SOUTHGOBI RESOURCES LTD ("SGQ")

COAL GEOLOGY AND RESOURCES, SOUMBER DEPOSIT, MONGOLIA

Technical Report

Qualified Person:
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Project No. ADV-MN-00092-A

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1 EXECUTIVE SUMMARY

This report has been prepared by Runge LLC, trading as Minarco-MineConsult (MMC), at the request of SouthGobi Resources Ltd (SGQ) in accordance with Canadian National Instrument 43-101. The estimate of Resources for the Soumber, Biluut, South Biluut and Jargalant fields was last reported in March 2012. This is an update of the Technical Report published in March 2012, incorporating revised Resource Estimates. Prior to March 2012, an estimate of Resources for the Soumber and Biluut fields was reported in October 2009 but no estimate of Resources for the South Biluut or Jargalant was previously reported. Subsequent to the site visit undertaken in 2011, no further work has been completed on site.

This updated estimate is based on the same technical data, geological model, and estimation methodology as the 2012 estimates. The resource estimate for Soumber field is materially unchanged from the 2012 quantities. The total resource estimate for the Biluut, South Biluut, and Jargalant fields has increased approximately 54%, 68%, and 83% respectively from the 2012 resource estimates.

This is due to anomalies which were identified in respect to how the software package used for the estimate aggregated and reported the resource. None of the increases in the resource estimates for SGQ are material within the meaning of NI43-101.

The increases detailed above were identified by MMC when reviewing the technical data for the resources in the course of on-going mine planning studies for SGQ. These studies included the reconciliation of MMC *Minescape* and MGBS *Minex* geological models. This reconciliation identified aggregation anomalies which resulted in an increase in the resource estimates that were originally reported.

The Soumber Deposit is approximately 20 kilometres east of the SGQ Ovoot Tolgoi Mine. The Deposit is 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.

SouthGobi Resources Ltd (SGQ) holds the Mongolian Mining Licence MV016869 and Mongolian Exploration Licences (MEL) 9443X and 9449X covering the Soumber, Biluut, South Biluut and Jargalant fields in southern Mongolia through its wholly owned subsidiary SouthGobi Sands LLC (SouthGobi). SGQ (SouthGobi) has applied for, and met all the requirements to extend the Exploration Licences as Pre-Mining Agreements, and expects to receive formal approval in due course. On January 18, 2013 SouthGobi was issued a Pre-Mining Agreement for MEL 9443X. SGQ SouthGobi has also applied for a Mining Licence covering the Central Soumber Field, part of MEL 9443X.

The Soumber, Biluut, South Biluut and Jargalant coal fields occur in Upper Permian strata, which are generally structurally disturbed with complex faulting and folding. The fields occur 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 40% of the Resources are contained in seam 2, which averages 5.9m in 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/Jargalant – the 1, 2 and 3 Seams (from the base upwards). Correlation of these seams with Soumber has not been undertaken. Approximately 60% of the Resources are contained in Seam 2, which averages 5.5m thick. The seams dip at 30 to 50 degrees southwards.

The Soumber and Biluut/Jargalant 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/Jargalant 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/Jargalant have been updated in 2011. Open pit Resources have been estimated to a depth of 300m, and Underground resources between depths of 300m and 600m, and incorporate all 2011 drilling results. Resources for the Soumber Deposit are summarised in Table 1.1.

Table 1.1 Summary of Soumber Deposit Resources 10th January 2013

Area	Seam group	Measured Mt	Indicated Mt	Mes+Ind Mt	Inferred Mt
Surface depth < 300m					
Central Soumber	5	4.6	3.7	8.3	2
	4	5.8	1.9	7.6	2
	3	3.8	2.1	5.9	1
	2	12.2	3.3	15.5	2
	1	1.6	1.9	3.5	2
	0	2.8	3.4	6.2	2
	TOTAL	**30.8**	**16.3**	**47.1**	**11**
East Soumber	5	0	0	0	0
	4	0	0	0	1
	3	0	4	4	4
	2	16.9	11.1	28	5
	1	0	0	0	0
	TOTAL	**16.9**	**15.1**	**32**	**10**
Biluut	2U	0.9	7.3	8.1	9
	2L	9.1	31.8	40.9	6
	1U	0	0	0	0
	1L1	4.8	11.8	16.6	3
	TOTAL	**14.7**	**50.9**	**65.5**	**18**
South Biluut	2U	0	0	0	1
	2L	0	0	0	0
	TOTAL	**0**	**0**	**0**	**1**
Jargalant	3U	0	4	4	2
	3L	0	0	0	3
	2U	0	0	0	0

	2L	0	15.2	15.2	10
	1L1	0	1.3	1.3	3
	TOTAL	**0**	**20.5**	**20.5**	**19**
Underground depth 300m-600m					
Biluut	2U	0	0	0	2
	2L	0	0.5	0.5	11
	1U	0	0	0	0
	1L1	0	1.8	1.8	5
	TOTAL	**0**	**2.3**	**2.4**	**18**
South Biluut	2U	0	0.5	0.5	14
	2L	0	3.4	3.4	21
	1U	0	0	0	0
	1L1	0	0.2	0.2	5
	TOTAL	**0**	**4.2**	**4.2**	**41**
Jargalant	2L	0	0.9	0.9	4
	1L1	0	0.1	0.1	1
	TOTAL	**0**	**1**	**1**	**5**
Grand Total					
Central Soumber		30.8	16.3	47.1	11
East Soumber		16.9	15.1	32	10
Biluut		14.7	53.2	67.9	36
South Biluut		0	4.2	4.2	42
Jargalant		0	21.5	21.5	24
TOTAL		**62.4**	**110.3**	**172.7**	**123**

Note: numbers are rounded and thus may not sum to the total

"Potential coal tonnage" has been estimated where drillhole coverage is insufficient for resource classification under the NI43-101 ruling (Table 1.2). 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 1.2

Soumber Deposit "Potential Coal Tonnage" 10th January 2013

Area	Seam	Tonnage estimate range Mt	
		From	To
Surface depth < 300m			
Central Soumber	7	0	0
	6	0	0
	5	0	0
	4	0	0
	1	0	0
	TOTAL	**0**	**1**
East Soumber	5	0	1
	4	0	2
	3	0	0
	TOTAL	**0**	**3**
Biluut	3L	0	0
	2U	0	1
	2l	0	1
	1U	0	0
	1L1	0	4
	1L0	0	0
	TOTAL	**0**	**8**
South Biluut	**TOTAL**	**0**	**0**
Jargalant	3U	0	1
	3L	0	4
	2U	0	1
	2l	0	1
	1U	0	1
	1L1	0	0
	1L0	0	0
	TOTAL	**0**	**8**
Underground depth 300m-600m			
All areas		**0**	**<3**

Note: numbers are rounded and thus may not sum to the total

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, Biluut and Jargalant fields Resource estimates enhance the assets held by SGQ in the Umnugobi Province of Mongolia.

A considerable amount of data has been obtained from the various exploration programs. It is recommended that a single robust data management solution for both exploration and pre-production information be implemented.

Future exploration work should be targeted at infill drilling to increase confidence in the status of the Resource. It is recommended that exploration drilling continue both down dip of known coal occurrences and along strike to continue to develop the Soumber and Biluut/Jargalant fields. Future deep drilling should also include allowances for downhole surveying of hole deviation.

Recommendations regarding metallurgy include ongoing efforts to characterize the quality of individual seams and develop an understanding of the spatial variability of coal quality within individual seams. SGQ should also undertake preliminary investigations into coal beneficiation.

2 INTRODUCTION AND TERMS OF REFERENCE

2.1 BACKGROUND AND SOURCES OF INFORMATION

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 Deposit, consisting of the Soumber, Biluut and Jargalant Fields, in Mongolia.

The estimate of Resources for the Soumber Deposit was last reported in March 2012. This is an update of the Technical Report published in March 2012, incorporating revised Resource Estimates.

This report has been prepared in accordance with the guidelines provided in the NI 43-101, Standards of Disclosure for Mineral Projects, dated June 20, 2011. The Qualified Person responsible for this report is Ms Merryl Peterson, Principal Geologist for RungePincockMinarco Limited.

This Technical Report relies on technical data collected on the Soumber, Biluut and Jalant fields through to December 2011 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); and
- 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. The author understands that SGQ has provided the author with all geological, geotechnical, and quality data information, including previous technical reports prepared by Norwest and SGQ.

The Soumber, Biluut and Jargalant fields were visited by the author from 5th to 8th December 2011. A number of the drill sites were inspected and coordinates checked. Subsequent to the site visit undertaken in 2011, no further work has been completed on site.

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, Biluut and Jargalant 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 November 27, 2010.

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 part time employee of RungePincockMinarco Limited and she is a Member and Chartered Professional (Geology) 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 has relied upon other reports, opinions or statements of other qualified persons and other experts and the Issuer, 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 5th to 8th of December 2011.

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

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 which are 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 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 Janet Bartolo of McElroy Bryan Geological Services Pty Ltd (MBGS); and
  - The Geological Model for Biluut/Jargalant 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.

  Subject to the matters referred to in Section 12, MMC has relied on the accuracy of the Geological Models supplied to it. The MBGS geological models were accompanied by a disclaimer, emphasizing the status of the models:

  The model relating to this data release was created using geological data (largely drill hole data). Where data has been provided to MBGS, MBGS accepts no liability for the accuracy or completeness of the data. This model is a model of the geological data and geological interpretation based on the data available. Due to data densities and geological complexities not all geological changes may be apparent in the model.

  Some known geological features (such as small scale faults) may not be incorporated in the model due to lack of continuation of the feature, limited data to interpret the feature or feature size and modelling parameters. Some modelled geological features may not fully represent the geologist's interpretation due to data or software limitations.

- SGQ:

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

Insofar as this Technical Report refers to matters relating to legal, political, environmental or tax matters (and in particular in respect of the matters set out in paragraphs 4.1, 4.2 and 6), MMC has relied upon information supplied to it for or on behalf of SGQ.

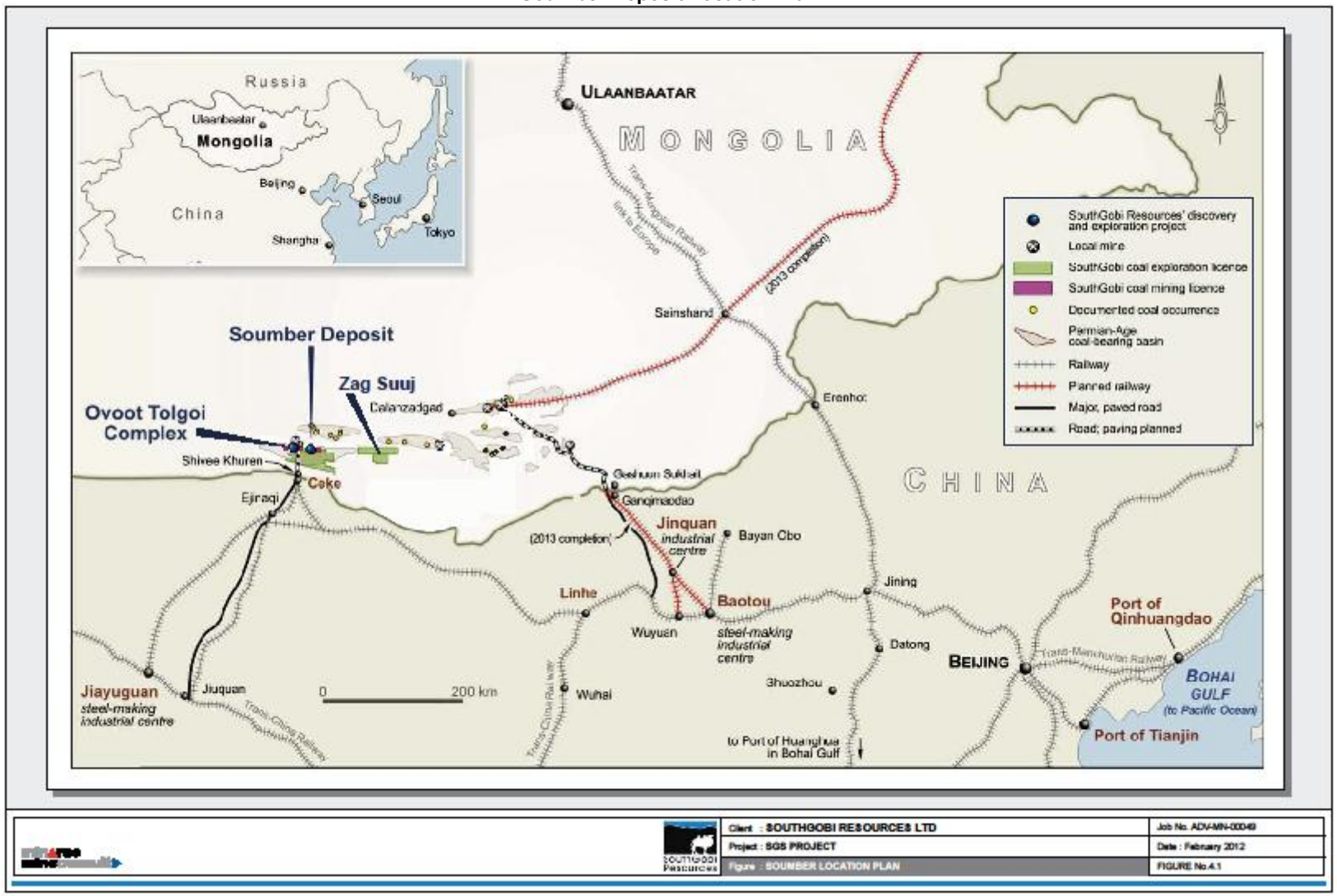
4 PROPERTY DESCRIPTION AND LOCATION

4.1 LOCATION

The Soumber Deposit, comprising the Soumber, Biluut and Jargalant fields, is 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 and Jargalant lie immediately to the east of Soumber. Soumber is approximately 45 kilometres north of the Mongolia-China border and approximately 80 kilometres from Ceke, the nearest border crossing of the Mongolia-China border. Ceke, in the People's Republic of China, is the main distribution centre for Ovoot Tolgoi coal.

Figure 4.1

Soumber Deposit Location Plan



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 Corp. (Asia Gold)) in 2007.

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

The exploration licenses for MEL9443X and MEL9449X were initially granted to IMMI on December 28, 2002 (inception date), who transferred them to SouthGobi 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 License documentation reviewed by the author indicates that the MEL was unencumbered when transferred to SGQ.

License coordinates for MEL 9443X have been changed three times since the time of its inception in 2002. A part of adjacent license 5264X was transferred to 9443X on 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. In 2011 part of 9443X was converted into Mining Licence MV-016869. On January 18, 2013 the remaining portion of MEL 9443X was granted a Pre-Mining Agreement.

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 SouthGobi to be the unencumbered owner of the license. MMC is not aware of any other encumbrances on the property.

