The company completed a 60-hole drill program (52 slimline and 8 large diameter (LD) boreholes) during Phase 1 drilling. The drilling program outlined eight sub-zones in a 35m – 40m thick composite carbonaceous unit deposited within a structurally controlled half-graben structure, approximately 12.5km in length and 4km wide. The coal-rich sub-zones have been intersected from sub-outcrop, less than 20m in depth, up to 250m below surface and consist of interbedded bright coal and carbonaceous mudstones. The low-density fraction from all the above sub-zones contains coal with coking characteristics.

Three sub-zones, namely S6, S8 and S12, are deemed by Universal Coal to be potentially commercial coking coal yielding horizons, exploitable by open cast mining methods.

- **Berenice-Cygnus**

Ownership: 40%, earn into 50% with option to 74%

Coal resource: 1.3Bt Gross mineable in-situ measured, indicated and inferred resource (7.9Mt measured)

Product: Soft coking coal

Exploration: Phase 2 drilling to upgrade resource to the Measured Category – Q2/2012

Project highlights: Phase 1 drilling has confirmed a shallow resource, consistently developed coking coal and thermal coal within three seams

Analyses of the core samples from the large diameter drill holes taken from the project have demonstrated that the coal can be classed as a high volatile, soft coking coal. Additional coking coal properties (FSI = 7, Roga = 85, Grey King = G9), high vitrinite content (85%) and very high maximum Fluidity (+20,000 ddpm) confirm this description.

IM %	Ash %	VM %	FC %	CV (Mj/kg)	S %	Phos %	FSI
2.05	11.75	36.0	50.2	30.1	1.00	0.009	7

Table 4.0 – Universal Coal's Project "Berenice" Coal Qualities.

2.3.4 Optimum Coal Limited – Mpefu Project

An exploration program on the farm Jazz 716 MS and Mining Corporation carried out Mpefu 202 MT during the latter part of 1979 and 1981. The program included geological mapping, percussion and core drilling. The Mining Corporation drilling program was comprehensive. A grid of holes was drilled on the farm Jazz and a partly completed grid on Mpefu. The spacing of the boreholes is about 500 metres.

The 22 boreholes drilled consist of a total of 555.6 metres of percussion drilling and 3883.72 metres of core drilling. The maximum depth of the boreholes is approximately 300 metres within the grid area, with one or two boreholes some 400 metres deep, to the south of a major fault.

Nkari Mining (Pty) Ltd obtained a Prospecting Right (new order) in March 2006. Nkari Mining (Pty) Ltd then entered into a sale of rights agreement with Point Blank Trading 122 (Pty) Ltd and the Minister granted consent for the transfer of the Prospecting Right on 19 August 2008. The name of Point Blank Trading 122 (Pty) Ltd was changed to Optimum Mpefu Mining and Exploration (Pty) Ltd in July 2009.

Optimum Mpefu Mining and Exploration (Pty) Ltd (OMME) began an exploratory drilling program of 35 boreholes in November 2008. Standard wash table analysis was concluded by Optimum Coal, identifying a potential coking coal yield at **23.5%**, with a combined yield of **57.3%** (Optimum Coal JSE listing document compiled by SRK Consulting in 2010).

Sound Mining Solutions (SMS), undertook a full modelling of the resource in September 2011 from electronic data compiled from the TNW slimline core program (28 holes) and from logs generated in the late 1970's by ISCOR. The overview study has produced a +90% SAMREC/JORC "Indicated" resource of 646mt GTIS (Gross Tonnes In-Situ) over 4 coal zones.

