford AM, Stewardson MC, Thompson DW, Tollestrup AK,Vince M	Grinaker, M&L, FRI
1987 to 1988	19	Newcastle Coal Mines (subsidiary of Anglovaal)	Raldrill, Partition Enterprises	Saunderson RD, Stewardson MC, Tucker RF	
1988 to 1989	16	Rand Mines/Ingwe	Good Hope	van Wyk D	Unknown
2001	24	Kangra Wegedacht	Raldrill	Robertson E	Inspectorate M&L[#]
2007	3	Brandywine Investments	Unknown	Whyte R	No analyses available
2008 to 2009	24	Brandywine Investments	Unknown	BMA Services	No analyses available
2013	13	Uitkomst Colliery	Verma Exploration	Lemmer W	ALS
TOTAL	**424**				

Notes:

1. $ Latterly Bureau Veritas (ACT) SANAS accredited
2. # Latterly Bureau Veritas (Inspectorate) SANAS accredited
3. ALS SANAS accredited
4. FRI = Fuel Research Institute now closed down

The drilling consists of 424 diamond drillholes and has been captured in a database that included lithologic information as well as coal qualities. The figure below presents the spatial distribution of the drillholes overlying the Coal Resource classification.

Sampling of the drillholes has been carried out over the years through a number of laboratories and different mining companies. It is Minxcon's view that at least 90% of the sampling was carried out in adherence to company standard sampling protocols. Geologists who conducted the sampling are either still registered with SACNASP or were at the time of sampling. It is assumed that the sampling was of a high standard due to the reputation of the historical mining companies involved as sampling protocols of these operators were reviewed by both Mineral Corporation and Minxcon, and the sampling practices were found to be in line with accepted industry standards.

The external laboratories used were not SANAS accredited at the time as this was not a historical requirement, yet subsequently these laboratories have attained accreditation. Where in-house laboratories were utilised, it has been assumed that the correct protocols were used with regards sample preparation and analysis. It should also be noted that the laboratories in question also all partook in regular round robins to ensure repeatability and standardisation.

Current exploration plan includes 39 drillholes and totalling 3,700 m of near mine drilling, to improve current Coal Resource classification, and to twin historical drillholes. Further drilling is planned in the northern portion of the Coal Resource area in order to upgrade the Coal Resource classification. Future exploration should be considered in the far northern area to test the viability of the Gus Seam below the escarpment area.

5 COAL RESOURCES AND COAL RESERVES

5.1 Coal Resources

The historic and current mining was excluded. Geological losses were applied to the tonnages based on the level of confidence reflected in the Coal Resource classification. For the Measured class a 10%, Indicated class 15% and the Inferred class 20% discount was applied to the tonnages. The discounts are intended to allow for ground that may be lost due to dolerite dykes which are a frequent and expected occurrence in the coalfields of KwaZulu Natal. No further losses were applied.

The following criteria were applied to define the gross tonnage *in situ* ("GTIS") resources:-

- Mining Right boundaries;
- Seam sub-outcrop;
- Minimum seam thickness of 0.5 m;
- Limit of Inferred Resources;
- Maximum seam depth of 300 m, below which extraction is deemed low;
- The extensive zone of mainly devolatilised coal (<20% volatile matter content at raw) in the western sector was excluded from resources in accordance with SANS 10320:2004 which states that large areas of burnt coal and devolatilised coal shall not be included in coal resource estimates;
- Mined-out areas of the old Klipspruit Colliery and the currently operating Uitkomst Colliery were excluded; and
- Only Measured, Indicated and Inferred Coal Resource categories were considered.

As only extraction by bord-and-pillar underground mining methods is considered viable, the following criteria were applied to the total tonnage *in situ* ("TTIS") resources in order to estimate the mineable tonnage *in situ* ("MTIS") resources:-

- Minimum seam thickness of 1.2 m, which is currently considered the lowest working height considered practical and economic for underground mining of this particular deposit;
- Minimum seam depth of 25 m; and
- Minimum raw coal volatile matter content of 20%.

All drillholes with Gus Seam intersection data were used to generate the seam physical models on which estimates of seam volumes were based. However, only Gus Seam intersections for which there was coal quality data were used as points of observation for resource classification purposes. Seam intersections exhibiting any of the following conditions were disqualified as points of observation:-

- Coal seam not sampled or analysed;
- Core recoveries in coal of less than 95%; and
- Burnt coal or heavily devolatilised coal (<20% VM content at raw).

The following Table 2 and Table 3 show the estimated GTIS tonnages and average raw coal qualities on and uncontaminated, air-dried basis.

Table 2 : Uitkomst Colliery Measured and Indicated Coal Resource (GTIS) as at 28 February 2017

Resource Classification	RAW Coal Qualities							
	GTIS	RD	IM	ASH	VM	FC	CV	TS
	Mt	t/m³	%	%	%	%	MJ/kg	%
Measured	17.7	1.5	2.5	23.50	24.3	49.7	24.74	1.23
Indicated	4.9	1.5	2.5	23.81	23.9	49.8	24.61	1.15
Total	22.6	1.5	2.5	23.56	24.2	49.7	24.71	1.21

Table 3 : Uitkomst Colliery Inferred Coal Resource (GTIS) as at 28 February 2017

Resource Classification	RAW Coal Qualities							
	GTIS	RD	IM	ASH	VM	FC	CV	TS
	Mt	t/m³	%	%	%	%	MJ/kg	%
Inferred	4.3	1.5	2.4	22.86	23.5	51.2	25.12	1.04
Total	4.3	1.5	2.4	22.86	23.5	51.2	25.12	1.04

Notes:

1. The following abbreviations are used RD (Relative Density), IM (Inherent Moisture), VM (Volatile Matter), FC (Fixed Carbon), CV (Calorific Value), TS (Total Sulphur) and GTIS (Gross Tonnes *in situ*).
2. Mined out areas have been depleted.

The Table 4 and Table 5 shows the declared minable tonnes in-situ (MTIS) Coal Resource are subject to the following criteria which are viewed as being reasonable for extraction, minimum seam thickness of 1.2 m, minimum seam depth of 25 m and minimum raw coal volatile matter content of 20%. Geological losses have been applied to the GTIS for each Coal Resource category where Measured is discounted by 10%, Indicated by 15% and Inferred by 20%. These discounts represent the dolerite dykes and structures not taken into account during the modelling process.