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 MELs covering the Soumber Deposit were 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.

Mongolia Mineral Law contains a provision to sign a Pre-Mining Agreement (PMA) with the Mineral Authority of Mongolia (MRAM), which allows the expiration license to be extended by up to three years to perform certain activities, including additional exploration, pre-feasibility studies, and certain development work. SouthGobi has applied for and met all the requirements to receive the PMAs and subsequent exploration license extension, and fully expects to receive the formal approval from the MRAM in due course.

The obligations for the holder of a PMA are the same as for an exploration license. On January 18, 2013 SouthGobi was issues a Pre-Mining Agreement for MEL 9443X. MEL 9449X is retained as a valid Pre-Mining Agreement application.

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.

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. SouthGobi have converted a portion of MEL9443X, covering the East Soumber and Biluut Fields, into Mining Licence MV-016869 during 2011. SGQ have also submitted a Mining Licence application for the part of MEL9443X that covers Central Soumber.

The primary requirements to maintain Mining Licenses in Mongolia are:

- Pay annual renewal fee of $5.00/ha;
- Submit and have approved an Annual Mine Plan;
- Report mining quantities and pay appropriate royalties;
- Submit and have approved annual Environmental Protection Plan for mining activities; and
- Submit annual report on mining activities by February 15 of following year.

SouthGobi has advised that all of these requirements have currently been met.

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 coordinates of the various licences are shown in Table 4.1 and Figure 4.2.

Table 4.1

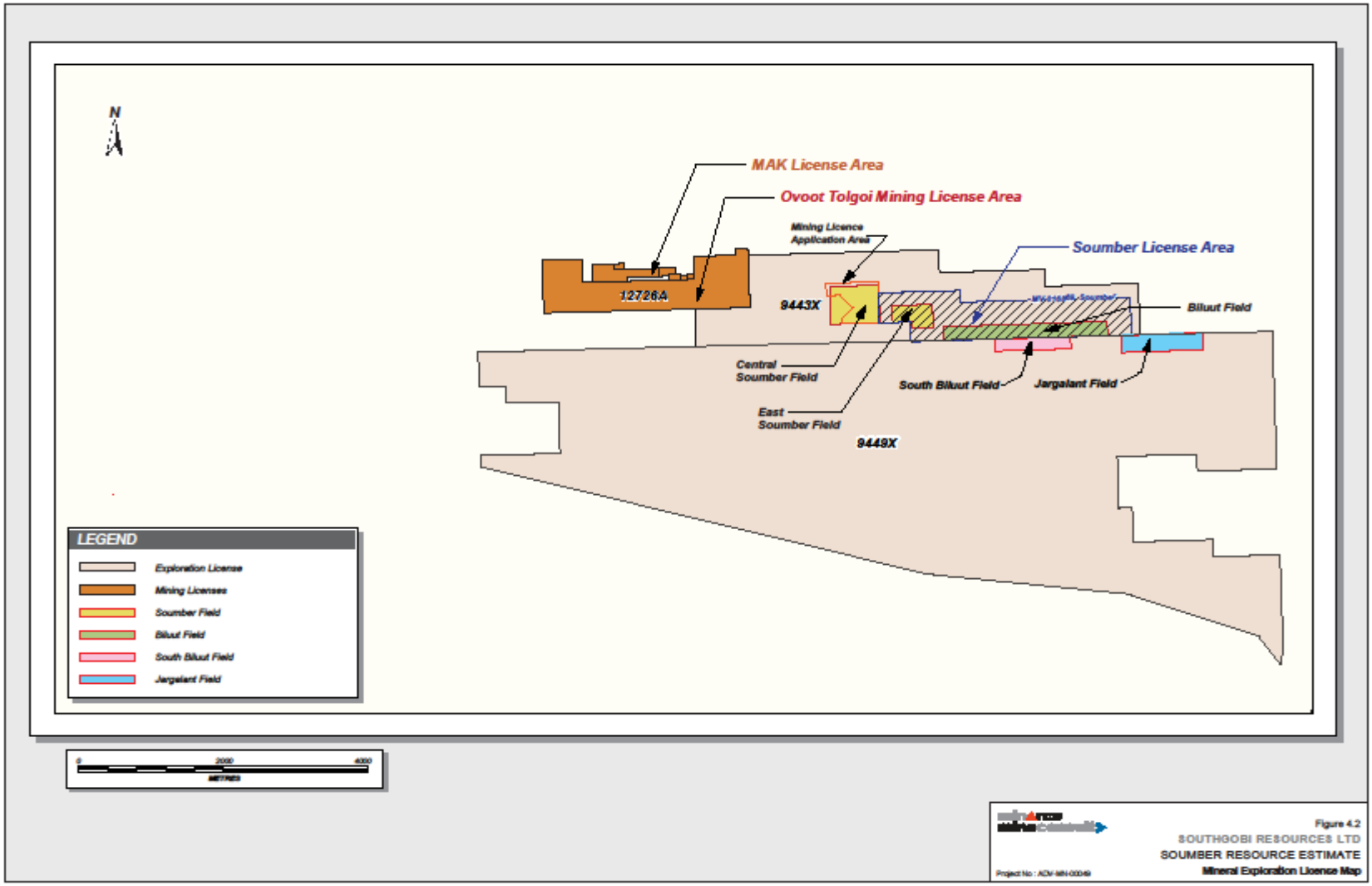
Soumber Deposit License Description

License Number	Licensee	Inception Date	Expiry Date	License Coordinates			Area Hectares	Mineral Interest
				Corner	Easting	Northing		
MV016869	SouthGobi Sands, LLC	4 Jul 2011	4 July 2041	1	101˚32'43"	42˚56'1.24"	10,985.82	100% Coal
				2	101˚32'43"	42˚57'10"		
				3	101˚20'21"	42˚57'10"		
				4	101˚20'21"	42˚58'55"		
				5	101˚36'33"	42˚58'55"		
				6	101˚36'33"	42˚58'14"		
				7	101˚49'23"	42˚58'14"		
				8	101˚49'23"	42˚56'1.23"		
XV-009443	SouthGobi Sands, LLC	PMA Granted 18 Jan 2013	31 Dec 2015	1	101˚35'0.73"	43˚1'21.28"	23,970.2	100% Coal
				2	101˚35'0.73"	43˚0'1.28"		
				3	101˚43'0.72"	43˚0'1.3"		
				4	101˚43'0.82"	42˚59'1.24"		
				5	101˚50'0.83"	42˚59'1.23"		
				6	101˚50'0.81"	42˚56'1.23"		
				7	101˚49'23"	42˚56'1.23"		
				8	101˚49'23"	42˚58'14"		
				9	101˚36'33"	42˚58'14"		
				10	101˚36'33"	42˚58'55"		
				11	101˚20'21"	42˚58'55"		
				12	101˚20'21"	42˚57'10"		
				13	101˚32'43"	42˚57'10"		
				14	101˚32'43"	42˚56'1.24"		
				15	101˚16'30.74"	42˚56'1.25"		
				16	101˚16'30.74"	42˚58'16.24"		
				17	101˚20'40.75"	42˚58'16.23"		
				18	101˚20'40.64"	43˚1'21.32"		

License Number	Licensee	Inception Date	Expiry Date	License Coordinates			Area Hectares	Mineral Interest
				Corner	Easting	Northing		
9449X	SouthGobi Sands, LLC	28 Dec 2002	28 Dec 2011, PMA applied for	1	102˚0’0.87”	42˚56’1.26”	168,538.79	100% Coal
				2	102˚0’0.86”	42˚48’1.24”		
				3	101˚54’0.8”	42˚48’1.24”		
				4	101˚54’0.8”	42˚49’1.24”		
				5	101˚48’0.79”	42˚49’1.24”		
				6	101˚48’0.79”	42˚46’1.24”		
				7	101˚49’0.79”	42˚46’1.24”		
				8	101˚49’0.79”	42˚44’1.24”		
				9	101˚55’0.78”	42˚44’1.24”		
				10	101˚55’0.77”	42˚43’1.24”		
				11	102˚0’0.86”	42˚43’1.23”		
				12	102˚0’0.84”	42˚38’1.22”		
				13	101˚59’50.41”	42˚36’36.17”		
				14	101˚58’10.32”	42˚38’21.49”		
				15	101˚48’20.77”	42˚41’1.25”		
				16	101˚33’31.58”	42˚42’28.83”		
				17	101˚0’0.72”	42˚49’21.25”		
				18	101˚0’0.72”	42˚50’1.27”		
				19	101˚6’0.72”	42˚50’1.25”		
				20	101˚6’0.73”	42˚53’1.25”		
				21	101˚2’0.72”	42˚53’1.26”		
				22	101˚2’0.72”	42˚54’1.26”		
				23	101˚0’0.72”	42˚54’1.26”		
				24	101˚0’0.72”	42˚56’1.26”		

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 (EPP). The EPP should be inclusive of the environmental impact assessment, mitigation and implementation of the measures in terms of environmental protection. The holder is required to notify the local governing body (soum) of annual exploration plans, must update the EPP annually, and must submit a bond consisting of 50% of the estimated cost of any ground reclamation for each year's activities. Upon extension of the exploration license, an updated EPP is required to be submitted.

The Mongolian Minerals Law (2006) and Mongolian Land Law (2002) govern SGQ's exploration, mining, and land use rights for the Soumber deposit. 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.

MMC is not aware of any environmental, permitting, legal, title, taxation, socioeconomic, marketing, political, or other relevant issues that may materially affect the potential mining of coal within the confines of the SGQ exploration license area.

Mineral law regulates licensing, minerals exploration and mining issues in Mongolia and clearly shows initial environmental obligations for exploration and mining activities. Initial environmental obligations relevant to the exploration and mining activities are summarised below. It should be noted however that environmental obligations are not limited to the points below.

- **Exploration Environmental obligations:**

Article 38 has a specific section for environmental protection obligations for exploration activities. However, Article 35.2.2 and Article 37 describe the environmental protection activities during minerals exploration. Explorers should submit an Environmental Protection Plan (EPP) for exploration activity to the Soum Governor for its approval, once the Exploration Plan has been approved by MRAM and SSIA. The EPP should be inclusive of environmental impact assessment and mitigation and implementation of the measures in terms of protection. Once the EPP has been approved by the Soum Governor, the Explorer should submit the EPP for Aimag SSIA and deposit 50% of the budget on the EPP to the relevant Soum Bank Account as a guarantee. This is refunded upon 100 percent fulfillment of the environmental obligations on the EPP, including disturbed site rehabilitation. In addition, Article 40 regulates the termination date and extension of the exploration license, and an updated/ renewed EPP is required to extend after the termination date of the exploration license.

- **Mining Environmental obligations:**

Article 39 describes environmental obligations for mining activities. To commence mining activity, the company should undertake a Detailed Environmental Impact Assessment (DEIA) according to the EIA law of Mongolia. The DEIA should include impact assessment, mitigation and implementation of measures in terms of mine activities. The company should deposit 50% of the annual environmental protection budget to the MNET Bank Account within the first month of each year. If the company does not deposit the Bond to the MNET bank account, the Soum Governor has the right to shut down the annual mining activity of the company. If the company does not perform the environmental obligations of the year, the Soum Governor and SSIA inspectors have the right to stop mining activity of the upcoming year. According to the EIA and Minerals law, the company has to amend the DEIA upon alteration of the T & E study report in terms of an increase of mineral reserves proved by additional exploration, modification of mine equipment and increase or changes of mine infrastructure etc. Additionally, Article 45 regulates mine closure issue.

5 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

5.1 LOCATION

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

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/km ^{2}.

5.2 CLIMATE AND PHYSIOGRAPHY

The region experiences a continental desert climate. Temperatures range from -30°C in the winter to +30°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, and thence to Ovoot Tolgoi. 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 regular chartered aircraft from Ulaanbaatar for personnel access and bringing in supplies.

The railroad terminus at Ceke approximately 45 km south of the Ovoot Tolgoi Mine provides a connection to the Chinese rail network. 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. In 2010, a two lane paved road was constructed from the mine to Ceke, which is being used by unloaded coal trucks. A sealed road for loaded haul trucks is planned for construction in 2012. Soumber coal will be able to use the same distribution network.

Electrical power for the Ovoot Tolgoi Mine camp and shop complexes was initially supplied by diesel generators. The mine is now connected to the powerline that runs from China to Gurvantes Soum, supplying

electrical power to the area (Figure 4.1). 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, Biluut and Jargalant 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 appears to be sufficient area within the project to locate waste disposal without impacting known in-place resources, and 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. Soumber region was done in 1998 by Ts.Gansukh, S.Bukhbat, Ts. Naranbaatar et al.

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. The exploration licenses for MEL 9443X and MEL 9449X were initially granted to IMMI on 28 December 2002, who transferred them to SouthGobi on 22 February 2007.

SGQ continued the drilling program on the Soumber Deposit in 2007 and 2008, completing 121 drill holes, totaling 24,512 meters 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.

In 2010-2011 exploration at Soumber continued, with 200 holes being drilled, for 34,800 metres of drilling.

During the 2005 exploration program, 12 holes were drilled at Biluut, for 1,648m of drilling, and 13 holes at Jargalant for 1,788m of drilling. Exploration continued in 2010-2011 at Biluut, South Biluut and Jargalant, with a total of 338 holes drilled for 73,600m of drilling.

An NI43-101 resource estimation report was prepared for the Soumber area by MMC in March 2011.

Part of license 9443X has been converted to a Mining License, and the remainder of 9443X was granted a Pre-Mining Agreement. All of license 9449X is retained as a valid Pre-Mining Agreement application. There has been no production from the property to date.

