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SOUTHGOBI RESOURCES LTD

COAL GEOLOGY AND RESOURCES, SOUMBER DEPOSIT, MONGOLIA

FINAL

Technical Report

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1 EXECUTIVE SUMMARY

SouthGobi Resources Ltd (SGQ) holds the Mongolian Exploration Licence (MEL) 9443X covering the Soumber and Biluut fields in southern Mongolia. The Soumber field is approximately 20 kilometres east of the SGQ Ovoot Tolgoi Mine. Both fields are located in the southwest corner of the Umnugobi Aimag (South Gobi province), approximately 320 kilometres southwest of the provincial capital of Dalanzadgad, 950 km south of the nation's capital Ulaanbaatar, and approximately 45 kilometres north of the Mongolia-China border.

This report has been prepared by Minarco-Mineconsult (MMC) at the request of SGQ in accordance with Canadian National Instrument 43-101. The purpose of the report is to update the estimate of Resources after recent exploration activities. The estimate of Resources for the Soumber field was last reported in October 2009. No estimate of Resources for the Biluut field has previously been reported.

The Soumber and Biluut coal deposit occurs in Upper Permian strata, which are generally structurally disturbed with complex faulting and folding. The deposit occurs along the Nariin Sukhait thrust fault.

The Soumber field includes 6 major seam groups – the 0, 1, 2, 3, 4 and 5 Seams (from the base upwards). Approximately 50% of the Resources are contained in the 2 Seam, which averages 4.5m in true thickness. All seam groups consist of a number of coal plies of highly variable thickness, separated by stone partings. Interburden between the seam groups is mainly sandstone and conglomerate, whilst partings within the seam groups tend to be dominated by mudstone and carbonaceous mudstone. The seams dip at 30 to 60 degrees southwards, although complex folding is common.

Three major seams have been identified at Biluut – the 21, 22, and 23 Seams (from the base upwards). Correlation of these seams with Soumber has not been undertaken. Approximately 60% of the Resources are contained in the 22 Seam, which averages 5.5m thick. The seams dip at 30 to 50 degrees southwards.

The Soumber and Biluut coal is low to medium volatile bituminous, with average raw ash generally ranging from 16-30% and calorific value 5000-7800 kcal/kg. Total sulphur is generally less than 1%, although averages for plies of the 2 seam at Soumber range from 0.4-1.4%. Several of the seams at Soumber and Biluut have average Free Swelling Index (FSI or CSN) values greater than 4, indicating metallurgical properties. Limited metallurgical testing has been undertaken to date, but it is anticipated that a blend or washed coking coal will be produced from the Deposit.

Geological models for both Soumber and Biluut have been updated in 2010. Open pit Resources have been estimated to a depth of 250m, and incorporate all 2010 drilling results. Resources for the Soumber field are summarised in Table 1.1 and for Biluut in Table 1.2.



Resources have increased substantially since the last estimate, due to an extensive exploration program in 2010.

Summary of Soumber Resources 25th January 2011

Seam group	Measured Mt	Indicated Mt	Inferred Mt
5	5.10	1.74	2.23
4	4.82	2.16	2.44
3	4.53	2.97	0.71
2	19.17	15.60	6.54
1	1.47	0.96	1.44
0	1.68	1.18	0.27
Total	36.78	24.62	13.62

Table 1.2

Summary of Biluut Resources 25th January 2011

Seam group	Inferred Mt
23	6.82
22	35.43
21	10.00
Total	52.24

"Potential coal tonnage" has been estimated where drillhole coverage is insufficient for resource classification under the NI43-101 ruling (Table 1.3 and Table 1.4). MMC cautions that the potential coal tonnage is conceptual in nature, that there has been insufficient exploration to define a Mineral Resource and that it is uncertain if further exploration will result in the target being delineated as a Mineral Resource.

Table 1.3

Soumber Field "Potential Coal Tonnage" 25th January 2011

Seam Group	Tonnage Estimate Range	(Mt)
	From	То
5	18	25
4	1	4
3	3	8
Total	22	37

Table 1.4

Biluut Field "Potential Coal Tonnage" 25th January 2011

Seam Group	Tonnage Estimate Range (N	ſt)
	From	То
23	4	8
22	9	12
21	9	12
Total	22	32

Exploration work on the Soumber Deposit is still ongoing. Further drilling downdip on existing traverse lines will enable the status of the "potential coal tonnage" to be upgraded. The Soumber and Biluut fields resource enhances the assets held by SGQ in the Umnugobi Province of Mongolia.

2 INTRODUCTION AND TERMS OF REFERENCE

2.1 BACKGROUND AND SOURCES OF INFORMATION

Minarco-MineConsult (MMC) was requested by SouthGobi Resources Ltd (SGQ) to provide a Technical Report that meets the requirements of the Canadian National Instrument 43-101 ("NI 43-101"), for the Soumber and Biluut fields in Mongolia. This report has been prepared in accordance with the guidelines provided in the NI 43-101, Standards of Disclosure for Mineral Projects, dated December 23, 2005. The Qualified Person responsible for this report is Ms Merryl Peterson, Principal Geologist for Runge Limited. Minarco-MineConsult is a trading division of Runge Limited.

This Technical Report relies on data collected on the Soumber and Biluut fields through to November 2010 by the following entities:

- SGQ in conjunction with Sapphire Geo Ltd (Sapphire)
- Norwest Corporation (Norwest), of Salt Lake City, USA
- Ivanhoe Mines Mongolia Inc (IMMI)
- McElroy-Bryan Geological Services (MBGS)

Additional data has been gathered from previous Mongolian government studies at Soumber. Portions of this report that do not require updating have been extracted from previous Norwest and SGQ NI 43-101 reports. Norwest was present during 2005 to 2009 exploration programs and has provided QP verification of that data, whilst McElroy Bryan was present during the 2010 exploration programs. The author has reviewed and evaluated all geological and technical information currently available, and summarised this information within this technical report prepared in accordance with NI 43-101. SGQ has provided the author with all geological, geotechnical, and quality data information, including previous technical reports prepared by Norwest and SGQ.

The Soumber and Biluut fields were visited by the author from 18th to 22nd November 2010. A number of the drill sites were inspected and coordinates checked.

2.2 TERMS OF REFERENCE

The following terms of reference are used in the Technical Report:

- SGQ refers to SouthGobi Resources Ltd;
- MMC refers to Minarco-MineConsult and its representatives; and
- Project refers to the Soumber Deposit, consisting of the Soumber and Biluut fields, located in Mongolia.

Resource and Reserve definitions are as set forth in the "Canadian Institute of Mining, Metallurgy and Petroleum, CIM Standards on Mineral Resource and Mineral Reserves – Definitions and Guidelines" adopted by CIM Counsel on December 11, 2005.

2.3 QUALIFIED PERSONS AND RESPONSIBILITIES

The estimation and reporting of Mineral Resources in this Technical Report complies with the requirements of the Canadian NI 43-101 of the Canadian Securities Administrators. Therefore it is suitable for public reporting.

The information in this Technical Report that relates to Mineral Resources is based on information compiled by Ms Merryl Peterson who is a full time employee of Runge Limited, of which MMC is a trading division, and she is a Member of the Australasian Institute of Mining & Metallurgy ("AusIMM"). Ms Peterson has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration, as well as the work she has undertaken, to qualify as a Qualified Person as defined by NI 43-101.

2.4 LIMITATIONS AND EXCLUSIONS

This Technical Report has been produced by MMC using information made available to MMC as at the date of this Technical Report and the findings, information and conclusions therein only apply as at this date. MMC has not been engaged to update its Technical Report in relation to any information that may have been provided or changed subsequent to the date of this Technical Report.

MMC only accepts responsibility for the content of this Technical Report in relation to those parts prepared by MMC.

MMC has relied upon other reports, opinions or statements of other qualified persons and other experts, for information concerning relevant issues and factors relevant to this Technical Report. The extent of MMC's reliance and the relevant portions/sections of the Technical Report the subject of this reliance are detailed in Section 3 below.

The work undertaken for this Technical Report is that required for the preparation of a technical report including reviews of technical information, coupled with such inspections as deemed appropriate by MMC. Inspections were conducted by Ms. Peterson on the 18th to 22nd of November 2010.

MMC has also specifically excluded any analysis or opinion of the competitive position of the Project compared with other similar and competing coal producers around the world.

Intellectual Property

All copyright and any other intellectual property rights in this Technical Report are retained by and are the property of MMC.

Mining Unknown Factors

The ability of the operator, or any other related business unit, to achieve forward-looking production and economic targets is dependent on numerous factors that are beyond the control of MMC and cannot be fully anticipated by MMC. These factors included site-specific mining and geological conditions, the capabilities of management and employees, availability of funding to properly operate and capitalise the operation, variations in cost elements and market conditions, developing and operating the mine in an efficient manner, etc. Unforeseen changes in legislation and new industry developments could substantially alter the performance of any mining operation.

2.5 CAPABILITY AND INDEPENDENCE

MMC provides advisory services to the mining and finance sectors. Within its core expertise it provides independent technical reviews, resource evaluation, mining engineering and mine valuation services to the resources and financial services industries.

All opinions, findings and conclusions expressed in this Technical Report are those of MMC and its specialist advisors as outlined in chapter 2.3.

Drafts of this report were provided to SGQ, but only for the purpose of confirming the accuracy of factual material and the reasonableness of assumptions relied upon in this Technical Report.

MMC has been paid, and has agreed to be paid, professional fees based on a fixed fee estimate for its preparation of this Report.

This Technical Report was prepared on behalf of MMC by the signatory to this Technical Report.



3 RELIANCE ON OTHER EXPERTS

MMC in the preparation of this Technical Report has relied on other reports, opinions or statements of other qualified persons and other experts, for information concerning relevant issues and factors relevant to this Technical Report. The extent of MMC's reliance and the relevant portions/sections of the Technical Report the subject of this reliance are detailed below.

• Norwest Corporation:

Technical Report Soumber property, Omnigovi Aimag, Mongolia, October 21, 2009, drafted and prepared by Richard Tifft of Norwest Corporation as footnoted and referenced within this Technical Report and detailed in the List of References to this Technical Report.

• McElroy Bryan Geological Services Pty Ltd:

The Geological Model on which the Resource Estimation was based upon:

- The Geological Model for Soumber was created by Marcos Axelsson of McElroy Bryan Geological Services Pty Ltd; and
- The Geological Model for Biluut was created by Marcos Axelsson of McElroy Bryan Geological Services Pty Ltd.

MMC was not retained to undertake any geological modelling work. The above Geological Models were provided to MMC by SGQ.

MMC was not retained to audit the above Geological Models and accordingly, MMC has not audited those Geological Models.

SGQ:

Verbal and visual geological information, geological data and geological studies were provided to MMC by SGQ staff.

4 PROPERTY DESCRIPTION AND LOCATION

4.1 LOCATION

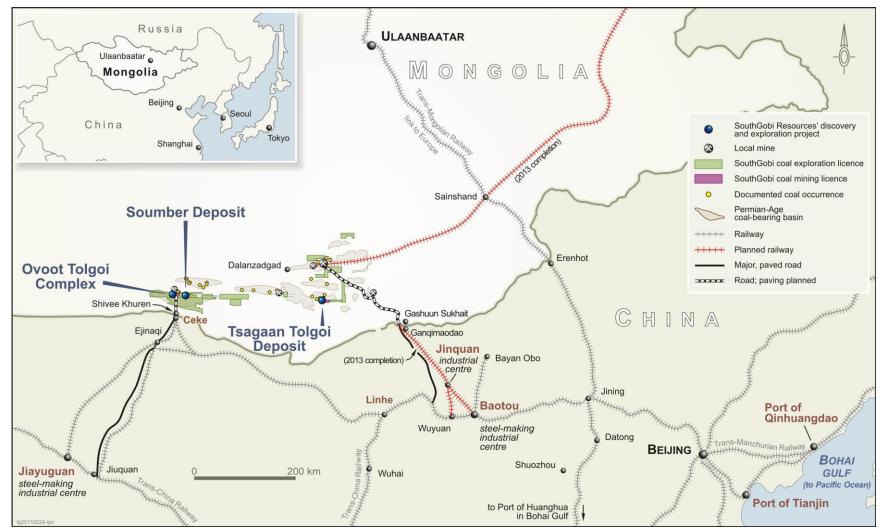
The Soumber and Biluut fields are located in the southwest corner of the Umnugobi Aimag (South Gobi province), approximately 320 kilometres southwest of the provincial capital of Dalanzadgad and 950 km south of the nation's capital Ulaanbaatar (Figure 4-1). Soumber is approximately 20 km east of the SGQ owned and operating Ovoot Tolgoi mine, whilst Biluut lies immediately to the east of Soumber. Soumber is approximately 45 kilometres north of the Mongolia-China border and the Ceke border crossing. Ceke, in the People's Republic of China, is the main distribution centre for Ovoot Tolgoi coal.

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Figure 4-1







4.2 OWNERSHIP

Previous work at Soumber was conducted under the property control of Ivanhoe Mines Ltd (IMMI). The coal division of IMMI and all its coal exploration licences were sold to SouthGobi Resources Ltd (SGQ) (formerly Asia Gold Corporation (Asia Gold)) in 2007.

SGQ holds its interest in the Soumber Deposit through its 100% owned subsidiary SouthGobi Sands LLC (SGS), the operating company under SGQ, which is a Mongolian-registered company that holds the licenses and permits to the Soumber Deposit.

The Mongolian government grants Exploration Licenses for a period of three years with the right to extend the period twice for three additional years each. Exploration license holders are subject to various environmental protection obligations. Following a successful exploration program, an exploration license holder can apply for a mining license over any portion of the exploration license.

The exploration license was initially granted to IMMI on December 28, 2002 (inception date), who transferred it to SGS on February 22, 2007. The Mongolian Mineral Exploration License (MEL) Certificate issued by the Mineral Resources Authority of Mongolia (MRAM) documents that license fees were paid by SGQ and the license kept in good standing. All lease documentation reviewed by the author indicates that the MEL was unencumbered when transferred to SGQ.

License coordinates for MEL 9443X have been changed twice since the time of its inception in 2002. A part of adjacent license 5264X was transferred to 9443X in March 10, 2005. Ovoot Tolgoi mining license 12726A was granted to SGQ in September 20, 2007 and the west portion of the license 9443X was added into adjacent mining license 12726A on September 20, 2007.

The coordinates are defined in the document "Certificate of Exploration License" issued by T. Zanashir, Chairman of the Mongolian Office of Geology and Mining Cadastre, a division of MRAM. A copy of the certificate was supplied to MMC by SGQ. MMC has reviewed the License Certificate and the legal reviews, plus made an independent check of the MRAM license database. All show SGS to be the unencumbered owner of the license. MMC is not aware of any other encumbrances on the property.

The MEL covering the Soumber Deposit was extended to December 28, 2005, the second term/first renewal was granted and extended to December 28, 2007, and expired on December 28, 2010. The third renewal has been granted to December 28, 2011.

Following a successful exploration program, an exploration license holder may apply for a mining license to any portion of the exploration license. A mining license is granted for a period of 30 years, with the right to extend the period twice for 20 additional years with each extension. Under the Mineral Laws of Mongolia (Article 21) an exploration license holder has the exclusive right to obtain a mining license for any part of the exploration license area. SGS are planning to convert a portion of the MEL into a Mining Licence over the course of 2011.

Current policy stipulates that any coal extracted and sold during exploitation is subject to a royalty rate of 2.5% and 5% of the sales value for domestic and international sales, respectively. MMC is not aware of any other royalties that may apply to this property.

The Soumber and Biluut Deposit consists of a single exploration license, MEL 9443X, totalling 34,882ha, with boundary corners at the coordinates shown in Table 4.1, and as shown in Figure 4-2.

Table 4.1

License	Liconaca	Inception	Inception Expiry Date Date	iry License Coordinates			Area	Mineral
Number	Licensee	Date		Corner	Easting	Northing	Hectares	Interest
				1	101º20'40"	43º01'20"		
				2	101°35'00"	43°01'20"		
	SouthGobi	SouthGobi 28 Dec	28 Dec	3	101°35'00"	42°59'58"		
				4	101°43'00"	43°00'00"		
0.4.40)/				5	101°43'00"	42°59'00"	04.000	100%
9443X	sands, LLC	2002	2011	6	101°50'00"	42°59'00"	34,882	Coal
				7	101°50'00"	42°56'00"		
				8	101º16'30"	42°56'00"		
				9	101°16'30"	42º58'15"		
				10	101°20'40"	42º58'15"		

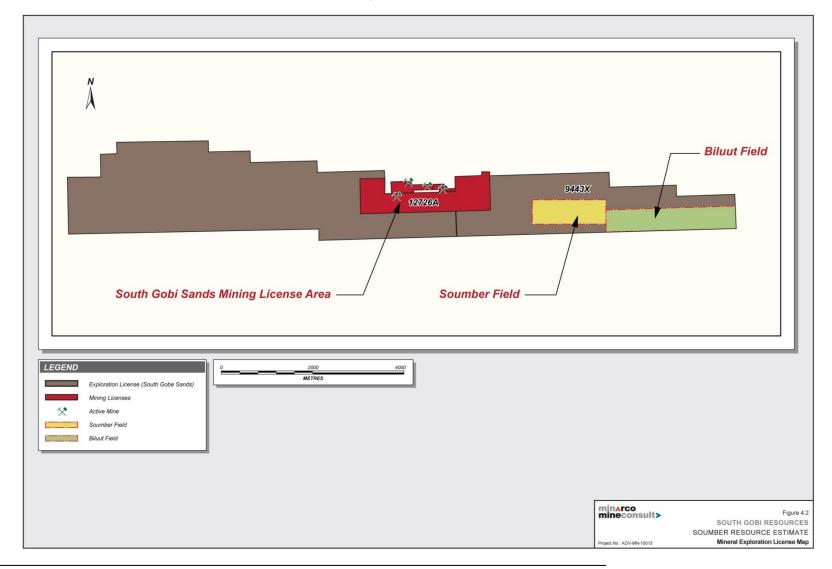
Soumber and Biluut Exploration License Description

In order to maintain a Mineral Exploration Licence an annual renewal fee is paid. An annual exploration plan and associated Environment Protection Plan must be submitted and approved, and a minimum exploration activity is required each year. Additionally a report of the exploration activity must be submitted by January 31 of the following year. From discussions with SGQ, MMC understands that SGQ has complied with all these requirements. Page 12



Figure 4-2

SGQ Mining Exploration Licence 9443X





4.3 ENVIRONMENTAL LIABILITY AND PERMITTING

Exploration license holders are also subject to various environmental protection obligations. Within 30 days of receipt of a license, the holder must prepare an environmental protection plan. The holder is required to notify the local governing body (soum) of annual exploration plans, and must submit a bond consisting of 50% of the estimated cost of any ground reclamation for each year's activities. MMC is not aware of any existing environmental bonds or liabilities for this property.

The Mongolian Minerals Law (2006) and Mongolian Land Law (2002) govern SGQ's exploration, mining, and land use rights for the Ovoot Tolgoi project. Water rights are governed by the Mongolian Water Law, and the Mongolian Minerals Law. These laws allow licence holders to use the land and water in connection with exploration and mining operations, subject to the discretionary authority of Mongolian national, provincial, and regional governmental authorities as granted under Mongolian law.

Currently no known environmental, permitting, legal, title, taxation, socioeconomic, marketing, political, or other relevant issues that may materially affect the potential mining of coal exist within the confines of the SGQ exploration license area.



5 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

5.1 LOCATION

The Soumber and Biluut fields are located in south-central Mongolia, approximately 45 km north of the China border. The deposit is within the administrative unit of Gurvantes Soum, Umnugobi Aimag (South Gobi Province).

Population centres and transportation infrastructure in proximity to the deposit are illustrated in Figure 4-1. The Umnugobi Aimag is the most sparsely populated province in Mongolia with less than one person/km².

5.2 CLIMATE AND PHYSIOGRAPHY

The region experiences a continental desert climate. Temperatures range from 0° to -30°C in the winter and from 30° to 35°C in the summer. High winds frequently occur throughout the spring. Average annual rainfall is 130mm with most precipitation occurring during the summer months. The weather is acceptable for exploration activities from mid-March through October. The climate allows year-round mining operations.

The Umnugobi Aimag is within the physiographic region of the Gobi Desert. The topography of the deposit varies from flat, gravel-covered plains to moderately hilly terrain. Surface elevation ranges from 1,510 to 1,570m above sea level.