Seam	Area (m^2)	Average Zone Thickness (m)	GTIS	TTIS (15% Geol. Loss)	Product	RD	CV (MJ/kg)	IM (%)	Ash (%)	VM (%)	FC (%)	TS (%)
UZ1	1,316,941	6.36	16,746,180	14,234,253	Raw	2.00	10.18	1.58	61.67	14.36	22.39	1.42
					10.5 % Ash	1.56	27.11	1.79	9.43	25.21	63.57	1.08
					1.8 Wash	1.84	21.67	1.77	31.78	22.71	43.75	0.96
UZ	6,873,008	16.06	202,137,115	171,816,548	Raw	1.83	11.06	1.67	58.44	16.02	23.87	1.09
					10.5 % Ash	1.60	27.24	1.60	9.38	26.74	62.29	0.95
					1.8 Wash	1.88	22.01	2.05	31.48	23.49	42.98	0.85
MZ	7,222,071	28.62	351,869,408	299,088,997	Raw	1.70	15.65	1.34	47.48	20.30	30.88	1.07
					10.5 % Ash	1.70	27.06	2.09	9.56	26.01	62.34	0.72
					1.8 Wash	1.77	24.79	1.71	24.97	26.33	46.99	0.93
LZ	4,987,152	9.53	75,992,762	64,593,848	Raw	1.60	16.98	1.28	44.02	23.13	31.57	0.68
					10.5 % Ash	1.86	27.40	2.70	9.99	25.46	61.84	0.54
					1.8 Wash	1.75	25.58	1.55	22.97	27.54	47.94	0.77
TOTAL			**646,745,465**	**549,733,645**	**Raw**	**1.73**	**14.34**	**1.43**	**50.60**	**19.26**	**28.70**	**1.03**
					10.5 % Ash	**1.69**	**27.16**	**2.01**	**9.56**	**26.14**	**62.29**	**0.77**
					1.8 Wash	**1.80**	**24.00**	**1.79**	**26.79**	**25.56**	**45.85**	**0.89**

Table 5.0 – Optimum's Project " Mpefu" Coal Qualities.

2.3.5 Exxaro – Tshikondeni Colliery

Located some 140 km east of Musina in Limpopo province, this underground mine employs 770 people and currently produces 414 ktpa of premium hard coking coal. Conventional board and pillar extraction methods are used and coal is beneficiated using cyclones, spirals and froth flotation. The beneficiated product is trucked to Musina and railed to Mittal SA's works at Vanderbijlpark under a long-term agreement at the cost of production plus a management fee of 3%. The mine has coal reserves of 6 Mt and a resource of 36 Mt.

Tabled below are the historic coal qualities produced by the mine.

CV MJ/kg	Gross CV	Moist %	Ash %	Vols %	FC %	Sulphur %
31.62	31.54	0.8	12.3	22.5	64.4	0.85

Table 6.0 – Tshikondeni's Historic Coal Qualities.

3.0 INTERPRETATIONS AND MODELLING

Due to the lack of borehole information and analytical data, one can only predict and infer depth and thickness from the existing projects in the region. It is not possible to do any resource modelling but one can estimate a very conservative coal resource based on three economic seams, similarly to all other exploration projects in the region, with an average thickness of 3.0 m over the farm areas that are covered by the Karoo lithology.

It is possible, due to the faulted nature of the coalfield, that some coal zones can be faulted upwards to yield shallow and openpitable coal seams. It is known that the dips are to the north but strike faults may also have resulted in unfaulted blocks of shallow coal where mining can take place along strike.

Current knowledge of the coalfield has shown that areas of Karoo lithology generally yield potential coal seams (*Fig 1.8*). Therefore the project surface area containing Karoo sediments was determined and multiplied by the postulated average thickness and RD to determine the tonnes per seam. (*Table 7.0*) illustrates the potential coal resource for unconstrained coal zones for the projects.