7 GEOLOGICAL SETTING AND MINERALIZATION

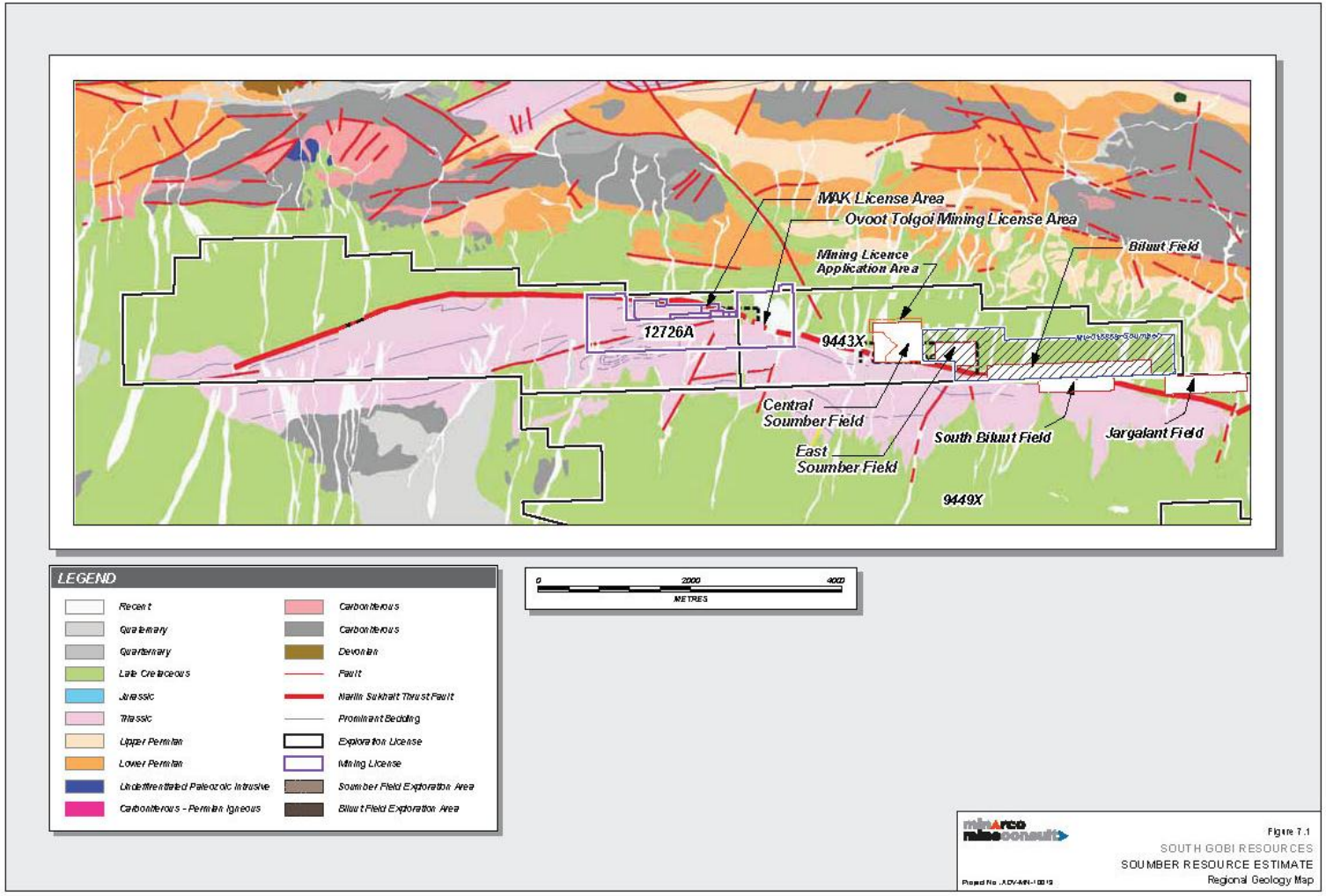
7.1 REGIONAL GEOLOGY

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, Biluut and Jargalant coal fields 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, Biluut and Jargalant contain a resource area within the upper Permian sediments.

The coal deposit at Soumber, Biluut and Jargalant 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.

Figure 7.1

Regional Geology Map



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/Jargalant field is approximately 25km. 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 multi-seam 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 depositional centre.

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.

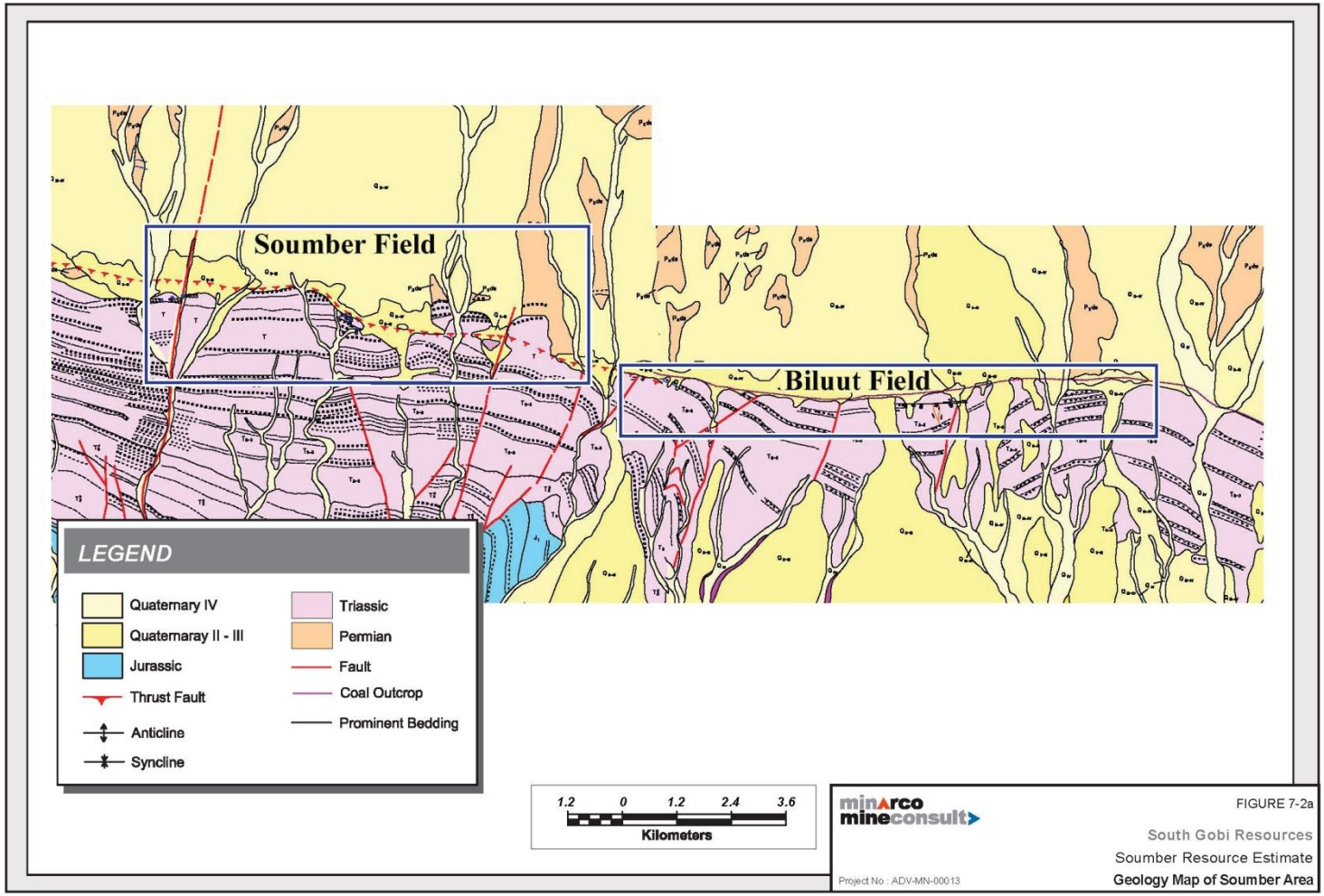
Beneath the main coal seam sequence is a characteristic red marker bed, which provides a useful correlation tool.

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

The 2010 and 2011 exploration programs have led to a re-interpretation of the stratigraphy at Soumber, as shown in Table 7.1. Six major (0 to 5) and two minor (6 and 7) seams have been identified, which have been further split into plies based on stone partings within the seams. Approximately 40% of the resources are held in seam 2, which averages 5.9 m thick. McElroy Bryan consider that the two east-west faults interpreted by Norwest do not exist, and that the seams can be correlated through the area with the aid of downhole geophysics.

Figure 7.2

Geology of the Soumber Area



Geology of the Soumber Area

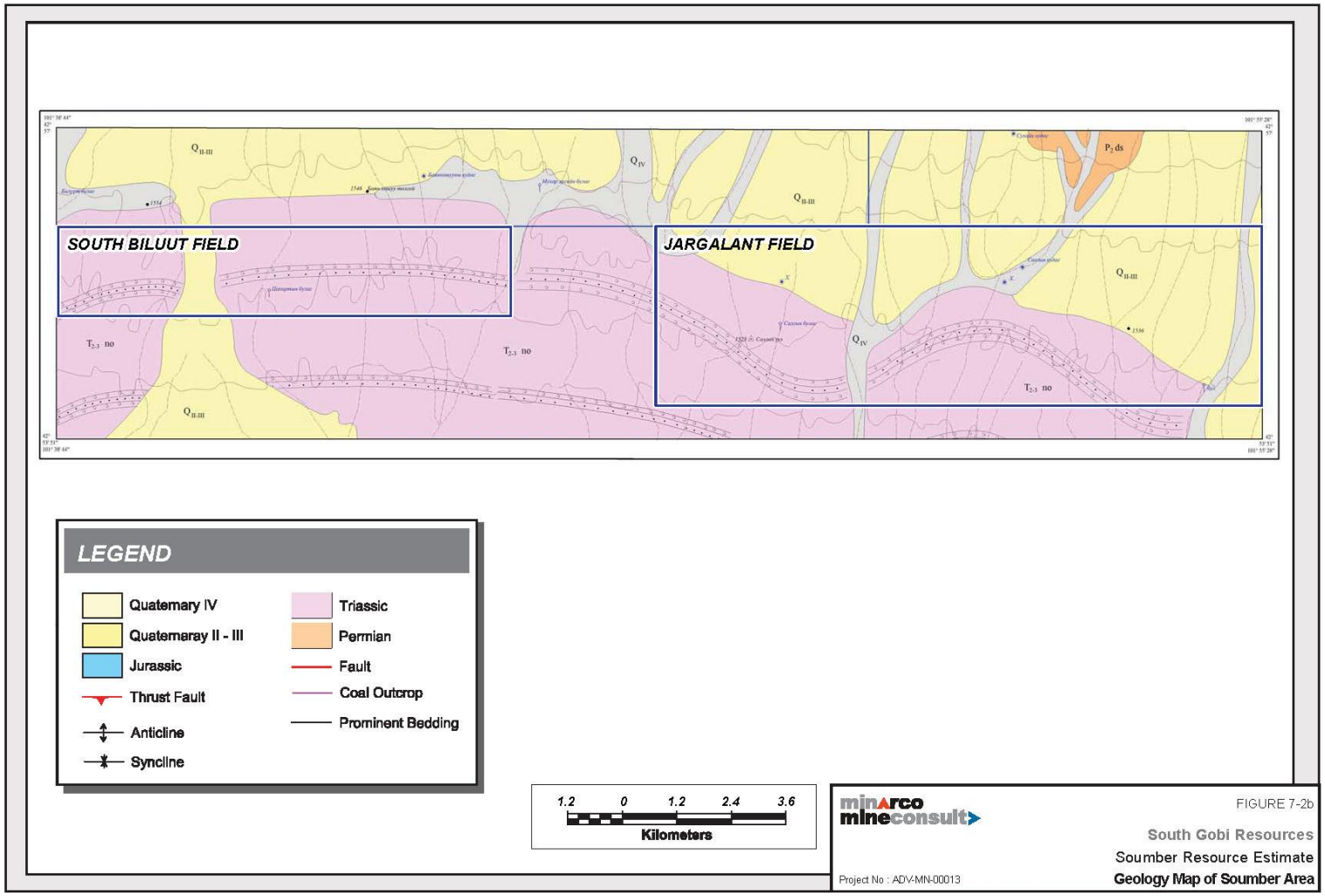


Table 7.1

Soumber Seam Nomenclature 2011 Geological Model

7	73		4	43	436	1	16	
	72				435		15	153
	71				434			152
6	64				433			151
	63				432		14	
	62				431		13	132
5	57	573		42	422			131
		572			4216			130
		571			4215		12	122
	56	565			4214			121
		564			4213			120
		563			4212		11	112
		562			4211			111
		561		41	413	0U	0U3	
	55	553			412		0U2	0U22
		552			411			0U21
		551		40			0U1	0U12
	54	543	3	34	344			0U11
		542			343	0M	0M2	0M22
		541			342			0M21
	53	532			341		0M1	0M13
		531		33	332			0M12
		530			331			0M11
	52	523		32	322	0L	0L3	
		522			321		0L2	0L22
		521		31	312			0L21
	51	512			311			
		511	2	23	232		0L1	
	50	504			231			
		503		22	222			
		502			221			
		501			220			
				21	212			
					2112			
					2111			
				20	202			
					201			

Three major seams have been identified in the Biluut/South Biluut/Jargalant area, which have again been further sub-divided into plies based on stone partings. The coal seam stratigraphy is shown on Table 7.2. No attempt has yet been made to correlate coal seam nomenclature with Soumber.

Table 7.2

Biluut/South Biluut/Jargalant Seam Nomenclature

Seam	Ply
3U	3U2
	3U1
3L	3L2
	3L1
2U	2U3
	2U2
	2U1
2L	2L2
	2L1
1U	1U
1L	1L1
	1L0

The coal seams of the Soumber 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 7.3 and Biluut/Jargalant in Table 7.4. Detail on individual plies is given in Appendix B. Verticality logs have not been run, thus true thickness cannot be calculated on a hole by hole basis.

Table 7.3

Soumber Field Summary of Thickness

Seam	Mean (m)	Minimum (m)	Maximum (m)
7	2.1	0.5	4.6
6	1.5	0.6	3.4
5	10.3	0.7	44.5
4	12.5	0.7	58.2
3	9.8	0.5	58.5
2	5.9	0.4	23.7
1	9.1	1.7	21.3
0	8.6	1.6	34.5

Table 7.4

Biluut/Jargalant Field Summary of Thickness

Seam	Mean (m)	Minimum (m)	Maximum (m)
3	3.7	0.1	15.9
2U	5.0	0.4	19.4
2L	5.1	0.1	25.0
1U	0.8	0.1	2.8
1L	2.5	0.1	10.9

7.3 STRUCTURAL GEOLOGY

The geologic framework of the Soumber, Biluut and Jargalant fields 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.

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; and
- Severe.

Structural geology at Soumber and Biluut/Jargalant 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 from their pre-deformation thickness. The deposit is classified as “Complex” based on these criteria that are described 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/Jargalant coal sequence, based on the low cumulative stripping ratio and depth of the coal occurrence below ground surface within the exploration licences, 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 EXPLORATION

9.1 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).

9.2 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.

9.3 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.

Exploration in Biluut/Jargalant fields during 2008 was confined to trenching to intersect coal seams at the subcrop.

In all trenching activities coal intersections were recorded but due to the inherent inaccuracy were not included in the geological model used to estimate resources. The coal was not sampled for laboratory testing.

9.4 EXPLORATION 2009-2012

SGQ conducted a Geotechnical and Hydrological program in the Central Soumber in 2009, drilling 6 holes totalling 1,333 metres of drilling. Norwest and Aquaterra, an international water and environment consultancy, were charged respectively, to provide an oversight for these programs.

Extensive drilling programs were carried out at Soumber and Biluut/Jargalant during 2010 and 2011 to improve the resource knowledge of the area. Details of the drilling are given in Section 10. There has been no further exploration work conducted at the deposit since 2011.