Table 4 : Uitkomst Colliery Measured and Indicated Coal Resource (MTIS) as at 28 February 2017

Resource Classification	RAW Coal Qualities							
	MTIS	RD	IM	ASH	VM	FC	CV	TS
	Mt	t/m³	%	%	%	%	MJ/kg	%
Measured	15.0	1.50	2.5	23.5	24.3	49.8	24.75	1.23
Indicated	4.3	1.51	2.5	23.8	23.9	49.8	24.62	1.14
Total	**19.3**	1.50	2.50	23.6	24.2	49.8	24.72	1.21

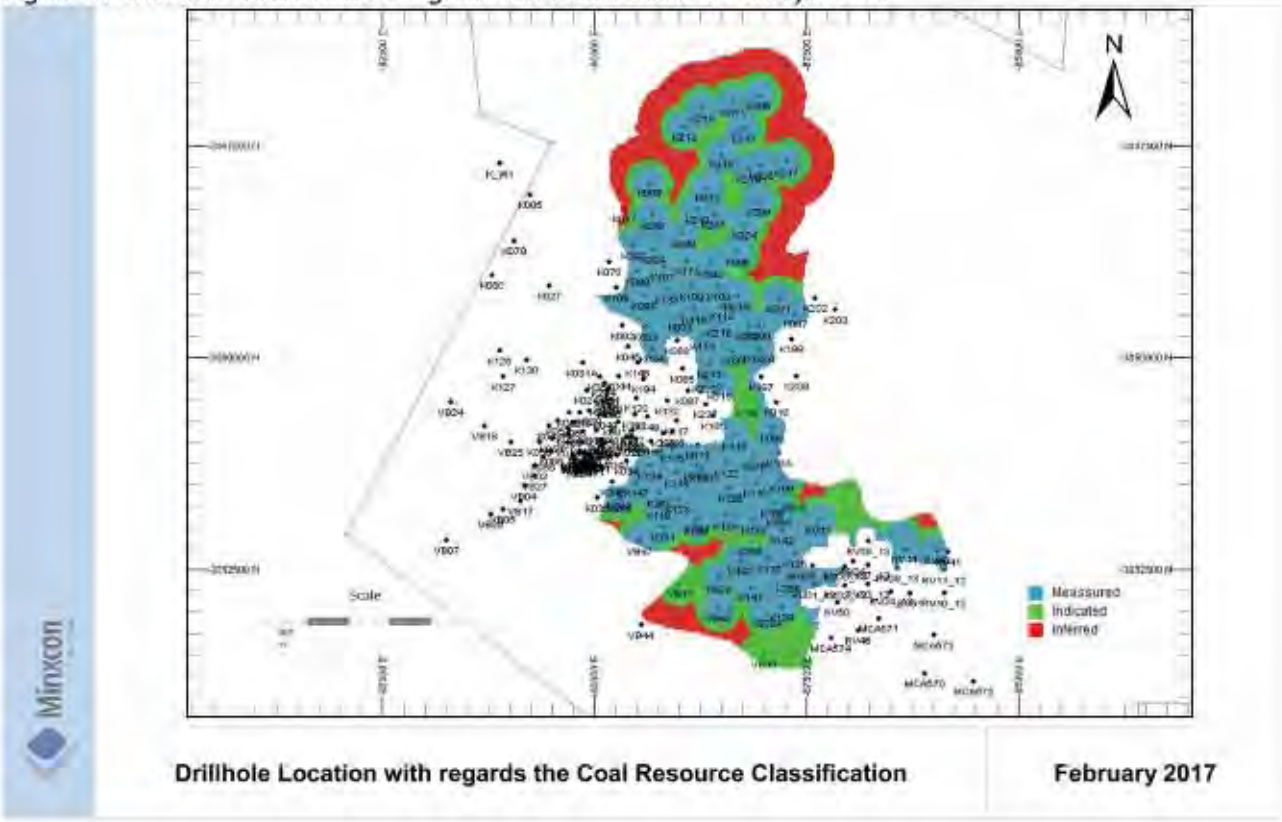
Table 5 : Uitkomst Colliery Inferred Coal Resource (MTIS) as at 28 February 2017

Resource Classification	RAW Coal Qualities							
	MTIS	RD	IM	ASH	VM	FC	CV	TS
	Mt	t/m³	%	%	%	%	MJ/kg	%
Inferred	4.0	1.50	2.4	23.4	23.4	50.9	25.02	1.03
Total	**4.0**	1.50	2.4	23.4	23.4	50.9	25.02	1.03

Notes:

1. The following abbreviations are used RD (Relative Density), IM (Inherent Moisture), VM (Volatile Matter), FC (Fixed Carbon), CV (Calorific Value), TS (Total Sulphur) and MTIS (Minable Tonnes in situ).
2. Cut-off are applied as a minimum of 1.2 m seam width, minimum of 25 m below surface, Minimum of 20% VM.
3. Mined out areas have been depleted.
4. Geological loss applied to tonnes (Measured 10%, Indicated 15% and Inferred 20%).