Vegetation is sparse, consisting primarily of small shrubs and grasses. The area currently supports a traditional subsistence economy focused on raising sheep, goats and camels.

5.3 ACCESSIBILITY AND INFRASTRUCTURE

All parts of the property are accessible with four-wheel-drive vehicles.

A regular air service is available from Ulaanbaatar to Dalanzadgad, whilst travel from Dalanzadgad to the property takes approximately seven hours over unpaved roads In 2007 SGQ constructed an on-site airport at the Ovoot Tolgoi Mine. The Soumber deposit is now accessible via daily week day chartered aircraft from Ulaanbaatar for personnel access and bringing in supplies.

A rail line connects the Ovoot Tolgoi Mine with the interior of China.. The railroad terminus is approximately 45 km south of the Ovoot Tolgoi Mine. Coal trucks travel overland from the Ovoot Tolgoi Mine and neighbouring MAK coalmine to the railroad terminus and coal distribution areas located just south of the Chinese border. Soumber coal will be able to use the same distribution network.

Electrical power for the Ovoot Tolgoi Mine camp and shop complexes is initially being supplied by diesel generators. A powerline runs from China to Gurvantes Soum, supplying electrical power to the area (Figure 4.1). In the future, power will be supplied from power lines. It is expected that a similar arrangement for the supply of electrical power will be used for the Soumber operations.

No surface water is currently available in the immediate area of the Soumber and Biluut fields. Water for the Ovoot Tolgoi mine camp and shop complexes is being supplied from water supply wells drilled near each location as part of hydrological investigations. The infrastructure plans include water treatment to allow well water to be used for potable purposes. Until the treatment plant is complete, bottled water is being used for potable purposes.

There is sufficient area within the MEL to locate waste disposal without impacting in-place resources, to site mine facilities including coal handling and processing (wash) plant, if necessary.

6 HISTORY

The first geologic investigations at Soumber region occurred between 1951 and 1952. This initial geologic investigation led by V.S. Volkhonina (1952), included mapping at a scale of 1:500,000. Additional mapping by Burenkhuu (et al 2004) identified the coal bearing Upper Permian Deliin Shand formation as having significant occurrences of bituminous coal.

In mid-2000, IMMI conducted geology reconnaissance in the region of existing Ovoot Tolgoi resources and discovered a number of coal occurrences, mostly along the structural trend of the existing resources.

Coal was first identified approximately 20km east of Ovoot Tolgoi property during the 2005 exploration program by Norwest and Sapphire Geologic Group and informally named as "N field". Another coal occurrence was discovered during that time and named as "O field". In 2006, the exploration area was extended to the east of N field and referred to as N field extension.

The "N", "O" and "N Extension" fields have been recently designated the Soumber coal field. The name, according to SGQ, was proposed by the Buddhist Purevbat Lama of Mongolia and means "beginning of the universe."

IMMI initiated the first exploration in 2005 on MEL 9443X, in the western part of the Soumber field. In 2006, exploration was mainly focused on the central part of the Soumber area. 62 holes were drilled during the 2005 and 2006 period that confirmed the potential for a significant coal deposit. Norwest provided oversight for these holes that would bring the data collection, core sampling and handling to international standards.

SGQ continued the drilling program on the Soumber in 2007 and 2008, completing 121 drill holes, totaling 24,512 meter of drilling. In addition, SGQ conducted a geotechnical and hydrological program in the Central Soumber area in 2009, drilling 6 holes totalling 1333 metres of drilling. Norwest and Aquaterra, an international water and environment consultancy, were charged respectively to provide an oversight for these programs.

An NI43-101 resource estimation report was prepared for the Soumber area by Norwest in October 2009.¹

In 2010 exploration continued, with 65 holes being drilled, consisting of 25 cored holes and 40 open holes, totalling 10,468 metres of drilling.

During the 2005 exploration program, 12 holes were drilled at Biluut, for 1,648m of drilling. Exploration continued with 17 holes drilled in 2008 for 4,901m of drilling, and 67 holes in 2010 for 13,958 drilling.

The property remains a Mineral Exploration License and has not been converted into a Mining License. There has been no production from the property to date.

¹ Norwest Corporation, Technical Report Soumber Property, Omnigovi Aimag, Mongolia, October 2009, p.8-1

7 GEOLOGICAL SETTING

7.1 REGIONAL GEOLOGY

The South Gobi region of Mongolia has a geologic history of continental accretion and Basin and Range style crustal extension followed by compressional folding and faulting. The region is dominated by elongate, east-west trending mountain ranges and intervening basins, which comprise sedimentary rocks of Late Cretaceous to Permian age, overlain by a relatively thin Quaternary gravel layer or thin aeolian deposits. Mountain ranges between the basins comprise mostly crystalline basement rocks dominated by intermediate to high angle faults that show evidence for both compressional and extensional movement. The most prominent structure relating to the Soumber and Biluut coal deposits is the arcuate, east-west-trending, moderately-dipping Nariin Sukhait fault. The only place where the fault is exposed is in the MAK Nariin Sukhait Resource, north of and adjacent to the Ovoot Tolgoi Mine, where it appears as an intermediate angle structure (40-50 degrees) in their West pit. SGQ holdings at Soumber and Biluut contain a resource area within the upper Permian sediments.

The coal deposit at Soumber and Biluut occurs within the Deliin Shand suite, which is estimated to be up to 1,300m thick in the Ovoot Khural Basin (Figure 7-1). The Deliin Shand suite is described as a sedimentary sequence of intercalated claystones, siltstones, sandstones, conglomerates and coal. As previously mentioned, the coal deposits in this region are found along the Nariin Sukhait thrust fault. As such, these deposits appear to reflect tectonic changes in the form of highly variable sedimentary partings and locally thick coal. The drill data has shown that a thick sequence of coal occurs in the central part of the deposit, largely covered by Quaternary and Recent alluvium.².

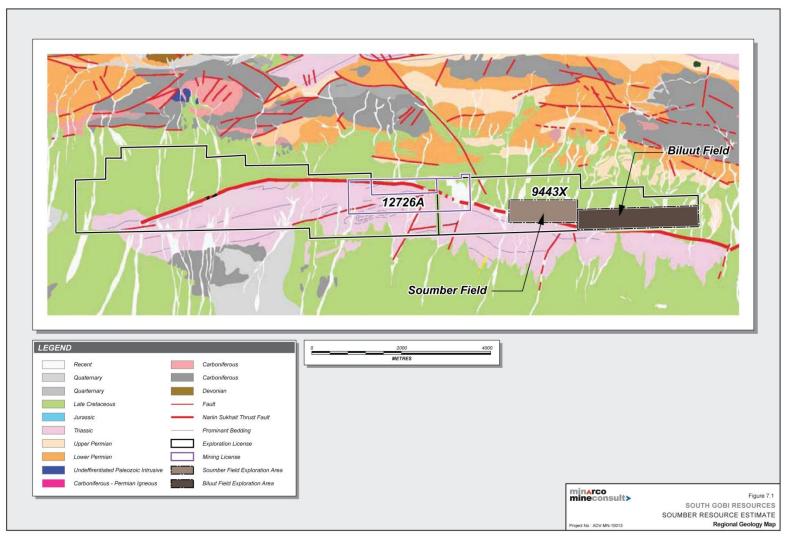
² Norwest Corporation, Technical Report Soumber Property, Omnigovi Aimag, Mongolia, October 2009, p.9-1 to 9-2



Figure 7-1

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Regional Geology



Source: Technical report Soumber Property, Norwest, October 2009



7.2 COAL OCCURRENCES

The coal occurrence within the Soumber field measures approximately 12 km long east to west and 2 km wide north to south, whilst the strike length of the Biluut field is approximately 24km. Based on past geologic mapping, the coal-bearing Deliin Shand suite is exposed along the trend of the Nariin Sukhait thrust fault. The exposed sediments mapped in the vicinity of Soumber and Biluut are thought to have been deposited in the series of geologic sequences of Permian, Triassic, Jurassic, and Quaternary Age as shown in Figure 7-2.

The coal sequence contains many rock partings and interburden of varying thicknesses and it is a multiseam deposit. The groupings of coal beds often occur close together, so within this report each discrete group will be referred to as a "seam" that is part of a depositional unit that theoretically coalesces at a central depocenter.

Overburden and interburden lithotypes consist of fine to coarse grained sediments that are typically moderately hard to slightly soft. Thin zones containing pyrite and siderite were noted in core logs as being relatively hard compared to the majority of the non-coal rock types.

Beneath the main coal seam sequence is a characteristic red marker bed, which provides a usual correlation tool.

Work by Norwest at Soumber identified seven coal seams, named S6 (top) through to S0 (base). The S4 seam is the main seam, having more continuity than the other seams, and containing the majority of the coal resource. The S1 and S2 seams vary considerably in both thickness and quantity of in-seam partings, but contribute locally to the coal resource. The S0 seam is intercepted in a number of drill holes, but does not appear to represent any significant resources. Norwest interpreted the seam sequence as being repeated three times by two major east-west trending faults.³

³ Norwest Corporation, Technical Report Soumber Property, Omnigovi Aimag, Mongolia, October 2009, p.9-1

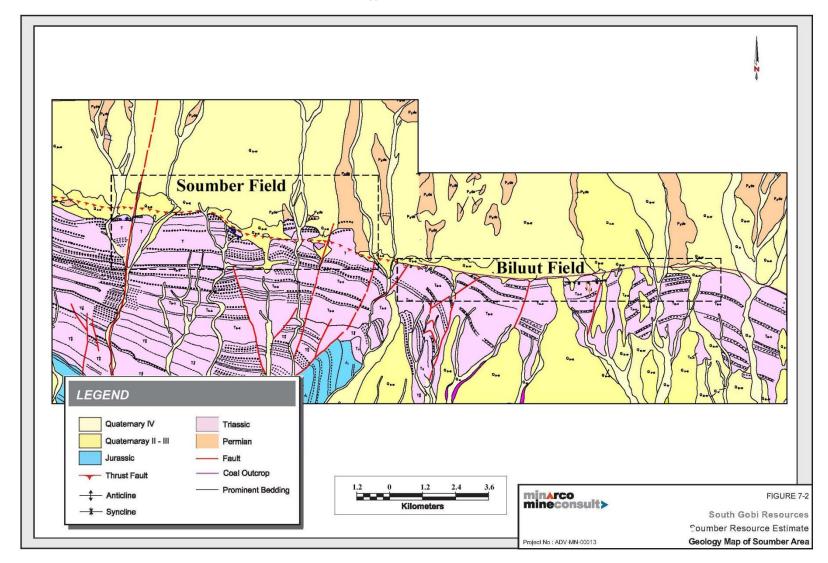


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Figure 7-2

Geology of the Soumber Area





The 2010 exploration program has led to a re-interpretation of the stratigraphy at Soumber, as shown in Table 7.1. Six major seams have been identified, which have been further split into plies based on stone partings within the seams. McElroy Bryan consider that the two east-west faults do not exist, and that the seams can be correlated through the area with the aid of downhole geophysics.

Table 7.1

Soumber Seam Nomenclature 2010 Geological Model

Seam	Ply	Seam	Ply	Seam	Ply
	562		34		16
	561		332		15
	552		331		14
	551	Seam 3	322	Second 1	132
	542		321	Seam 1	131
	541		312		122
Seam 5	532		311		121
	531		232		11
	522		231		0U3
	521		222	Seam 0U	0U2
	512		221		0U1
	511	Seam 2	220		0M3
	50		212	Seam 0M	0M2
	422		211		0M1
	421		202		0L3
Seam 4	412		201		0L22
	411		-	Seam 0L	0L21
	40				0L1

Exploration to date at Biluut is not as advanced as at Soumber. Three major seams have been identified, which have again been further sub-divided into plies based on stone partings. At present there is very little information on the minr seams 32 and 31. The coal seam stratigraphy at Biluut is shown on Table 7.2. No attempt has yet been made to correlate coal seam nomenclature with Soumber.

Table 7.2

Biluut Seam Nomenclature

Seam	Ply
32	
31	
22	232
23	231
22	222
22	221
21	212
21	211

7.3 STRUCTURAL GEOLOGY

The geologic framework of the Soumber and Biluut Deposit appears to be of high structural complexity. The geometry of the strata is interpreted to be a shallow structural basin, created by post-depositional compression. The basin structure appears to continue through the adjacent areas to the east. Between the Central Soumber and East Soumber areas, there is a barren area where coal deposition did not occur. The most prominent structure relating to the Soumber and Biluut coal deposits is the arcuate, east-west-trending, moderately-dipping Nariin Sukhait fault, which occurs to the north of the coal deposit.

The coal bearing section structure trends from west to east and is found primarily as a south dipping homocline, with dips generally ranging from 15 to 30 degrees.⁴

⁴ Norwest Corporation, Technical Report Soumber Property, Omnigovi Aimag, Mongolia, October 2009, p.9-2



8 **DEPOSIT TYPES**

The definition of Deposit and Geology Types for coal properties is different from that applied to other types of mineral deposits and is outlined by the Geological Survey of Canada (GSC) Paper 88-21.

Criteria applied to coal deposits for the purposes of determination of coal Resources and Reserves include both "Geology Type" as well as "Deposit Type." For coal deposits this is an important concept because the classification of a coal deposit as a particular type determines the range limiting criteria that may be applied during estimation of Reserves and Resources.

"Geology Type" for coal deposits is a parameter that is specified in Geological Survey of Canada (GSC) Paper 88-21, which is a guideline reference for coal deposits as specified in NI 43-101. Geology Type is a definition of the amount of geological complexity, usually imposed by the structural complexity of the area, and the classification of a coal deposit by Geology Type determines the approach to be used for the Resource/Reserve estimation procedures and the limits to be applied to certain key estimation criteria. The identification of a particular Geology Type for a coal property defines the confidence that can be placed in the extrapolation of data values away from a particular point of reference such as a drill hole.

The classification scheme of GSC Paper 88-21 is similar to many other international coal reserve classification systems but it has one significant difference. This system is designed to accommodate differences in the degree of tectonic deformation of different coal deposits in Canada. The four classes of geologic complexity, from lowest to highest are:

- Low
- Moderate
- Complex
- Severe

Structural geology at Soumber and Biluut shows evidence of folding and faulting with some steeply inclined limbs. The deposit has been subjected to relatively high level of deformation and seam thicknesses have been substantially modified form their pre-deformation thickness. The deposit is classified as "Complex" based on these criteria that describe in the Geological Survey of Canada Paper 88-21.

"Deposit Type" as defined in GSC Paper 88-21 refers to the extraction method most suited to the coal deposit. There are four categories, which are "surface," "underground," "non-conventional," and "sterilized."

The Soumber and Biluut coal sequence, based on the low cumulative stripping ratio and depth of the coal occurrence below ground surface within the MEL, is considered to be a "Surface" deposit type. Very little drilling to date has been done downdip; it is possible if such a drilling program were undertaken that the deposit could be extended with underground potential.



9 MINERALISATION

The coal seams of the Soumber and Biluut Deposit are Upper Permian in age and are found in a similar geologic setting as the Upper Permian coals found at the Ovoot Tolgoi and Nariin Sukhait mines and other coal occurrences in the South Gobi. The coal rank ranges from Low to Medium Volatile Bituminous by ASTM standard D388.

Thicknesses reported are based on drill intercepts and represent apparent thickness, as listed for Soumber in Table 9.1 and Biluut in Table 9.2. Detail on individual plies is given in Appendix B.

Table 9.1

Soumber Field Summary of Thickness

Seam	Mean (m)	Maximum (m)
5	3.04	68.12
4	1.81	36.36
3	1.96	60.43
2	4.43	40.63
1	0.68	21.33
0	0.41	24.86

Table 9.2

Biluut Field Summary of Thickness

Seam	Mean (m)	Maximum (m)
32/31	0.24	9.34
23	1.26	19.36
22	5.41	25.00
21	1.77	8.16

10 EXPLORATION

10.1 INITIAL EXPLORATION

Initial surface mapping of the area took place in the early 1950s under the supervision of Russian geologist V.S. Volkhonina (1952) resulting in mapping at a scale of 1:200,000. Additional mapping at a scale of 1:50,000 was performed in 2004 under the supervision of Burenkhuu et al, who identified a coal bearing layer of Upper Permian Deliin Shand suite (P2ds). ⁵

10.2 EXPLORATION 2005-2006

The first exploration of the deposit occurred in 2005 under the supervision of Norwest. Excavations, including trenches and exploratory drilling in 2005, indicated the potential for thick coal deposits in the area of the MEL 9443X.

Exploration geology fieldwork, including reconnaissance mapping, trenching, geologist descriptions of drilling returns, geotechnical data, field logs, and database development, was contracted primarily by Sapphire Geo Ltd. (Sapphire) and supervised by The Americas Group (TAG). Norwest provided assistance in the review of field activities and interpretation of results in 2005 and 2006. Drilling was performed by a number of drilling contractors, Erd Geo Inc, Tanan Impex Co. Ltd and Major Drilling Mongolia Co. Ltd. Drill hole survey and surface topography were conducted by Mongolian contractor TopCadd Co. Ltd.

Ivanhoe Mines, prior owner of MEL 9443X, conducted the first exploratory work in the area in 2005 continuing into 2006. This included approximately thirty exploration trenches and fifty-six drill holes. Thirty of these drill holes showed coal intercepts. The holes were abandoned, mostly due to caving issues. Geophysical log interpretation indicated substantial thickness of the coal-bearing sequence. Coal samples from several of these holes were collected however, the analytical results have not been located.⁵

10.3 EXPLORATION 2007-2008

After the mineral exploration license was transferred to SGQ, SGQ conducted exploration in 2007 that carried over to 2008. SGQ contracted with The Americas Group (TAG) based in Denver, Colorado as a consultant regarding their exploration activities. A total of 121 drill holes were completed during this period to delineate the extension, coal quality and infill drilling of the entire Soumber field.

Drill hole core and cutting descriptions, geophysical logs, and coal analyses data from the surface resources exploration programs have been used to characterize, interpret, and project the stratigraphy and structure of the potential resource area. 5

10.4 EXPLORATION 2009-2010

SGQ conducted a Geotechnical and Hydrological program in the Central Soumber in 2009, drilling 6 holes totalling 1333 metres of drilling. Norwest and Aquaterra, an international water and environment consultancy, were charged respectively, to provide an oversight for these programs.

In 2010 65 holes were drilled by Tanan Impex LLC, consisting of 25 cored holes and 40 open holes, totaling 10,468 metres of drilling. McElroy Bryan provided oversight for the 2010 program.

⁵ Norwest Corporation, Technical Report Soumber Property, Omnigovi Aimag, Mongolia, October 2009, p. 12-1

11 DRILLING

Drilling to date on Soumber includes a total of 254 exploration holes completed and 44,445m drilled. Drilling has been concentrated in the central area, whilst limited drilling has taken place in the eastern and western part of the field. At Biluut 96 holes have been drilled for a meterage of 20,507m. All holes were drilled from surface to total depth and oriented vertically. Drilling contractors provided truck-mounted drill rigs equipped for wireline coring and reverse circulation drilling. Core rigs were equipped with HQ size coring tools (approximately 63.5mm) and reverse circulation with larger (approximately 110mm) diameter. Drill depths were measured from ground surface and recorded based on the length of the drill string and coring tools at the start and end of each core run.

All core logs were recorded by wellsite geologists and mostly done by Sapphire Geologic Group. These logs contain lithologic descriptions, sample interval identification, and core depths. Geotechnical logging of core discontinuities was performed on all core holes that were completed during the 2008 and 2009 exploration campaign.⁶

Geophysical logs were recorded by Monkarotaj Co Ltd., a geophysical company based in Ulaanbaatar. Natural gamma and density (gamma gamma) logs were obtained through the drill pipe for most holes. Open hole logs were then obtained consisting of gamma, density, resistivity and caliper. The open hole logs varied in depth dependent upon hole conditions. All holes were geophysically logged except where holes caved preventing geophysical logging tools from proceeding further.

Total drilling to date is summarized in Table 11.1. A drilling summary for Soumber by area is presented in Table 11.2.

