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## **SESE JV COAL RESOURCE UPDATE**

## **Highlights**

- An updated resource estimate has been completed for the Sese coal deposit.
- The updated resource includes infill drilling data collected from holes drilled to an average 350m spacing within the proposed mining area in the approved Mining Licence.
- The global resource estimate for Sese now stands at 2,418Mt of thermal coal in Measured, Indicated and Inferred categories as follows:

Sese Projec	Sese Project: Resource Summary (Raw coal on an air-dried basis) AFR 35% FQM 65%									
Resource Zone	In-Situ Tonnes*	CV (MJ/kg)	CV (kcal/kg)	Ash %	IM%	VM%	FC%	<b>S</b> %		
MEASURED (Bk-C)	325 Mt	17.6	4,200	30.1	7.9	20.6	41.5	2.1		
MEASURED (Bk-B)	304 Mt	16.0	3,820	34.8	7.4	20.3	37.6	1.6		
INDICATED	1,663 Mt	15.4	3,700	38.4	6.8	18.7	34.1	2.0		
INFERRED	126 Mt	14.2	3,400	41.4	6.4	18.8	31.2	2.2		
TOTAL	2,418 Mt									

 The Mining Licence contains ~630MT of coal, which includes a measured resource containing 256Mt:

Sese Proje	Sese Project: Resource Summary (Raw coal on an air-dried basis) within Mining Lease									
Resource Zone	In-Situ Tonnes*	CV (MJ/kg)	CV (kcal/kg)	Ash %	IM%	VM%	FC%	<b>S</b> %		
MEASURED	255.6 Mt	17.6	4,200	29.9	8.0	20.7	41.5	2.1		
INDICATED	341.0 Mt	14.1	3,380	41.2	6.9	18.1	33.8	1.7		
INFERRED	33.6 Mt	13.3	3,170	44.9	5.6	18.3	31.2	2.6		
TOTAL	630.2 Mt									

 A mining reserve statement for the proposed mining area is being prepared using the updated resource estimate and information from First Quantum's in-house mining feasibility study.



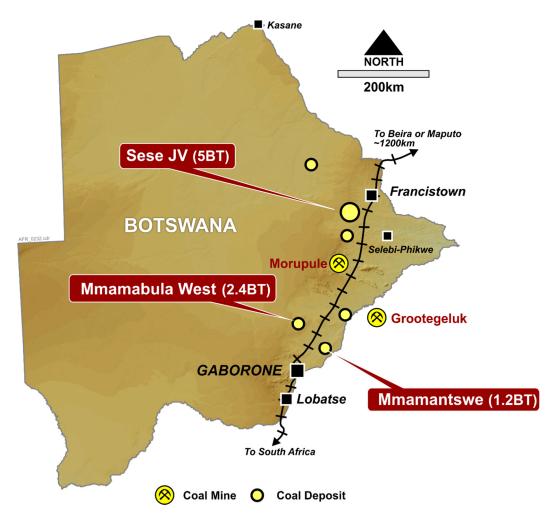
#### 1. BACKGROUND

African Energy Resources Limited ('African Energy' or 'the Company') is involved with three major coal projects in Botswana (Diagram 1). The Company's major asset is the Sese JV Project in which AFR owns a 35% stake, with the balance owned by First Quantum Minerals Ltd (FQM).

AFR continues to assist FQM, the manager of the Sese JV, with a number of commercial and permitting activities related to the development of the project as an exporter of power to FQM's Zambian copper operations.

The Sese coal resource estimate has been updated to accommodate the final program of infill drilling to 350m average spacing within the proposed mining area in Block-C (Diagram 2 and 3). This resource estimate has been prepared to the standard required under JORC (2012 edition) and NI-43-101.

An updated inventory of AFR's global coal resources in Botswana is presented in Appendix 1.



**Diagram 1** – Location Map showing the Sese JV Project and the Company's other coal deposits in Botswana.



### 2. RESOURCE ESTIMATE AND COAL QUALITY

The updated resource estimate for Sese is based on data collected from 469 drill holes totalling 33,991m, of which 309 holes were core holes (Diagram 2 and Appendix 2).

The resource estimation was undertaken by the Company's consultants Trepanier Pty Ltd and GEMECS (Pty) Ltd. A summary of the updated Sese Resource Estimate is given in the table below:

Sese Coal Pro	Sese Coal Project - Raw Coal Resource Estimate (Classed into Measured, Indicated & Inferred resource categories)									
Resources by Cla	assification Categ	ory and Resou	ırce Block			Rav	/ Coal Quali	ties (Air D	ried)	
Resource Block Name	Resource Category	Insitu Tonnes (Mt)	Geological Loss (%)	Discounted Tonnes (Mt)	RD	ASH (%)	CV (MJ/kg)	IM (%)	VM (%)	TS (%)
BLOCK A		-	-	-	-	-	-	-	-	-
BLOCK B	MEASURED	310.4	2	304.2	1.66	34.8	16.0	7.4	20.3	1.63
вьоск с		331.3	2	324.7	1.62	30.1	17.6	7.9	20.6	2.06
TOTAL/AVERAGE (Blocks A, B & C)	MEASURED	641.7	2.0	628.9	1.64	32.4	16.8	7.6	20.5	1.85
BLOCK A		440.4	10	396.3	1.69	39.5	15.1	6.7	18.4	1.69
BLOCK B	INDICATED	124.7	10	112.2	1.63	32.1	16.9	8.4	20.1	1.68
BLOCK C		1 282.7	10	1 154.4	1.70	38.6	15.3	6.6	18.6	2.14
TOTAL/AVERAGE (Blocks A, B & C)	INDICATED	1 847.8	10.0	1 663.0	1.69	38.4	15.4	6.8	18.7	2.00
BLOCK A		14.3	15	12.1	1.74	45.7	13.5	5.3	17.4	2.14
ВІОСК В	INFERRED	61.3	15	52.1	1.68	35.0	16.1	7.2	20.5	2.35
вьоск с		72.4	15	61.6	1.75	46.0	12.8	6.0	17.6	2.15
TOTAL/AVERAGE (Blocks A, B & C)	INFERRED	148.0	15.0	125.8	1.72	41.4	14.2	6.4	18.8	2.23
GRAND TOTAL (Blocks A, B & C)	MES, IND & INF	2 637.5	8.3	2 417.7	1.68	37.0	15.7	7.0	19.2	1.97