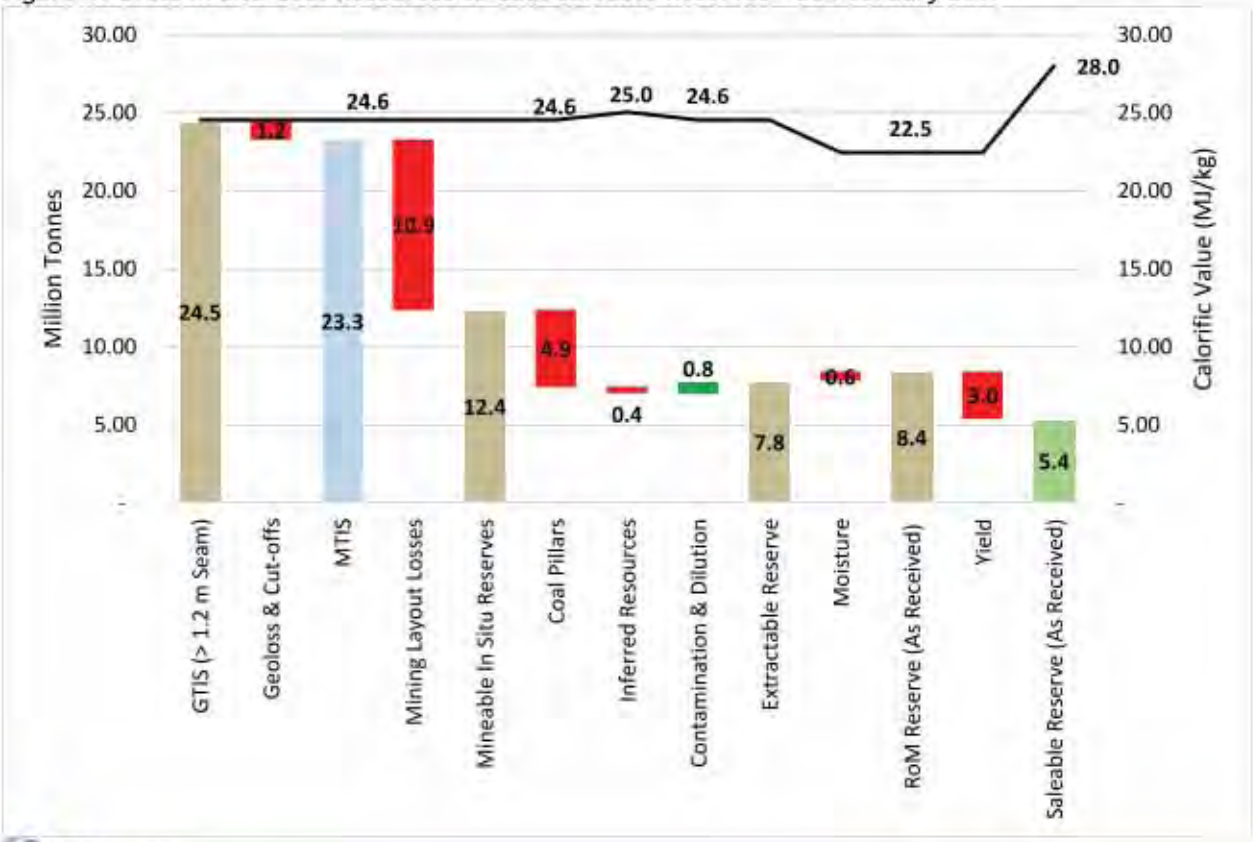
Figure 3: Drillhole Location with regards the Coal Resource Classification



5.2 Coal Reserves

The conversion of Coal Resources to Coal Saleable Reserve is shown in Figure 4.

Figure 4: Gross In Situ Coal Resources to Coal Saleable Reserves - 28 February 2017



The Coal Reserve tonnages and Coal Saleable Reserve Tonnes are detailed in Table 6.

Table 6: Run of Mine Coal Reserves and Coal Saleable Reserves as at 28 February 2017

Reserve Classification	Area	RAW RoM Coal Qualities							
		Tonnes	Yield	IM	ASH	VM	FC	CV	TS
		Mt	%	%	%	%	%	MJ/kg	%
Run of Mine Coal Reserve									
Proven	UG	6.6	65.1	2.40	29.73	21.98	45.89	22.72	1.55
Probable	UG	1.8	64.2	2.45	31.37	20.69	45.48	22.05	1.58
Total	**UG**	**8.4**	**64.9**	**2.41**	**30.09**	**21.70**	**45.80**	**22.58**	**1.56**
Saleable Coal Reserve									
Proven	UG	4.2		2.81	12.00	27.80	57.46	28.91	0.93
Probable	UG	1.2		2.90	11.99	27.56	57.63	28.92	0.95
Total	**UG**	**5.4**		**2.83**	**12.00**	**27.75**	**57.50**	**28.91**	**0.94**

Notes:

1. As Received Saleable Coal Reserve Yield of 64.9%.
2. CV of 28.91 MJ/kg.
3. Washed to Ash of 12.0%.
4. Volatile Matter of 27.8%.

6 OPERATIONS OVERVIEW

6.1 Project Infrastructure

The South Mine is an easily accessible and well-established operating mine. Existing infrastructure such as power supply, water supply, buildings, workshops, weighbridge, water storage and management facilities are all in place and in operation condition. The existing infrastructure is adequate for the continued operation of the mine. The water balance for the operation confirms water usage and availability. All indications are that sufficient water is available to the operation.

Construction of the North Mine has not commenced as yet. The infrastructure planned and allowed for in the capital estimation of the project has been reviewed. The operation will be constructed and allow for similar infrastructure as that of the existing South Mine with the exclusion of the process plant, discard dump / tailings storage facility and its associated conveyor system. The planned infrastructure will be adequate for the planned production rate of the operation.

Power supply to the North Mine is not currently in place. An existing Eskom transformer substation is located just north of the project area. An electricity load demand application has been submitted and approved for the North Mine to draw power from this transformer substation. The demand application is for a supply capacity of 2.5 MVA at 22 kV. The supply overhead lines will be installed from the substation to the project area and extended to also supplement the existing grid power of the South Mine. This will decrease the generated power dependency and in turn realise a significant operating cost saving.