Table 11.1

Biluut Soumber Year No. holes **Metres drilled** No. holes Metres drilled 2005 35 4,535 12 1,648 2006 27 3,596 2007 23 3,905 2008 98 20,607 17 4,901 2009 6 1,333 2010 65 10,469 67 13,958 254 44.445 20,507 Total 96

Soumber and Biluut - Drilling Summary by Year

Table 11.2

Soumber - Drilling Summary by Area

Area	No. holes	Meters drilled
West Soumber	37	5,239
Central Soumber	140	22,826
East Soumber	77	16,380
Total	254	44,445

⁶ Norwest Corporation, Technical Report Soumber Property, Omnigovi Aimag, Mongolia, October 2009, p.13-1



12 SAMPLING METHOD AND APPROACH

Approximately 20% of exploration drill holes have been completed with triple-tube coring equipment that allows coal sampling for laboratory analysis. These core holes are distributed approximately 100-300m apart, and cover an area of approximately 4 sq.km.

The procedures described below apply to holes used in the preparation of the Soumber and Biluut coal quality models.

Core from the drill hole was logged (i.e., measured and described) by a geologist using standard geological terms to document various attributes. The geologist's core log consists of the measured depths and description of the coal, inter-seam partings, adjacent roof and floor rock, and details of any sample intervals removed for analysis. Core handling was performed promptly and follows a distinct sequence of activities as follows:

- The core is pumped out of the core barrel
- Excess mud is washed off and the core fitted back together
- Recovered length is measured and depths are marked
- Core photos are taken on 0.5 m intervals
- Lithological logging is completed
- Other parameters for sample identification and processing as described in Section 13.

Core recovery in the coal quality holes was 75% overall, and is considered to be reasonable. The measured length of recovered coal core was compared to the geophysical logs, and sample depths adjusted if necessary. All samples used in the geologic model were reconciled to the geophysical log intercept depths.

Incremental samples were identified by Sapphire based on comparison of field geologic and geophysical logs. Physical composite samples were identified following the receipt of the initial analytical results from the increment samples.

All core samples subject to laboratory analyses are of sufficient quality and documentation to support the conclusions of this report. Geophysical logs have been used to confirm the thickness of coal bearing zones.⁷

⁷ Norwest Corporation, Technical Report Soumber Property, Omnigovi Aimag, Mongolia, October 2009, p. 14-1



13 SAMPLING PREPARATION, ANALYSES AND SECURITY

13.1 CORE SAMPLES

The following procedures apply to holes used in the preparation of the Soumber and Biluut coal quality models:

- Recovered core was measured to determine an overall recovery (reported in percent) by comparing the recovered core length with the core run length recorded by the driller. Recovered core was also compared to the coal interval thickness determined from the geophysical log suite for validation.
- Recovered coal intervals were sampled using the following criteria:
 - Coal samples were broken out based on lithologic changes. In zones of uniform coal appearance, HQ samples were bagged approximately every 0.60m as per the capacity of the core boxes.
 - In-seam partings, to a maximum cumulative thickness of 0.3m, were included in a coal sample, where the thickness of the adjacent coal beds above and below the parting were both a minimum of twice the parting thickness.
 - A parting was sampled separately if it was between 0.3m thick and 0.5m thick.
- Collected samples were cleaned of mud contamination and placed in individual 6 mm plastic core sleeves and sealed air-tight to prevent loss of moisture and volatiles. The bags were labeled on the outside with the core hole, sample number, and depth interval. Samples were placed in sequence into waxed-cardboard core boxes. Boxes were sealed with tape and shipped to the SGS Group analytical preparation laboratory in Ulaanbaatar. At the prep lab, the samples were weighed, dried, crushed, split and repackaged for shipment to the SGS Group analytical laboratory in Tianjin, China.
- Laboratory instructions and the shipment manifests were forwarded to the SGS Group laboratories. All records were compared with contents upon arrival at the analytical laboratory. All samples shipped to the laboratories were accounted for and underwent the specified analysis regimen.

Analytical work was performed by SGS Laboratories Inc. in Tianjin, China. The Tianjin laboratory currently holds ISO-17025 certification, accredited by the CNAS (China National Accreditation Service for Conformity Assessment). The laboratory is certified to ASTM and ISO standards. Sample handling and quality control measures used practices that are considered to be standard in the international coal industry. Coal sampling and analyses were performed to a level adequate for the conclusions reached in this technical report.

As with other coal work, no special security arrangements were made for the shipping and storage of samples. Additional security methods are not commonly employed, as coal is a relatively low-value bulk commodity.⁸

⁸ Norwest Corporation, Technical Report Soumber Property, Omnigovi Aimag, Mongolia, October 2009, p. 15-1

13.2 STATEMENT

In the author's opinion, sample preparation and analysis was performed adequately and securely so as to provide unbiased and accurate results.

Logging and sampling procedures established by Norwest at the commencement of exploration have been reviewed by the author and are consistent with industry best practice.

14 DATA VERIFICATION

14.1 INTRODUCTION

Data collection verification and storage at Soumber and Biluut has been managed by various independent consultants employed by SGQ since 2005.

Between 2005 and 2006, Norwest directly managed the exploration program from conceptual planning of exploration targets, through data collection, to interpretation and analysis. Norwest provided on-site management throughout the majority of the exploration project during those two years. All data collection was done under a defined set of protocols established in 2005 by Qualified Persons (QP) Patrick P. Riley, and Richard Tifft, consultant/QPs for Norwest at Ovoot Tolgoi and Soumber during 2005 and 2006. Patrick P. Riley is owner and operator of The Americas Group (TAG), an independent geological consulting company based in Lakewood, Colorado. Norwest site geologists were responsible for the training and administration of data collection procedures and were responsible for reviewing all data. Norwest maintained oversight of all data collection throughout the exploration program, and the QP visited these operations and reviewed these procedures. The steps included in these written procedures are described in the preceding sections under drilling, coring, sampling methodology and sample preparation.

From 2007 to 2010, although Norwest was no longer involved in exploration programs at Soumber and Biluut, those field protocols established by Norwest and implemented by Sapphire field geologists were continued, supervised by SGQ and McElroy Bryan geological personnel.

The author was not able to personally verify that the protocols set up by Norwest for the logging of rotary and percussion holes were being followed in any of the field seasons 2005 to 2010 as the author was not present during logging and did not visit while drilling was in progress. However the Qualified Persons involved in the previous Technical Reports made statements that they were satisfied protocols were adequate and were being followed. The author has reviewed the protocols set up by Norwest for the collection of geological data and considers them reasonable for this style of deposit.

14.2 DATA REVIEW

All geologic, geophysical, and sampling data was entered and maintained on site in an electronic database maintained by Norwest and/or Sapphire in early exploration programs. All mapping was entered and maintained in electronic format on a CAD-based system. Data entry of all geologic data was managed by Norwest at the project site. All electronic data was forwarded on a routine basis to Norwest's office in Salt Lake City. Results from coal quality testing were added into the database in the Salt Lake office. From 2007 to 2009, data was managed at site by SGQ and Sapphire personnel, and during the 2010 field season, data was managed at site by McElroy Bryan personnel.

Several levels of data verification were applied to the field and laboratory data under the supervision of the qualified person. Typical verification included:

- Direct comparison of geologist core log intervals with down-hole geophysical logs.
- Reconciliation of coal sample intervals and recovered coal core to down-hole geophysical logs.
- Comparison of laboratory coal quality results with geophysical and geologists core logs.

Coal quality data was subjected to a series of statistical analysis to identify any errata in reported values. The electronic geologic database was subjected to a series of checks designed to locate data entry errors or inconsistencies.⁹

14.3 DATABASE VERIFICATION

The author was not in a position to verify the data used in the Resource estimates since this information was stored in individual databases maintained by Norwest and TAG and at present does not reside with SGQ. This approach of relying on third party consultants to maintain and to verify SGQ's database has inherent risks in terms of data provenance and integrity. In each of the individual technical reports produced on the project the data has been independently verified and signed off but this verified data has not been incorporated into a central SQG database that can then be cross checked against original records. It is intended that in future SGQ will maintain its own database incorporating the data stored at TAG, Norwest and Sapphire, together with soft copies of original logs and a record of all coal quality information.

However the author has audited a subset of the data. Scanned field lithology logs and geophysical logs were provided to MMC. A representative number were checked against the seam picks used to generate the geological model. Drillhole collars were also compared to elevations in the DTM (Digital Terrain Model), and a number of drillhole locations were checked in the field. No material errors were encountered.

⁹ Norwest Corporation, Technical Report Soumber Property, Omnigovi Aimag, Mongolia, October 2009, p. 16-1



15 ADJACENT PROPERTIES

Soumber field is located approximately 20km to the east of SGQ's Sunrise pit of the Ovoot Tolgoi Mine.

The Ovoot Tolgoi Mine owned by SGQ, began pre-development of the Sunset field open pit surface mine in the first quarter of 2008 and first production began in April 2008. Coal sales at the mine gate were initiated in September 2008. The current Sunset field pit design is for surface operations with projected mine depths to 300m. Products are being sold into western Inner Mongolia, and Gansu and Hebei Provinces in China.

There are five different coal series, or packages, consisting of one or more coal seams within a distinct stratigraphic horizon, at Ovoot Tolgoi. Most of the work has focused on identifying Resources within the No. 5 Seam, with additional Resources in the 8, 9, and 10 Seams above this. Structural geology at Ovoot Tolgoi shows evidence of folding and faulting. Individual coal seams however, are still relatively intact. The deposit is classified as "Complex" based on criteria set forth in the Geological Survey of Canada Paper 88-21.

16 MINERAL PROCESSING AND METALLURGICAL TESTING

16.1 REGIONAL COAL QUALITY

Composite quality analyses previously performed in 2005 and 2006 on SGQ's Ovoot Tolgoi mining license area indicate the coal rank to be high volatile B to high volatile A bituminous, based on the ASTM D388 standard. Previous Soviet-Mongolian government studies (Dashkhoral et al, 1992) utilized Soviet standards and determined the rank to be of the GJO and IGJO groups, equivalent to high-volatile bituminous coals. High volatile B and A bituminous coals are hard black coals. High volatile B produces between 7212 to 7785 kcal/kg and high volatile A produces greater than 7785 kcal/kg heat output. The Ovoot Tolgoi coal is a mixture of thermal and metallurgical grade coal.

At Ovoot Tolgoi the coal is generally low ash (less than 20 percent, air-dried basis), whilst Free Swelling Index ranges in values from non-coking (less than 2) to coking (greater than 4). Soumber and Biluut coal tends to be higher in ash, averaging 26%, and lower in calorific value, averaging 6,000 kcal/kg. The rank is low to medium volatile bituminous coal. Several of the seams at Soumber and Biluut have an average FSI greater than 4, indicating metallurgical properties.

16.2 COAL QUALITY

To date 72 core holes have been used for analysis of coal quality at Soumber and 21 holes at Biluut.

Cored holes were subjected to the analyses listed below:

- Proximate analysis:
 - o Moisture
 - o Ash
 - o Volatile matter
 - Fixed carbon
- Sulphur
- Thermal value
- Relative density
- Free Swell Index (FSI or CSN)

A summary of the coal quality on a seam by seam basis is given in Table 16.1 for Soumber and Table 16.2 for Biluut. Detailed results for individual plies are given in Appendix B.

Based on these analytical results and available composite coal quality data, the coal rank for the Soumber and Biluut fields ranges between low to medium volatile bituminous coal, defined by ASTM Standard D388. Volatile matter (on a dry ash free basis) for the Biluut seams is more variable than for Soumber, however this may be due to insufficient samples. The average calorific values for individual seams range between 5,000 to 7,800 kCal/kg.

Limited washability testing has been undertaken to date. Results of testing a product floated at 1.4 are summarised in Table 16.3.

Ash fusion and ash analysis testing has been undertaken on composite samples from 9 holes drilled in 2009 at Soumber and 15 holes at Biluut, as summarized in Table 16.4 and Table 16.5.

Table 16.1

Seam	Total Moisture % ar	Inherent Moisture % ad	Ash % ad	Volatile Matter % ad	Total Sulphur % ad	Calorific value kcal/kg ad	FSI	Relative density
5	10.2	0.6	32.6	16.4	0.42	5368	1.5	1.67
4	9.5	0.6	26.4	17.3	0.72	5956	2.8	1.58
3	6.6	0.6	24.4	16.1	0.63	6150	4.2	1.56
2	6.2	0.6	24.6	18.2	1.05	6306	4.7	1.54
1	5.3	0.9	23.0	21.7	1.16	6498	6.4	1.47
0	4.5	0.3	10.7	24.5	1.08	7789	9.0	1.40

Table 16.2

Total Inherent Volatile Total Ash Calorific value Relative Seam Moisture Matter Sulphur FSI Moisture % ad kcal/kg ad density % ar % ad % ad % ad 23.7 3 12.5 0.4 21.4 0.44 6521 4.6 1.49 23 12.5 0.4 16.9 28.5 0.48 7102 6.7 1.40 22 20.8 0.70 6371 6.9 0.6 23.4 3.5 1.52 21 4.2 0.7 20.8 11.4 0.38 6416 0.0 1.57

Biluut – Summary of Drillhole Quality Data

Table 16.3

Soumber and Biluut – F1.40 Proximate Analysis Testing Results

		No. samples	Yield %	Moisture % ad	Ash % ad	Volatile matter % ad	FSI	Calorific value kcal/kg ad	Total Sulphur % ad
Soumber	Mean	123	58.7	0.6	22.1	19.3	5.7	6519	0.96
	Minimum		4.1	0.3	7.9	11.1	0.5	1624	0.08
	Maximum		89.3	1.5	74.6	24.1	9.0	8060	1.92
	Mean		60.0	0.4	13.1	27.3	5.1	7488	0.44
Biluut	Minimum	24	20.4	0.3	7.3	19.0	2.0	5501	0.23
	Maximum		89.3	0.6	33.5	38.4	8.5	8062	0.88

Table 16.4

Soumber and Biluut - Summary of Ash Analysis Testing Results

		No. samples	SiO₂ %	Al ₂ O ₃ %	Fe₂O₃ %	CaO %	MgO %	Na₂O %	K₂O %	TiO₂ %	Mn₃O₄ %	SO₃ %	P₂O₅ %	SrO %	BaO %	ZnO %
	Mean		30.41	12.84	14.38	23.16	2.98	0.64	1.03	0.54	0.42	10.87	0.15	0.13	0.18	0.01
Soumber	Minimum	16	7.92	7.74	5.09	8.34	0.81	0.28	0.22	0.17	0.12	0.89	0.04	0.04	0.06	0.01
	Maximum		57.99	23.1	29.48	41.92	12.73	0.95	3.16	1.36	0.91	18.72	0.39	0.23	0.45	0.02
	Mean	24	27.18	14.18	16.73	23.94	4.17	0.80	1.06	0.74	0.46	ND	0.13	ND	ND	ND
Biluut	Minimum		14.92	8.74	7.45	6.56	2.09	0.37	0.39	0.30	0.16	ND	0.02	ND	ND	ND
	Maximum		53.50	23.32	23.65	37.25	6.70	1.24	3.98	1.85	0.75	ND	0.46	ND	ND	ND

ND = not detected

Table 16.5

Soumber – Summary of Ash Fusion Temperature Results

	No. samples	Ash fusion temperature deg C Reducing atmosphere							
		Deformation	Spherical	Hemispherical	Flow				
Mean		1259	1285	1291	1306				
Minimum	16	1155	1163	1168	1198				
Maximum		1355	1358	1370	1454				



16.3 METALLURGICAL TESTING

Washability testing and metallurgical test work to evaluate the coking characteristics of the coal has been undertaken on composite samples from 9 holes drilled at Soumber during 2009, including:

- Gieseler plastometer
- Audibert-Arnu dilatometer
- Free swell index (Crucible swell number)
- Trace element analysis
- Hardgrove grindability index (HGI)
- Reactive maceral analysis (petrography)

A summary of results is listed in Table 16.6. No coking coal tests have been performed on Biluut samples.

Table 16.6

Soumber - Coking Coal Characteristics

			Max	Dilata	tion		Petrography		
	No. samples	FSI (CSN)	Max fluidity 1 ddpm	Max contraction %	Max dilatation %	HGI	Vitrinite %	RoMax	
Mean		6.5	856	21.8	69.0	146	87.7	1.49	
Minimum	16	0.5	3	4.0	-17.8	119	61.4	1.31	
Maximum		9	1782	29.8	153.4	184	97.5	2.07	

Dry ash percentage, sulphur percentage, and Free Swelling Index (FSI) are employed as indicators for coal product type. Table 16.7 shows the three coal product categories that have been identified at Ovoot Tolgoi. It is envisaged that similar products can be obtained at Soumber and Biluut.

Table 16.7

Coal product categories based on critical coal analyses

Coal Product	%Ash	%Sulphur	FSI
Hard coking coal (HCC)	Ash <10%	Sulphur <1%	FSI > 4
Semi-soft coking coal (SSC)	Ash <12%	Sulphur <1.2%	FSI = 1 to 4
Thermal coal (THC)	Ash < 45%		FSI < 1

High ash (>45%) coal is designated as WASTE.



16.4 COAL BENEFICIATION

The plan for Soumber coal is that it will all be washed to produce a coking product or blend. Detailed beneficiation studies are being carried out on the coal.

At some point in the future it may be possible for SGQ to access the more lucrative export market where tight coal specifications generally require that coal be washed to produce a standardized product. Although not required for the currently envisaged mine plan the author believes because of the points raised there is merit to limited studies on coal beneficiation at Soumber and Biluut.

Soumber and Biluut coal has higher ash content, and since the seams dip at a relatively steep angle there is the possibility that the thinner seams may be affected by dilution from partings during mining, and thus there may be benefit in washing the coal.

17 MINERAL RESOURCE AND MINERAL RESERVE ESTIMATES

17.1 INTRODUCTION

The classification, estimation, and reporting of MineralResources for the Soumber and Biluut fields is in accordance with National Instrument 43-101. In addition use has been made of the following referenced documents, the Canadian Institute of Mining, Metallurgy and Petroleum's CIM "Definition Standards For Mineral Resources and Reserves" adopted by CIM Council on 11 December 2005, and the Geological Survey of Canada Paper 88-21 "A Standardized Coal Resource/Reserve Reporting System for Canada" (GSC Paper 88-21) for the Resource estimates summarized in this technical report.

Resources are classified as to the assurance of their existence into one of three categories, Measured, Indicated or Inferred. The category to which a Resource is assigned depends on the level of confidence in the geological information available. GSC Paper 88-21 provides guidance for categorizing various types of coal deposits by levels of assurance. These were considered by the Qualified Person during the classification of the Resources. Additionally, Resources are classified in GSC Paper 88-21 as to the assurance of their existence into one of four categories, using the criteria for coals found in Geology Type "Complex" conditions, as shown in Table 17.1.

The Resource estimations contained within are on a clean basis, i.e., as an in-situ tonnage and not adjusted for mining losses or recovery. However, minimum mineable seam thickness and maximum removable parting thickness are considered; coal intervals not meeting these criteria are not included in the Resources.

	Ass	urance of Existence Cate	gory	
Criteria	Measured	Indicated	Inferred	
Cross-section spacing (m)	150	300	600	
Minimum # data points per section	3	3	3	
Mean data point spacing (m)	100	200	400	
Maximum data point spacing (m)	200	400	800	

Table 17.1

Criteria used to define assurance of existence for coals of complex geology type

17.2 GEOLOGICAL MODELLING

The author was provided with geological models for the Soumber and Biluut fields by SGQ. These models had been created by McElroy Bryan in 2010 using *Minex* software. Table 17.2 and Table 17.3 show the seam nomenclature used in the models.

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Table 17.2

Soumber Seam Nomenclature

Seam	Ply	Seam	Ply	Seam	Ply
	562		34		16
	561		332	4	15
	552		331		14
	551	Seam 3	322	Soom 1	132
	542		321	34 16 332 14 332 14 331 14 322 13 321 13 312 12 311 12 232 17 231 000 222 Seam 0U 000 221 000 000 220 200 000 212 Seam 0M 00M 202 01 012 201 Seam 0L 012	131
	541		312		122
Seam 5	532		311		121
	531		232		11
	522		231		0U3
	521		222	Seam 0U	0U2
	512		221		0U1
	511	Seam 2	220		0M3
	50		212	Seam 0M	0M2
	422		211		0M1
	421		202		0L3
Seam 4	412		201	0	0L22
	411			Seam UL	0L21
	40				0L1

Table 17.3

Biluut Seam Nomenclature

Seam	Ply
32	
31	
22	232
23	231
22	222
22	221
21	212
21	211

In order to verify the models, the author recreated models for the Soumber and Biluut fields in *Minescape*. Graphical output – contours and sections - were created from both sets of models and compared. In general comparison was good, allowing for differing modelling techniques. A subset of the drillhole data was also checked against original field lithology and geophysical logs. The drillhole collars were also compared against the topographic model. No material errors were encountered.