<sup>\*</sup>Discounts Applied: Minimum seam thickness cut-off of < 1.0 m. Dry Ash Free Volatile (DAFV) < 26%. Prospecting Licence Boundary

Within this overall resource, the Measured Resource within the Mining Licence contains coal in the proposed mining area (Diagram 3). The main SS Seam within this portion of the resource comprises the best combination of coal quality and strip ratio in the project, providing the lowest cost per GJ of contained energy, and thus the lowest cost fuel for use in a power station:

	MEASURED BLOCK C RESOURCES - per SEAM								Raw Coal Qualities (Air Dried)				
Resource Block Name	Resource Category	Seam Name	Insitu Tonnes (Mt)	Geological Loss (%)	Discounted Tonnes (Mt)	CV (MJ/kg)	ASH (%)	IM (%)	VM (%)	TS (%)			
		SSU	17.5	2	17.2	14.9	39.1	6.7	21.4	1.84			
DI OCK C	MEAGURER	SST	30.7	2	30.1	13.2	42.6	6.7	20.1	0.97			
BLOCK C	MEASURED	SS	282.1	2	276.4	18.3	28.1	8.1	20.6	2.19			
		SSL	1.0		1.0	9.8	57.6	4.6	16.6	0.98			
TOTAL/AVERAGE (BLOCK C)	MEASURED	All Seams	331.3	2.0	324.7	17.6	30.1	7.9	20.6	2.06			

<sup>\*</sup>Discounts Applied: Minimum seam thickness cut-off of < 1.0 m. Dry Ash Free Volatile (DAFV) < 26%. Prospecting Licence Boundary

<sup>\*</sup>No discounts were applied for any possible wetlands, rivers or infrastructure present within the project area

<sup>\*</sup>Weighted average total tonnes and geological losses calculated on Discounted Tonnes

<sup>\*</sup>RD - Relative Density, CV - Calorific Value, VM - Volatile Matter, IM - Inherent Moisture, TS - Total Sulphur

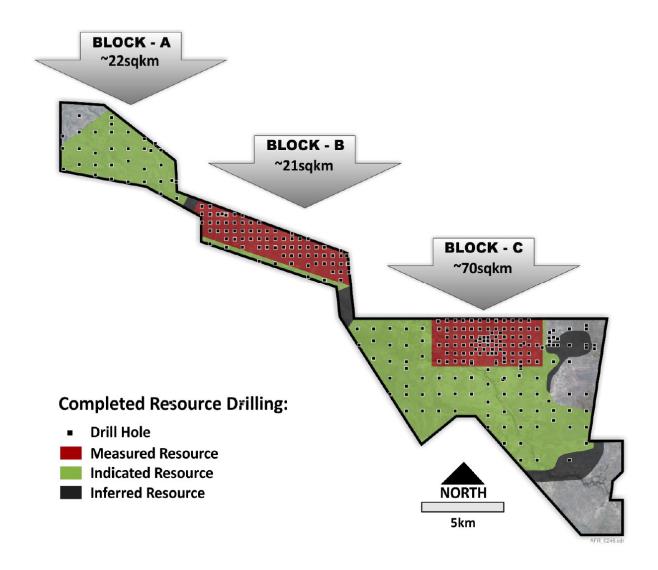
<sup>\*</sup>No discounts were applied for any possible wetlands, rivers or infrastructure present within the project area

<sup>\*</sup>Weighted average total tonnes and geological losses calculated on Discounted Tonnes

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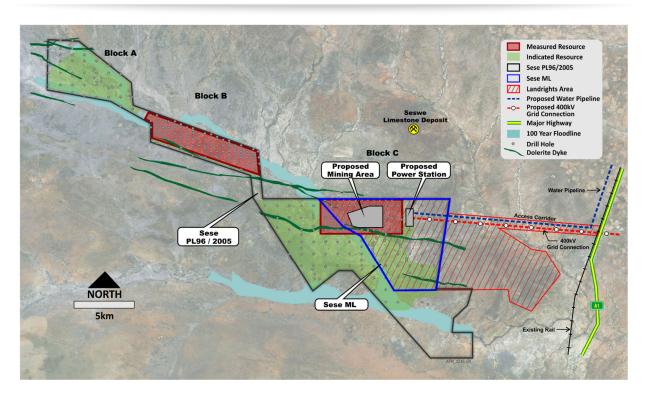


A mining reserve statement for the SS Seam within the proposed mining area is being prepared using the updated resource estimate and information from First Quantum's in-house mining feasibility study.



**Diagram 2** – Location of drill collars in the Sese JV Project and the resource classification outlines





**Diagram 3** – Plan showing Sese drill hole collar locations and resource category outlines with respect to the Prospecting License and Mining License boundaries.



**Diagram 4** – Cross-Section view of coal exposure in Sese Measured Resource in Block-B bulk sample pit.



#### 3. SUMMARY OF RESOURCE ESTIMATION AND REPORTING CRITERIA

As per ASX Listing Rule 5.8 and the 2012 JORC reporting guidelines, a summary of the material information used to estimate the Sese Coal Resource is included below (for more detail please refer to Table 1, Sections 1 to 3 included in Appendix 3).

## Geology and geological interpretation

The Sese coal deposit occurs in the northern belt of the Central Kalahari sub-basin, one of several Permo-Carboniferous Gondwana depositional sub-basins in the region. The coal resource occurs within Lower Karoo aged sediments and is typified by a relatively thick coal zone occurring in close proximity to the basal unconformity between the Karoo Supergroup and the Precambrian Basement. Sediments are relatively flat-lying with very gentle dips (<3°, average 0.5-1°) towards the south. In addition to 3D modelling of the resource, AFR excavated a bulk sample from a trial pit in Block-B where the coal is within 15m of surface (Diagram 4). The coal is generally continuous over large distances with only minor disruption seen across sporadic low throw normal faults and dolerite dykes.