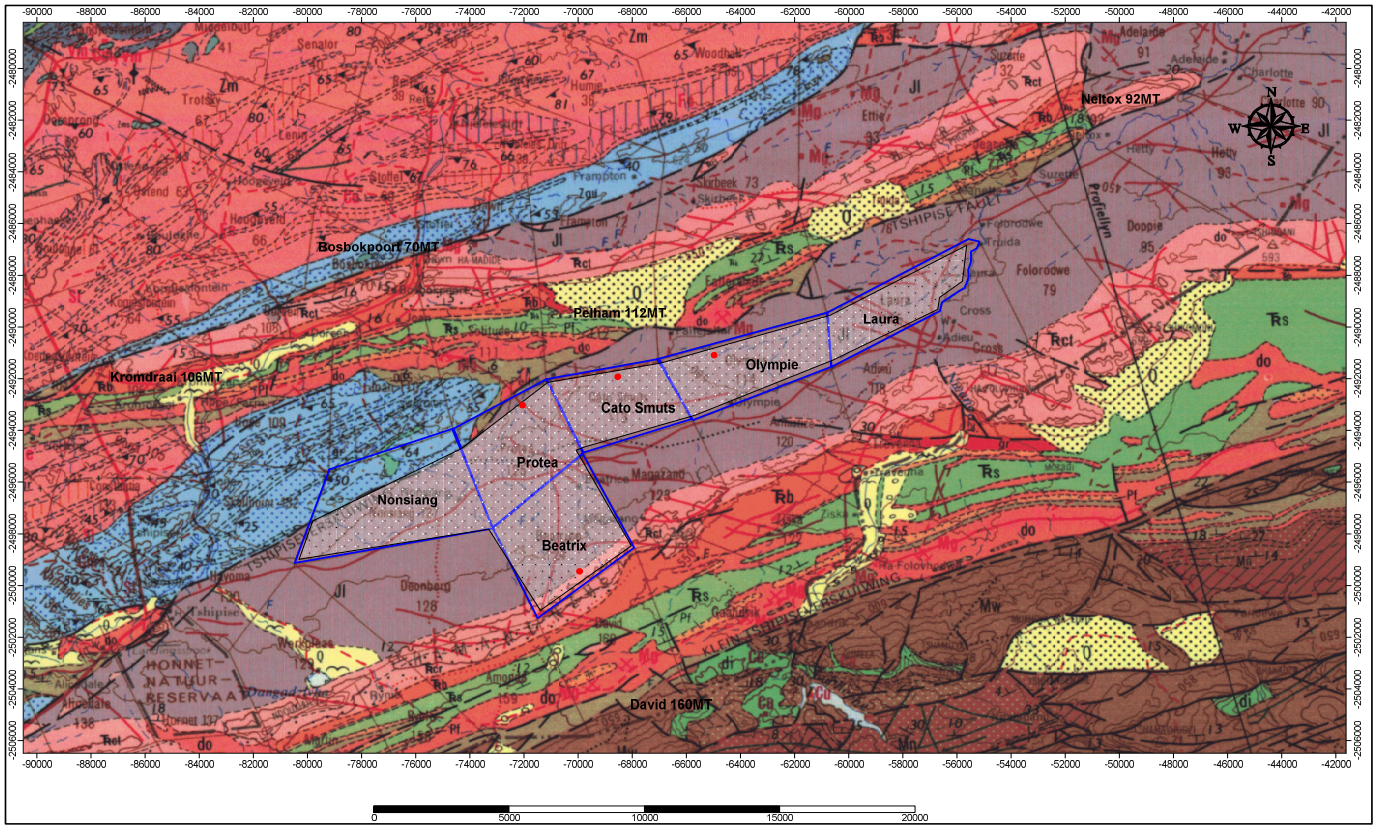


Fig 1.8 - Karoo Coverage and Potential Resource Areas (Karoo occurrences are hatched).

Farm	Area (sq m)	Thickness	Seams	RD	Potential GTIS
Tshipise2	75,475,000	3	3	1.75	1,188,731,250
Total					**1,188,731,250**

Table 7.0 - Potential, Unconstrained Coal Resources.

4.0 RESOURCE AND RESERVE CLASSIFICATION CRITERIA

In assessing the status of classifiable Coal Resources, the company will utilized the terms and definitions as proposed by The South African Code for reporting of Mineral Resources and Mineral Reserves (SAMREC Code 2008) for reporting of Coal resource estimates.

This code refers the Competent Person to the classification scheme stipulated in the South African National Standard (South African guide to the systematic evaluation of coal resources and coal reserves, SANS10320:2004).

This Standard specifies the classification scheme for coal resources based upon the amount of information available on a particular deposit. The Standard divides coal deposits into two types, namely; *thick Interbedded deposits* and *multiple seam deposits*.

The Soutpansberg coal can be classified as a thick Interbedded deposit.

Principally, the main criteria for classification is based on the number of boreholes intersecting a particular coal zone(s), within a specified area, and the confidence in projecting the coal quality across each seam is based on the analyses performed on samples taken from the cores of the individual borehole intersections (*Table 8.0*).