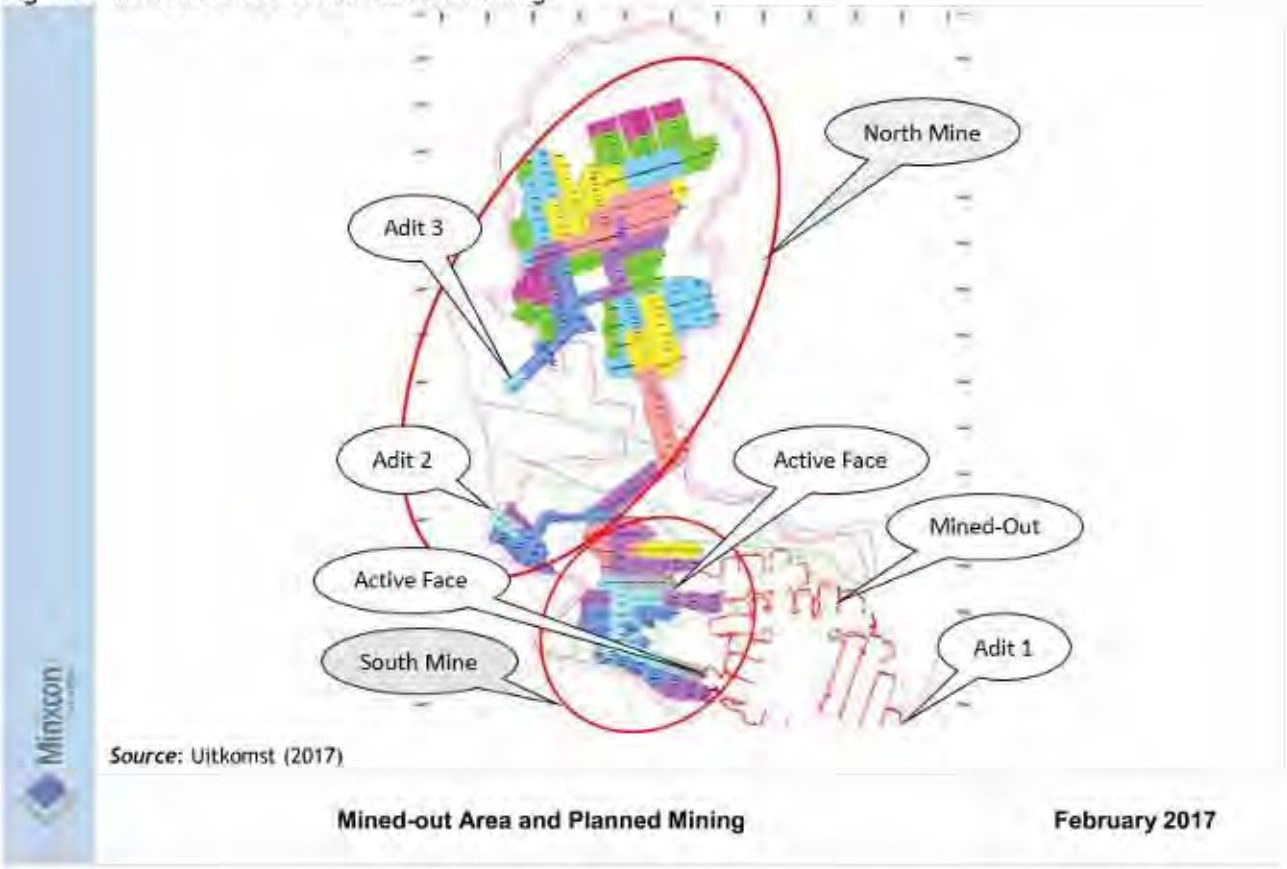
The Wykom Rail Siding located to the west of the Project is leased from Transnet. The infrastructure in place is adequate for the production plan and transport of coal to export markets. It has a storage capacity of 10 kt and an annual rail allocation capacity of 250 ktpa. There are plans to expand the rail siding capacity on adjacent property.

6.2 Mining

The Project Area consist of an existing underground coal mine (South Mine) with a planned life of mine extension into the northern area (North Mine).

The current workings are accessed via Adit 1 in the southern extent of the property. The remaining life of mine for the South Mine is five years and the life extension is required as production from Adit 1 reduces. The first life extension is planned in year three as the commissioning of Adit 2 commences. Adit 2 extends to year 10 and Adit 3 is commissioned in year eight as production from Adit 2 stars declining. Adit 3 extends the life of mine into year 17. The layout of the production area is shown in the figure below.

Figure 5: Mined-out Area and Planned Mining



The current underground mining areas are extracted by two bord-and-pillar conventional drill and blast sections, one single header and one double header. The combined mining rate for both sections are planned at 45 ktpm. Each production section consists of a coal cutter, electric drills, battery scoops, feeder breaker and section belt. The mining activities are conducted by a mining contractor.

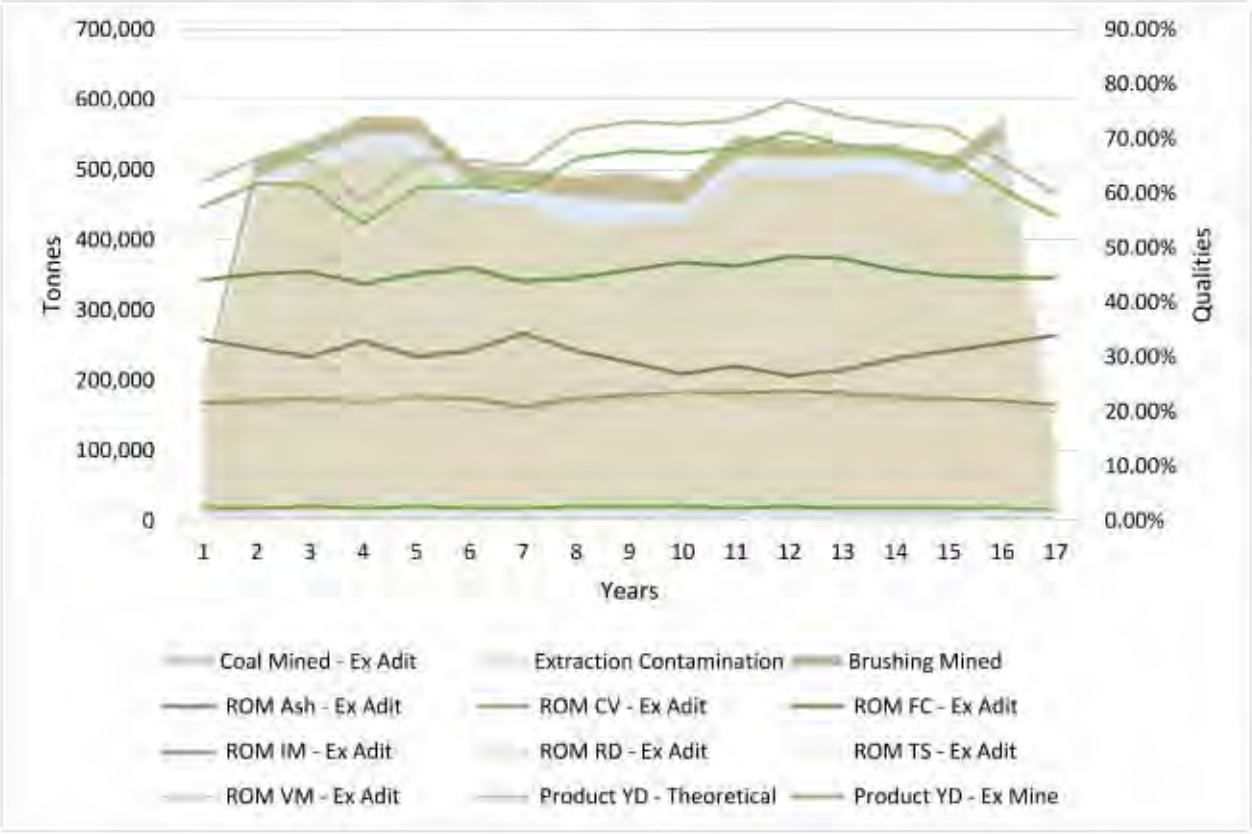
The pillar sizes are determined by using Munro/Madden drill and blast safety factors. A weak roof area was identified within the southern extent of the mining area. The current methodology is to exclude the majority out of the life of mine plan, and only to develop through the area. Within the weak roof area, the coal loss is increased to 4 cm.