The coal zone is the principal interval of economic interest and comprises a number of sub-zones or "seams" and a series of "plies" that can be recognised across the deposit. The principal seams which can be recognised are the Sese Main (SS), Sese Top (SST) and Sese Upper (SSU). The SSU and SST units are separated by a carbonaceous unit containing minimal coal development which is regarded as an inter-seam "parting" which will likely be regarded as "waste" in any mining recovery operation. In general, the coal rank ranges from medium- to low-volatile bituminous coal.

Key stratigraphic contacts were interpreted and correlated ("wireframed") in 3D software modelling packages. The seams and plies were correlated across the entire deposit area. Partings were selected using a minimum interval of 0.5m between coal plies.

The licence area includes some dolerite intrusions and faulting with, on a macro-scale, inferred development of blocks representing half-grabens and grabens. Several major dolerite dykes are present based on geomagnetic evidence.

## Drilling techniques and hole spacing

The Sese deposit has been drilled using Polycrystalline Diamond open-hole rotary mud drilling (PCD) and diamond core drilling (DD). All but three of the 501 holes in the entire licence area (Diagram 2) were drilled by African Energy in 2011 and 2012 and predominantly used PCD for pre-collars with HQ sized diamond core collected through the coal zones. One hundred and twenty fives of AFR hole were cored from surface. Shell Coal Botswana Pty Ltd (Shell) drilled three cored holes (N06 & 08 in Block A plus N09 in block B) in the licence area in 1976 as part of a regional exploration program. Also noted is that 32 of the 501 holes were drilled as detailed close-spaced infill holes in the area of the bulk sample pit in Block B as part of the preextraction planning stage.

Within the licence area, and including the Shell holes, there are 309 drill holes (diamond core points of observation holes which excludes RC holes) for 22,420.55m. Drill hole spacing within the reported resource area is at a minimum of 1km by 1km with the Measured Resource areas drilled at 500m by 500m, including down to 350m in parts of Block C (Diagram 2).



### **Logging and Sampling**

Core holes were geologically logged for lithology, stratigraphy, oxidation, grain size and colour. In addition intervals were logged for sorting, roundness, clast size, clast sorting, clast roundness, cement and mica where appropriate. PCD chips were collected at 1 metre intervals at the rig and logged for lithology, stratigraphy, oxidation, grain size and colour. All accessible boreholes were geophysically logged using a combined density/gamma sonde with the objective of describing coal seam depth, thickness and quality. Lithological logging was verified against downhole geophysical logs. The Shell holes were logged for lithology only.

African Energy submitted whole core was submitted for coal quality analyses at ALS Global's Witbank Coal Laboratory located near Johannesburg, South Africa. No information is available for the sampling methodology used for the Shell holes.

#### Sample analysis method

All African Energy core samples were analysed by ALS Global at their Witbank SANAS ISO 17025 accredited laboratory. Coal analyses were conducted on air-dried core samples to determine the Apparent Relative Density, Proximate Analysis, Calorific Value and Total Sulphur. The samples from the Shell holes were also analysed on an air-dried basis for Apparent Relative Density, Proximate Analysis, Calorific Value and Total Sulphur although no information is available regarding the laboratory at which they were analysed.

### **Estimation Methodology**

The geological structural and coal quality model was built using Geovia Minex™ modelling software. The General Purpose algorithm was used in all cases to create modelled grids for the various variables. The following parameters were modelled for each of the mineable coal seams and other relevant structural and coal quality features:

- Roof and floor elevations;
- Intersection thickness;
- Topography from borehole collars;
- Base of weathering;
- Roof of Dwyka Group sediments;
- Raw air-dried coal qualities (PROX, CV, RD, TS);
- Washed coal qualities for various products (product yield, PROX, CV, TS, product wash density).

Various coal seams are present within the Sese project area, but only the relevant potential economic coal seams were modelled (SS, SSU, SST, SSL) due to the sufficient data density of these coal seams.

The model was constrained by the project boundary, as well as the limit of coal intersections and borehole distribution. Grid expansion from the last known borehole was limited to 200m. A surface grid of the topography was created using the borehole collars only. A weathering surface determined by the limit of weathering as recorded in each borehole was created and used to exclude any coal intersecting this weathering surface.

Raw coal quality grids were created for each seam for the following qualities:



- Calorific Value (CV) MJ/kg
- Ash (AS) %
- Volatile Matter (VM) %
- Fixed Carbon (FC) %
- Inherent Moisture (IM); and
- Total Sulphur (TS) %.

Grids for derived variables like Dry Ash-Free Volatiles (DAFV) % were calculated from relevant quality grids by means of grid arithmetic.

Data validation for coal seams and coal qualities has been performed in Geobank (borehole database) as well as in Minex (modelling software). This includes a stratigraphic check, duplication and missing seams, negative values, barren boreholes, values out of expected ranges and coal quality correlations. Basic statistical parameters were investigated for each coal seam and coal qualities. During the coal quality gridding process, raw coal quality estimations have been limited to the minimum and maximum of actual values. Lastly, the resource boundary and physical seam cut-offs (limit of weathering and coal suboutcrops), as well as no coal areas were used to mask the final model to ensure the coal seam and quality model is confined to the coal areas only. Grids were checked against actual borehole data for any variations, as well as by means of numerous cross sections. The model is consistent with the borehole input and honours the borehole data and coal quality point values.

To estimate various coal washability products, the Minex Coal Washability module was used. Coal washability products were produced for relative density intervals of F1.35, F1.40, F1.50, F1.60, F1.70, F1.80, and S1.90 and sinks for the SS, SSU, SST and SSL Seams. After the washability was carried out, coal quality grids of the various relative density intervals were estimated using the growth algorithm as above.