Thickness and structure floor contours of the main seam groups are included in Section 22, along with representative cross sections.

17.3 RESOURCE ESTIMATION 2010

Resources have been regenerated on 25th January 2011 using the *Minex* models generated by McElroy Bryan in 2010. The Resources have been classified in a similar manner as previous estimates, using the existence criteria listed in Table 17.1. Additionally, the presence of raw quality data was taken into consideration in assigning the Resource status.

Other criteria used to limit the Resource are:

- Minimum ply thickness = 0.3m (previous estimates used 0.6m),
- Minimum coal parting = 0.3m (previous estimates used 0.6m),
- Base of weathering = 4m,
- Open cut Resources limited to a depth of 250m (note there is insufficient deep drilling to quote Resources below 250m),
- Volumes converted to tonnages using laboratory air dried relative density analytical results,
- Resources limited to exploration licence boundary.

GSC Paper 88-21 indicates that 0.6m minimum thickness should be used for Complex coal deposits. MMC interprets this as total seam thickness rather than individual ply thickness. Since the Deposit has been modelled as a ply model, with a number of plies composited to the geological seam, which during mining will be aggregated to a working section, it was felt that the use of 0.3m as a minimum thickness for individual plies was justified.

A summary of Resources is given in Table 17.4 and Table 17.5, whilst plans showing the Resource polygons are given in Section 22. Resources have increased substantially since the last estimate, due to an extensive drilling program in 2010.

Detailed Resource estimates are given in Appendix B.

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Table 17.4

Soumber Field Summary of Resources 25th January 2011

Class	Volume Mcu.m.	Mass Mtonnes	Apparent Relative Density	Total Moisture % ar	Inherent Moisture % ad	Ash % ad	Volatile Matter % ad	Total Sulphur % ad	Calorific Value kcal/kg ad	FSI
Open Cut Resources			-							
5 Seam group										
Measured	3.10	5.10	1.65	8.7	0.6	32.3	16.6	0.39	5562	1.1
Indicated	1.11	1.74	1.58	4.8	0.6	30.1	16.4	0.20	5249	1.3
Inferred	1.43	2.23	1.56	2.6	0.6	29.3	16.0	0.10	6268	1.1
4 Seam group										
Measured	2.99	4.82	1.61	9.3	0.6	28.7	16.9	0.50	5040	1.2
Indicated	1.31	2.16	1.65	8.5	0.6	31.3	16.9	0.41	4838	1.3
Inferred	1.48	2.44	1.64	9.4	0.5	30.0	16.9	0.30	3827	1.3
3 Seam group										
Measured	3.02	4.53	1.50	7.1	0.6	17.0	18.7	0.69	7056	3.9
Indicated	1.98	2.97	1.51	8.3	0.6	18.7	18.8	1.07	7050	3.6
Inferred	0.44	0.71	1.62	5.9	0.6	17.1	18.9	0.70	6646	3.3
2 Seam group										
Measured	13.32	19.17	1.44	6.7	0.7	21.4	18.1	1.19	6524	4.6
Indicated	11.16	15.60	1.40	6.3	0.7	21.6	17.0	0.93	6532	3.8
Inferred	4.70	6.54	1.39	7.4	1.1	22.6	17.4	0.71	6561	3.9
1 Seam group										
Measured	0.94	1.47	1.57		0.6	26.5	21.8	0.75	6063	5.6
Indicated	0.61	0.96	1.58		0.4	27.3	20.6	0.87	5974	6.3
Inferred	0.92	1.44	1.57		0.4	26.6	22.3	0.86	6010	7.1
0 Seam group			-		-					
Measured	1.20	1.68	1.40							
Indicated	0.84	1.18	1.40							
Inferred	0.19	0.27	1.40							
Total Measured	24.57	36.78	1.50	7.4	0.6	23.6	17.9	0.90	6230	3.6
Total Indicated	17.00	24.62	1.45	6.7	0.7	23.0	17.3	0.84	6323	3.4
Total Inferred	9.15	13.62	1.49	6.8	0.8	25.2	17.7	0.55	5959	3.2



Table 17.5

Biluut Field Summary of Resources 25th January 2011

Class	Seam	Volume Mcu.m.	Mass Mtonnes	Relative density	Total moisture % ar	Inherent moisture % ad	Ash % ad	Volatile matter % ad	Total Sulphur % ad	Calorific value kcal/kg ad	FSI
Open Cut Resources											
Inferred	23	4.86	6.82	1.40	5.7	0.4	18.0	28.6	0.43	7020	6.5
Inferred	22	22.97	35.43	1.54	7.1	0.6	23.8	18.7	0.75	5551	3.1
Inferred	21	6.50	10.00	1.54	5.7	0.6	18.4	10.9	0.42	6715	0.0
	Total	34.33	52.24	1.52	6.6	0.6	22.0	18.5	0.64	5966	3.0



17.4 "POTENTIAL COAL TONNAGE"

"Potential coal tonnage" has been estimated where drillhole coverage is insufficient for resource classification under the NI43-101 ruling (Table 17.6 and Table 17.7). MMC cautions that the potential coal tonnage is conceptual in nature, that there has been insufficient exploration to define a Mineral Resource and that it is uncertain if further exploration will result in the target being delineated as a Mineral Resource.

Table 17.6

Soumber Field "Potential Coal Tonnage"

Seam Group	Tonnage Estimate Range (Mt)	
	From	То
5	18	25
4	1	4
3	3	8
Total	22	37

Table 17.7

Biluut Field "Potential Coal Tonnage"

Seam Group	Tonnage Estimate Range (Mt)	
	From	То
23	4	8
22	9	12
21	9	12
Total	22	32

18 OTHER RELEVANT DATA AND INFORMATION

Currently there are no known mining, metallurgical, infrastructure, environmental, permitting, legal, title, taxation, socio-economic, marketing, political or other relevant factors that would materially affect the Resource estimate.

Sections of this report are derived from the previous NI 43-101 reports compiled by Norwest Corporation and include information provided to the author by Southgobi Resources Limited.

19 ADDITIONAL REQUIREMENTS FOR TECHNICAL REPORTS ON DEVELOPMENT PROPERTIES AND PRODUCTION PROPERTIES

Soumber and Biluut are currently undeveloped properties with no production. No economic feasibility study has been completed.

20 INTERPRETATION AND CONCLUSIONS

Exploration to date on MEL 9443X at the Soumber field Resource area has delineated 61.4 million tonnes of coal classified as Measured plus Indicated Resource, plus a further 14 million tonnes of Inferred Resource, and 22-37 million tonnes of "potential coal tonnage". "Potential coal tonnage" has been estimated in areas where there is insufficient drilling to classify the area as a Resource under NI43-101 criteria. Exploration to date on MEL 9443X at the Biluut field Resource area has delineated 52 million tonnes of coal classified as Inferred Resource, plus a further 22-32 million tonnes of "potential coal tonnage". Resource calculations and classification have been performed in accordance with National Instrument 43-101.

Reporting of surface Resources has been constrained by the following parameters:

- 0.3m minimum ply thickness,
- 0.3m minimum separable parting thickness,
- 4m depth of weathering,
- 250m base depth limit for surface mine development,
- MEL 9443X boundary.

Resources have increased substantially since the last estimate, due to an extensive drilling program in 2010.

The coal seams of the Soumber and Biluut fieldshave been delineated as "Complex" Geology Type based on the criteria set forth in the Geological Survey of Canada Paper 88-21. The coal seams at Soumber and Biluut vary in quality both within and between seams but generally are low to medium volatile bituminous in rank.

Exploration work on the Deposit is still ongoing. Further drilling downdip on existing traverse lines will enable the status of the "potential coal tonnage" to be upgraded. The Soumber and Biluut fields resource enhances the assets held by SGQ in the Umnugobi Province of Mongolia.

21 RECOMMENDATIONS

Database

A considerable amount of data has been obtained from the various exploration programs; however, the current filing system is poorly setup and the dependence on third party consultants has led to a fragmented geological database. A structured electronic directory filing system and a relational database should be created to achieve the following objectives.

- All documents filed by a primary category.
- All documents cross-referenced by sub-categories.
- All data entered into a database.
- All data checked against original source.

A database manager should be appointed to oversee the above process and to maintain records. It is noted that a new Exploration Manager has recently been appointed, and that this will be one of his projects.

The estimated budget for setting up the database is US\$100,000.

Exploration and Drilling

- Exploration drilling should continue both down dip of known coal occurrences and along strike to continue to develop the Soumber and Biluut fields.
- Future deep drilling programs should include allowances for downhole surveying of hole deviation.

The exploration program for 2011 will be targeted at infill drilling to increase confidence in the status of the Resource. The 2011 budget is US\$5.5million. Exploration will be ongoing through subsequent years.

Metallurgy

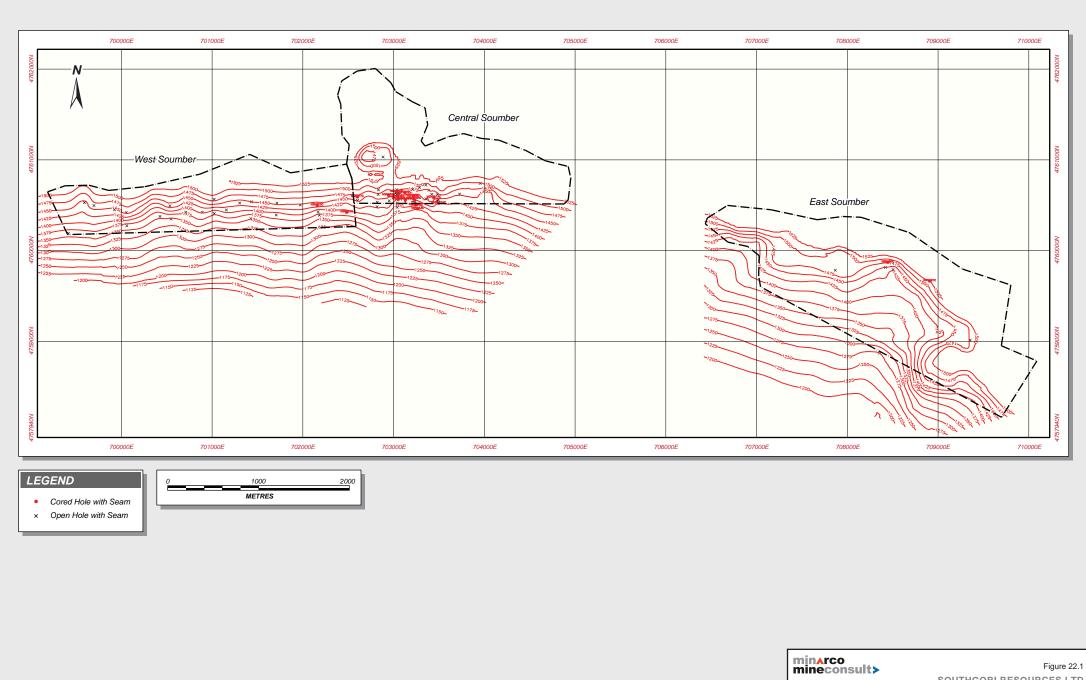
- SGQ should continue to characterize the quality of individual seams on the property and develop an understanding of the spatial variability of coal quality within individual seams.
- SGQ should undertake preliminary investigations into coal beneficiation.

Coal quality testing as part of the 2011 exploration program is estimated to cost US\$100,000. The testing program will continue in subsequent years.

All the above recommendations are part of the ongoing exploration program for the Soumber Deposit. Exploration in subsequent years is not contingent on the results obtained in the 2011 program, although targets for following programs may be modified as a result of the 2011 program.

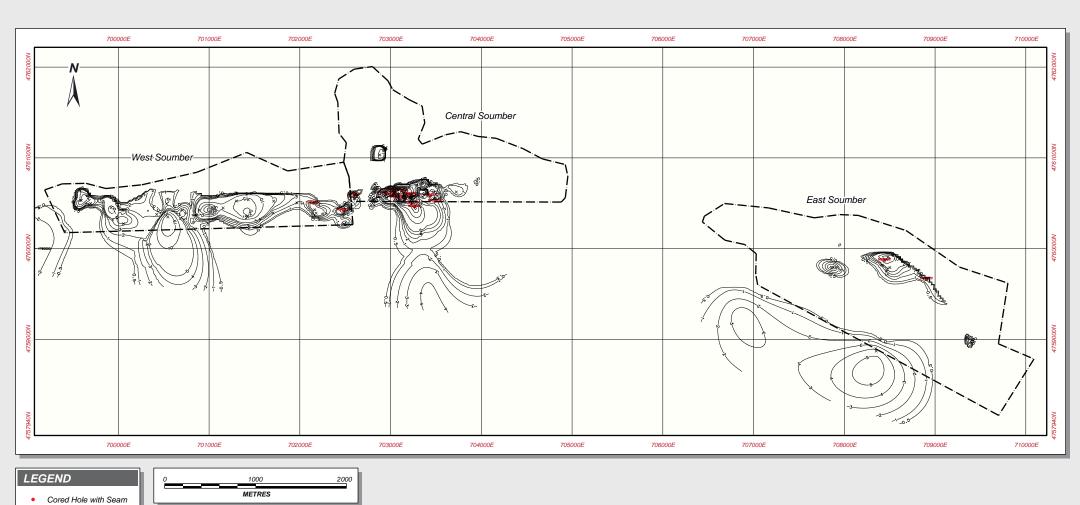


22 ILLUSTRATIONS



Project No : ADV-MN-10013

SOUTHGOBI RESOURCES LTD SOUMBER FIELD Seam 5 Group Structure Floor

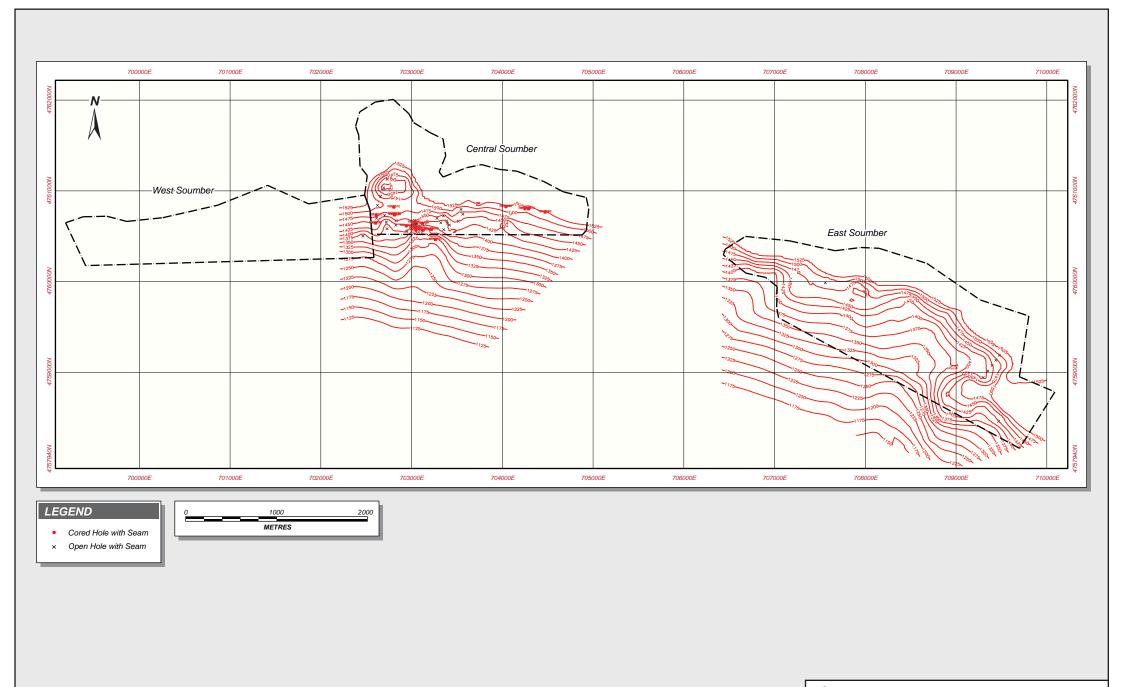


× Open Hole with Seam

min**∧rco** mineconsult> SOUTHGOBI RESOURCES LTD Seam 5 Group Thickness Project No : ADV-MN-10013

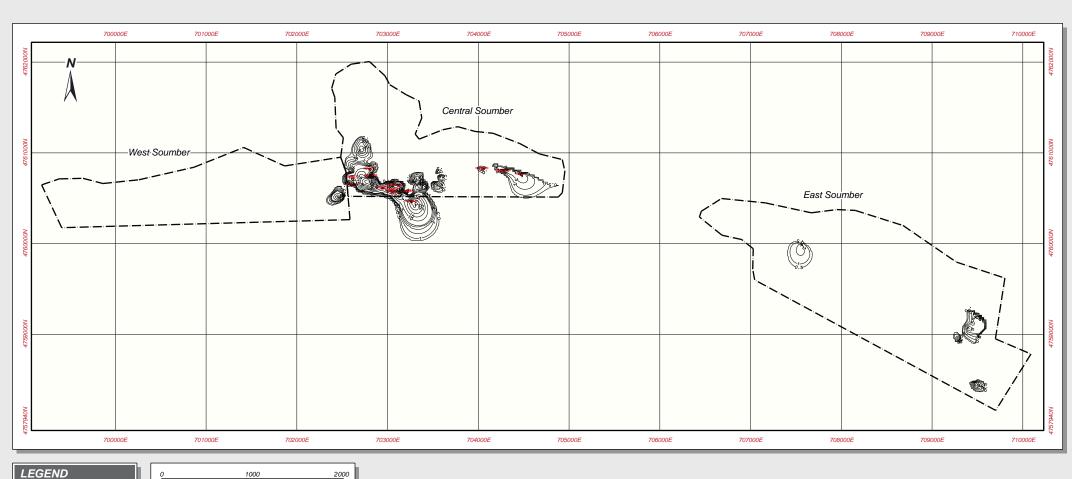
Figure 22.2

SOUMBER FIELD



minArco mineconsult> SOUT

Figure 22.3 SOUTHGOBI RESOURCES LTD SOUMBER FIELD Seam 4 Group Structure Floor





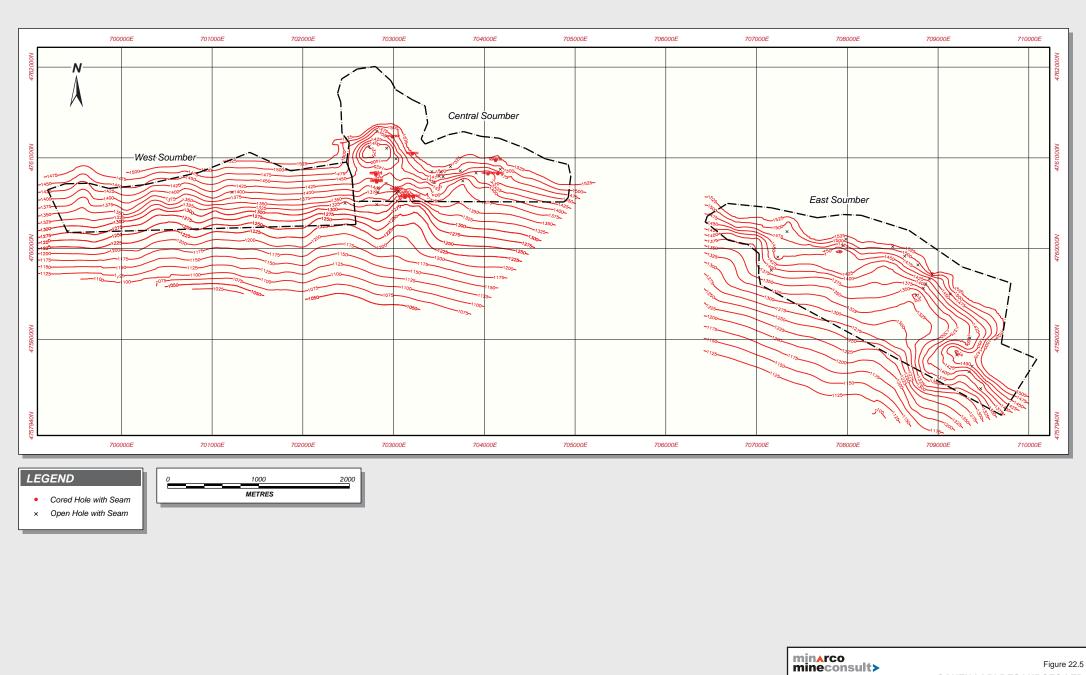
Cored Hole with Seam

METRES

× Open Hole with Seam

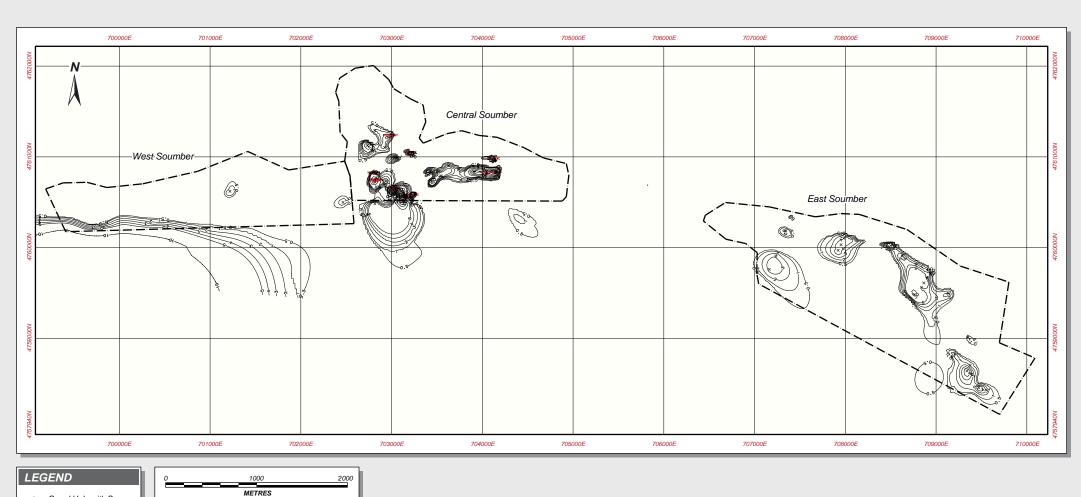
min**∧rco** mineconsult> Project No : ADV-MN-10013