	FOR THICK INTERBEDDED SEAM DEPOSITO > 65% ASH		FOR MULTI SEAM DEPOSITO < 50% ASH	
RESOURCE CATOGORY	MAX DISTANCE BETWEEN BH's (m)	NO BH's PER Ha	MAX DISTANCE BETWEEN BH's (m)	NO BH's PER Ha
Measured	350	8 bh/100ha	350	8 bh/100ha
Indicated	1000	1 bh/100ha	500	4 bh/100ha
Inferred	3000	1 bh/1000ha	1000	1 bh/100ha
Reconnaissance	4000	1 bh/1600ha	2000	1 bh/400ha

Table 8.0 - SANS recommended classification of coal resources

5.0 FUTURE EXPLORATION

The first stage of exploration will include a "scout" drilling program with a grid of about 2 km. This will determine the position of the coal seams for budgeting purposes before embarking on a full exploration program. This could exclude core drilling at this stage but PCD-open hole drilling with down hole wireline geophysics will suffice to indicate the depth and thickness of the coal zones.

Follow-up Triple Tube (TT) core drilling will be done once there is confirmation of the existence of the coal zones. A number of cored holes will be drilled and all the coal intersections sampled and analysed by accredited laboratories.

Analysis will cover:

- Mass and raw Relative Density (RD).
- Analysis of the -0.5 mm fractions for "Proximate" analysis:

    a. Calorific Value (CV)
    b. Volatile Matter (VM)
    c. Ash (A)
    d. Inherent Moisture (IM)
    e. Fixed Carbon (FC)
    f. Total Sulphur (TS)
    g. Phosphorus (P)
    h. Free Swelling Index (FSI)
    i. Roga

- Full float and sink tests at densities varying from 1.35 to 1.80, for the creation of a Raw Wash Table.

Potential coking coal samples will be gathered from a Large Diameter (LD) drilling program during the Feasibility Study and will be analysed for specialised tests that include:

a. Grain size analysis
b. Forms of Sulphur
c. Ash fusion temperatures
d. Ash analysis
e. Ultimate analysis
f. Chlorine
g. Grindability
h. Abrasiveness
i. Roga / CSN
j. Dilatometry
k. Plastometry (Fluidity)
l. Petrographic analysis (coal rank)
m. Trace elements and acid based analysis.
n. CSR

6.0 TECHNO-ECONOMIC STUDY

6.1 Governmental

It is assumed that all legal requirements are met and that the license holders are in good standing order with the authorities.

6.2 Environmental

The exploration should have be done within the guidelines and prescriptions of an approved Environmental Management and Programme and Rehabilitation document. For any future mining to take place, another environmental document will replace the current EMPR for exploration. It is known that the prospecting areas are in sensitive areas but that good governance during exploration can prevent any damage to the environment.

6.3 Social

This aspect was covered in a Social and Labour plan approved by the DMR during the license application.

6.4 Mining

This report is not covering any mining aspects and is purely focussing on exploration.

6.5 Treatment and Processing

All recovered coal cores will be submitted to a recognised coal laboratory for washability analyses. This data will form the basis for coal processing designs.

6.6 Infrastructure

Detailed infrastructure studies will be covered during further studies. There is a well developed road and rail network close to or on the boundaries of the properties.

6.7 Economic Criteria

It is too early to determine the economic viability of the project. This aspect could be covered once an exploration programme has been completed and the resource size and qualities are known.

6.8 Marketing

Possible markets for the coking coal are the metallurgical industry, exports and local power stations. Further studies are needed and are beyond the scope of this report.

7.0 RISK ANALYSIS

The majority of risks are associated with the deposit and not so much with external factors. Listed are a few of the obvious risks associated with the project:

- Seam continuity. The faulted nature of the coalfield may result in coal seams on the properties being discontinuous on strike. This could have a negative impact on underground mining and potentially on openpit mining if the seams are displaced to a much deeper level.
- Unknown geological structures. It is possible that more dolerite sills and dykes occur than expected. Small scale faults might be a problem during underground mining.
- Seam thickness continuation. At this stage the seam thicknesses are unknown but a slight thickness change in a thin seam has an effect on the resource size. It appears that the regional zones are quite thick which mitigates this risk slightly.
- Quality distribution. This can be only regarded as a high risk once the coal qualities are known and it become apparent that there are coal quality changes.
- Price fluctuations. The Rand coal price is dependent on both the US Dollar exchange rate and the export coal price. Inland coal prices are export parity dependent and influenced by the same factors. Detailed risk analysis will be conducted during further studies. International companies are not affected by any exchange rate fluctuations as most of the revenue stays abroad.
- Potential mine nationalisation. This is a recent threat and will be debated in 2012 during the national convention of the ruling party.