### Classification criteria

The Sese Coal Resource has been classified as Inferred according to the 2012 Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves guidelines (JORC 2012). The resource classification applied is based on borehole density (points of observation supported by analytical data) where at least three boreholes with raw coal quality data for the coal seam must be in range to constitute a resource class. The confidence in the understanding of geological and coal seam model is high when considering the available drillhole data from the extensively drilled and modelled deposit.

In addition, the following other criteria were used to define the resource limits of the reported Sese Project coal resources:

- **Prospecting Licence Boundary**
- Minimum coal seam thickness of 1.0m un-weathered coal to define seam limits
- Dry Ash-Free Volatile (DAFV) cut-off of less than 26%

## **Cut-off grades**

All seams were reported using the following cut-off parameters:

- 1. Minimum composited seam thickness of 1m.
- 2. Minimum Calorific Value of 8 MJ/kg



#### 3. Maximum Ash of 50%

Buffer zones around the dolerite dykes (interpreted from available magnetics data) have been created to allow for potential burnt areas of the in situ coal. Two generations of dolerite dykes are interpreted and classed as major or minor. The major dykes have a 250m buffer zone applied either side of the dyke and the minor dykes a 100m buffer zone. Coal modelled within these buffer zones is excluded from the reported Gross Tonnes In-Situ (GTIS) resource.

In addition, a further reduction in the reported resource has been applied for potential geological losses (Measured 2%, Indicated 10% and Inferred 15%). The reported resource is thus stated as Total Tonnes In-Situ (TTIS).

### Mining and metallurgical methods and parameters

Based on the depth to seam roof and the seam thickness modelled, the potential mining methods considered to date are restricted to open pit mining.

For any further information, please contact the Company directly on +61 8 6465 5500.

For and on behalf of the board.

### **COMPETENT PERSONS STATEMENT**

The Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (the 'JORC Code') sets out minimum standards, recommendations and guidelines for Public Reporting in Australasia of Exploration Results, Mineral Resources and Ore Reserves. The information contained in this announcement has been presented in accordance with the JORC Code (2012 edition) and references to "Measured, Indicated and Inferred Resources" are to those terms as defined in the JORC Code (2012 edition).

The information in this report relating to the Sese Project coal resources is based on information compiled by Mr Lauritz Barnes (Trepanier Pty Ltd of Australia) and Mr Nico Denner (Gemecs Pty Ltd of South Africa) who are both consultants to African Energy Resources Limited. Mr Barnes is a member of both the Australian Institute of Geoscientists and the Australasian Institute of Mining and Metallurgy. Mr Denner is a registered Professional Natural Scientist (Pr.Sci.Nat.) with the South African Council for Natural Scientific Professions (SACNASP) and a Fellow member of the Geological Society of South Africa. Mr Barnes and Mr Denner are both qualified geologist and have sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking, to qualify as Competent Person as defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr Barnes and Mr Denner consent to the inclusion in the ASX release of the matters based on his information in the form and context in which it appears.

The Coal Resources quoted for the Mmamabula West and Mmamantswe Projects in the tables below have been defined in accordance with the practices recommended by the Joint Ore Reserves Committee (2004 edition of the JORC Code), and Sese West resources are reported as per the 2012 edition. There have been no material changes to any of the resources since they were first announced.



# APPENDIX 1: Global Coal Resources for African Energy's Coal Projects in Botswana

Sese Project: Resource Summary (Raw coal on an air-dried basis) AFR 35% FQM 65%								
Resource Zone	In-Situ Tonnes*	CV (MJ/kg)	CV (kcal/kg)	Ash %	IM%	VM%	FC%	S %
MEASURED (Bk-C)	325 Mt	17.6	4,200	30.1	7.9	20.6	41.5	2.1
MEASURED (Bk-B)	304 Mt	16.0	3,820	34.8	7.4	20.3	37.6	1.6
INDICATED	1,663 Mt	15.4	3,700	38.4	6.8	18.7	34.1	2.0
INFERRED	126 Mt	14.2	3,400	41.4	6.4	18.8	31.2	2.2

**TOTAL** 2,418 Mt

Sese West Project: Resource Summary (Raw coal on an air-dried basis) AFR 35% FQM 65%									
Resource Zone	In-Situ Tonnes*	CV (MJ/kg)	CV (kcal/kg)	Ash %	IM%	VM%	FC%	S %	
INFERRED	2,501 Mt	14.6	3,500	40.2	6.1	19.8	31.9	2.0	
TOTAL	2.501 Mt		_						

Mmam	Mmamabula West Project: Resource Summary (Raw coal on an air-dried basis) AFR 100%									
Resource Zone	In-Situ Tonnes*	CV (MJ/kg)	CV (kcal/kg)	Ash %	IM%	VM%	FC%	S %		
INDICATED	892 Mt	20.2	4,825	25.5	6.0	26.0	41.0	1.5		
INFERRED	1,541 Mt	20.0	4,775	25.5	5.7	25.9	41.2	1.7		
TOTAL	2,433 Mt									

Mmamantswe Project: Resource Summary (Raw coal on an air-dried basis) AFR 100%									
Resource Zone	In-Situ Tonnes*	CV (MJ/kg)	CV (kcal/kg)	Ash %	IM%	VM%	FC%	S %	
MEASURED	978 Mt	9.5	2,270	56.5	3.9	15.8	21.8	2.0	
INDICATED	265 Mt	7.9	1,890	62.3	3.3	14.2	18.1	2.1	
INFERRED	N/A								
TOTAL	1,243 Mt								

<sup>\*</sup> In-Situ tonnes have been derived by removing volumes for modelled intrusions, burnt coal and weathered coal and then applying geological loss factors to the remaining Gross In-Situ Tonnes

The Coal Resources quoted for the Mmamabula West and Mmamantswe Projects in the table above have been defined in accordance with the practices recommended by the Joint Ore Reserves Committee (2004 edition of the JORC Code). Sese and Sese West resources are reported as per the 2012 edition. There have been no material changes to any of the resources since they were first announced.