The ventilation of the underground workings is via surface fans, ventilation brattices are utilised to close-off mined-out areas and direct sufficient airflow towards the mining sections. In-section ventilation of production headings are conducted with a 90 kW section fan. Sufficient airflow is maintained by closing off mined-out areas to reduce the overall resistance as mining distances increases. The current ventilation is sufficient for the next 18 months whereby the ventilation would require upgrading.

The modifying factors applied to the mineable resource included an average geological yield of 88.5%, the average contamination for the life of mine applied was 4.8% for dilution and 5.1% for brushing. The dilution consisted of 2 cm from the roof and floor for normal working conditions and 6 cm in the roof for weak roof encountered. Brushing is required to increase the excavations for the conveyor belt and traveling way (2.2 m high) and intersections and transfer areas (2.6 m high). A 7.0% increase in tonnage was the result of the inclusion of superficial moisture.

The mine design for the current workings, namely South Mine, and that of the life extension, namely North Mine, were conducted to a level of detail in excess of a Pre-Feasibility Study. The production profile for the life of mine plan is shown in the figure below.

Figure 6: Diluted Production Profile (As Received)



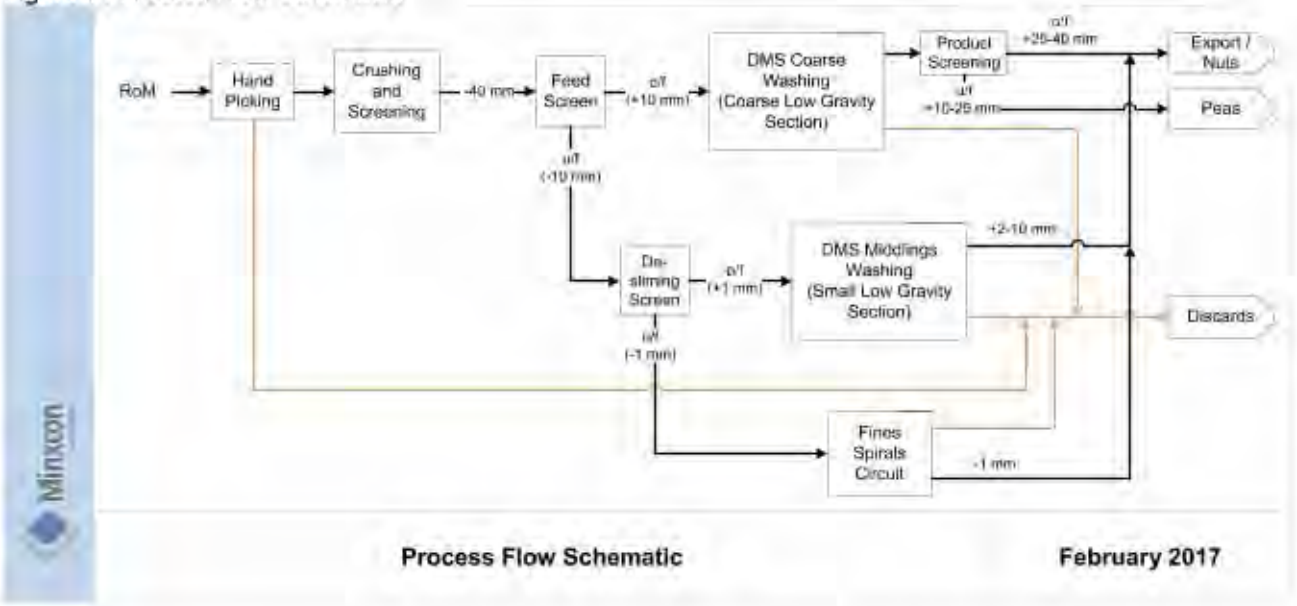
The coal product (As Received) for the project amounts to 29.9 ktpm with an average calorific value of 28.9 MJ/kg. The majority of the life of mine plan consist of Measured or Indicated material (95%) and the life of mine is 17 years.

6.3 Processing

The Uitkomst washing plant is located adjacent to the South Mine Adit 1. The plant was built in 2007 and primarily treats run of mine coal from the South Mine as well as batch treats third party material bought in from Chelmsford Colliery. The washing plant is owner operated and employs conventional well-tested coal washing technology with a total design capacity of 82 ktpm (or 180 tph), if run using a full calendar operating cycle.

Referring to Figure 7, the plant consists of a dual stage roller crushing circuit followed by coarse (10 to 40 mm), middlings (1 to 10 mm) dense medium cyclone washing circuits with the fines (-1 mm) material upgraded in a fines spirals circuit. Equipment is generally in good condition with the plant being structurally sound. The plant is run mainly on grid power with make-up water sourced from nearby farm dams and potable water from boreholes.

Figure 7: Process Flow Schematic



The plant is currently underutilised treating only a total of 40 ktpm of coal on average.

Uitkomst produces and sells "Export" (0 to 40 mm) and Peas (10 to 25 mm) sized coal products. The plant produces a 28 MJ/kg (6,690 kcal/kg) coal with an ash and sulphur content of 12% and 1% respectively. The plant achieved average yields of 64% and 56% on the South Mine run of mine and bought-in Chelmsford Colliery material respectively. It is expected that practical plant yields on Uitkomst material is expected to be maintained at current levels for the life of mine.