10 DRILLING

Drilling to date on Soumber deposit includes a total of 751 exploration holes completed and 145,819 metres drilled, as listed in Table 11. At Soumber, drilling has been concentrated in the central and eastern areas, whilst limited drilling has taken place in the western part of the field. In the central and eastern areas, traverse spacing is 120-150m, whilst hole spacing along the traverses is 30-100m. Average hole depth is 170m, whilst the deepest hole drilled is 347m. Drilling coverage at Biluut is quite regular with traverses spaced at approximately 150m, and hole spacing along the traverse 50-150m. Average hole depth is 170m, whilst the maximum is 340m. At Jargalant traverse spacing is 250-300m, with hole spacing along the traverses 70-120m. Hole depths are similar to Biluut. Only limited drilling has taken place at South Biluut to date, with traverse spacing around 700m and hole spacing along traverses around 300m. Average depth is 620m, whilst the deepest hole is 950m deep.

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 and ErdGeo Company. 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.

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. However verticality logs were not run.

Total drilling to date is summarized in Table 10.1.

Table 10.1

Soumber and Biluut/Jargalant - Drilling Summary by Year

Year	Soumber		Biluut		South Biluut		Jargalant	
	No. holes	Metres drilled	No. holes	Metres drilled	No. holes	Metres drilled	No. holes	Metres drilled
2005	35	4,535	12	1,648			13	1,788
2006	27	3,596						
2007	23	3,905						
2008	98	20,607						
2009	6	1,333						
2010	65	10,469	67	13,958				
2011	134	24,334	171	31,958	22	13,619	78	14,069
TOTAL	388	68,779	250	47,564	22	13,619	91	15,857

11 SAMPLING PREPARATION, ANALYSES AND SECURITY

11.1 SAMPLE COLLECTION

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 concentrated in the areas of most potential. In central and east Soumber the spacing is 65-150m, whilst in west Soumber there is only one cored hole. In central Biluut the cored hole spacing is 150-30mm and central Jargalant 200-400m. On the fringes of these fields there are no cored holes.

The procedures described below apply to holes used in the preparation of the Soumber and Biluut/Jargalant 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; and
- 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.

11.2 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[1] analytical preparation laboratory in Ulaanbaatar, during the 2008-2011 exploration programs. At the prep lab, the samples were weighed, dried, crushed, split and repackaged for shipment to the SGS Group analytical laboratory in Tianjin, China. In 2011 all sample preparation and analysis was performed by Stewart Mongolia LLC in Ulaanbaatar.

- Laboratory instructions and the shipment manifests were forwarded to the laboratory. 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 from 2008-2010. For the 2011 testing program the Stewart Mongolia LLC laboratory in Ulaanbaatar has been used. Both laboratories currently hold ISO-17025 certification, accredited by the CNAS (China National Accreditation Service for Conformity Assessment) and are certified to ASTM and ISO standards. Stewart employ QA/QC staff to maintain the quality system, conduct internal audits and assist in training and compliance. Global quality procedures and detailed work instructions relevant to each clause in ISO/IEC 17025 have been established to control and monitor all aspects of the company's operations. Sample handling and quality control

[1] Note that SGS Group laboratory is a separate company and independent from SouthGobi Sands

measures use 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.

11.3 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.

12 DATA VERIFICATION

12.1 INTRODUCTION

Data collection verification and storage at Soumber and Biluut/Jargalant 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 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 that the 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.

12.2 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 and in 2011, 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; and

- 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.

12.3 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 reviewed 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.

MMC believes the data is adequate for the purpose of estimating resources.

13 MINERAL PROCESSING AND METALLURGICAL TESTING

13.1 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/Jargalant coal tends to be higher in ash, averaging 26% (air dried basis), and lower in calorific value, averaging 6,000 kcal/kg (air dried basis). The rank is low to medium volatile bituminous coal. Several of the seams at Soumber and Biluut/Jargalant have an average FSI greater than 4, indicating metallurgical properties, however further testing of coking properties is required to confirm their coking potential.

13.2 COAL QUALITY

To date 81 core holes have been used for analysis of coal quality at Soumber and 69 holes at Biluut/Jargalant.

Cored holes were subjected to the analyses listed below:

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

A summary of the raw coal quality on a seam by seam basis is given in Table 13.1 for Soumber and Table 13.2 for Biluut/Jargalant. 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. No product testing has yet been completed for samples taken in 2011, however Table 13.3 lists calculated yield, ash and FSI derived from the 2011 washability tables.

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/Jargalant, as summarized in Table 13.4 and Table 13.5.

Table 13.1

Soumber - Summary of Drillhole Raw Quality Data

Seam	Total Moisture % ar	Inherent Moisture % ad	Ash % ad	Volatile Matter % ad	Total Sulphur % ad	Calorific value kcal/kg ad	FSI	Relative density
5	9.7	0.6	33.8	16.2	0.50	5,333	1.4	1.68
4	9.4	0.6	31.8	16.6	0.48	5,459	1.7	1.65
3	5.4	0.6	25.2	18.1	0.74	6,156	4.8	1.55
2	6.5	0.6	25.9	18.7	1.19	6,223	5.3	1.56
1	4.1	0.5	24.0	21.4	1.17	6,582	6.8	1.49
0	3.5	0.5	20.4	22.8	1.50	6,827	4.4	1.52

Table 13.2

Biluut/Jargalant – Summary of Drillhole Raw Quality Data

Seam	Total Moisture % ar	Inherent Moisture % ad	Ash % ad	Volatile Matter % ad	Total Sulphur % ad	Calorific value kcal/kg ad	FSI	Relative density
3	6.5	0.6	33.6	19.7	0.55	6,007	4.1	1.66
2U	4.3	0.5	21.9	26.8	0.55	6,648	6.3	1.47
2L	6.2	0.5	26.1	20.0	0.55	6,147	5.4	1.57
1U	4.9	1.0	27.5	12.6	0.50	5,780	2.5	1.62
1L	5.5	0.7	20.9	12.3	0.41	6,509	-	1.59

Table 13.3

Soumber and Biluut/Jargalant - Summary of Calculated F1.40 Results 2011 Drillholes

		No. samples	F1.40 (calculated)		
			Yield %	Ash %	FSI
Soumber	Mean	15	58.5	9.8	7.1
	Minimum		20.3	4.2	3.8
	Maximum		91.2	15.1	8.8
Biluut	Mean	15	57.4	9.9	5.8
	Minimum		14.9	5.6	0.0
	Maximum		91.1	14.7	9.0
South Biluut	Mean	37	64.9	11.3	5.9
	Minimum		15.6	6.1	0.0
	Maximum		97.5	30.0	9.0
Jargalant	Mean	32	57.3	12.3	4.7
	Minimum		11.6	4.4	0.0
	Maximum		93.8	47.1	8.9

Table 13.4

Soumber and Biluut/ Jargalant – Summary of Ash Fusion Temperature Results

		No. samples	Ash fusion temperature deg C Reducing atmosphere				Ash fusion temperature deg C Oxidising atmosphere			
			Deformation	Spherical	Hemispherical	Flow	Deformation	Spherical	Hemispherical	Flow
Soumber	Mean	33	1244	1270	1281	1300	1314	1328	1340	1354
	Minimum		1155	1163	1168	1198	1221	1230	1239	1247
	Maximum		1355	1358	1370	1454	1370	1403	1414	1420
Biluut	Mean	16					1280	1300	1310	1322
	Minimum						1225	1233	1240	1248
	Maximum						1371	1455	1469	1485
South Biluut	Mean	39	1248	1264	1275	1287	1304	1316	1324	1335
	Minimum		1113	1163	1172	1179	1228	1236	1241	1247
	Maximum		1467	1501	1501	1501	1501	1501	1501	1501
Jargalant	Mean	32	1237	1260	1272	1282	1297	1310	1319	1331
	Minimum		1141	1141	1154	1164	1223	1234	1238	1243
	Maximum		1331	1429	1452	1481	1447	1496	1501	1501

Table 13.5

Soumber and Biluut/Jargalant - Summary of Ash Analysis Testing Results

		No. samples	SiO_2 %	Al_2O_3 %	Fe_2O_3 %	CaO %	MgO %	Na_2O %	K_2O %	TiO_2 %	Mn_3O_4 %	SO_3 %	P_2O_5 %	SrO %	BaO %	ZnO %
Soumber	**Mean**	31	33.33	13.76	14.11	22.05	3.44	0.57	1.38	0.55	0.39	9.79	0.17	0.18	0.01	0.01
	Minimum		5.70	7.01	5.09	5.34	0.81	0.14	0.22	0.17	0.06	0.89	0.04	0.06	0.01	0.01
	Maximum		58.85	23.10	32.66	44.57	12.73	1.06	3.22	1.36	0.91	18.72	1.52	0.45	0.02	0.02
Biluut	**Mean**	40	34.34	15.82	14.02	19.78	3.64	0.74	1.52	0.84	0.38		0.14			
	Minimum		14.92	8.47	3.73	2.96	1.07	0.34	0.39	0.27	0.06		0.02			
	Maximum		62.79	25.41	25.25	37.25	6.70	1.27	4.41	2.23	0.75		0.46			
South Biluut	**Mean**	39	33.55	15.09	13.20	22.01	3.65	0.73	1.86	0.67	0.37		0.10			
	Minimum		8.98	8.81	2.85	0.21	0.63	0.20	0.19	0.14	0.03		0.01			
	Maximum		62.74	21.96	20.97	38.82	8.38	1.97	5.50	1.27	0.76		0.71			
Jargalant	**Mean**	30	38.67	15.82	10.86	18.10	4.35	0.66	2.06	0.96	0.22		0.12			
	Minimum		16.29	6.96	4.91	1.19	1.03	0.28	0.47	0.49	0.03		0.04			
	Maximum		63.85	22.81	30.26	41.94	11.92	1.60	5.74	2.35	0.64		0.37			

13.3 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 13.6. No coking coal tests have been performed on Biluut/Jargalant samples, and no further work has been performed on samples from the Soumber field since 2009.

Table 13.6

Soumber - Coking Coal Characteristics

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

13.4 COAL BENEFICIATION

Soumber and Biluut/Jargalant coal has higher ash content than Ovoot Tolgoi, 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, in order to obtain a lower ash content more suitable for potential customers.

The author recommends that further dry beneficiation and coal washing studies be conducted. An adequate water supply would need to be secured should coal washing be planned at the mine site.

14 MINERAL RESOURCE ESTIMATES

14.1 INTRODUCTION

The classification, estimation, and reporting of Mineral Resources for the Soumber and Biluut/Jargalant 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 27 November 2010, 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 14.1.

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.

Table 14.1

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

	Assurance of Existence Category		
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

14.2 GEOLOGICAL MODELLING

The author was provided with two geological models for the Soumber and Biluut/Jargalant fields by SGQ. These models had been created by McElroy Bryan Geological Services (MBGS) in November 2011 (Biluut/Jargalant) and January 2012 (Soumber) using *Minex* software. Table 14.2 and Table 14.3 show the seam nomenclature used in the models.

Table 14.2

Soumber Seam Nomenclature

7	73		4	43	436	1	16	
	72				435		15	153
	71				434			152
6	64				433			151
	63				432		14	
	62				431		13	132
5	57	573		42	422			131
		572			4216			130
		571			4215		12	122
	56	565			4214			121
		564			4213			120
		563			4212		11	112
		562			4211			111
		561		41	413	0U	0U3	
	55	553			412		0U2	0U22
		552			411			0U21
		551		40			0U1	0U12
	54	543	3	34	344			0U11
		542			343	0M	0M2	0M22
		541			342			0M21
	53	532			341		0M1	0M13
		531		33	332			0M12
		530			331			0M11
	52	523		32	322	0L	0L3	
		522			321		0L2	0L22
		521		31	312			0L21
	51	512			311			
		511	2	23	232		0L1	
	50	504			231			
		503		22	222			
		502			221			
		501			220			
				21	212			
					2112			
					2111			
				20	202			
					201			

Table 14.3

Biluut/Jargalant Seam Nomenclature

Seam	Ply
3U	3U2
	3U1
3L	3L2
	3L1
2U	2U3
	2U2
	2U1
2L	2L2
	2L1
1U	1U
1L	1L1
	1L0

In order to verify the models, the author recreated models for the Soumber and Biluut/Jargalant 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 19, along with representative cross sections.

14.3 RESOURCE ESTIMATION 2013

Resources have been estimated on 10 January 2013 using the *Minex* models generated by MBGS in December 2011 to January 2012. The Resources have been classified in a similar manner as previous estimates, using the existence criteria listed in Table 14.1. 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;
- Surface Resources limited to a depth of 300m;
- Volumes converted to tonnages using laboratory air dried relative density analytical results; and
- Resources limited to licence boundaries.

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 14.4, Table 14.5, Table 14.6 and Table 14.7, whilst plans showing the Resource polygons are given in Section 19. The resource estimate for Soumber field is materially unchanged from the 2012 quantities. The total resource estimate for the Biluut, South Biluut, and Jargalant fields have increased approximately 54%, 68%, and 83% respectively from the 2012 resource estimates. This is due to the differences in how the software used for the estimate aggregated and reported the resources. The increases detailed above were identified by MMC when reviewing the technical data for the resources in the course of on-going mine planning studies for SGQ. These studies included the reconciliation of MMC *Minescape* and MGBS *Minex* geological models. This reconciliation identified aggregation anomalies which resulted in an increase in the resource estimates that were originally reported.