APPENDIX 1: List of new (post-2012) drillholes and associated coal seam intercepts used in the Block C Measured Area Infill Coal Resource estimation

Notes: Coordinates provided in WGS84 UTM Zone 35S, elevation in metres above mean sea level

	Hole				Max. Depth	Pre-collar. Depth				Depth to Seam	Seam Thick.	CV	Ash
Hole ID <sup>1</sup>	Type	Easting <sup>2</sup>	Northing <sup>2</sup>	Elevation <sup>3</sup>	(m)	(m)	Dip	Azimuth	Seam	Roof (m)	(m)	(MJ/kg)	(%)
SES754RD	RD	519000.8	7613001.3	957.9	71.98	30	-90	0	SS	53.36	15.75	<mark>18.9</mark>	<mark>25.6</mark>
SES757RD	RD	519248.9	7613251.9	961.5	60.83	30	-90	0	SSU	24.2	0.3		
									SST	31.59	0.47		
									SS	46.93	10.91	17.5	30.5
SES758RD	RD	519746.9	7613247.1	964.1	69.03	30	-90	0	SSU	24.4	1		
									SST	33.5	0.89		
									SS	49.47	16.31	17.9	29.4
SES760RD	RD	518751.1	7613498.5	959.2	60.03	30	-90	0	SSU	21.8	0.2		
									SST	30.24	0.66		
									SS	45.25	11.45	18.3	28.0
SES761RD	RD	518748.1	7612748.6	955.2	74.23	30	-90	0	SSU	35.83	0.62		
									SST	43.25	0.63		
									SS	56.33	14.92	19.0	24.1
SES762RD	RD	518248.2	7612751.0	953.2	68.83	30	-90	0	SSU	30.28	0.52		
									SST	41.65	0.96		
									SS	51.53	13.69	18.9	24.6
SES763RD	RD	518246.1	7613248.7	956.7	67.51	30	-90	0	SSU	30.77	0.75		
									SST	36.72	0.62		
									SS	51.08	12.52	18.5	27.4
SES764RD	RD	519249.0	7612751.3	958.4	70.21	30	-90	0	SSU	29.96	2.39	13.1	44.5
									SST	38.75	0.66		
									SS	52.83	14.51	19.1	24.7
SES765RD	RD	519246.2	7612505.3	957.8	72.18	30	-90	0	SSU	33.05	0.7		
									SST	40.64	0.67		
									SS	55.37	13.36	20.3	26.9
SES766RD	RD	519247.8	7613748.7	962.7	49.76	30	-90	0	SSU	15.9	0.1		
									SST	24.8	0.5		
									SS	36.54	3	12.5	45.8
SES767RD	RD	519746.0	7613750.0	967.1	57.33	30	-90	0	SSU	24.7	0.3		
									SST	29.6	0.3		
									SS	43.53	10.87	17.9	28.4
SES768RD	RD	519745.3	7612747.5	959.2	69.41	30	-90	0	SSU	26.3	1.1		
									SST	36.08	0.53		
									SS	50.1	15.8	18.9	25.9
SES772PD	PD	518746.0	7613249.1	958.4	60.18	45.73	-90	0	SSU	24.9	0.5		
									SST	34.7	0.5		
									SS	47.53	9.35	18.0	29.5

# APPENDIX 2: JORC Code, 2012 Edition – Table 1 report

Section 1 – Sampling Techniques and Data

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul> <li>Nature and quality of sampling (eg cut Faces, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.</li> </ul>	<ul> <li>AFR submitted only core samples for laboratory analysis. Sampling of core holes commenced only after receipt of the borehole's "down the hole" geophysical wire-line log. Density contrasts as indicated by the geophysical logs in combination with lithological variations as indicated from visual inspection of the core and from the geology lithological log were used as the major parameters in determining sample intervals in the coal zones. In instances where no density logs were available (i.e. due to a blocked hole), then samples were selected on lithological variations as indicated from visual inspection of the core and from the geological log.</li> <li>Coal analyses were conducted on air dried core samples at ALS Global Witbank Coal Laboratory using industry standard methods to determine the Apparent Relative Density (ARD), Proximate Analysis, Calorific Value (CV) &amp; Total Sulphur.</li> </ul>
Drilling techniques	Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).	· · · · · · · · · · · · · · · · · · ·
Drill sample recovery	<ul> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.</li> </ul>	assessing coal quality.

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Criteria	JORC Code explanation	Commentary
		<ul> <li>Triple tube rods were used for core drilling to maximise recovery.</li> <li>No sample bias has been established.</li> <li>No information is available for Shell holes.</li> </ul>
Logging	<ul> <li>Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, Face, etc) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	<ul> <li>PCD chips were collected at 1 metre intervals at the rig and subsequently logged for lithology, stratigraphy, oxidation, grain size and colour. In addition intervals were logged for sorting, roundness, clast size, clast sorting, clast roundness, cement and mica where appropriate. Lithological logging was verified against downhole geophysical logs.</li> <li>Core holes were geologically logged for lithology, stratigraphy, oxidation, grain size and colour. In addition intervals were logged for sorting, roundness, clast size, clast sorting, clast roundness, cement and mica where appropriate. Lithological logging was verified against downhole geophysical logs.</li> <li>Core recoveries and RQD's were logged for the vast majority of the core holes. No material core recovery issues were identified.</li> <li>Core photos are available for all the AFR drill core.</li> <li>All accessible boreholes were geophysically logged using a density/gamma combination sonde with the objective of describing coal seam depth, thickness and quality. Geophysical logging was completed by Wellfield Consulting Services (Wellfield) of Gaborone, Botswana and by Gondwana Ventures (Pty) Ltd (GV) of Francistown, Botswana. For the initial Sese holes, Wellfield originally deployed Robertson Geologging Sidewall Density sonde before September 2011. After September 2011 Wellfield used a Century Geophysical Corporation dual spaced density sonde. Later holes were logged by GV using a Robertson Geologging tool.</li> <li>Shell core holes were logged for lithology only.</li> <li>Drill holes have been logged to a level to support coal resource estimation.</li> </ul>
Sub-sampling techniques and sample preparation	<ul> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li> <li>Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	<ul> <li>AFR submitted whole core for coal quality analyses. All samples were prepared and analysed at the ALS Global Witbank Coal Laboratory located near Johannesburg, South Africa. ALS Witbank is a SANAS ISO 17025 accredited laboratory.</li> <li>Coal analyses were conducted on air dried core samples using industry standard methods to determine the Apparent Relative Density (ARD), Proximate Analysis, Calorific Value (CV) &amp; Total Sulphur.</li> <li>No information is available for Shell holes.</li> </ul>
Quality of assay data and	The nature, quality and appropriateness of the assaying and	All samples were prepared and analysed at the ALS Global Witbank Coal Laboratory located near