Figure 22.4 SOUTHGOBI RESOURCES LTD SOUMBER FIELD Seam 4 Group Thickness



Seam 3 Group Structure Floor
SOUMBER FIELD
SOUTHGOBI RESOURCES LTD
Figure 22.5

Project No : ADV-MN-10013



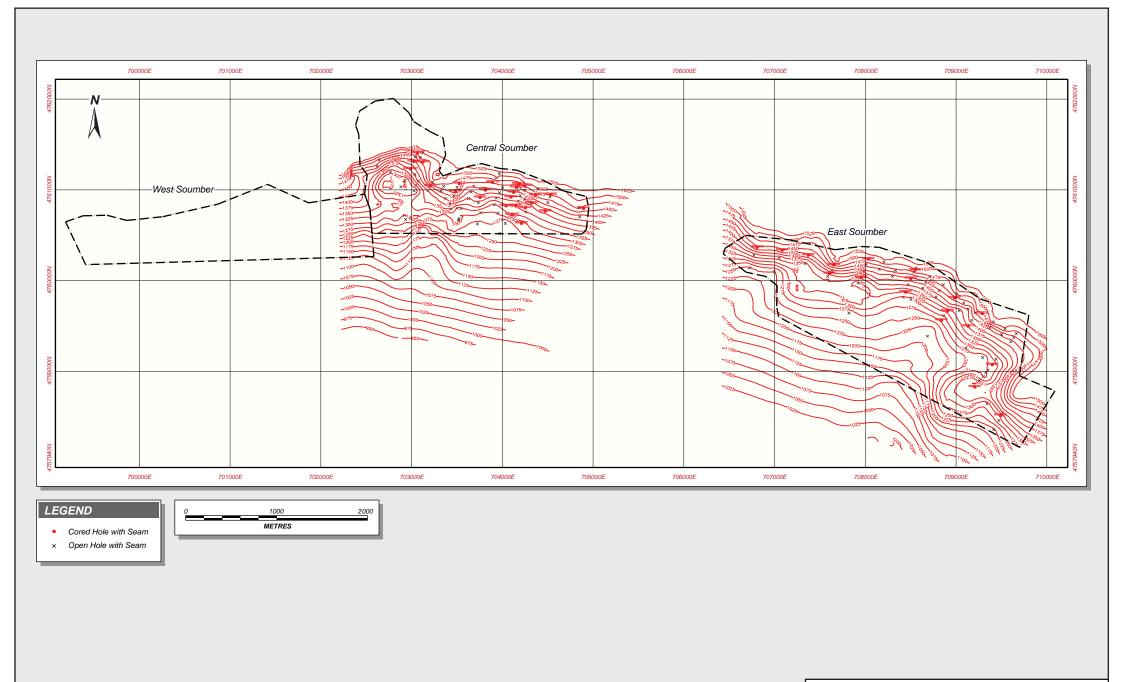
Cored Hole with Seam

× Open Hole with Seam

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Project No : ADV-MN-10013

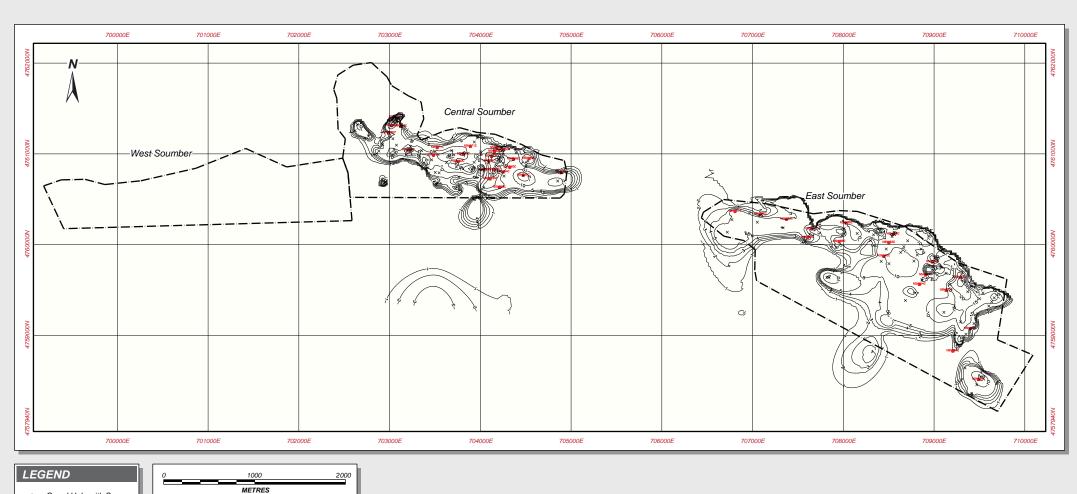
Figure 22.6 SOUTHGOBI RESOURCES LTD SOUMBER FIELD Seam 3 Group Thickness



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Project No : ADV-MN-10013

Figure 22.7 SOUTHGOBI RESOURCES LTD SOUMBER FIELD Seam 2 Group Structure Floor



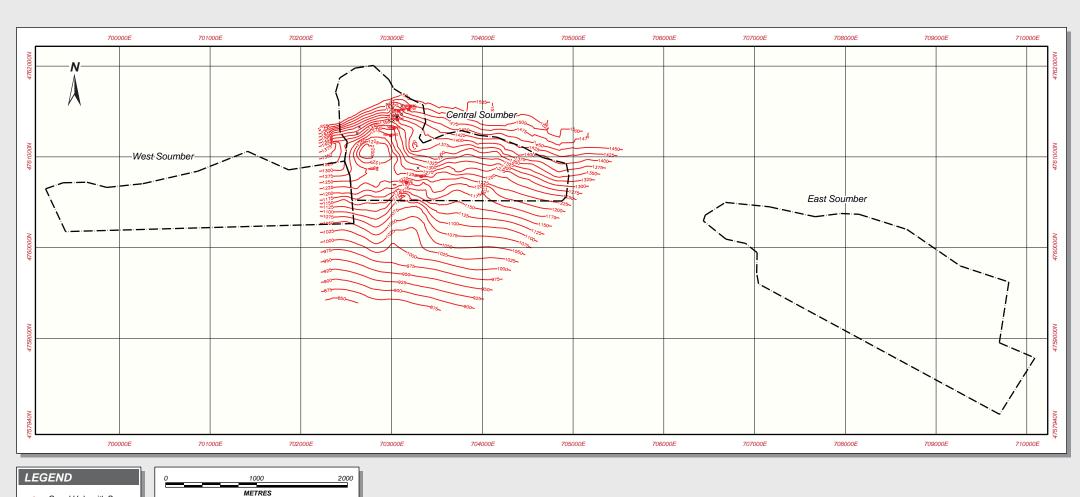
Cored Hole with Seam

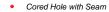
× Open Hole with Seam

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Project No : ADV-MN-10013

Figure 22.8 SOUTHGOBI RESOURCES LTD SOUMBER FIELD Seam 2 Group Thickness



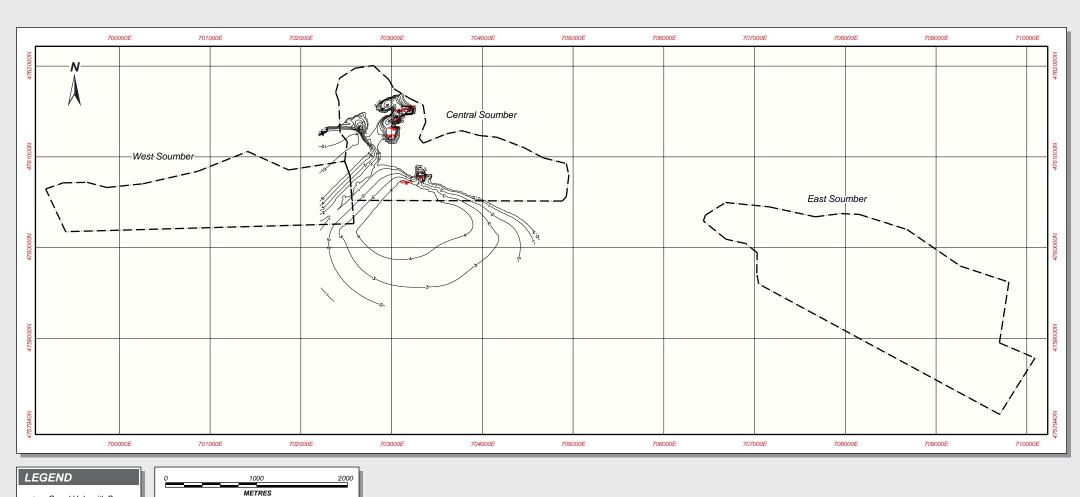


× Open Hole with Seam

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Project No : ADV-MN-10013

Figure 22.9 SOUTHGOBI RESOURCES LTD SOUMBER FIELD Seam 1 Group Structure Floor



Cored Hole with Seam

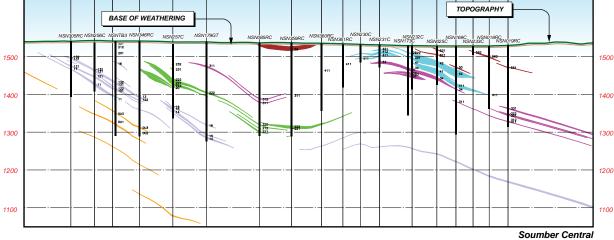
× Open Hole with Seam

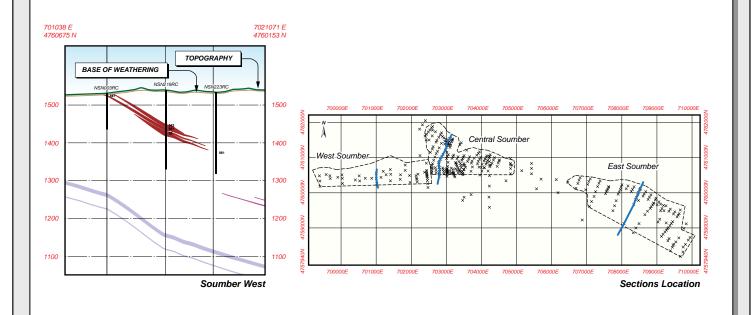
 minArco
 Figure 22.10

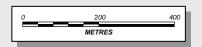
 SOUTHGOBI RESOURCES LTD
 SOUMBER FIELD

 Project No: ADV-MN-10013
 Seam 1 Group Thickness





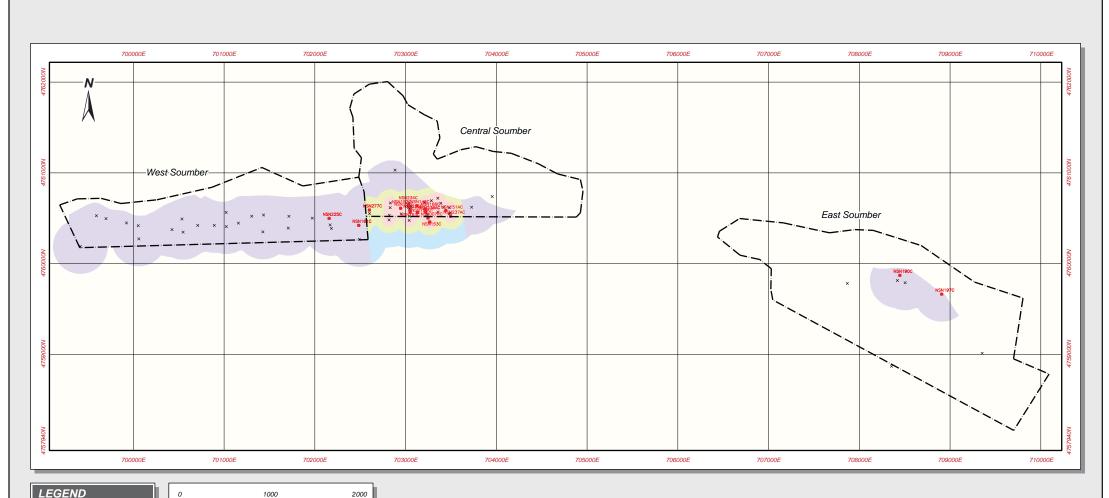




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Project No : ADV-MN-10013

Figure 22.11 SOUTHGOBI RESOURCES LTD SOUMBER FIELD Typical Cross Sections





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Potential Coal Tonnes
 Cored Hole with Seam

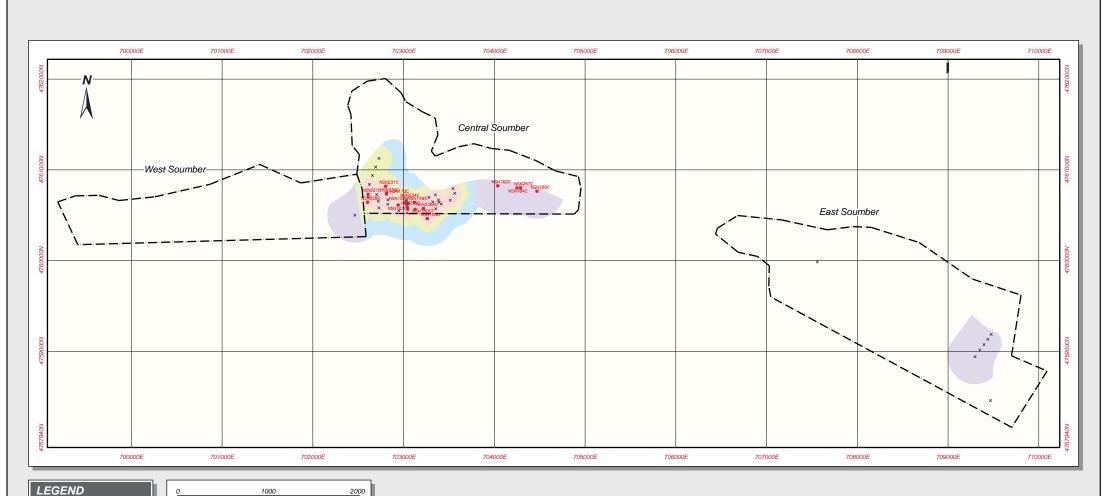
× Open Hole with Seam

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 Figure 22.12

 SOUTHGOBI RESOURCES LTD

 SOUMBER FIELD

 Project No : ADV-MIN-10013

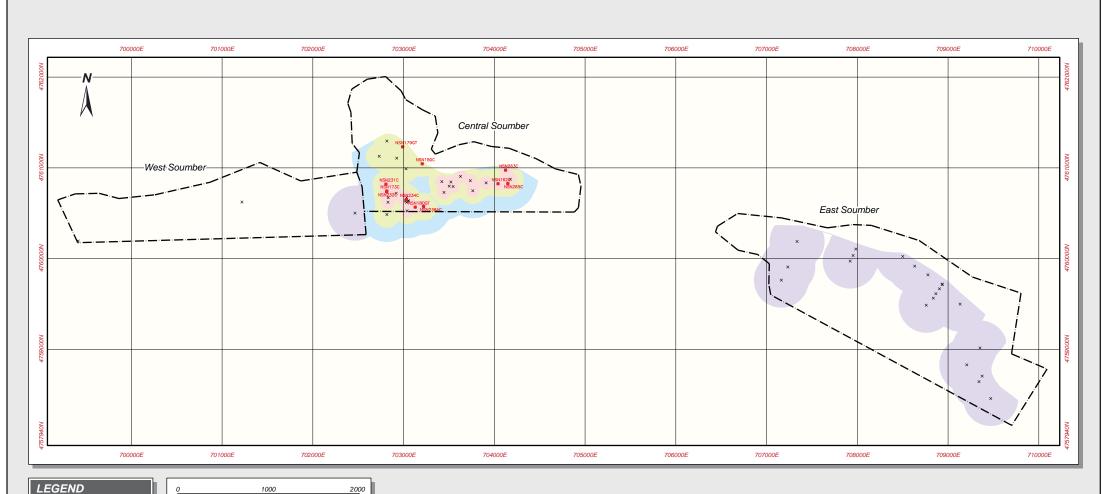




Measured Resource Indicated Resource Inferred Resource Potential Coal Tonnes Cored Hole with Seam . × Open Hole with Seam

METRES

min∧rco mineconsult> Figure 22.13 SOUTHGOBI RESOURCES LTD SOUMBER FIELD Seam 4 Group Resource Polygons Project No : ADV-MN-10013



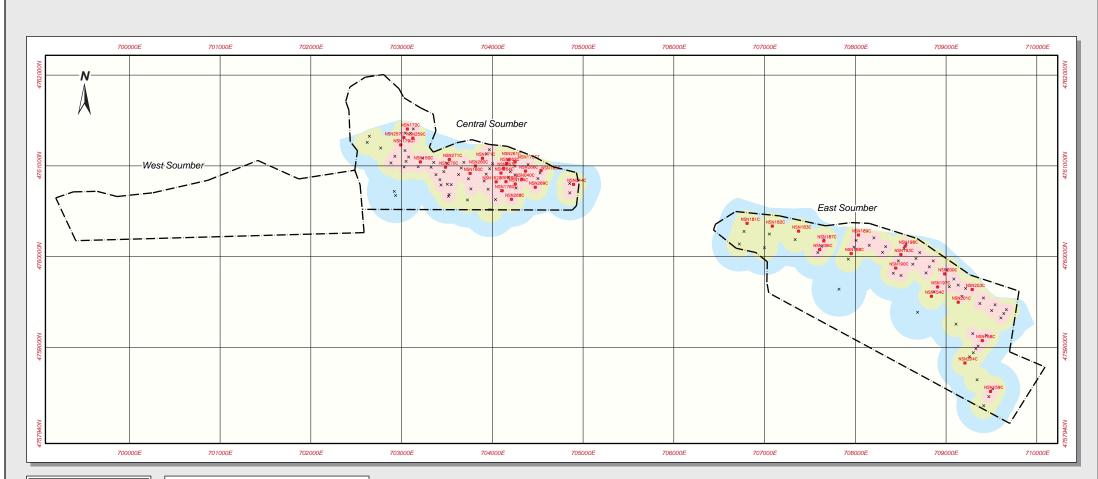


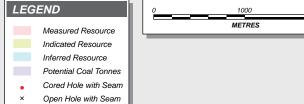
Measured Resource Indicated Resource Inferred Resource Potential Coal Tonnes Cored Hole with Seam . × Open Hole with Seam