Table 14.4

Soumber Field Summary of Resources 10th January 2013 (depth < 300m)

Seam	Volume M cu.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
Central Soumber										
5 Seam group										
Measured	2.8	4.6	1.68	8.4	0.5	33.5	16.6	0.56	5332	1.5
Indicated	2.2	3.7	1.62	8.4	0.5	29.5	15.7	1.21	5766	2.2
Mes+Ind	5.0	8.3	1.64	8.4	0.5	31.7	16.2	0.85	5525	1.8
Inferred	1.0	1.6	1.62	8.1	0.5	29.5	15.6	1.36	5723	2.3
4 Seam group										
Measured	3.5	5.8	1.67	9.4	0.6	32.9	16.9	0.45	5287	1.6
Indicated	1.1	1.9	1.64	10.1	0.7	30.3	17.0	0.78	5571	2.4
Mes+Ind	4.6	7.6	1.67	9.6	0.6	32.3	16.9	0.53	5356	1.8
Inferred	1.5	2.5	1.62	10.4	0.6	28.7	17.4	1.01	5638	3.3
3 Seam group										
Measured	2.4	3.8	1.56	6.2	0.6	25.9	18.7	0.88	6137	4.4
Indicated	1.3	2.1	1.56	6.6	0.6	25.9	18.8	0.98	6159	4.1
Mes+Ind	3.7	5.9	1.56	6.4	0.6	25.9	18.7	0.92	6145	4.3
Inferred	0.5	0.7	1.46	7.9	0.5	17.8	18.6	1.35	7048	6.0

Seam	Volume M cu.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
2 Seam group										
Measured	8.1	12.2	1.55	5.4	0.5	25.4	19.7	1.25	6277	6.3
Indicated	2.2	3.3	1.52	5.7	0.5	23.4	20.2	1.21	6435	6.4
Mes+Ind	10.3	15.5	1.54	5.5	0.5	25.0	19.8	1.24	6311	6.3
Inferred	1.5	2.2	1.55	5.1	0.5	25.6	20.3	1.08	6143	6.0
1 Seam group										
Measured	1.1	1.6	1.50	4.6	0.7	24.2	21.2	1.16	6453	4.9
Indicated	1.3	1.9	1.51	3.9	0.6	24.8	21.1	1.03	6757	5.3
Mes+Ind	2.4	3.5	1.51	4.2	0.7	24.6	21.1	1.09	6619	5.2
Inferred	1.1	1.6	1.49	4.7	0.6	22.8	20.8	1.11	6737	5.5
0 Seam group										
Measured	2.0	2.8	1.47	3.6	0.4	16.0	23.1	0.98	7212	4.6
Indicated	2.5	3.4	1.47	3.5	0.4	15.2	22.8	0.85	7265	3.7
Mes+Ind	4.4	6.2	1.47	3.5	0.4	15.6	23.0	0.91	7241	4.1
Inferred	1.7	2.4	1.45	3.6	0.4	13.7	23.9	1.01	7487	
Total Measured	19.8	30.8	1.58	6.5	0.5	27.2	16.5	0.92	6025	4.2
Total Indicated	10.6	16.3	1.55	6.3	0.5	24.3	15.7	1.03	6363	4.0
Total Mes+Ind	30.5	47.1	1.57	6.4	0.5	26.2	16.2	0.96	6142	4.2
Total Inferred	7.2	11.0	1.53	6.5	0.5	23.4	17.5	1.11	6408	4.5

Seam	Volume M cu.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
East Soumber										
4 Seam group										
Measured	0.00	0.00								
Indicated	0.00	0.00								
Mes+Ind	0.00	0.00								
Inferred	0.65	1.06	1.54	9.1	0.8	20.8	15.2	0.59	6517	1.6
3 Seam group										
Measured	0.00	0.00								
Indicated	2.53	3.99	1.52	11.4	1.12	22.8	16.0	0.47	6146	1.5
Mes+Ind	2.53	3.99	1.52	11.4	1.12	22.8	16.0	0.47	6146	1.5
Inferred	2.83	4.48	1.49	9.6	0.9	21.0	16.6	0.70	6442	2.8
2 Seam group										
Measured	11.19	16.90	1.58	7.6	0.8	25.8	15.6	0.85	6089	3.1
Indicated	7.37	11.13	1.60	7.6	0.8	28.8	16.0	0.88	5778	3.3
Mes+Ind	18.57	28.03	1.59	7.6	0.8	27.0	15.8	0.86	5966	3.2
Inferred	3.05	4.61	1.59	7.7	0.9	29.0	16.5	0.90	5716	3.8
Total Measured	11.19	16.90	1.58	7.6	0.8	25.8	15.6	0.85	6089	3.1
Total Indicated	9.90	15.12	1.58	8.6	0.9	27.2	16.0	0.77	5873	2.8
Total Mes+Ind	21.09	32.02	1.58	8.1	0.8	26.5	15.8	0.81	5988	3.0
Total Inferred	6.53	10.14	1.54	8.7	0.9	24.6	16.4	0.78	6120	3.2
Grand Total										
Grand Total Measured	**31.03**	**47.67**	**1.58**	**6.9**	**0.6**	**26.7**	**17.8**	**0.89**	**6048**	**3.8**
Grand Total Indicated	**20.52**	**31.43**	**1.57**	**7.6**	**0.7**	**26.4**	**17.4**	**0.96**	**6067**	**3.2**
Grand Total Mes+Ind	**51.55**	**79.11**	**1.58**	**6.6**	**0.5**	**27.2**	**18.6**	**1.00**	**6046**	**4.0**
Grand Total Inferred	**13.72**	**21.15**	**1.55**	**7.6**	**0.7**	**24.7**	**17.8**	**1.01**	**6196**	**3.5**

Note: numbers are rounded and thus may not sum to the total

Table 14.5

Biluut Field Summary of Resources 10th January 2013

Seam	Class	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
Surface: Depth < 300m											
2U	Measured	0.63	0.87	1.39	4.0	0.2	15.8	28.5	0.45	7,265	7.8
	Indicated	5.05	7.25	1.44	4.7	0.5	20.9	28.0	0.43	6,705	5.3
	Total Meas+Ind	5.68	8.12	1.43	4.7	0.5	20.3	28.1	0.43	6,765	5.3
	Inferred	6.11	8.62	1.41	2.9	0.4	16.6	27.6	0.46	7,110	7.3
2L	Measured	5.90	9.07	1.54	4.1	0.5	24.5	21.2	0.46	6,336	6.5
	Indicated	20.86	31.79	1.52	5.6	0.5	23.5	21.5	0.37	6,412	5.9
	Total Meas+Ind	26.77	40.86	1.53	5.3	0.5	23.7	21.4	0.39	6,395	5.9
	Inferred	3.83	5.96	1.56	4.9	0.6	26.0	20.5	0.41	6,178	5.6
1U	Measured	0.00	0.00								
	Indicated	0.00	0.00								
	Total Meas+Ind	0.00	0.00								
	Inferred	0.17	0.29	1.73	8.1	0.8	34.1	12.3	0.61	5,261	2.5
1L1	Measured	3.03	4.75	1.57	5.2	0.6	20.0	12.5	0.44	6,600	0.0
	Indicated	7.53	11.80	1.57	5.5	0.7	19.1	12.3	0.39	6,717	0.0
	Total Meas+Ind	10.56	16.55	1.57	5.4	0.7	19.3	12.3	0.40	6,683	0.0
	Inferred	1.92	3.01	1.57	5.6	0.7	19.5	12.5	0.41	6,654	0.0
TOTAL	Measured	9.56	14.69	1.54	4.4	0.5	22.5	18.8	0.45	6,476	6.6
	Indicated	33.44	50.85	1.52	5.5	0.6	22.1	20.3	0.38	6,525	5.8
	Total Meas+Ind	43.00	65.54	1.52	5.2	0.6	22.2	20.0	0.40	6,514	5.8
	Inferred	12.02	17.88	1.49	4.1	0.5	20.5	22.4	0.44	6,692	6.5

Seam	Class	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
Underground: Depth 300-600m											
2U	Measured	0.00	0.00								
	Indicated	0.01	0.01	1.47	5.0	0.6	24.0	27.1	0.29	6,361	5.1
	Total Meas+Ind	0.01	0.01	1.47	5.0	0.6	24.0	27.1	0.29	6,361	5.1
	Inferred	1.28	1.83	1.43	3.6	0.5	18.2	27.4	0.60	6,947	6.9
2L	Measured	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0	0.0
	Indicated	0.34	0.53	1.57	4.8	0.5	27.4	20.0	0.35	6,041	4.8
	Total Meas+Ind	0.34	0.53	1.57	4.8	0.5	27.4	20.0	0.35	6,041	4.8
	Inferred	7.17	10.72	1.49	5.3	0.5	20.8	23.2	0.32	6,689	6.9
1U	Measured	0.00	0.00								
	Indicated	0.00	0.00								
	Total Meas+Ind	0.00	0.00								
	Inferred	0.15	0.26	1.71	7.6	0.8	32.8	12.3	0.62	5,384	2.5
1L1	Measured	0.02	0.04	1.54	6.3	0.6	16.7	12.2	0.47	6,967	0.0
	Indicated	1.14	1.77	1.55	5.6	0.7	17.8	12.0	0.39	6,837	0.0
	Total Meas+Ind	1.16	1.80	1.55	5.6	0.6	17.8	12.1	0.39	6,840	0.0
	Inferred	3.28	5.14	1.57	5.6	0.7	18.9	12.2	0.40	6,732	0.0
TOTAL	Measured	0.02	0.04	1.54	6.3	0.6	16.7	12.2	0.47	6,967	0.0
	Indicated	1.49	2.31	1.56	5.4	0.6	20.1	14.0	0.38	6,651	4.8
	Total Meas+Ind	1.51	2.35	1.56	5.4	0.6	20.0	13.9	0.38	6,656	4.8
	Inferred	11.89	17.96	1.51	5.2	0.5	20.2	20.3	0.38	6,708	6.8

Table 14.6

South Biluut Field Summary of Resources 10th January 2013

Seam	Class	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
Surface: Depth < 300m											
2U	Measured	0.00	0.00								
	Indicated	0.00	0.01	1.42	4.3	0.5	19.5	28.4	0.43	6861	5.7
	Total Meas+Ind	0.00	0.01	1.42	4.3	0.5	19.5	28.4	0.43	6861	5.7
	Inferred	0.52	0.73	1.39	2.2	0.4	15.9	28.3	0.42	7209	7.2
2l	Measured	0.00	0.00								
	Indicated	0.00	0.01	1.69	4.7	0.7	38.2	18.9	0.39	5018	1.9
	Total Meas+Ind	0.00	0.01	1.69	4.7	0.7	38.2	18.9	0.39	5018	1.9
	Inferred	0.17	0.28	1.64	4.4	0.7	32.6	18.0	0.46	5541	2.6
TOTAL	**Measured**	**0.00**	**0.00**								
	Indicated	**0.01**	**0.01**	**1.55**	**4.5**	**0.6**	**29.5**	**23.3**	**0.41**	**5880**	**3.7**
	Total Meas+Ind	**0.01**	**0.01**	**1.55**	**4.5**	**0.6**	**29.5**	**23.3**	**0.41**	**5880**	**3.7**
	Inferred	**0.70**	**1.01**	**1.45**	**2.8**	**0.5**	**20.6**	**25.4**	**0.43**	**6743**	**5.9**

Seam	Class	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
Underground: Depth 300-600m											
2U	Measured	0.00	0.00								
	Indicated	0.37	0.53	1.44	4.6	0.5	21.1	27.9	0.38	6682	5.4
	Total Meas+Ind	0.37	0.53	1.44	4.6	0.5	21.1	27.9	0.38	6682	5.4
	Inferred	9.98	14.11	1.41	3.4	0.4	18.2	28.0	0.46	6978	6.6

2L	Measured	0.00	0.00								
	Indicated	2.10	3.44	1.64	4.8	0.6	31.8	17.3	0.46	5595	3.7
	Total Meas+Ind	2.10	3.44	1.64	4.8	0.6	31.8	17.3	0.46	5595	3.7
	Inferred	13.74	21.42	1.56	4.9	0.6	26.1	20.6	0.47	6172	4.8
1U	Measured	0.00	0.00								
	Indicated	0.00	0.00								
	Total Meas+Ind	0.00	0.00								
	Inferred	0.08	0.12	1.55	3.5	1.2	21.2	11.7	0.52	6448	
1L1	Measured	0.00	0.00								
	Indicated	0.15	0.24	1.57	4.3	0.7	19.2	13.1	0.41	6585	
	Total Meas+Ind	0.15	0.24	1.57	4.3	0.7	19.2	13.1	0.41	6585	
	Inferred	3.40	5.31	1.56	5.1	0.7	18.9	12.8	0.44	6662	
TOTAL	**Measured**	**0.00**	**0.00**								
	Indicated	**2.62**	**4.21**	**1.61**	**4.7**	**0.6**	**29.7**	**18.4**	**0.45**	**5787**	**3.9**
	Total Meas+Ind	**2.62**	**4.21**	**1.61**	**4.7**	**0.6**	**29.7**	**18.4**	**0.45**	**5787**	**3.9**
	Inferred	**27.20**	**40.96**	**1.51**	**4.4**	**0.5**	**22.4**	**22.1**	**0.46**	**6514**	**5.5**

Table 14.7

Jargalant Field Summary of Resources 10th January 2013

Seam	Class	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
Surface: Depth <300m											
3U	Measured	0.00	0.00								
	Indicated	2.85	4.00	1.40	7.0	0.5	12.9	26.8	0.51	7365	5.8
	Total Meas+Ind	2.85	4.00	1.40	7.0	0.5	12.9	26.8	0.51	7365	5.8
	Inferred	1.75	2.45	1.40	6.9	0.5	12.8	26.7	0.53	7386	5.9
3L	Measured	0.00	0.00								
	Indicated	0.00	0.00								
	Total Meas+Ind	0.00	0.00								
	Inferred	1.50	3.00	1.99	5.8	0.7	57.1	15.4	1.14	5411	4.5
2U	Measured	0.00	0.00								
	Indicated	0.00	0.00								
	Total Meas+Ind	0.00	0.00								
	Inferred	0.00	0.00								
2L	Measured	0.00	0.00								
	Indicated	9.99	15.20	1.52	6.9	0.4	21.3	19.9	0.59	6630	6.4
	Total Meas+Ind	9.99	15.20	1.52	6.9	0.4	21.3	19.9	0.59	6630	6.4
	Inferred	6.55	10.07	1.53	7.6	0.5	22.0	18.7	0.57	6546	6.0
1L1	Measured	0.00	0.00								
	Indicated	0.83	1.32	1.60	3.3	0.5	21.3	11.0	0.35	6582	
	Total Meas+Ind	0.83	1.32	1.60	3.3	0.5	21.3	11.0	0.35	6582	
	Inferred	1.84	3.00	1.63	2.4	0.5	23.0	10.9	0.33	6394	

TOTAL	**Measured**	**0.00**	**0.00**								
	Indicated	**13.67**	**20.52**	**1.50**	**6.7**	**0.4**	**19.7**	**20.7**	**0.56**	**6770**	**6.3**
	Total Meas+Ind	**13.67**	**20.52**	**1.50**	**6.7**	**0.4**	**19.7**	**20.7**	**0.56**	**6770**	**6.3**
	Inferred	**11.65**	**18.51**	**1.59**	**6.4**	**0.5**	**26.6**	**17.9**	**0.62**	**6449**	**5.7**

Seam	Class	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
Underground: Depth 300-600m											
3L	Measured	0.00	0.00								
	Indicated	0.00	0.00								
	Total Meas+Ind	0.00	0.00								
	Inferred	0.00	0.00	1.90	3.7	0.6	53.4	15.5	0.55	3504	1.0
2L	Measured	0.00	0.00								
	Indicated	0.58	0.87	1.51	5.8	0.5	19.5	19.5	0.64	6795	6.3
	Total Meas+Ind	0.58	0.87	1.51	5.8	0.5	19.5	19.5	0.64	6795	6.3
	Inferred	2.32	3.52	1.52	6.1	0.4	20.9	19.7	0.60	6667	6.4
1L1	Measured	0.00	0.00								
	Indicated	0.07	0.12	1.60	3.3	0.5	21.0	11.4	0.35	6609	
	Total Meas+Ind	0.07	0.12	1.60	3.3	0.5	21.0	11.4	0.35	6609	
	Inferred	0.92	1.49	1.61	3.4	0.5	22.5	11.1	0.35	6483	
TOTAL	**Measured**	**0.00**	**0.00**								
	Indicated	**0.65**	**0.99**	**1.52**	**5.5**	**0.5**	**19.7**	**18.5**	**0.60**	**6773**	**6.3**
	Total Meas+Ind	**0.65**	**0.99**	**1.52**	**5.5**	**0.5**	**19.7**	**18.5**	**0.60**	**6773**	**6.3**
	Inferred	**3.24**	**5.01**	**1.54**	**5.3**	**0.5**	**21.4**	**17.1**	**0.53**	**6612**	**6.4**

14.4 "POTENTIAL COAL TONNAGE"

"Potential coal tonnage" has been estimated where drillhole coverage is insufficient for Resource estimation under the NI43-101 ruling (Table 14.81). The criteria demand that there are at least three drillholes per section or traverse. For traverse lines where only one or two holes have been drilled to date, this coal has been classified as "potential tonnage" rather than an Inferred Resource. A confidence discount of -30% has then been applied to the figure calculated from the software to obtain the upper limit of the range. In all other respects this coal has been estimated in the same manner as the Resources. This tonnage is summarised in Table 14.8, and its distribution is shown in plans in Section 19. 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 14.8

Soumber Field "Potential Coal Tonnage"

Area	Seam	Tonnage estimate range Mt	
		From	To
Surface depth < 300m			
Central Soumber	5	0	0
	4	0	0
	1	0	0
	TOTAL	**0**	**1**
East Soumber	5	0	1
	4	0	2
	3	0	0
	TOTAL	**0**	**3**
Biluut	3L	0	0
	2U	0	1
	2l	0	1
	1U	0	0
	1L1	0	4
	1L0	0	0
	TOTAL	**0**	**8**
South Biluut	**TOTAL**	**0**	**0**
Jargalant	3U	0	1
	3L	0	4
	2U	0	1
	2l	0	1
	1U	0	1
	1L1	0	0
	1L0	0	0
	TOTAL	**0**	**8**
Underground depth 300m-600m			
All areas		**0**	**<3**

15 ADJACENT PROPERTIES

The Soumber deposit 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, (Minarco Mineconsult, 2012).