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Criteria	JORC Code explanation	Commentary
laboratory tests	laboratory procedures used and whether the technique is considered partial or total.  For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.  Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.	<ul> <li>Johannesburg, South Africa. ALS Witbank is a SANAS ISO 17025 accredited laboratory.</li> <li>All core samples were initially processed and analysed for Proximate Analysis, Total Sulphur, Calorific Value (CV) and Relative Density. Following reporting of this information from the laboratory, further instructions were issued to the laboratory to undertake wash tests only on a limited number of the samples.</li> <li>When done, samples were composited prior to washing in order to derive an individual sample which was a maximum of 250cm long and representative of the local coal formation. This was managed by reference to geological descriptions, and the calorific values and ash content, the objective being to merge samples with similar CV's and Ash.</li> <li>The independent South African consultancy, Wireline Workshop was commissioned by AFR to review and apply corrections to geophysical logging data where appropriate, to certify the logging data's accuracy and to develop Ash and CV estimation based on empirical relationships between logs and available proximate analyses. The geophysical and proximal data from of AFR's core holes were analysed. The correlations identified in the analysis were used to derive CV and Ash estimations from geophysical data. The geophysics derived CV and Ash data was used in the resource estimation where laboratory analyses were not available.</li> <li>No information is available for Shell holes.</li> </ul>
Verification of sampling and assaying	<ul> <li>The verification of significant intersections by either independent or alternative company personnel.</li> <li>The use of twinned holes.</li> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>	<ul> <li>AFR's coal quality sampling procedures and results have been reviewed by AFR's independent geological coal specialist consultants, Gemecs Pty Ltd (South Africa) and Geofox Consulting CC (South Africa).</li> <li>A number of holes were twinned, initial core twins of RC holes and later, large diameter core holes (for metallurgical sampling and testwork) twins were drilled of resource core holes. No issues were identified with any of the twin holes.</li> <li>AFR's sampling and logging processes are well documented and applied across the numerous drilling campaigns at the Sese deposit. Field data was regularly emailed to a database administrator in Perth where information was captured to drillhole database management software (DataShed™). Regular reviews of the database were conducted by AFR consultants.</li> <li>No adjustments were applied to assay data.</li> <li>All geophysical logs were compared to geological logs and laboratory coal sample analyses. For some drillholes, minor offsets (&lt;1m) were identified between the geophysical log depths and the geological logs / laboratory coal sample analyses – this was readily identifiable by comparing the downhole density logs with the logged coal intervals and analysed samples. The drill core samples were selected as the correct depth and depth corrections were applied to geophysical logs.</li> </ul>
Location of data points	<ul> <li>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</li> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	<ul> <li>The standard coordinate system for the Sese Coal Project is Universal Transverse Mercator projection (Zone 35S) using datum WGS84.</li> <li>Hole positions were surveyed using a combination of GPS and DGPS.</li> <li>Topographic information was sourced from a detailed DTM that was collected as part of an airborne geophysics survey completed by Xcalibur. This was integrated and compared with the DGPS surveyed drill hole collar positions and used for the resource model.</li> </ul>

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Criteria	JORC Code explanation	Commentary
		<ul> <li>All holes were draped to the detailed DTM. The difference between the draped and DGPS RL was minimal.</li> <li>The quality and adequacy of topographical control has been deemed adequate for use for Measured, Indicated and Inferred Resources.</li> </ul>
Data spacing and distribution	<ul> <li>Data spacing for reporting of Exploration Results.</li> <li>Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</li> <li>Whether sample compositing has been applied.</li> </ul>	<ul> <li>Drillhole spacing at Sese within the reported resource area is at a minimum of 1km by 1km, with the Measured Resource areas drilled at 500m by 500m, including down to 350m in parts of Block C (Diagram 2)</li> <li>The spacing of points of observation is sufficient for the establishment of grade and geological continuity considering the style and classification of the coal resource.</li> <li>Multiple samples were often taken per drill hole for individual seams. Length and density weighted sample compositing was applied to obtain overall seam quality information for the points of observation.</li> </ul>
Orientation of data in relation to geological structure	<ul> <li>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</li> </ul>	The coal seams at Sese are parallel stratigraphic layers with shallow dip (less than 1°). Drill holes are all orientated vertically resulting in near true width intersections. Considering the geological and structural setting of the coal seams, the orientation of drill holes relative to the seams is likely to have achieved unbiased sampling.
Sample security	The measures taken to ensure sample security.	After collection at the field camp all core samples were dispatched by vehicle to the town office in Francistown, where the required export and permit documentation were processed prior to the samples being dispatched by courier to South Africa (to ALS Global's Witbank Laboratory). A Francistown based courier collected samples at the office in Francistown and delivered them to ALS in South Africa.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	Site visits were completed by senior personnel from AFR's independent geological coal specialist consultants, Gemecs Pty Ltd (South Africa) and Geofox Consulting CC (South Africa). Geophysical data was audited by specialist independent wireline logging consultancy, Wireline Workshop (South Africa).