Referring to the following image, plant coarse and slimes discards are disposed of on a co-disposal facility. The slimes are pumped to the centre and stored in three paddocks (as shown below) which operate in sequence. Once dry and depending on qualities, the slimes are removed and sold separately from normal Uitkomst products.

The co-disposal facility only has a 5 year capacity at current production tonnes. Uitkomst will be expanding the existing capacity to extend its life to 17 years.

7 REGULATORY COMPLIANCE

The Uitkomst Coal Resources and Coal Reserves are reported in accordance with the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves ("JORC Code").

The classification of the Coal Resources has been conducted in line with the South African National Standard 10320:2004 recommendations. The respective Coal Resource classification ranges used are as follows:-

- Measured Coal Resources: 199 m;
- Indicated Coal Resources: 282 m; and
- Inferred Coal Resources: 564.

The ranges quantified above are based upon the data spacing criteria of eight drillholes per 100 ha for the Measured Coal Resource, four drillholes per 100 ha for Indicated Coal Resource and one drillhole per 100 ha for Inferred Coal Resource.

The conversion of the underground GTIS Coal Resource to Saleable Coal Reserves was based on South African National Standard 10324:2004 guidelines.

The assessment and reporting criteria, as outlined in the JORC Code, have been used in the preparation of the Competent Persons report (titled *Independent Competent Persons Report on the Uitkomst Colliery, KwaZulu Natal Province, South Africa*, prepared for Uitkomst Colliery (Pty) Ltd by Minxcon and with an effective date of 28 February 2017) from which the numbers. stated in this supplement, are drawn.

APPENDIX

Appendix 1: World Bank Format Curriculum Vitae of Lead Competent Person

The lead Competent Person responsible for the declaration of Coal Resources and Coal Reserves as presented in this document is **Mr Daniel (Daan) van Heerden** (Director, Minxcon): B Eng (Min.), MCom (Bus. Admin.), MMC, Pr.Eng. (Reg. No. 20050318), FSAIMM (Reg. No.37309), AMMSA.

Daan has worked in the mining industry for over 30 years. He has a vast amount of experience in managing underground and open cast mining operations in South Africa and abroad for world-class mining majors and junior mining companies. He was responsible for new business development for two major mining companies and has experience in mining mergers and acquisitions. He is currently heading the Mining Engineering division of Minxcon, where he is integrally involved in activities such as valuation, due diligence, finance structuring, change management required post the event, feasibility studies, life of mine plans, technical reviews and writing of technical reports for various commodities.

Mr Daan van Heerden is independent of Uitkomst Colliery (Pty) Ltd, its directors, senior management and advisors.

This document is deemed a true and accurate summary of the Competent Persons report titled Independent Competent Persons Report on the Uitkomst Colliery, KwaZulu Natal Province, South Africa, prepared for Uitkomst Colliery (Pty) Ltd by Minxcon and with an effective date of 28 February 2017.

Signed on this 13 day of September 2017 at Little Falls, Roodepoort, South Africa.

D v HEERDEN
B Eng (Min.), MCom (Bus. Admin.), MMC
Pr.Eng., FSAIMM, AMMSA

The Curriculum Vitae in World Bank Format of Mr Daan van Heerden is provided overleaf.

Curriculum Vitae

Daniel van Heerden

Name of Firm: Minxcon (Pty) Ltd

Name: Daniel van Heerden

Position: Director

Profession: Mining Engineer

Date of Birth: 29 March 1963

Nationality: South African

Profile

Daan has 30 years' experience in the mining industry. He has obtained significant experience in managing mining operations in South Africa and abroad both underground and open cast for world-class mining major and for junior mining companies. He was responsible for new business development for two major mining companies and has experience in mining mergers and acquisitions. He is currently heading the Mining Engineering division of Minxcon, where he is integrally involved in activities such as valuation, due diligence, finance structuring, change management required post the event, feasibility studies, life of mine plans, technical reviews and writing of technical reports for various commodities.

Membership in Professional Societies

Class	Professional Society	Year of Registration
Professional Engineer	Engineering Council of South Africa (Pr.Eng. Reg. No. 20050318)	2005
Member	Association of Mine Managers of SA	1989
Fellow	South African Institute of Mining and Metallurgy (FSAIMM Reg. No. 37309)	1985

Education

Degree/Diploma	Field	Institution	Year
M.Comm.	Business Administration	Rand Afrikaans University	1993
B.Eng	Mining Engineering	University of Pretoria	1985
Data Metrics	Computer Science	UNISA	1989
Advanced Development Programme	Executive Development	London Business School	1995
Mine Managers Certificate	Government Certificate of Competency	Chamber of Mines	1989

Minxcon Projects

Employment Record

Position	Company	Job Description	Duration
Director	Minxcon (Pty) Ltd	Director and Independent Consultant.	2005-Present
Mine Manager: Kalgold (Greenstone Gold) Operations	Harmony Gold Mining (Pty) Ltd	Lead a rescue mission with a completely new management team to assume the management of the operation from Afleases, after the transaction to sell the operation collapsed during March 2004.	2004 – 2005
General Manager: HPC	Harmony Gold Mining (Pty) Ltd	Harmony Precision Casting Co Ltd (HPC) is a private company owned 70% by Harmony Gold and 30% by DBL who developed the high precision casting technology that is used exclusively by HPC. The scope was to install sound management practices, turn the company around and grow the business.	2003
Project Director	Harmony Gold Mining (Pty) Ltd	Designed shared service philosophy for the group named "Services the Harmony Way". Managed and coordinated the total project for roll-out to the operations.	2001-2003
Mine Manager: Randfontein No 4 & Cooke 2	Harmony Gold Mining (Pty) Ltd	With the hostile take-over of Randfontein estates, the Randfontein No 4 operation was the biggest loss-maker and the most difficult operation. After the implementation of "The Harmony Way" the process was repeated at Cooke 2.	2000-2001
Corporate development manager	Harmony Gold Mining (Pty) Ltd	Responsible to develop and implement a growth strategy for the company, identify opportunities, evaluate assets and companies and to develop acquisition strategies. Responsibilities also included negotiating agreements and to manage due diligence exercises.	1999-2000
General Manager: Princess Xinxiang JV	Princess Resources	Established and registered a JV Company in China, appointed staff, negotiated contracts with the local parties, managed exploration programs, performed feasibility studies, and managed the operations. Other duties included the registration of licenses and evaluation other properties in China.	1997-1999
International Development Manager	Lonrho Mining Plc	The identification and evaluation of new mining opportunities worldwide. During the period special attention was given to South America, China, the old USSR and Africa. Negotiated contracts with the local parties involved and managed various due diligence studies and feasibility studies and managed the design and construction of new projects.	1996-1997
Production Manager: Virginia Complex	Harmony Gold Mining (Pty) Ltd	Managed all aspects of the Virginia operation of the Harmony group This underground operation of 800 m to 1500m deep included two surface shafts.	1996
Manager: New Business	Harmony Gold Mining (Pty) Ltd	The identification and evaluation of new mining opportunities and ore reserve management for the group. Negotiating transactions with other mining entities and the managing of projects, feasibility studies and due diligence studies.	1995-1996
Underground Manager	Gengold (now Goldfields)	Managing all aspects of production on the mine. Responsibilities also included managing a capital projects of opening up an old shaft and worked out areas Mines included Grootvlei, St Helena and Kinross.	1992-1995
Engineer in Training	Gengold (now Goldfields)	Time spent in all the departments of the mine. Practical stoping and development experience. Promoted to production Shift Boss and later as production Mine Overseer. Project Management experience gained in planning the decline shafts to access deep ore reserves on Kinross Mine.	1988-1992