1000 METRES

> min∧rco mineconsult> Project No : ADV-MN-10013

Figure 22.14 SOUTHGOBI RESOURCES LTD SOUMBER FIELD Seam 3 Group Resource Polygons

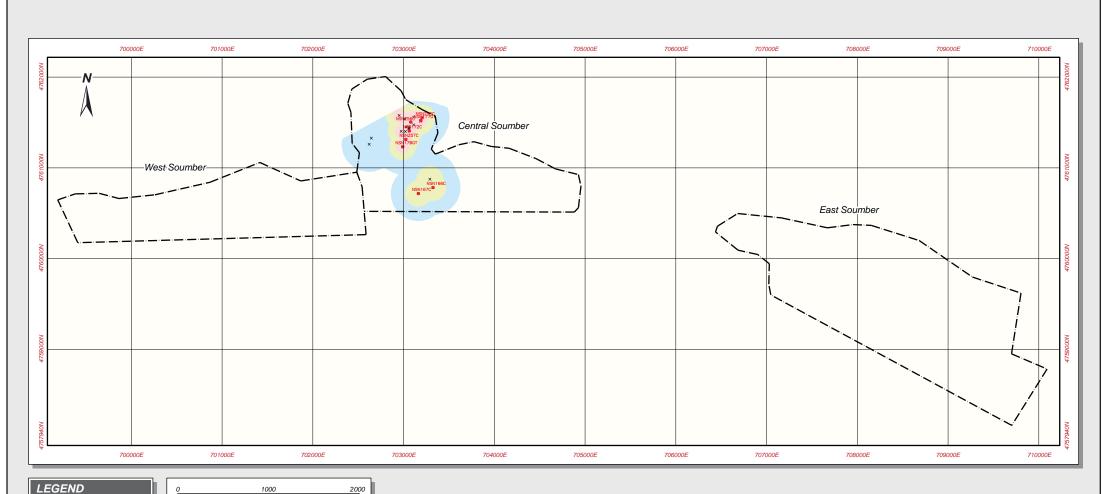




2000

Project No : ADV-MN-10013

Figure 22.15 SOUTHGOBI RESOURCES LTD SOUMBER FIELD Seam 2 Group Resource Polygons



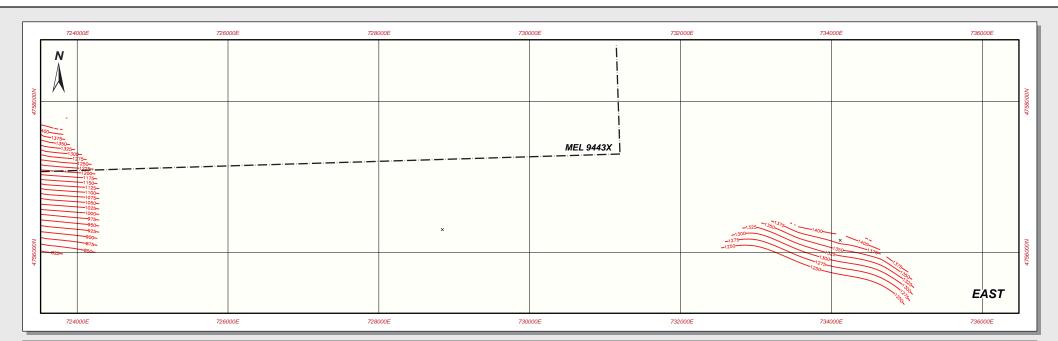


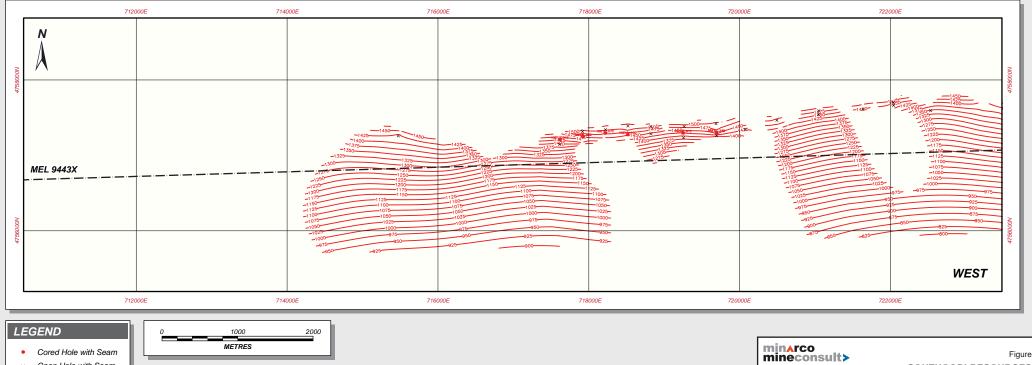
Measured Resource Indicated Resource Inferred Resource Potential Coal Tonnes Cored Hole with Seam . × Open Hole with Seam

1000 METRES

> min∧rco mineconsult> Project No : ADV-MN-10013

Figure 22.16 SOUTHGOBI RESOURCES LTD SOUMBER FIELD Seam 1 Group Resource Polygons

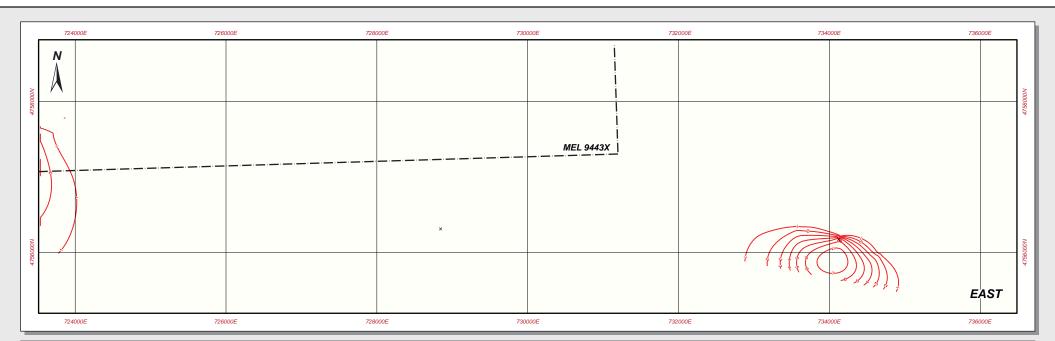


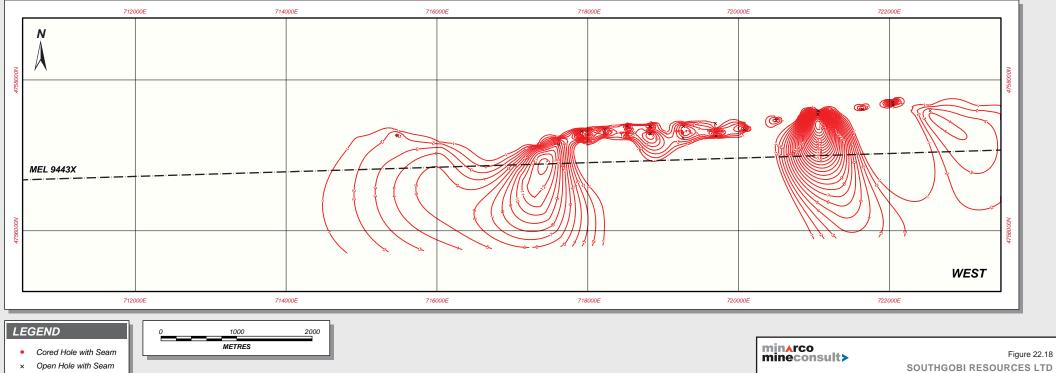


× Open Hole with Seam

Figure 22.17 SOUTHGOBI RESOURCES LTD BILUUT FIELD Seam 23 Group Structure Floor

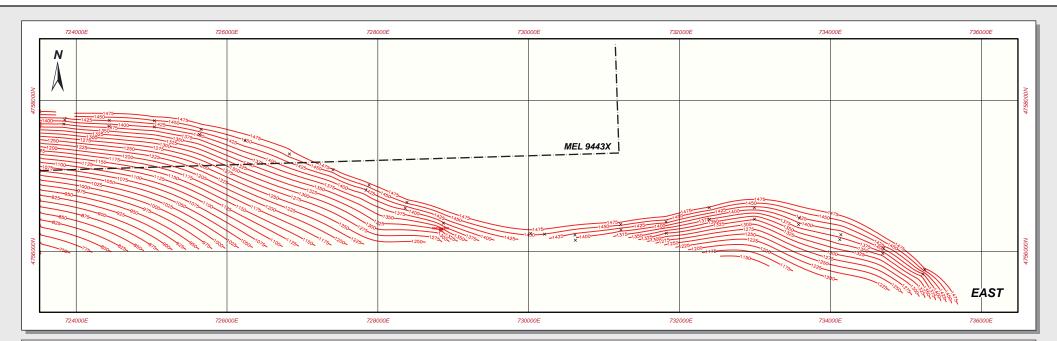
Project No : ADV-MN-10013

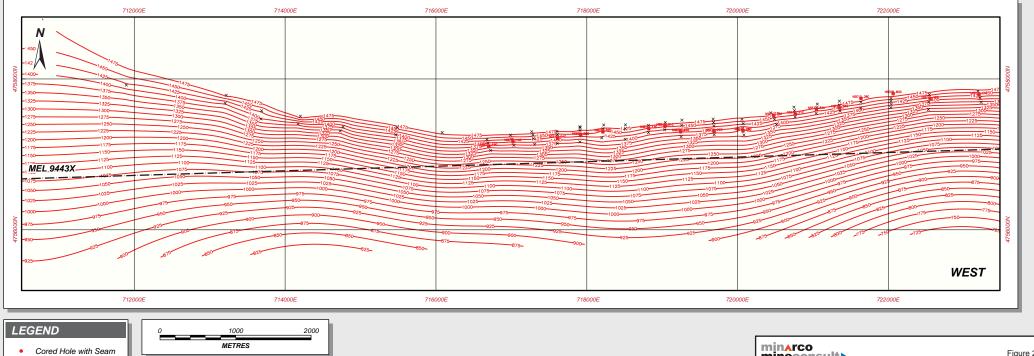




Project No : ADV-MN-10013

BILUUT FIELD Seam 23 Group Thickness

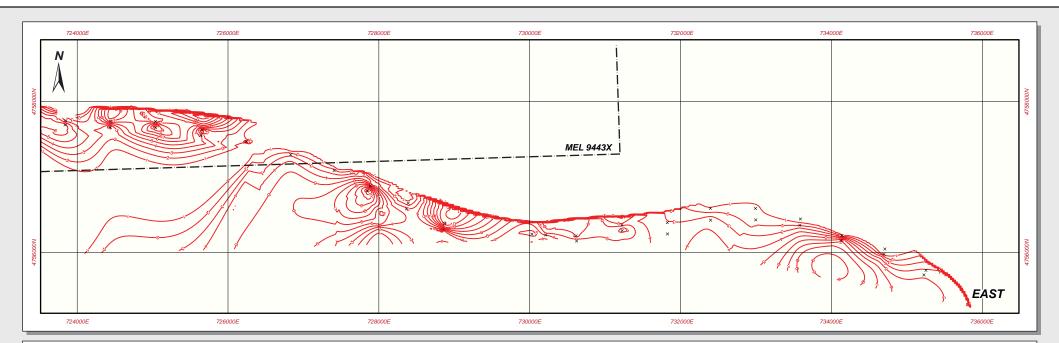


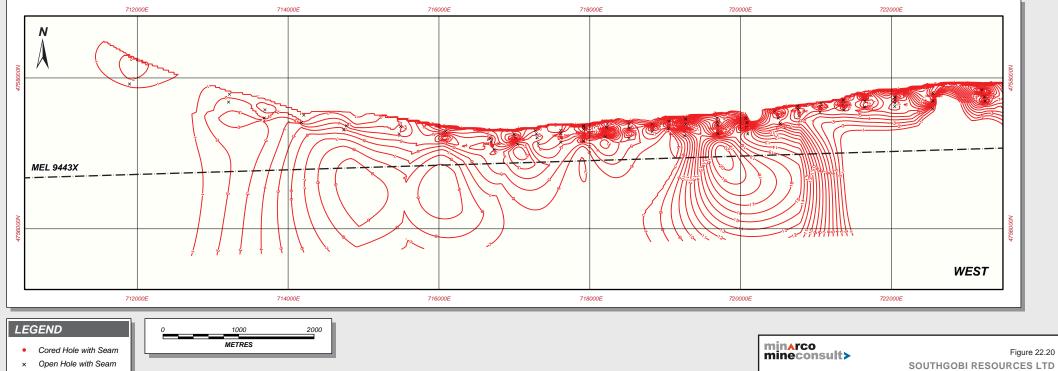


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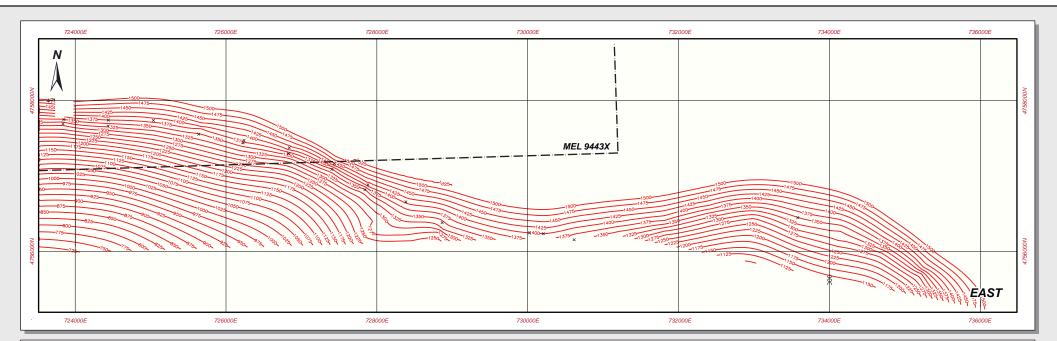
Figure 22.19 SOUTHGOBI RESOURCES LTD BILUUT FIELD Seam 22 Group Structure Floor

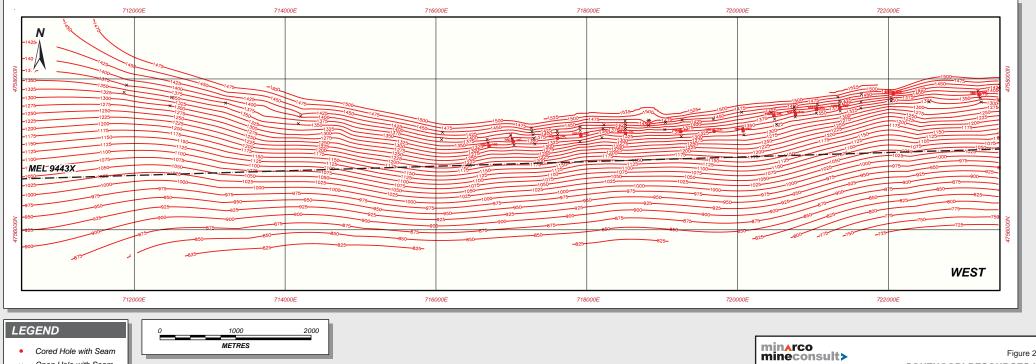
× Open Hole with Seam





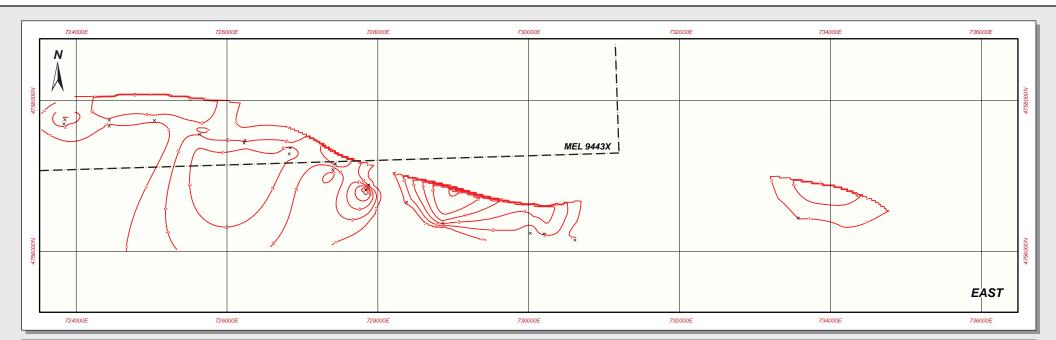
BILUUT FIELD Seam 22 Group Thickness

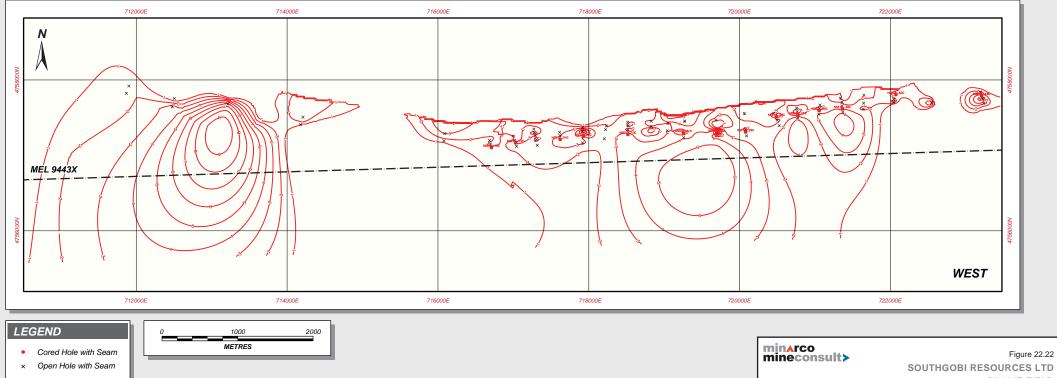




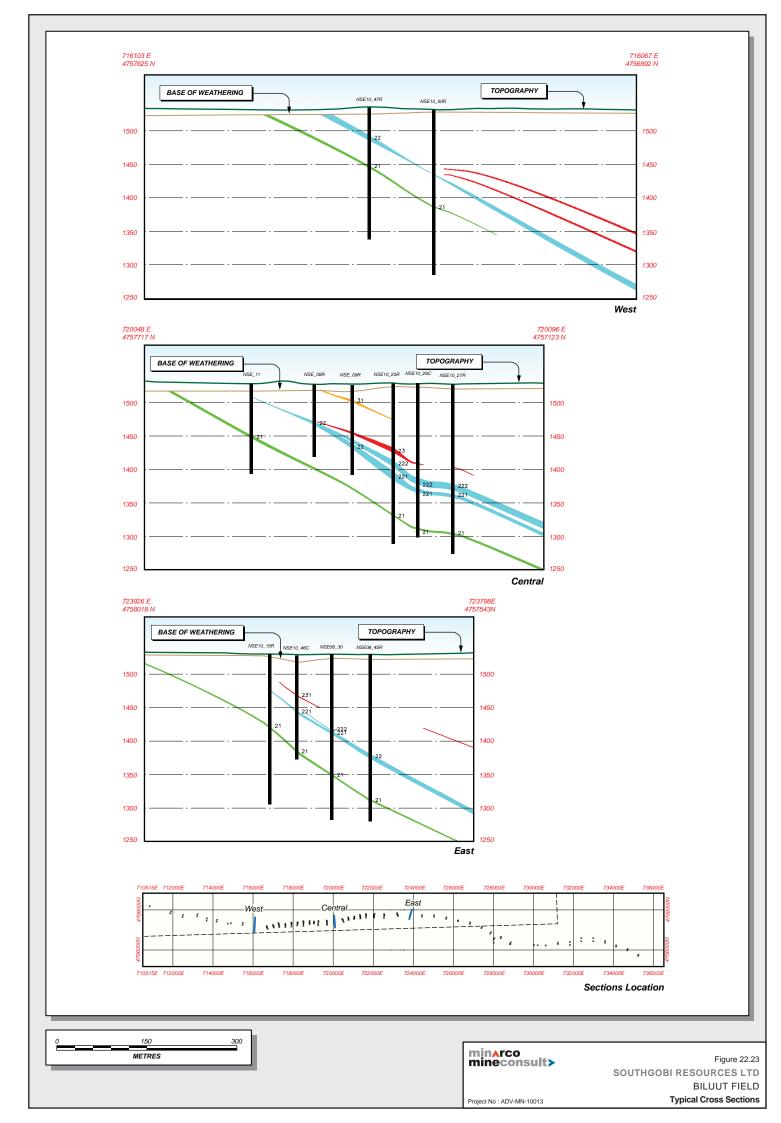
× Open Hole with Seam

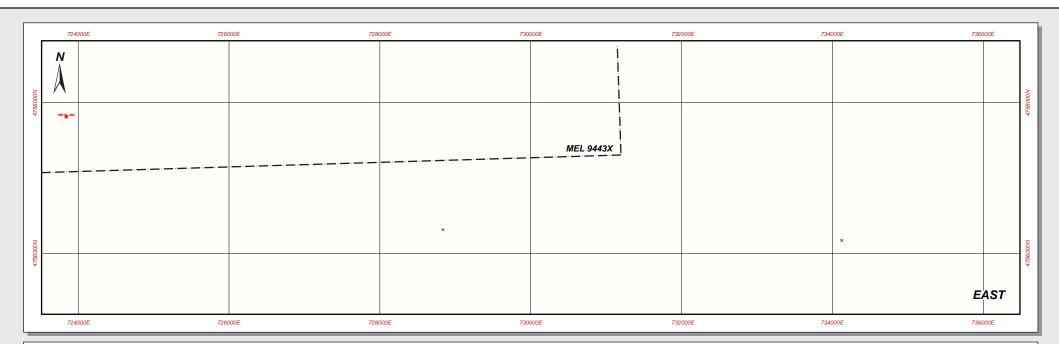
Figure 22.21 SOUTHGOBI RESOURCES LTD BILUUT FIELD Seam 21 Group Structure Floor