# **Section 2 - Reporting of Exploration Results**

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

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure	• Type, reference name/number, location and ownership	The Sese coal resource is located on Prospecting Licence PL96/2005 and Mining Licence

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Criteria	JORC Code explanation	Commentary
status	<ul> <li>including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites</li> <li>The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.</li> </ul>	<ul> <li>ML2016/42L, owned 65% by FQM and 35% by AFR. The PL (which includes the ML area) covers 287km².</li> <li>To the best of the Company's knowledge, the project is not subject to encumbrances (other than standard government royalties).</li> </ul>
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	<ul> <li>During the mid-1970's, Shell conducted a regional traverse of drilling in the Sese area and completed 24 bore holes between Foley and Orapa. Samples from the holes were analysed and reported but Shell considered the coal quality to not be of interest at the time.</li> <li>No further exploration has been completed in the licence area until African Energy's recent exploration and drilling programs.</li> </ul>
Geology	Deposit type, geological setting and style of mineralisation.	<ul> <li>The Sese coal deposits occur in the northern belt of the Central Kalahari sub-basin, one of several Permo-Carboniferous Gondwana depositional sub-basins in the region. The coal resource occurs within Lower Karoo aged sediments and is typified by a relatively thick coal zone occurring in close proximity to the basal unconformity between the Karoo Supergroup and the Precambrian Basement. Sediments are relatively flat-lying with mostly gentle dips (&lt;3°, average 0.5-1°) towards the south.</li> <li>The Sese deposits are interpreted to have formed under inferred temperate climatic conditions in a fluvio-deltaic to lacustrine palæo-environment possibly partially concurrent with rift-basin development. Available evidence suggests that the Sese coals represent a predominantly flood-plain or meander-belt type deposit with the extensive development of peat swamps towards the base of the "coal measures" sequence.</li> <li>The coal zone is the principal interval of economic interest and comprises a number of sub-zones or "seams" and a series of "plies" can be recognised across the deposit. The principal sub-zones or "seams" which can be recognised are the Sese Main (SS), Sese Top or "Ryder" (SST) and Sese Upper (SSU). The SSU and SST units are separated by a carbonaceous unit containing minimal coal development which is regarded as an inter-seam "Parting" which will likely be regarded as "waste" in any mining recovery operation. In general the coal rank ranges from medium- to low-volatile bituminous perhaps verging onto sub-bituminous.</li> </ul>
Drill hole Information	<ul> <li>A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes, including easting and northing of the drill hole collar, elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar, dip and azimuth of the hole, down hole length and interception depth plus hole length.</li> <li>If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent</li> </ul>	<ul> <li>All drilling results included in Measured, Indicated and Inferred resource from August 2012 were reported during 2010 to 2012.</li> <li>Recent 2016 infill results for holes drilling in the Block C Measured resource area are included in Appendix 1.</li> </ul>

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Criteria	JORC Code explanation	Commentary
	Person should clearly explain why this is the case.	
Data aggregation methods	<ul> <li>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.</li> <li>Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</li> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	<ul> <li>No minimum seam thickness was applied when interpreting the geological model and correlating the seams across the Sese deposit area.</li> <li>Partings were selected using a minimum interval of 0.5m between coal plies.</li> <li>Cut-off were applied to seam thickness and coal qualities in the resource reporting – see below.</li> </ul>
Relationship between mineralisation widths and intercept lengths	<ul> <li>These relationships are particularly important in the reporting of Exploration Results.</li> <li>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> <li>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').</li> </ul>	Vertical drill holes have intersected coal seams nearly perpendicularly due to the shallow dip of seams (<1°). All vertical drillhole intervals reported can therefore be regarded as true width.
Diagrams	Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.	Refer to Diagrams 2 and 3 - and Appendix 1.
Balanced reporting	Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	Comprehensive reporting of drill details has been provided in announcements between 2010 and 2012 – plus the more recent 2016 drill results reported in Appendix 1.
Other substantive exploration data	Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	
Further work	The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).	No further exploration work is currently planned.

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Criteria	JORC Code explanation	Commentary
	Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	

## **Section 3 - Estimation and Reporting of Mineral Resources**

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

Criteria	JORC Code explanation	Commentary
Database integrity	<ul> <li>Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.</li> <li>Data validation procedures used.</li> </ul>	<ul> <li>Field data was regularly emailed to a database administrator in Perth where information was captured to drillhole database management software (DataShed<sup>TM</sup>). Extensive reviews of the database were conducted by AFR consultants.</li> <li>Lithological and sampling intervals were compared against downhole geophysical logs. Suspected data entry errors were identified, investigated and where appropriate corrected.</li> <li>Laboratory generated CV and Ash data was plotted against CV and Ash generated from geophysical probe data as an additional quality control check.</li> </ul>
Site visits	Comment on any site visits undertaken by the Competent Person and the outcome of those visits.	<ul> <li>Competent Person for this resource, Lauritz Barnes, first visited the site in November 2010 - followed by two visits in 2011 (August and October) plus in February 2012. Site visits typically lasted for 1 to 2 weeks.</li> <li>Numerous site visits were also completed between 2010 and 2012 by senior personnel from AFR's independent geological coal specialist consultants, Gemecs Pty Ltd (South Africa) and Geofox Consulting CC (South Africa). Geophysical data was audited by specialist independent wireline logging consultancy, Wireline Workshop (South Africa).</li> <li>During site visits, all aspects of field activities including drilling practices, geological logging and sampling procedures and downhole logging were inspected. The same geologists and field supervisors using the same procedures for subsequent drilling programs including 2016.</li> </ul>
Geological interpretation	<ul> <li>Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.</li> <li>Nature of the data used and of any assumptions made.</li> <li>The effect, if any, of alternative interpretations on Mineral Resource estimation.</li> <li>The use of geology in guiding and controlling Mineral Resource estimation.</li> <li>The factors affecting continuity both of grade and geology.</li> </ul>	<ul> <li>The general procedure for geological evaluation of coal resources were as follows:         <ul> <li>Capture, verification and tabulation of borehole data.</li> <li>Determination of indicated geological trends and anticipated coal resource limits.</li> <li>Review of geological structures affecting the coal deposits and interpretation of geological structure (dolerite sills and dykes).</li> <li>Interpretation and review of borehole data (physical and chemical properties of the coal).</li> <li>Re-correlation of coal "zones" and seams/"plies" to conform to a "standard" nomenclature.</li> <li>Processing of borehole data in terms of Coal Seams and Coal "Plies".</li> </ul> </li> <li>Geological modelling was performed using GEOVIA Minex™.</li> <li>The coal seams modelled Sese Upper (SSU), Sese Top (SST), the Sese Seam (SS) and also the Sese Lower Seam (SSL). Due to its limited seam thickness, the SSL is excluded from the Sese coal</li> </ul>