The Qualified Person has been unable to verify the information regarding Ovoot Tolgoi and the information is not necessarily indicative of the mineralisation on the Soumber Deposit.

16 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.

17 INTERPRETATION AND CONCLUSIONS

Exploration to date on MEL 9443X and MV 016869 at the Soumber Resource area has delineated 79 million tonnes of coal classified as Measured plus Indicated Resource, plus a further 21 million tonnes of Inferred Resource, and 0-4 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 and 9449X at the Biluut/Jargalant Field Resource area has delineated 94 million tonnes of coal classified as Measured plus Indicated Resource, plus a further 102 million tonnes of Inferred Resource, and 0-19 million tonnes of “potential coal tonnage”. Resource estimations 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;
- 300m base depth limit for surface mine development; and
- MEL 9443X boundary.

Resources have increased substantially since the last estimate, due to an extensive drilling program in 2011.

The coal seams of the Soumber and Biluut/Jargalant Fields have 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/Jargalant 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 may enable the status of the “potential coal tonnage” to be upgraded. The Soumber and Biluut/Jargalant Fields Resource estimates enhance the assets held by SGQ in the Umnugobi Province of Mongolia.

18 RECOMMENDATIONS

Data Management

A considerable amount of data has been obtained from the various exploration programs. It is recommended that a single robust data management solution for both exploration and pre-production information be implemented. The estimated budget for implementing the data management solution is US$150,000.

Exploration and Drilling

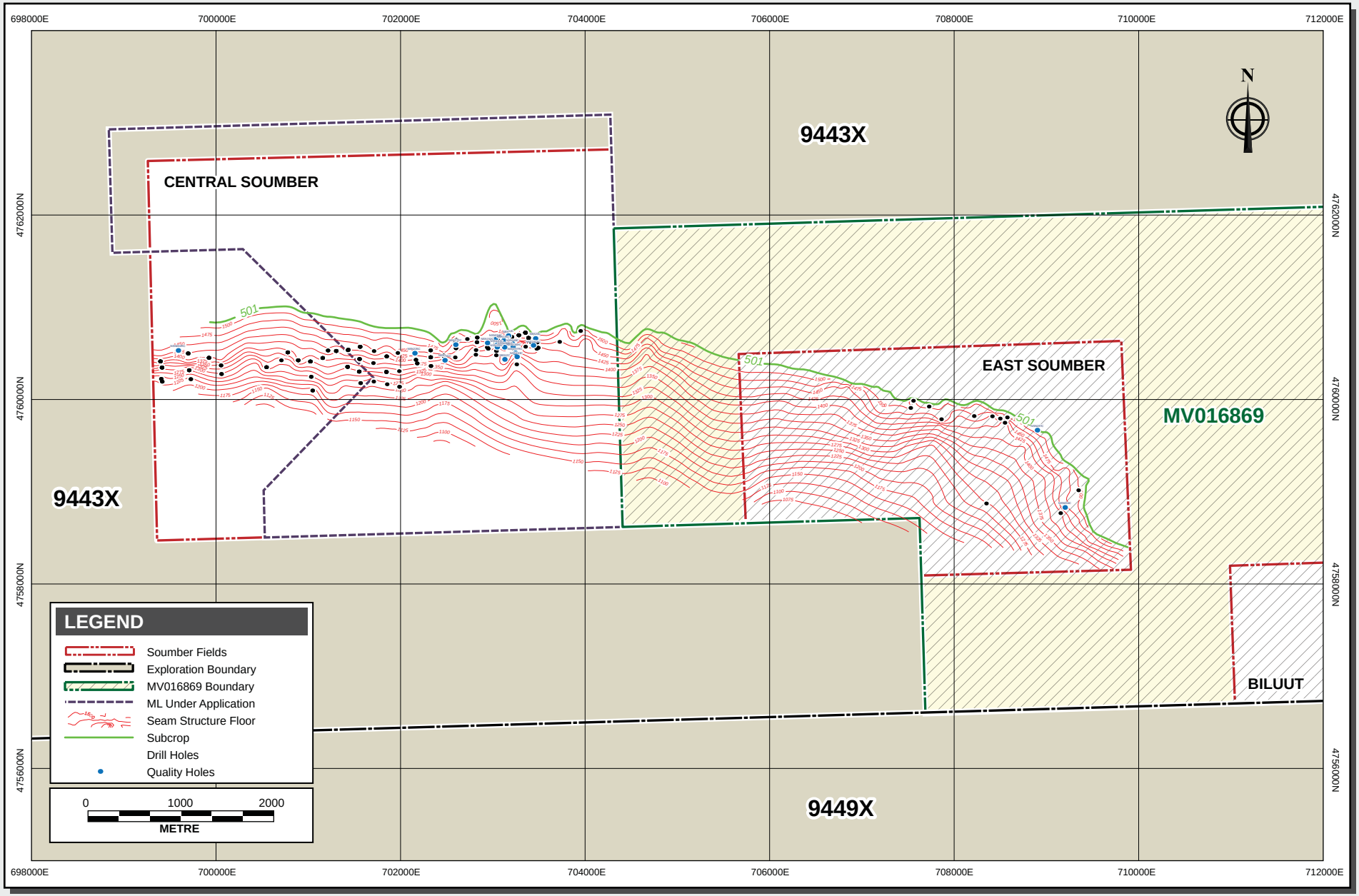
- Exploration drilling should continue both down dip of known coal occurrences and along strike to continue to develop the Soumber and Biluut/Jargalant fields; and
- Future deep drilling programs should include allowances for downhole surveying of hole deviation.

Future exploration work should be targeted at infill drilling to increase confidence in the status of the Resource.

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; and
- SGQ should undertake preliminary investigations into coal beneficiation.

19 ILLUSTRATIONS



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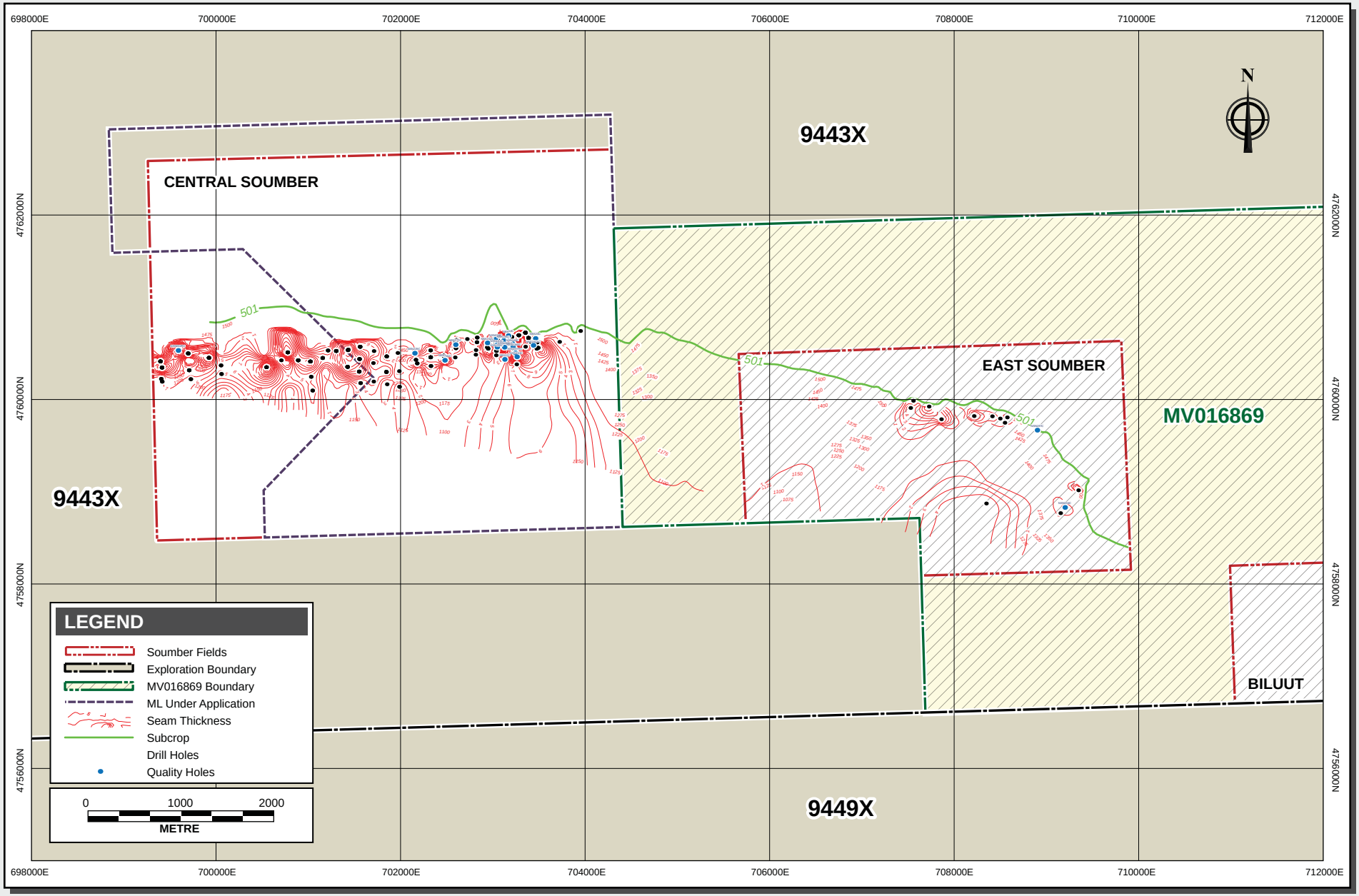
SouthGobi Resources

Client : **SOUTHGOBI RESOURCES LTD**	Job No. ADV-MN-00092-A
Project : **SGQ PROJECT**	Date : March 2013
Figure : **SOUMBER SEAM 5 GROUP STRUCTURE FLOOR**	FIGURE No.1



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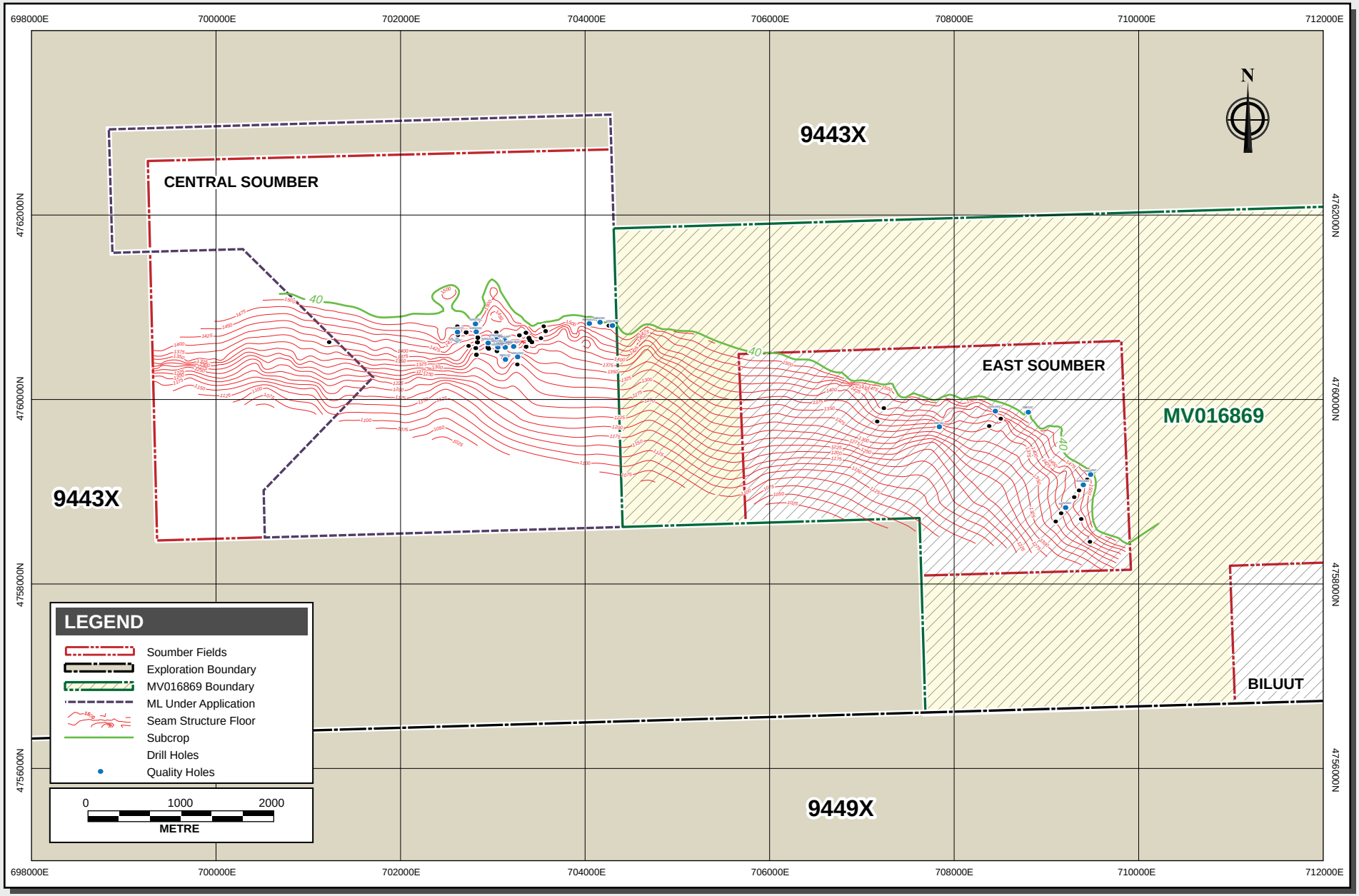
Client : **SOUTHGOBI RESOURCES LTD**	Job No. ADV-MN-00092-A
Project : **SGQ PROJECT**	Date : March 2013
Figure : **SOUMBER SEAM 5 GROUP THICKNESS**	FIGURE No.2