Minxcon Projects

Projects

Year	Client	Commodity	Project Description
2015	Coal of Africa Limited	Coal	Due Diligence.
2015	Stonewall Mining	Gold	Concept Study, Expert Opinion.
2015	PWC	Coal	Stock Pile Management.
2015	Caledonia	Gold	Blanket LoM Plan.
2015	Xtract Resources Plc	Gold	DFS.
2015	Eferton Services	Gold	Kipoi Due Diligence.
2015	Caledonia	Gold	Blanket Technical Report Update.
2015	Xtract Resources Plc	Gold	Due Diligence.
2015	Kenya Fluorspar	Fluorspar	Mine Design.
2015	Caledonia	Gold	Dokwe Due Diligence.
2015	Caledonia	Gold	Turk Due Diligence.
2015	Caledonia	Gold	Mupane Due Diligence.
2015	Caledonia	Gold	Bilboes Due Diligence.
2015	Caledonia	Gold	Pickstone Due Diligence.
2015	Eferton Services	Copper	Due Diligence.
2015	Thistle Mining Limited	Gold	Mine Plan.
2015	Eferton Services	Gold	Mpokoto Due Diligence.
2015	Galaxy Gold Reefs	Gold	NI43-101 Technical Report.
2015	Vantage Goldfields Limited	Gold	CPR Update.
2015	Sable Metals & Minerals	Iron, Vanadium	CPR.
2015	Thawley Investments	Gold	Scoping Study.
2015	Metals (Pty) Ltd	Gold	Orkney Mine Works Programme.
2015	Taung Gold Limited	Gold	Jeanette Mine Works Programme.
2015	Kibo Mining Plc	Coal	Rukwa PFS
2014	African Consolidated Resources	Gold	Pickstone Mine Plan.
2014	Atlatsa Resources	Coal	Ikwezi Due Diligence.
2014	China Africa Precious Metals	Gold	Orkney Pre-Feasibility Study, Optimisation Study.
2014	China Africa Precious Metals	Gold	Orkney: LoM Plan.
2014	Cluff	Gold	Sabi Due Diligence.
2014	Desert Gold	Gold	Barani Technical Report.
2014	DRD Ergo	Gold	Due Diligence.
2014	Gold One	Gold	Burnstone OPS Plan.
2014	JPMC	Gold	Pit Optimisation.
2014	Kibo Mining Plc	Gold	Imweru Concept Study.
2014	Kibo Mining Plc	Coal	Rukwa Concept Study.
2014	Mainsail	Coal	Due Diligence.
2014	Mainstreet 778	Mn	Mukulu Technical Report.
2014	Royal Bafokeng Platinum	Platinum	Due Diligence.
2014	Royal Resource Capital AG	Manganese	Mine Plan.
2014	Streatham Management Services	Iron	CPR & PFS.
2013	Anglo African Capital	Tin	Desktop Study.
2013	Impondo Mining	Manganese	Resource Review & Update.
2013	Impondo Mining	Manganese	Technical Report & CPR.
2013	Impondo Mining	Manganese	Concept Study.
2013	Platfields Ltd	Gold	Due Diligence.
2013	Sable	Iron	Resource Estimation.
2013	Southgold Exploration	Gold	CPR Update.
2013	Southgold Exploration	Gold	Scoping Study.
2013	Southgold Exploration	Gold	OPS Plan.
2013	WitsGold	Gold	CPR CoS Mine Design Criteria.
2013	WitsGold	Gold	CPR.
2012	AAP	PGM	Change of Scope.
2012	AAP	PGM	Ore Replacement Re-Statement.
2012	Anooraq	Platinum	Update DFS.
2012	Astron	HM	JORC.
2012	Burk Mining	FE	Resource On waste Dumps.
2012	GBG	Gold	Consulting.
2012	GBG	Gold	Mining Section sign-off.
2012	Gold One	Gold	Technical Report.