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Criteria	JORC Code explanation	Commentary
		resource reporting.  • Sufficient confidence in the geological interpretation and continuity exist to support the classification of Measured, Indicated and Inferred Coal Resources.
Dimensions	The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.	The Sese Coal Resource strikes for approximately 40 x 10km and dips very gently to the south. The average depth to the SSU seam in the resource area is approximately 35m (minimum of 4m and maximum of 76m), while the average depth to the SST seam is 43m (minimum of 12m and maximum of 83m) and the SS seam is 50m (minimum of 11m and maximum of 94m). The package containing coal seems (including partings) extend vertically for approximately 100m.
Estimation and modelling techniques	<ul> <li>The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.</li> <li>The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.</li> <li>The assumptions made regarding recovery of by-products.</li> <li>Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).</li> <li>In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.</li> <li>Any assumptions behind modelling of selective mining units.</li> <li>Any assumptions about correlation between variables.</li> <li>Description of how the geological interpretation was used to control the resource estimates.</li> <li>Discussion of basis for using or not using grade cutting or capping.</li> <li>The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.</li> </ul>	<ul> <li>The General Purpose algorithm was used in all cases to create modelled grids for the various variables. The following parameters were modelled for each of the mineable coal seams and other relevant structural and coal quality features - RD (Relative density), CV (Calorific Value), AS (Ash), IM (Inherit Moisture), VM (Volatile matter) and TS (Total Sulphur. All qualities reported are on an airdried basis. FC (Fixed carbon) is reported as difference.</li> <li>Known basement areas were used to exclude coal resources</li> <li>The model was constrained by the project boundary, as well as the limit of coal intersections and borehole distribution. Grid expansion from the last known borehole was limited to 200m. A surface grid of the topography was created using the borehole collars only.</li> <li>A weathering surface determined by the limit of weathering as recorded in each borehole was created and used to exclude any coal intersecting this weathering surface.</li> <li>Basic statistical parameters were investigated for each coal seam and coal qualities. During the coal quality gridding process, raw coal quality estimations have been limited to the minimum and maximum of actual values. Lastly, the resource boundary and physical seam cut-offs (limit of weathering and coal sub-outcrops), as well as no coal areas were used to mask the final model to ensure the coal seam and quality model is confined to the coal areas only. Grids were checked against actual borehole data for any variations, as well as by means of numerous cross sections. The model is consistent with the borehole input and honours the borehole data and coal quality point values.</li> <li>To estimate various coal washability products, the Minex Coal Washability module was used. Coal washability products were produced for relative density intervals of F1.35, F1.40, F1.50, F1.60, F1.70, F1.80, and S1.90 and sinks for the SS, SSU, SST and SSL Seams. After the washability was carried out, coal quality grids of the various relativ</li></ul>

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Criteria	JORC Code explanation	Commentary
		<ul> <li>Prospecting Permit boundaries.</li> <li>A resource area defined by the maximum allowed 4km by 4km average drillhole spacing (see Diagram 2).</li> </ul>
Moisture	<ul> <li>Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.</li> </ul>	
Cut-off parameters	The basis of the adopted cut-off grade(s) or quality parameters applied.	<ul> <li>Coal quality cut-offs were applied to the In Situ tonnage estimation as follows:         <ul> <li>Composited seam thickness of greater than or equal to 1m.</li> <li>Ash (%) less than or equal to 50%.</li> <li>Calorific Value greater than or equal to 8 MJ/kg.</li> </ul> </li> <li>In addition, a further reduction in the reported resource has been applied for potential geological losses (Measured 2%, Indicated 10% and Inferred 15%). The reported resource is thus stated as Total Tonnes In-Situ (TTIS).</li> </ul>
Mining factors or assumptions	Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.	open pit mining.
Metallurgical factors or assumptions	The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.	demonstrated to be suitable feedstock for power generation and the potential also exists to create an export quality product through washing.
Environmental factors or assumptions	<ul> <li>Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well.</li> </ul>	associated coal mining and processing, so at the current stage of the project there are no limiting environmental factors.

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Criteria	JORC Code explanation	Commentary
	advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.	
Bulk density	<ul> <li>Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.</li> <li>The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.</li> <li>Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.</li> </ul>	<ul> <li>Air dried Apparent Relative Densities (ARD's) were determined at ALS Witbank using the standard Archimedes method.</li> <li>Weighted average densities were calculated for each seam at the points of observation. Densities for each seam were subsequently estimated to the Block Model using the applied Minex estimation algorithms.</li> </ul>
Classification	<ul> <li>The basis for the classification of the Mineral Resources into varying confidence categories.</li> <li>Whether appropriate account has been taken of all relevant factors (ie relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).</li> <li>Whether the result appropriately reflects the Competent Person's view of the deposit.</li> </ul>	<ul> <li>A Measured, Indicate and Inferred Coal Resource has been estimated for the Sese deposit. The resource adequately reflects the confidence as determined by the drill spacing and the geological model. Drill hole spacing within the reported resource area is at a minimum of 1km by 1km, with the Measured Resource areas drilled at 500m by 500m, including down to 350m in parts of Block C (Diagram 2).</li> <li>The confidence in the understanding of geological and coal seam model is high when considering the available drillhole data from the extensively drilled and modelled deposit.</li> <li>The Coal Resource estimate appropriately reflects the Competent Person's view of the deposit.</li> </ul>
Audits or reviews	The results of any audits or reviews of Mineral Resource estimates.	No 3 <sup>rd</sup> party reviews or audits of the resource have been completed, although it is noted that the resource estimation was completed by specialist resource modelling and estimation consultants external to The Company.
Discussion of relative accuracy/confidence	<ul> <li>Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.</li> <li>The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.</li> </ul>	Resource as per the guidelines of the 2012 JORC Code.

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Criteria	JORC Code explanation	Commentary
	<ul> <li>These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.</li> </ul>	