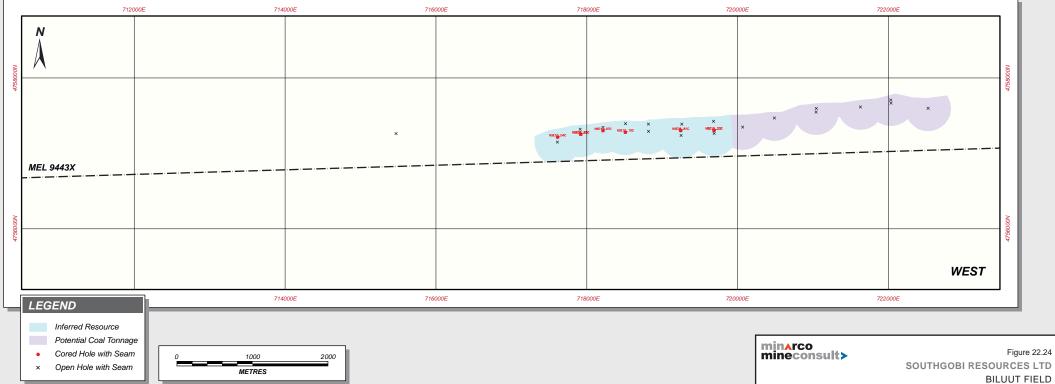




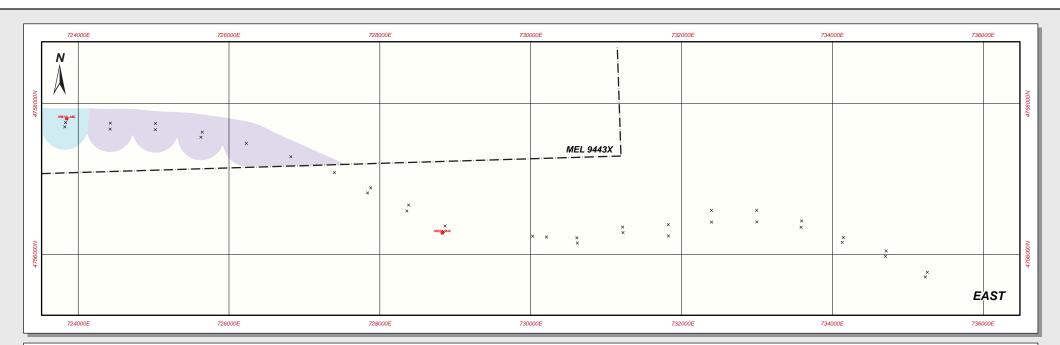
BILUUT FIELD Seam 21 Group Thickness

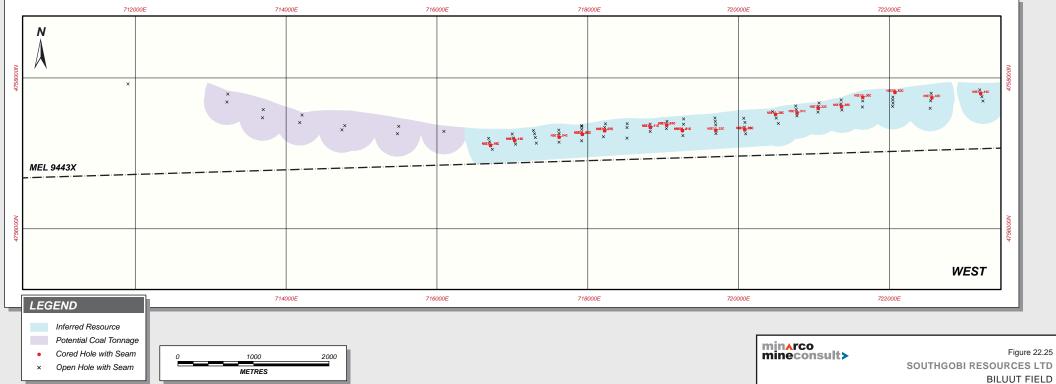




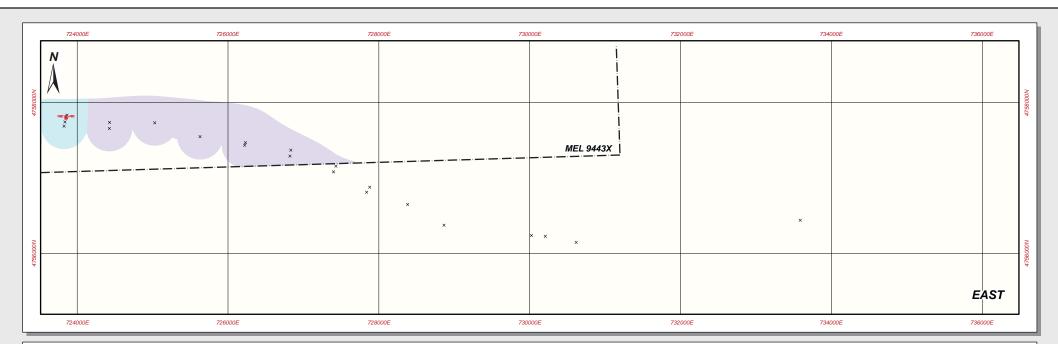


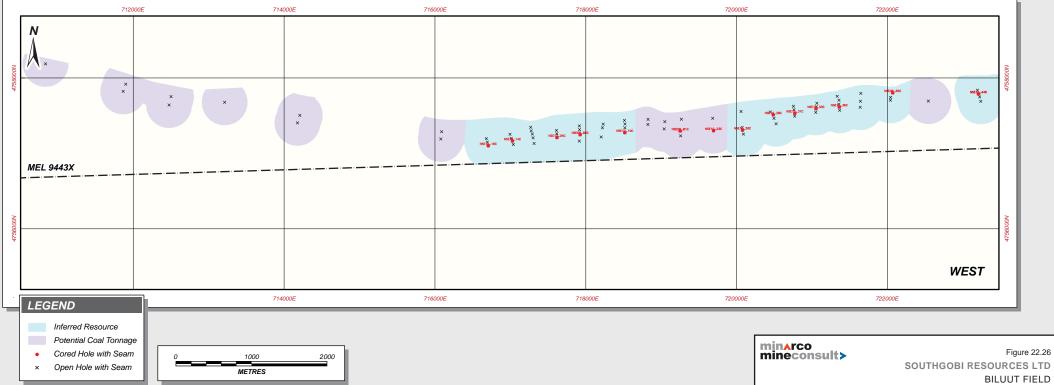
Seam 23 Group Resource Polygons





Seam 22 Group Resource Polygons





Seam 21 Group Resource Polygons

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24 DATE AND SIGNATURE PAGE

The effective date of publication of this technical report is 28 March 2011

Dated at Brisbane, Australia, this 28 March 2011 ORIGINAL SIGNED BY AUTHOR

"Merryl Peterson"

Merryl Peterson Principal Geologist Runge Limited (Minarco-MineConsult is a trading division of Runge Limited)

Following is a signed and dated Certificate of Qualifications of the person involved in preparing this report.

CERTIFICATE OF QUALIFICATIONS

I, Merryl Peterson, am working as a Principal Geologist at Runge Limited, of Level 12, 333 Ann Street, Brisbane QLD, Australia. Minarco-MineConsult is a trading division of Runge Limited. This certificate applies to the Technical Report on the Resource Estimate for the Soumber Deposit, Mongolia, prepared for SouthGobi Resources Ltd, dated 28 March 2011 (the "Technical Report"), do hereby certify that:

1. I am a registered member of the Australasian Institute of Mining and Metallurgy (AIMM).

2. I am a graduate of University of Western Australia and hold an Honours Degree in Geology.

3. I have been continuously and actively engaged in the assessment, development, and operation of mineral projects since my graduation from university in 1972.

4. I am a Qualified Person for the purposes of the National Instrument 43-101 of the Canadian Securities Administrators ("Ni 43-101").

5. I inspected the Soumber Deposit between the dates 18th to 22nd November 2010.

6. I am responsible for the preparation or the supervision and final editing of all portions of the Technical Report.

7. I have had no prior involvement with the properties that are the subject of the Technical Report.

8. To the best of my knowledge, information and belief, the technical report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading. I am not aware of any material fact or material change with respect to the subject matter of the Technical Report that is not reflected in the Technical Report, the omission to disclose which makes the Technical Report misleading.

9. I am independent of SouthGobi Resources Ltd in accordance with the application of Section 1.4 of NI 43-101.

10. I have read NI 43-101 and Form 43-101F1 and the Technical Report has been prepared in compliance with that instrument and form.

11. I consent to the filing of the Technical Report with any stock exchange or any other regulatory authority and any publication by them for regulatory purposes, including electronic publication in the public company files on their website and accessible by the public, of the Technical Report.

Dated at Brisbane, Australia, this 28 March 2011 "Merryl Peterson"

Merryl Peterson

25 APPENDIX A – GLOSSARY OF TERMS

The key terms used in this report include:

- **Company** means SouthGobiResources Ltd "SGQ" or "the Client".
- concentrate a powdery product containing higher concentrations of minerals resulting from initial processing of mined ore to remove some waste materials; a concentrate is a semi-finished product, which would still be subject to further processing, such as smelting, to effect recovery of metal
- **contained** refers to the amount of pure metal equivalent estimated to be contained in the material based on the metal grade of the material.
- element Chemical symbols used in this report

Au – Gold

- Ag Silver
- As Arsenic
- $\mathsf{Cu}-\mathsf{Copper}$
- Pb Lead
- Zn Zinc
- exploration activity to identify the location, volume and quality of a mineral occurrence
- Exploration Target/Results includes data and information generated by exploration programmes that may be of use to investors. The reporting of such information is common in the early stages of exploration and is usually based on limited surface chip sampling, geochemical and geophysical surveys. Discussion of target size and type must be expressed so that it cannot be misrepresented as an estimate of Mineral Resources or Ore Reserves.
- exploration the licensed right to identify the location, volume and quality of a mineral occurrence
- **flotation** is a separation method for to the recovery of minerals using reagents to create a froth that collects target minerals
- gangue is a mining term for waste rock
- grade any physical or chemical measurement of the concentration of the material of interest in samples or product. The units of measurement should be stated when figures are reported
- grind means to crush, pulverize, or reduce to powder by friction, especially by rubbing between two hard surfaces
- In situ
 means rock or mineralisation in place in the ground
- In Situ
 Quantities
 Estimates of total in ground tonnes and grade which meet the requirements of the PRC
 Code or other international codes for reserves but do not meet either NI 43-101 or Joint Ore
 Reserves Committee's recommendations
- Indicated Mineral Resource
 is that part of a Mineral Resource for which quantity, grade or quality, densities, shape and physical characteristics, can be estimated with a level of confidence sufficient to allow the appropriate application of technical and economic parameters, to support mine planning and evaluation of the economic viability of the deposit. The estimate is based on detailed and reliable exploration and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes that are spaced closely enough for geological and grade continuity to be reasonably assumed.
- Inferred Mineral Resource
 is that part of a Mineral Resource for which quantity and grade or quality can be estimated on the basis of geological evidence and limited sampling and reasonably assumed, but not verified, geological and grade continuity. The estimate is based on limited information and sampling gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes.
- ITR stands for Independent Technical Review
- ITRR stands for Independent Technical Review Report
- km stands for kilometre
- kt stands for thousand tonnes

right

- Ib stands for pound, a unit of weight equal to 453.592 grams
- m stands for metres
- Mineral Resource is a concentration or occurrence of diamonds, natural solid inorganic material, or natural solid fossilized organic material including base and precious metals, coal, and industrial minerals in or on the Earth's crust in such form and quantity and of such a grade or quality that it has reasonable prospects for economic extraction. The location, quantity, grade, geological characteristics and continuity of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge.
- Measured Mineral Resource
 is that part of a Mineral Resource for which quantity, grade or quality, densities, shape, and physical characteristics are so well established that they can be estimated with confidence sufficient to allow the appropriate application of technical and economic parameters, to support production planning and evaluation of the economic viability of the deposit. The estimate is based on detailed and reliable exploration, sampling and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes that are spaced closely enough to confirm both geological and grade continuity.
- metallurgy Physical and/or chemical separation of constituents of interest from a larger mass of material. Methods employed to prepare a final marketable product from material as mined. Examples include screening, flotation, magnetic separation, leaching, washing, roasting etc.
- mine is the total raw production from any particular mine
- production
 Mineable Estimates of in ground tonnes and grades which are recoverable by mining Quantities
- Mineral Reserve
 is the economically mineable part of a Measured or Indicated Mineral Resource demonstrated by at least a Preliminary Feasibility Study. This Study must include adequate information on mining, processing, metallurgical, economic and other relevant factors that demonstrate, at the time of reporting, that economic extraction can be justified. A Mineral Reserve includes diluting materials and allowances for losses that may occur when the material is mined.
- **mineral right** for purposes of this report, mineral right includes exploration right, mining right, and leasehold exploration or mining right
- **mineralisation** any single mineral or combination of minerals occurring in a mass, or deposit, of economic interest. The term is intended to cover all forms in which mineralisation might occur, whether by class of deposit, mode of occurrence, genesis or composition
- **mining rights** means the rights to mine mineral resources and obtain mineral products in areas where mining activities are licensed
- MMC refers to Minarco-MineConsult
- mRL means metres above sea level
- Mt stands for million tonnes
- Mtpa means million tonnes per annum
- NI 43-101 Means National Instrument 43-101
- **OC** Means open cut mining which is mining from a pit open to surface and usually carried out by stripping of overburden materials
- **ore** is the portion of a reserve from which a metal or valuable mineral can be extracted profitably under current or immediately foreseeable economic conditions
- **ore processing** is the process through which physical or chemical properties, such as density, surface reactivity, magnetism and colour, are utilized to separate and capture the useful components of ore, which are then concentrated or purified by means of flotation, magnetic selection, electric selection, physical selection, chemical selection, reselection, and combined methods
- ore selection the process used during mining to separate valuable ore from waste material or barren rock residue
- ore t stands for ore tonne
- primary are mineral deposits formed directly from magmas or hydrothermal processes
- mineral deposits

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- Probable Ore Reserve
 A 'Probable Mineral Reserve' is the economically mineable part of an Indicated and, in some circumstances, a Measured Mineral Resource demonstrated by at least a Preliminary Feasibility Study. This Study must include adequate information on mining, processing, metallurgical, economic, and other relevant factors that demonstrate, at the time of reporting, that economic extraction can be justified.
- **project** means a deposit which is in the pre-operating phase of development and, subject to capital investment, feasibility investigations, statutory and management approvals and business considerations, may be commissioned as a mine
- Proven Ore Reserve
 A 'Proven Mineral Reserve' is the economically mineable part of a Measured Mineral Resource demonstrated by at least a Preliminary Feasibility Study. This Study must include adequate information on mining, processing, metallurgical, economic, and other relevant factors that demonstrate, at the time of reporting, that economic extraction is justified.
- **raw ore** is ore that has been mined and crushed in an in-pit crusher, but has not been processed further
- **recovery** The percentage of material of initial interest that is extracted during mining and/or processing. A measure of mining or processing efficiency
- regolith is a geological term for a cover of soil and rock fragments overlying bedrock
- Qualified Person (QP)
 A "Qualified Person" means an individual who is an engineer or geoscientist with at least five years of experience in mineral exploration, mine development or operation or mineral project assessment, or any combination of these; has experience relevant to the subject matter of the mineral project and the technical report; and is a member or licensee in good standing of a professional association.
- Resources
 A Mineral Resource is a concentration or occurrence of diamonds, natural solid inorganic material, or natural solid fossilized organic material including base and precious metals, coal, and industrial minerals in or on the Earth's crust in such form and quantity and of such a grade or quality that it has reasonable prospects for economic extraction. The location, quantity, grade, geological characteristics and continuity of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge.
- RL means Reduced Level, an elevation above sea level
- RMB stands for Chinese Renminbi Currency Unit;
- **RMB/t** stands for Chinese Renminbi per material tonne
- **ROM** stands for run-of-mine, being material as mined before beneficiation
- **saprolite** is a geological term for weathered bedrock
- secondary mineral deposits
 are mineral deposits formed or modified as a result of weathering or erosion of primary mineral deposits
- shaft a vertical excavation from the surface to provide access to the underground mine workings
- sq.km Square Kilometre
- t stands for tonne
- t/bcm stands for tonnes per bank cubic metre (i.e. tonnes in situ) a unit of density
- **tonnage** An expression of the amount of material of interest irrespective of the units of measurement (which should be stated when figures are reported)
- tonne refers to metric tonne
- tpa stands for tonnes per annum
- tpd stands for tonnes per day
- UG means underground mining which is an opening in the earth accessed via shafts, declines or adits below the land surface to extract minerals
- upgrade ratio is a processing factor meaning ROM Grade% / Product Grade %
- USD stands for United States dollars
- \$ refers to United States dollar currency Unit

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26 APPENDIX B – DETAILED SEAM TABLES

Table B1
Soumber Field Coal Seam Characteristics

Seem	Ne heles		Interburden (m)		
Seam	No. holes	Mean	Minimum	Maximum	Mean
562	38	2.45	0.00	9.16	
561	31	3.18	0.00	9.26	3.10
56	3	11.89	7.69	16.29	
552	13	3.45	0.78	6.60	1.84
551	14	1.71	0.00	5.29	2.88
55	7	11.21	8.32	13.63	
542	14	2.67	0.00	11.39	7.54
541	13	2.37	0.00	7.53	1.49
54	5	9.86	8.11	11.30	
532	7	3.15	0.00	6.01	5.07
531	25	2.70	0.00	6.10	4.05
53	8	9.60	7.94	11.49	
522	8	1.46	0.00	3.00	6.61
521	15	2.63	0.00	6.02	2.64
52	13	7.37	3.80	11.57	
512	23	3.79	0.00	9.36	4.40
511	35	4.07	0.00	12.96	2.87
51	3	14.62	13.12	15.95	
50	15	3.21	0.00	9.20	2.49
422	23	4.73	0.00	11.91	7.00
421	24	4.35	0.00	12.50	3.57
42	5	16.16	12.63	23.83	0.01
412	10	3.28	0.72	8.66	4.56
411	33	4.46	0.00	32.10	4.04
41	9	12.03	8.54	18.94	1.01
40	18	4.95	0.00	19.40	4.55
34	15	5.62	0.00	14.20	7.89
332	13	4.38	0.00		
332 331	18	4.38 3.92	0.00	12.90 12.62	3.11 3.93
33	5	13.43	10.31	16.10	3.93
	7				7.02
322	10	3.67 1.89	0.00 0.00	10.25 7.21	7.93 3.36
321 32	8	13.08	8.01	24.11	3.30
	17		0.40	10.03	E 0.9
312 311	64	3.57 2.06	0.40	8.24	5.98 2.24
31	9	10.99	7.55	8.24 16.99	2.24
232	14	1.88	0.00	3.25	32.83
231	12	1.81	0.00	5.57	9.50
222	40	3.79	0.00	13.33	19.15
221	80	3.80	0.00	15.37	7.31
220	8	1.65	0.64	3.56	5.08
22	7	9.68	7.15	13.20	40.04
212	50	2.99	0.00	11.87	10.94
211	114	4.13	0.00	15.63	3.15
21	20	10.78	7.41	24.40	
202	39	1.96	0.10	6.28	5.83
201	45	1.47	0.00	6.42	2.35
20	8	3.60	0.00	6.22	
2	3	16.65	13.32	18.38	