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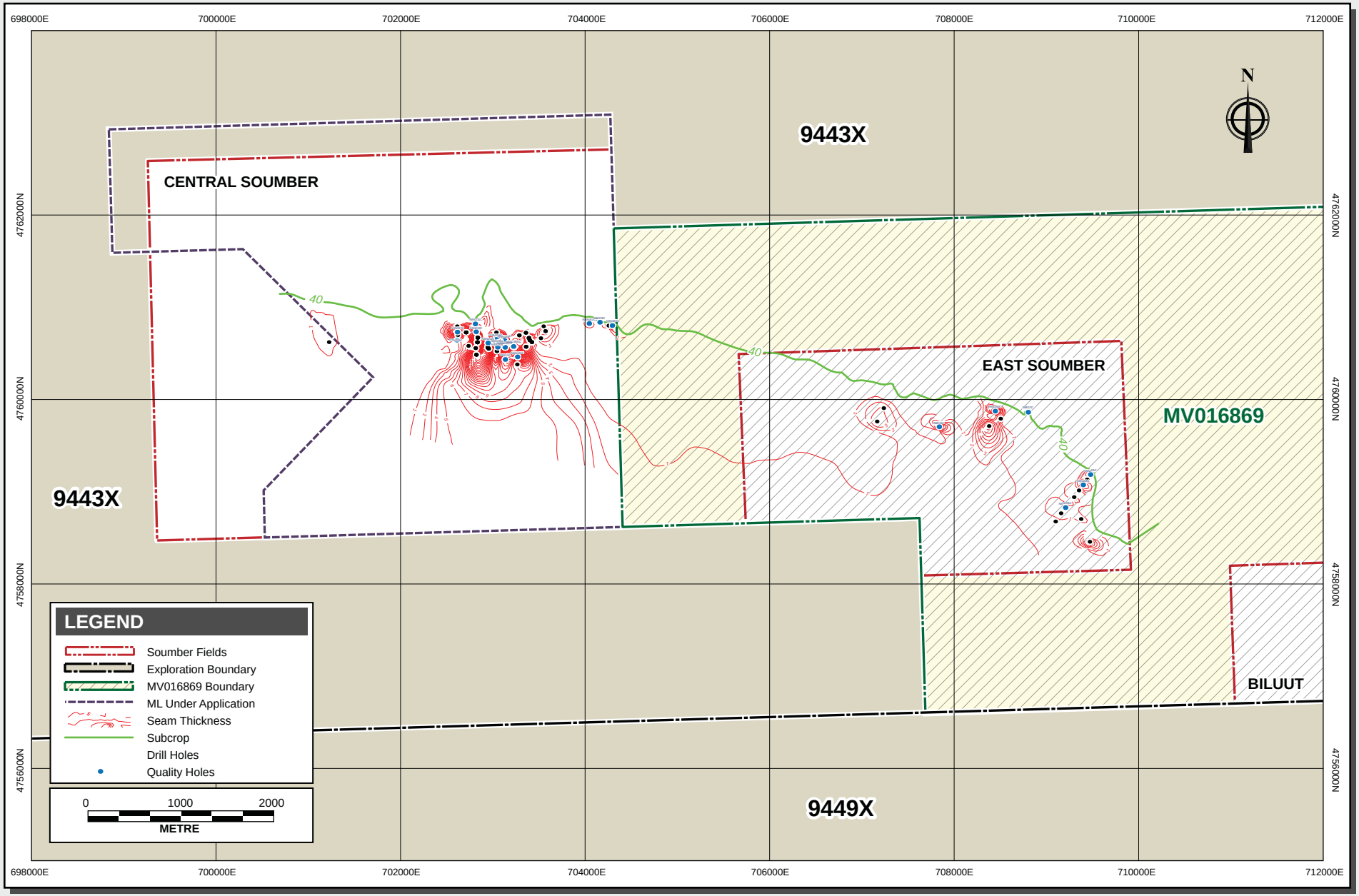
Client : **SOUTHGOBI RESOURCES LTD**	Job No. ADV-MN-00092-A
Project : **SGQ PROJECT**	Date : March 2013
Figure : **SOUMBER SEAM 4 GROUP STRUCTURE FLOOR**	FIGURE No.3



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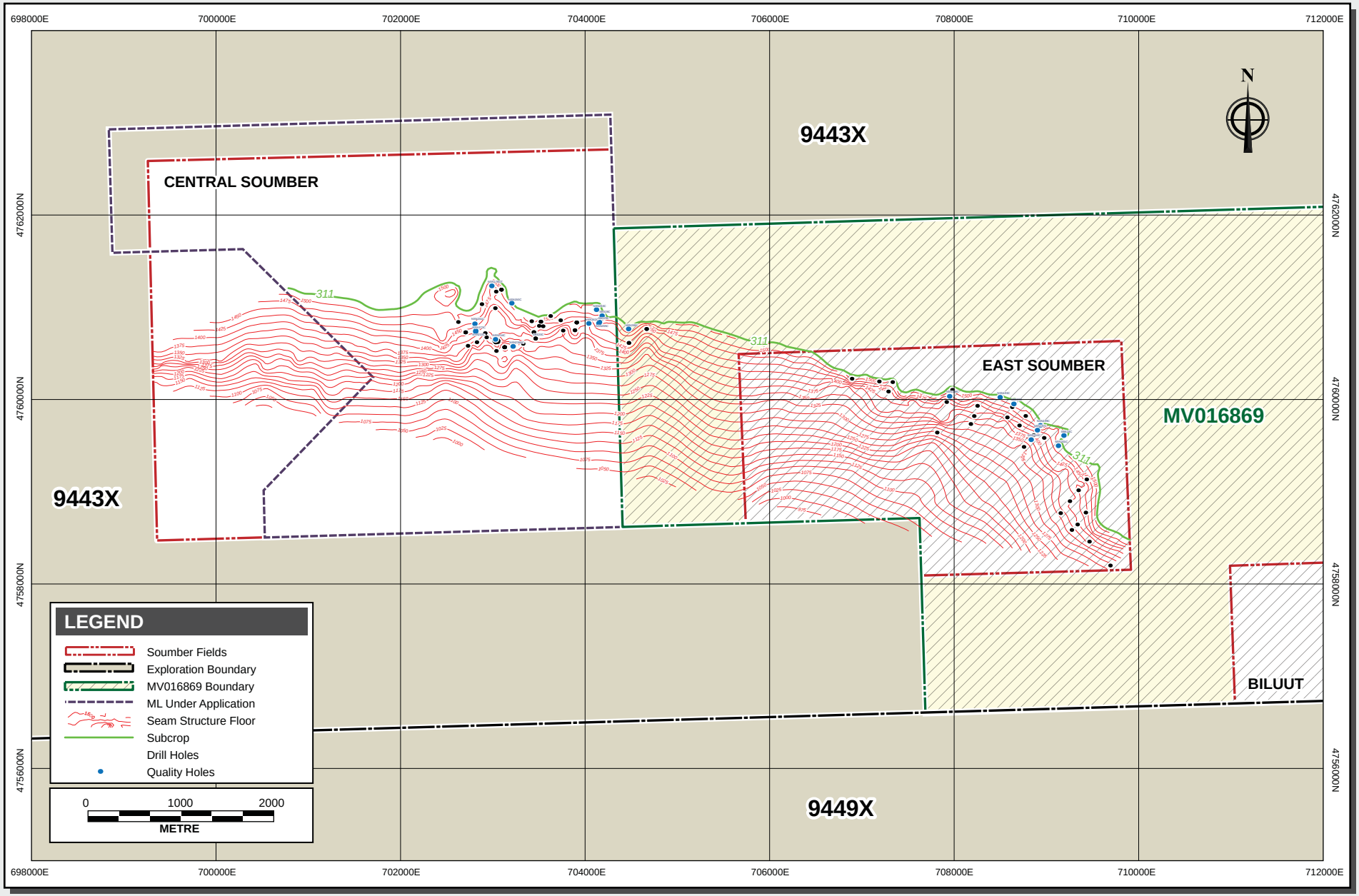
SouthGobi Resources

Client : **SOUTHGOBI RESOURCES LTD**	Job No. ADV-MN-00092-A
Project : **SGQ PROJECT**	Date : March 2013
Figure : **SOUMBER SEAM 4 GROUP THICKNESS**	FIGURE No.4



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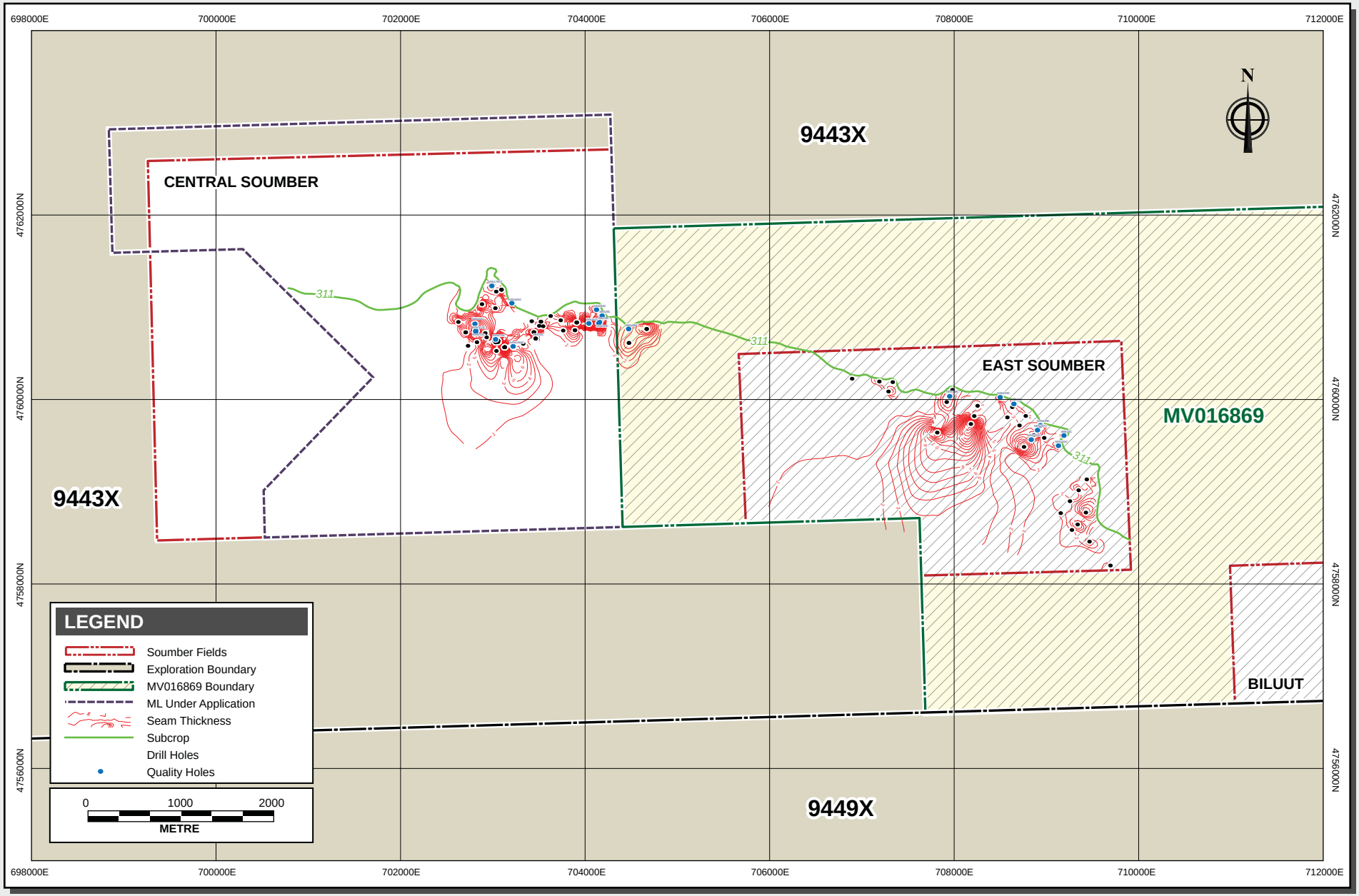
SouthGobi Resources

Client : **SOUTHGOBI RESOURCES LTD**	Job No. ADV-MN-00092-A
Project : **SGQ PROJECT**	Date : March 2013
Figure : **SOUMBER SEAM 3 GROUP STRUCTURE FLOOR**	FIGURE No.5