Minxcon Projects

Year	Client	Commodity	Project Description
2012	Gold One	Gold, U308	Paper Planning.
2012	GRNQ	Briquettes	Plant and Processing Review.
2012	Keegan	Gold	Pit Optimisation.
2012	Keegen	Gold	Pit optimisation and mine design.
2012	MWS	Gold	Planning.
2012	MWS	Gold, U	Monthly resource & mine planning.
2012	PDNA/Minxcon	Coal	PFS Review.
2012	PDNA/Minxcon Keaton	Coal	Project Review.
2012	Rockridge	Gold	Pit Optimisation.
2012	RSV SA	Platinum	Initial Pre-Feasibility Work.
2012	SCC Mandarin	Gold	Lom Plan and re-equipping.
2012	Stonewall	Gold	Concept Study.
2012	Stonewall	Gold	Mine Design and scheduling.
2012	Strategic Natural Resources	Coal	Resource and Reserve Update.
2011	AAP	PGM	Ore-Replacement Re-Statement.
2011	AngloGold	Gold	Desktop Study.
2011	Anooraq	PGM	Rev IP.
2011	Anooraq	PGM	DFS Update.
2011	Anooraq	PGM	Tech Rep Update.
2011	CES	Coal	Project.
2011	Eastplats	Chrome	Revise, Compile.
2011	EMC	Gold	Technical.
2011	First Uranium	Uranium	Technical Report.
2011	First Uranium	Uranium	Due Diligence.
2011	First Uranium	Gold	Technical.
2011	Forbes Coal	Coal	Economic.
2011	Forbes Manhattan	Coal	NI43-101.
2011	Galaxy Gold	Gold	Barberton ASX TSX.
2011	Galaxy Gold	Gold	Barberton Document.
2011	JonaCap	Iron	LSE List.
2011	JonaCap	Phos	Expl & PFS.
2011	PAR	Gold	OC & UG.
2011	PAR	Gold	UG Design.
2011	Petrochrom	Iron	Detrital.
2011	Platfields	Platinum	Opencast.
2011	RSV	PGM	Ore Replacement.
2011	RSV	Platinum	Khuselek Merensky.
2011	RSV	Platinum	UG2 Repl.
2011	SSC Mandarin	Gold	Lom Plan & Mine re-equipping.
2011	SSC Mandarin	Gold	Plans ET.
2011	Toto Coal & Platfields	Coal	Valuation.
2011	Village Main Reef Ltd	Gold	Consolidate.
2010	Eastern Platinum	Platinum	CRM Advise.
2010	GBG	Gold	NI 43-10.
2009	Aflease Gold	Gold	Independent review on CPR conducted by SRK.
2009	Assore	Gold	Desktop study on Zeerust Chrome Mine.
2009	Buffelsfontein	Gold	CPR.
2009	Buffelsfontein	Gold	Dumps scheduling.
2009	Chemwes	Gold	One year strategic Life of Mine plan.
2009	Chemwes	Gold	Update of Technical Report.
2009	Eastern Goldfields	Gold	CPR of the mineral assets of Eastern Goldfields SA (Pty).
2009	Eastern Platinum Inter	Platinum	Geostatistical reserve model.
2009	FUSA	Gold	Update of tailings dump.
2009	FUSA	Gold	Technical report.
2009	Pamodzi	Gold	East Rand Operations CPR.
2009	Royal Bafokeng Resources	Platinum	Exploitation of UG 2 reef and design of Chairlifts.
2009	Shanduka	Coal	Due Diligence.
2009	Simmer and Jack	Gold	NI 43-101 report on Weltevreden Project.
2009	TGME	Gold	Update on TGME underground deposits.
2009	TGME	Gold	DGII Mine Works Program.
2009	TWP Projects	Platinum	Operating cost estimation of Nkwe Garatau.

Minxcon Projects

Year	Client	Commodity	Project Description
2008	Anglo Platinum	Platinum	Project Fusion.
2008	Anglo Platinum	Platinum	Mining Engineering Desktop Study for Expansion Project.
2008	Boynton Platinum	Platinum	Grootboom Platinum Mine Pre-Feasibility Study.
2008	DiamonEx	Diamonds	Mine Design and Scheduling.
2008	Simmer and Jack	Gold	NI43-101 Technical Report for TGME.
2008	Simmer and Jack	Gold	Valuation of Simmers Assets.
2008	Simmer and Jack	Gold	Buffelsfontein Resource Block List.
2008	Simmer and Jack	Gold	Technical report on Buffelsfontein slimes dam.
2008	Simmer and Jack	Gold	NI43-101 Technical Report for Ezulwini.
2007	Anglo Platinum	Platinum	Independent Valuation.
2007	Gulf Platinum	Platinum	Report regarding Western Bushveld Prospecting.
2007	International Ferro Metals	Chromite	Industry review.
2007	Pamodzi Gold	Gold	CPR on mineral assets.
2007	Terra Gold	Copper	Technical report on Kalaba Copper Project-Zambia.
2007	Thabex	Diamonds	CPR Kolo and Monastery Kimberlites.
2007	Umnotho WeSizwe	Chrome	Preparation for Bankable Feasibility Study.
2006	Simmer and Jack	Gold	Mine plan for the Ezulwini Operation.
2005/06	Simmer and Jack	Gold	Reserve/Resource Audit Buffelsfontein Gold Mine.
2006		Gold Russia	Preparation of a Mining Plan for Mayskoye Gold mine.
2006	Bema	Gold	Independent Due Diligence Report On The Resources And Mining Assets Of Bema Gold In South Africa
2006	DiamonEx	Diamonds	Feasibility Study On The Martin's Drift Diamond Project.
2006	Pamodzi	Gold	Competent Persons Report ("Cpr") On The Mineral Assets Of The Farm Middelvlei 255IQ District Randfontein
2005	Aflease	Gold	Mining Work Programme - Weltevreden
2005	Aflease	Gold	Valuation KALGOLD.
2005	Aflease Ltd	Gold	Independent valuation of a gold property in South Africa for the purposes of potential acquisition.
2005	Aka Resources Holdings (Pty) Ltd	Manganese	Independent due diligence report on the resources and mining assets of Vametco Minerals Corporation.
2005	Amplats	Platinum	Providing mining engineering services for the Turfontein mine expansion project at Rustenburg Platinum Mines.
2005	Blinkklip Black Empowerment Initiative	Diamonds	Preparation of five prospecting programs and two mining work programs on alluvial diamond operations for application of prospecting and mining rights.
2005	Harmony	Gold	Management consulting services at Harmony's Kalgold opencast gold mine.
2005	Harmony/Venmyn Rand	Gold	Independent expert report for Harmony Gold Mining Company Ltd on the effects of mergers on communities, employees and suppliers.
2005	Max Return Investment	Diamonds	Preparation of Competent Person's Report on an Open Pit Kimberlite for fund raising purposes.
2005	RMB	Platinum	Independent expert report for RMB on Aquarius' Everest South project.
2005	RMB	Gold	Independent expert report for RMB on DRD Gold Mining Company Ltd's Hartebeesfontein assets.
2005	TWP Consulting	Gold	Build a financial Excel spreadsheet on the Vubachikwe gold operation in Zimbabwe.

Languages

English: Good

Afrikaans: Excellent

Certification

I, the undersigned, certify that to the best of my knowledge and belief, this information correctly describes me, my qualifications, and my experience.

D van Heerden

Director

Date: 18 January 2017