Coord	No. holes		Thickness (m)								
Seam	No. holes	Mean	Minimum	Maximum	Mean						
16	10	3.06	0.00	9.40	23.84						
15	6	4.52	1.79	7.26	12.01						
14	9	3.31	0.00	6.66	5.71						
132	6	1.35	0.60	1.68	6.95						
131	5	2.27	0.90	6.23	2.30						
13	3	6.40	4.33	7.76							
122	7	6.26	1.79	15.50	13.00						
121	9	4.50	2.73	9.24	2.24						
11	12	3.43	0.00	9.48							
0U3	10	2.80	1.54	4.61	51.96						
0U2	9	4.40	0.79	12.60	12.67						
0U1	11	3.23	1.30	6.20							
0M3	4	1.56	0.00	3.11	83.10						
0M2	3	3.60	2.30	5.61	10.53						
0M1	9	0.21	0.00	1.00	4.10						
0L3	2	1.29	0.00	2.58	80.02						
0L22	1	1.67	1.67	1.67	76.49						
0L21	1	1.77	1.77	1.77	4.15						
0L2	3	4.37	2.57	5.31							
0L1	2	6.13	0.00	12.27	16.39						

 Table B2

 Biluut Field Coal Seam Characteristics

Seam	No. holes	Thick	ness (m)	Interburd	len (m)
Seam	NO. NOIES	Mean	Minimum	Maximum	Mean
32	3	4.41	1.12	7.36	38.54
31	7	3.22	0.93	6.79	
232	8	4.61	1.87	7.97	60.18
231	11	5.31	1.05	16.50	5.36
23	17	5.54	0.00	10.00	
222	45	4.93	0.52	13.40	22.61
221	106	3.70	0.00	14.37	2.29
22	24	8.23	0.00	24.88	
212	7	2.93	0.89	4.92	64.31
211	9	1.48	0.00	3.50	1.77
21	90	2.58	0.66	8.16	

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Table B3

Soumber Drillhole Quality Statistics

	Relative density		FSI		h	l Sulphur % a	Total	ka ad	c Value kcal/	Calorifi	ad	tile matter %	Vola		Ash % ad		bad	nt moisture %	Inherer	or.	moisture % a	Total	No. holes	Seam
B62 4 7.2 12.3 9.6 0.4 0.6 0.5 1.7 9.4 3.4 2 1.4 1.0 1.5 1.5 1.0 0.5 1.4 0.05 0.5 1.5 1.0 051 4 0.5 0.5 0.4 1.5 0.5	1 1	Mean		Minimum	1			- U				1		Mean			1			T	1		NO. HOIES	Seam
951 4 5.0 10.6 11.6 0.4 0.5 0.4 21.3 4.6.5 3.0 11.4 10.0 <th>1.39 2.04 1.</th> <th></th> <th>4</th> <th>562</th>	1.39 2.04 1.																						4	562
552 2 - 9.5 0.3 0.5 0.4 21.3 556 34.4 13.6 11.3 13.6 11.6 13.6 14.6 13.6 14.3 13.0 13.7 3283 6451 487 13.6	1.53 1.81 1.																						4	
5542 4 575 185 185 186 187 1877 1887 6821 5781 0.04 1.04 0.34 0.0 2.0 15.3 544 4 527 1571 10.3 304 6332 5544 0.4 1.21 0.42 1.21 0.42 1.21 0.42 1.21 0.42 1.21 0.42 0.0 1.21 0.44 1.03 0.00 2.5 1.5 <td>1.53 1.94 1.</td> <td>0.8</td> <td>1.0</td> <td>0.5</td> <td></td> <td></td> <td>0.02</td> <td></td> <td>6451</td> <td>3283</td> <td></td> <td>18.0</td> <td>13.4</td> <td></td> <td>55.6</td> <td></td> <td>0.4</td> <td></td> <td>0.3</td> <td>9.5</td> <td></td> <td></td> <td>2</td> <td>552</td>	1.53 1.94 1.	0.8	1.0	0.5			0.02		6451	3283		18.0	13.4		55.6		0.4		0.3	9.5			2	552
	1.88 2.11 2.4	0.6	1.0	0.3		0.55	0.36		3653	2911		14.3	13.5		57.9	49.0	0.8	1.1	0.5	11.8	16.9	9.0	3	55
6 H 3 8.8 14.1 12.2 0.5 0.8 0.7 14.9 41.7 28.1 14.3 17.6 16.8 4868 0.06 1.19 0.63 0.99 2.5 12.5 522 2 0.3 10.4 0.6 0.0 0.5 15.0 66.4 40.8 12.2 17.5 15.1 21.2 17.5 15.1 21.2 17.5 15.1 21.4 22.5 17.5 15.1 21.4 22.5 17.5 16.8 17.0 48.9 17.7 18.0 18.0 18.0 18.0 18.0 18.0 18.0 18.0 18.0 18.0 18.0 18.0 18.0 18.0 18.0 17.3 18.8 17.3 18.0 19.0 10.0 10.0 10.2 10.1 10.4 22.5 11.3 10.4 23.3 13.3 18.8 17.3 78.4 78.0 23.2 10.0 10.0 10.0 10.0 10.0 10.0 10.0<	1.51 1.96 1.																						2	
541 4 0.6 11.1 7.6 0.5 0.8 0.6 27.6 88.2 4.6 12.5 17.4 14.9 27.8 57.56 4007 0.11 1.68 0.01 0.0 0.10 6.0 22.5 15.5 53 4 5.8 1.7.9 4.3.8 1.6.8 1.7.9 4.3.8 1.6.8 1.7.8 3.7.9 0.4.8 0.6.8 0.6.8 0.7 0.5 1.4.8 0.8.9 1.0.9 1.6.8 1.6.8 1.6.8 1.6.8 1.6.8 1.6.8 1.6.8 1.6.8 1.6.8 1.6.8<	1.50 2.02 1.																						4	
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	1.47 2.12 1.47 1.52 1.72 1.72																						2 4	
	1.39 1.87 1.																						3	
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$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	1.47 1.91 1.4		2.5	0.8		1.12	0.21		7048	3731		18.8	13.3		51.4	15.1		0.7	0.4	10.7	13.6	7.5	4	
	1.37 1.62 1.4	3.6	8.3	1.0	0.61	1.30	0.06	6333	7436	5765	16.6	19.1	13.3	23.2	29.1	12.8	0.5	0.6	0.4	7.6			3	521
	1.56 1.94 1.	1.3	2.5	1.0	0.10	0.17	0.03	5329	6982	3976		20.6	14.1	32.0	48.0	14.9	0.5	0.7	0.4	11.5	14.2	8.7	2	512
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	1.51 1.54 1.																						2	
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	1.42 1.69 1.								-														4	
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	1.52 2.06 1.	1.0		0.5					5485								0.7	0.8		9.1			3	
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	1.41 1.92 1.		3.0	1.0		1.28	0.09		7186	4081		19.7	14.5		46.0	17.2		0.9	0.3		15.1	6.4	6	
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	1.02		2.0	0.0		1.00	0.00		7504	4400		10.4	10.0		45 4	10.4		2.4	0.0		04.0	F 0	1	
	1.93 1. 1.58 1.71 1.																				21.0	5.9	8	
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	1.57 1.96 1.																				13.5	6.8	2	
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	1.35 1.74 1.																						4	
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	1.43 1.68 1.4																						4	
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	1.53 1.75 1.												1		1								4	
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	1.37 1.71 1.																						4	
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	1.56 1.79 1.																						2	
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	1.49 1.52 1.4			1.7					6754	6063		23.0	17.0			17.4	0.5	0.8	0.2	5.7	9.1	3.7	3	
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	1.55 2.02 1.		1.6	1.1								18.1					0.8	0.9	0.6	4.2		4.2	2	322
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	1.36 1.48 1.4																						3	
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	1.41 1.79 1.4																						4	
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	1.34 1.35 1.35 1.47 1.78 1.78																						2	
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$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	1.38 1.87 1.																						4	
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	1.33 1.86 1.4 1.31 1.88 1.4																						-	
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	1.35 1.67 1.																						-	
220 3 2.4 9.7 5.8 0.7 0.9 0.8 11.3 60.1 40.9 10.9 20.7 15.2 2936 7559 4661 0.79 1.37 1.06 1.0 2.5 1.7 212 10 0.5 9.7 5.3 0.3 0.8 0.6 11.4 53.0 26.5 13.3 24.6 18.3 3600 7528 6074 0.33 4.14 1.42 1.0 9.0 5.1 21 7 3.9 8.5 6.2 0.3 0.9 0.6 11.6 37.5 19.6 14.4 22.1 18.0 5228 7375 6740 0.31 2.18 1.03 2.1 8.3 5.5 211 17 2.0 9.4 5.8 0.2 1.0 0.6 10.6 52.1 28.4 12.5 24.7 16.8 3583 8229 6117 0.24 3.47 1.10 0.5 9.0 4.6 202 8 1.5 10.2 6.2 0.4 2.0 0.7 <td< td=""><td>1.38 1.44 1.4</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>	1.38 1.44 1.4																							
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202 8 1.5 10.2 6.2 0.4 2.0 0.7 10.9 60.4 33.1 10.2 19.9 16.8 3407 7664 5702 0.32 2.34 1.03 1.0 7.5 4.7 2 1 2.4 2.4 1 0.3 1.0 1.9 11.9 15.3 15.3 7335 0.47 0.47 0.47 0.5 0.5 20 3 5.8 8.8 7.7 0.5 0.9 0.7 24.5 45.2 32.4 16.6 22.2 19.3 4119 6431 5604 0.84 1.24 1.02 3.4 3.4 3.4	1.40 1.68 1.4	5.5														11.6							7	
2 1	1.35 1.96 1.4	4.6		0.5								24.7			52.1	10.6	0.6	1.0	0.2	5.8	9.4	2.0	17	
20 3 5.8 8.8 7.7 0.5 0.9 0.7 24.5 45.2 32.4 16.6 22.2 19.3 4119 6431 5604 0.84 1.24 1.02 3.4 3.4 3.4	1.38 1.86 1.		7.5	1.0		2.34	0.32		7664	3407		19.9	10.2		60.4	10.9		2.0	0.4		10.2	1.5	8	
			2.4	0.4		4.04	0.04		0.404	4440		00.0	10.0		45.0	045		0.0	0.5			F 0	1	
	1.54 1.69 1.																							
	1.39 1.79 1.																						-	
	1.34 1.49 1.	8.2																					3	
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$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	1.39 1.39 1.3																							
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	1.00 1.00 1.		0.0	0.0			1.00		0102	0.02						10.0		0.0	0.0		0.0	0.0	1	
122 1 5.5 5.5 0.6 0.6 16.9 16.9 22.4 22.4 7327 7327 1.32 1.32 1.32 - - -	1.42 1.42 1.4	-	-	-		1.32	1.32		7327	7327		22.4	22.4		16.9	16.9		0.6	0.6		5.5	5.5	1	
121 2 5.6 7.8 6.7 0.4 0.7 0.6 14.2 17.1 15.7 22.8 22.9 6716 7636 7176 1.30 1.61 1.46 7.5 7.5 7.5	1.36 1.43 1.4	7.5		7.5																			2	
11 2 6.3 7.0 6.7 0.8 1.0 0.9 12.0 12.6 12.3 25.0 26.5 25.7 7436 7484 7460 1.48 1.58 1.53 6.9 7.3 7.1	1.32 1.40 1.3	7.1	7.3	6.9	1.53	1.58		7460	7484	7436		26.5	25.0	12.3	12.6	12.0	0.9	1.0	0.8	6.7	7.0	6.3	2	
OU2 2 1.5 4.9 3.2 0.3 0.6 0.4 10.1 10.3 10.2 24.8 25.5 25.2 7700 8071 7886 1.06 1.12 1.09 9.0 9.0 9.0 9.0	1.40 1.41 1.4	9.0	9.0	9.0	1.09	1.12	1.06	7886	8071	7700	25.2	25.5	24.8	10.2	10.3	10.1	0.4	0.6	0.3	3.2	4.9	1.5	2	0U2
0U1 1 5.8 0.2 11.1 23.8 7692 1.07 9.0	1.																						1	

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Table B4

Biluut Drillhole Quality Statistics

Coom		Total	moisture %	ar	Inheren	nt moisture %	ad ad		Ash % ad		Volati	le matter % a	ad	Calorific	value kcal/k	g ad	Total	sulphur % a	d		FSI		Rela	ative density	y
Seam	No. holes	Minimum	Maximum	Mean	Minimum	Maximum	Mean	Minimum	Maximum	Mean	Minimum	Maximum	Mean	Minimum	Maximum	Mean	Minimum	Maximum	Mean	Minimum	Maximum	Mean	Minimum	Maximum	Mean
32	1			12.5			0.4			21.4			23.7			6521			0.44			4.6			1.49
31	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
232	2	4.4	5.2	4.8	0.2	0.6	0.4	14.5	17.9	16.2	28.6	29.0	28.8	7022	7385	7203	0.34	0.61	0.48	3.8	9.0	6.4	1.38	1.40	1.39
23	4	1.6	7.3	5.0	0.3	0.5	0.4	11.8	24.5	16.3	26.9	31.4	29.8	6427	7580	7167	0.27	0.59	0.39	5.0	7.5	6.5	1.35	1.48	1.39
231	3	3.4	6.8	5.6	0.2	0.8	0.5	11.4	26.4	18.2	26.7	27.2	27.0	6095	7653	6936	0.20	0.81	0.56	3.7	9.0	7.1	1.33	1.52	1.42
222	8	1.9	9.7	4.5	0.1	1.0	0.6	10.5	40.8	19.0	12.5	31.9	24.9	4870	7786	6875	0.27	0.83	0.50	0.0	9.0	5.0	1.34	1.65	1.44
22	4	4.6	10.4	8.4	0.5	1.0	0.7	14.7	25.4	21.8	13.5	27.3	19.9	6089	7243	6500	0.50	1.09	0.77	0.4	7.5	3.1	1.39	1.58	1.50
221	16	1.6	14.8	7.9	0.2	1.1	0.6	14.6	55.0	29.4	9.3	27.4	17.5	2962	7258	5736	0.24	3.34	0.85	0.0	8.0	2.5	1.39	2.04	1.62
212	1			5.7			0.8			16.5			11.2			6863			0.44			0.0			1.54
21	14	2.0	9.8	5.2	0.2	1.0	0.7	11.7	27.9	17.7	7.5	12.9	11.0	5684	7336	6751	0.28	0.61	0.41	0.0	0.0	0.0	1.39	1.65	1.53
211	1			1.8			0.8			28.3			11.7			5635			0.28			0.0			1.65

Table B5

Soumber Field Summary of Resources 25th January 2011

Class	Volume Mcu.m.	Mass Mtonnes	Apparent Relative Density	Total Moisture % ar	Inherent Moisture % ad	Ash % ad	Volatile Matter % ad	Total Sulphur % ad	Calorific Value kcal/kg ad	FSI
Open Cut Resources										
5 Seam group										
Measured	3.10	5.10	1.65	8.7	0.6	32.3	16.6	0.39	5562	1.1
Indicated	1.11	1.74	1.58	4.8	0.6	30.1	16.4	0.20	5249	1.3
Mes+Ind	4.20	6.85	1.63	7.7	0.6	31.8	16.5	0.34	5482	1.1
Inferred	1.43	2.23	1.56	2.6	0.6	29.3	16.0	0.10	6268	1.1
4 Seam group										
Measured	2.99	4.82	1.61	9.3	0.6	28.7	16.9	0.50	5040	1.2
Indicated	1.31	2.16	1.65	8.5	0.6	31.3	16.9	0.41	4838	1.3
Mes+Ind	4.31	6.98	1.62	9.1	0.6	29.5	16.9	0.47	4978	1.3
Inferred	1.48	2.44	1.64	9.4	0.5	30.0	16.9	0.30	3827	1.3
3 Seam group										
Measured	3.02	4.53	1.50	7.1	0.6	17.0	18.7	0.69	7056	3.9
Indicated	1.98	2.97	1.51	8.3	0.6	18.7	18.8	1.07	7050	3.6
Mes+Ind	5.00	7.51	1.50	7.6	0.6	17.7	18.7	0.84	7054	3.8
Inferred	0.44	0.71	1.62	5.9	0.6	17.1	18.9	0.70	6646	3.3
2 Seam group										
Measured	13.32	19.17	1.44	6.7	0.7	21.4	18.1	1.19	6524	4.6
Indicated	11.16	15.60	1.40	6.3	0.7	21.6	17.0	0.93	6532	3.8
Mes+Ind	24.48	34.78	1.42	6.5	0.7	21.5	17.6	1.07	6528	4.2
Inferred	4.70	6.54	1.39	7.4	1.1	22.6	17.4	0.71	6561	3.9
1 Seam group								-		
Measured	0.94	1.47	1.57		0.6	26.5	21.8	0.75	6063	5.6
Indicated	0.61	0.96	1.58		0.4	27.3	20.6	0.87	5974	6.3
Mes+Ind	1.54	2.43	1.57		0.5	26.9	21.3	0.80	6028	5.9
Inferred	0.92	1.44	1.57		0.4	26.6	22.3	0.86	6010	7.1
0 Seam group			-		-		-			
Measured	1.20	1.68	1.40							
Indicated	0.84	1.18	1.40							
Mes+Ind	2.04	2.86	1.40							
Inferred	0.19	0.27	1.40							
Total Measured	24.57	36.78	1.50	7.4	0.6	23.6	17.9	0.90	6230	3.6
Total Indicated	17.00	24.62	1.45	6.7	0.0	23.0	17.3	0.84	6323	3.4
Total Mes+Ind	41.57	61.40	1.48	7.1	0.7	23.4	17.5	0.88	6267	3.5
Total Inferred	9.15	13.62	1.49	6.8	0.8	25.2	17.7	0.55	5959	3.2
"Potential Coal Tonnage"	0.10	10.02	1.10	0.0	0.0	20.2		0.00	0000	0.2
5 Seam group	13.00	21.07	1.62	6.9	0.5	29.3	17.4	0.69	6527	1.0
4 Seam group	1.57	2.23	1.43	9.3	0.5	16.8	18.2	1.28	7283	3.4
3 Seam group	2.96	4.65	1.43	9.3 7.7		26.9	15.2	0.38	5834	0.9
Total Potential	17.53	4.65 27.95	1.57 1.60	7.4	0.9 0.6	20.9 27.9	15.2	0.38 0.69	6472	0.9 1.2
I Ulai Fulenilai	17.33	21.90	1.00	1.4	0.0	21.9	17.1	0.09	04/2	1.2

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Table B6

Biluut Field Summary of Resources 25th January 2011

Class	Seam	Volume Mcu.m.	Mass Mtonnes	Relative density	Total moisture % ar	Inherent moisture % ad	Ash % ad	Volatile matter % ad	Total Sulphur % ad	Calorific value kcal/kg ad	FSI
Open Cut Resources											
Inferred	23	4.86	6.82	1.40	5.7	0.4	18.0	28.6	0.43	7020	6.5
Inferred	22	22.97	35.43	1.54	7.1	0.6	23.8	18.7	0.75	5551	3.1
Inferred	21	6.50	10.00	1.54	5.7	0.6	18.4	10.9	0.42	6715	0.0
	Total	34.33	52.24	1.52	6.6	0.6	22.0	18.5	0.64	5966	3.0
"Potential Coal Tonnage"											
"Potential"	23	3.46	4.89	1.43	4.6	0.6	21.0	28.9	0.30	6652	5.1
"Potential"	22	6.71	10.45	1.66	12.2	0.7	31.8	17.3	0.89	5424	2.8
"Potential"	21	6.91	10.57	1.53	5.4	0.6	17.0	11.1	0.42	6818	0.0
	Total	17.08	25.91	1.56	8.0	0.7	23.7	17.0	0.59	6224	2.1