8.0 AUDITS AND REVIEWS

There were no external audits performed, as there is no borehole data to audit.

9.0 OTHER CONSIDERATIONS

Abbreviations.

- "CPR". Competent Persons' Report.
- "DMR". Department of Mineral Resources.
- "EMP". Environmental Management Programme.
- "EMPR". Environmental Management Programme Report.
- "RD". Relative density measured in g/cm^3.
- "SAMREC". South African Mineral Resource Committee.
- "SAMVAL". South African Mineral Valuation Code.

Definitions.

- "Soutpansberg Coalfield". A coal bearing region in the Coal Basin of the Karoo System in South Africa.
- "in situ tonnage". Measure of mass of coal in the ground containing inherent moisture.
- "SAMREC". South African Code for Reporting of Mineral Resources and Mineral Reserves.
- "Borehole log". A graphical representation of the information revealed by vertical diamond drilling.
- "CPR". Competent persons report (defined in SAMREC and JORC).
- "Bituminous coal". A medium quality coal mostly used in for raising steam for the generation of electricity.
- "Anthracite". A high quality low volatile coal used as a reductant in the metals industry and for low smoke fuels.
- "RAW". Quality of the whole coal that has not been beneficiated.
- "CV". Calorific Value is a measure of contained heat measured in MJ/kg.
- "Ash". Is a measure of the non combustible material in coal expressed as a percentage.
- "Vols". Volatile or (combustible gasses in coal) expressed as a percentage.

- "Moisture". Inherent water content in coal expressed as a percentage.
- "Yield". The amount of coal of a certain quality expressed as a percentage of whole coal after beneficiation.
- "Borehole". Core or chips extracted from a cylindrical hole during drilling.
- "Analyses". Chemical properties of a coal sample.
- "Beneficiation". The separation of non coal and poor coal in a floatation process.
- "Audit". Checking mechanisms to verify the veracity of results .
- Ha or "Hectare". A measurement of area 100 metres by 100 metres.
- "Borehole log". A graphical representation of the information revealed by vertical diamond drilling.
- "Proximate analyses". Laboratory determinations of the percentages of Moisture, Ash, Volatiles and Fixed Carbon.
- "Analysis". Chemical and physical properties of a coal sample.

10.0 QUALIFICATIONS OF COMPETENT PERSONS AND OTHER KEY TECHNICAL STAFF.

PC Meyer Consulting is a South African based consultancy that has as its sole proprietor Petrus Cornelius Meyer, a registered natural scientist (Pr. Sci. Nat, Reg. No. 400025/03), familiar with and adheres to the South African Minerals and Petroleum Resources Development Act of 2002 (ACT No. 28 of 2002) and the 2007 SAMREC code. PC Meyer Consulting is an independent Geological Consultancy, advising a number of coal companies in South Africa and abroad and will be paid a normal consulting fee for the generation of this report.

PC Meyer Consulting and its proprietor have no equity or interest in any of the mentioned companies or any of their subsidiaries. The independence of PC Meyer Consulting is assured by the fact that it does not hold control in any project and mainly derives income from geological work. PC Meyer Consulting also uses as associates a number of suitably qualified and registered geologists and surveyors to conduct field work and manage exploration programmes on its behalf. None of our associates holds control in any of the projects or companies mentioned in this report.

The consultancy has done work before on this coalfield.

- **PC MEYER**

The author has more than 21 years experience in the South African Coal Industry and holds B.Sc. Hons. (Geology) and M.Sc (Earth Science Practice and Management) degrees from the University of Pretoria. He is an active member of the Geological Society of South Africa and the Fossil Fuel Foundation.



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