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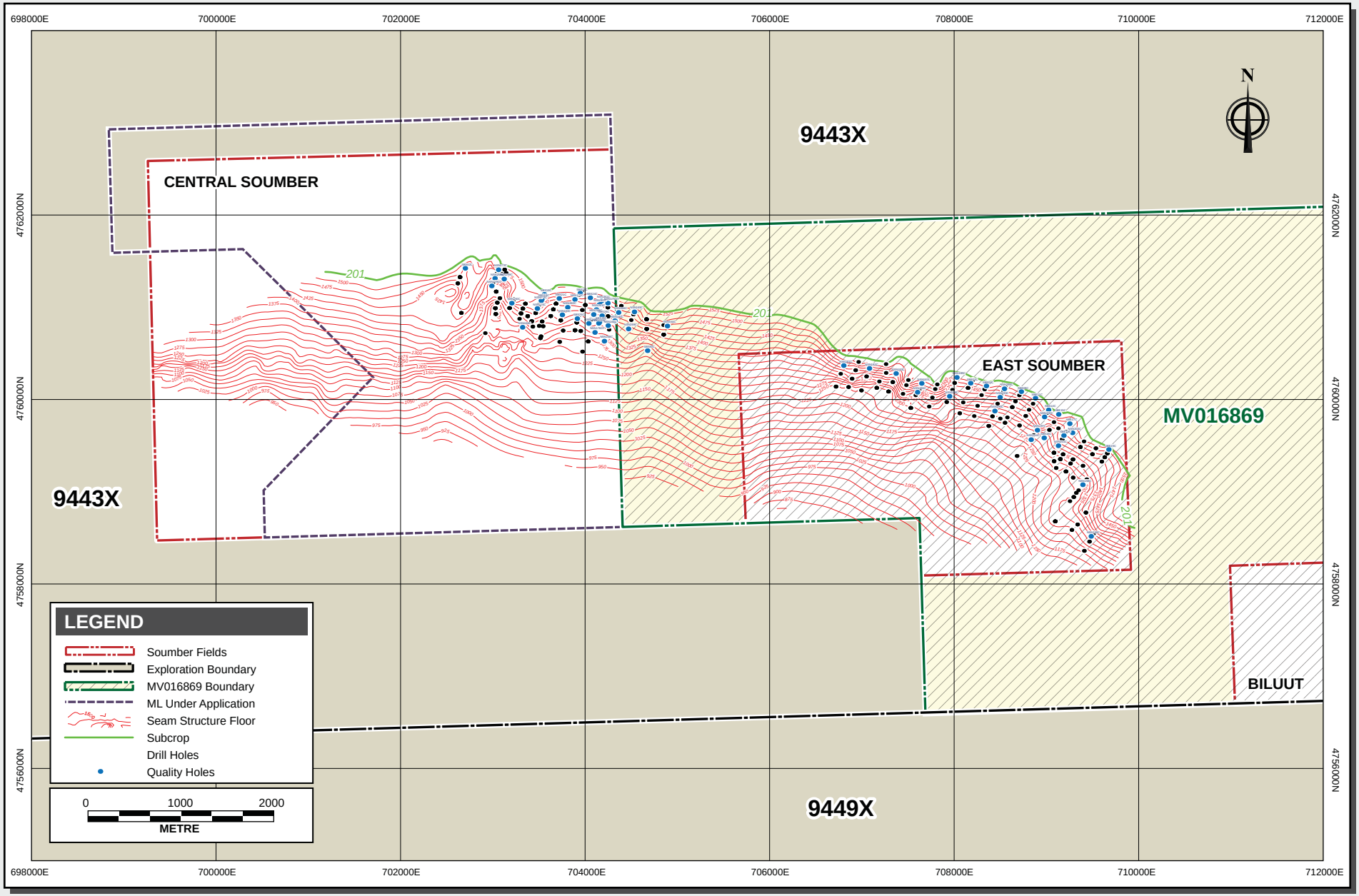
Client : **SOUTHGOBI RESOURCES LTD**	Job No. ADV-MN-00092-A
Project : **SGQ PROJECT**	Date : March 2013
Figure : **SOUMBER SEAM 3 GROUP THICKNESS**	FIGURE No.6



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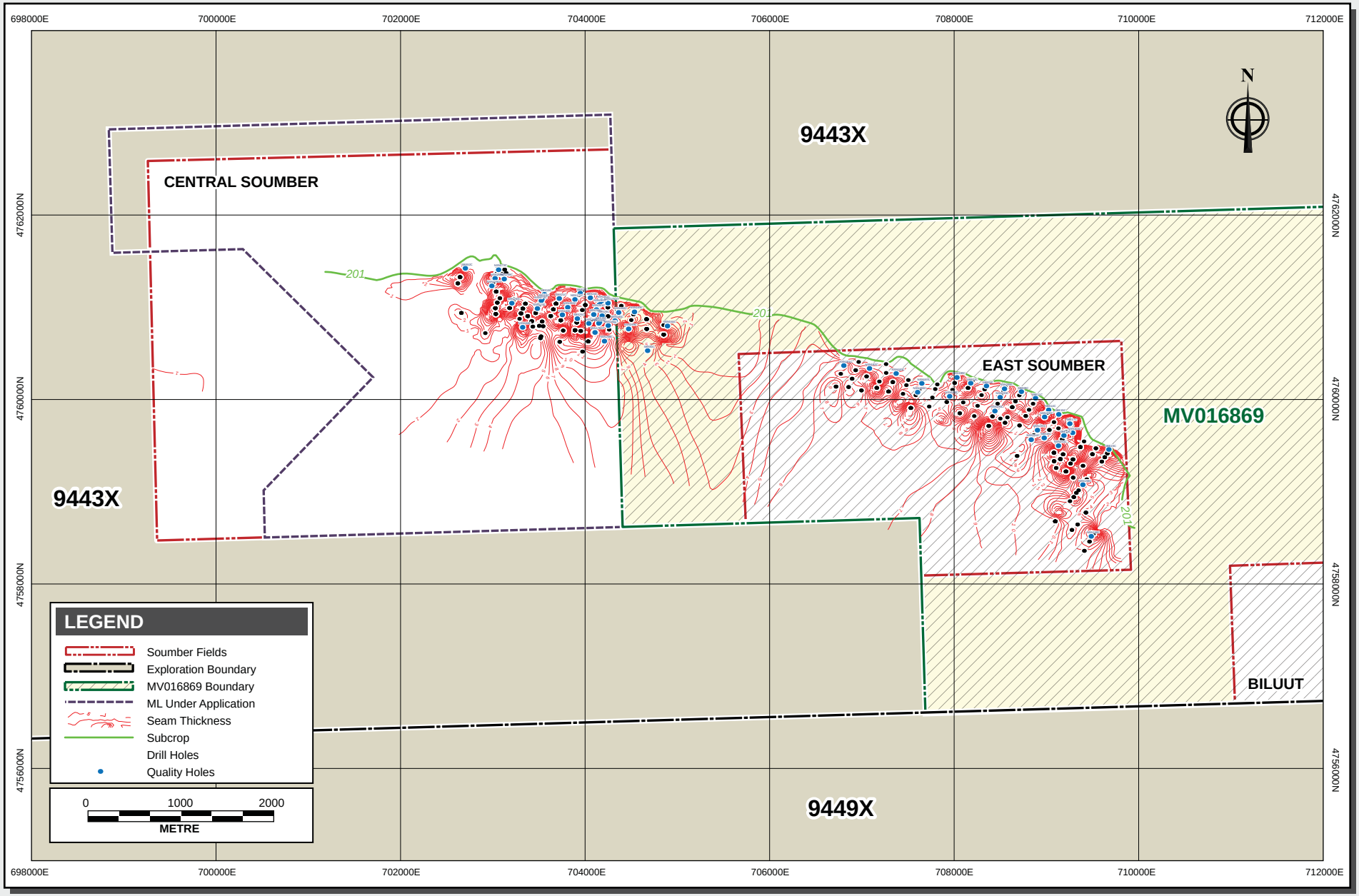
Client : **SOUTHGOBI RESOURCES LTD**	Job No. ADV-MN-00092-A
Project : **SGQ PROJECT**	Date : March 2013
Figure : **SOUMBER SEAM 2 GROUP STRUCTURE FLOOR**	FIGURE No.7



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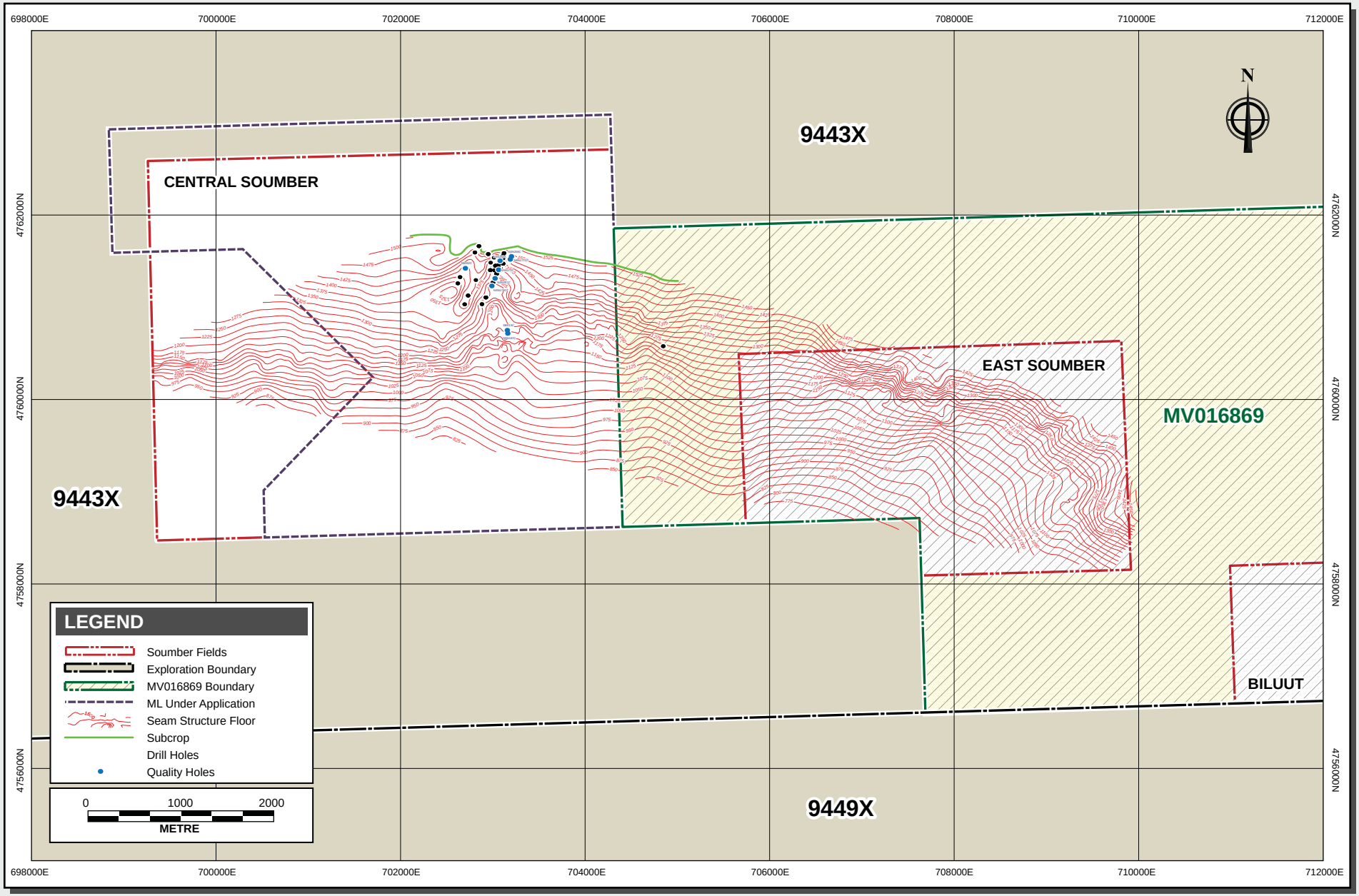
Client : **SOUTHGOBI RESOURCES LTD**	Job No. ADV-MN-00092-A
Project : **SGQ PROJECT**	Date : March 2013
Figure : **SOUMBER SEAM 2 GROUP THICKNESS**	FIGURE No.8



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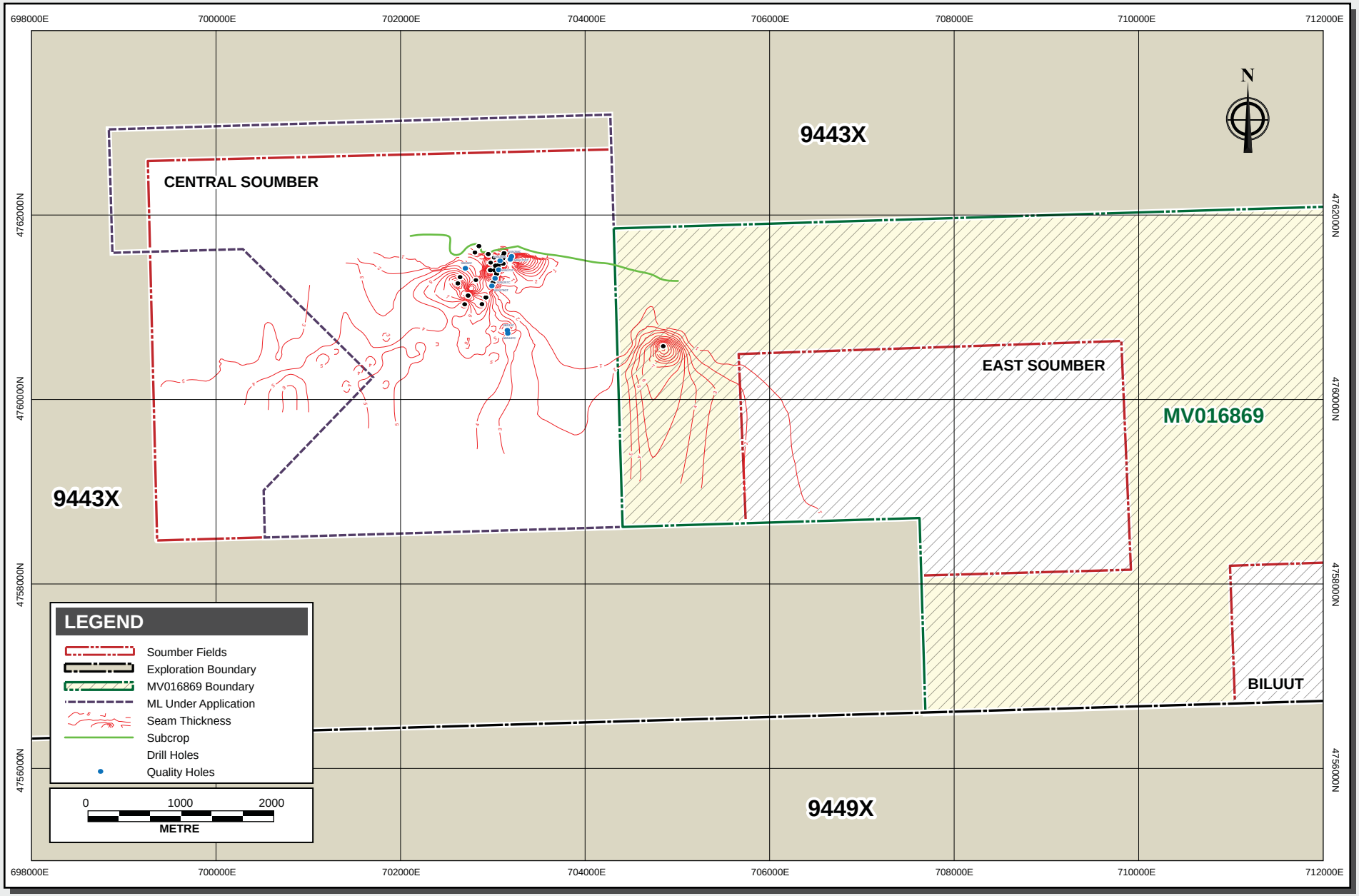
Client : **SOUTHGOBI RESOURCES LTD**	Job No. ADV-MN-00092-A
Project : **SGQ PROJECT**	Date : March 2013
Figure : **SOUMBER SEAM 1 GROUP STRUCTURE FLOOR**	FIGURE No.9



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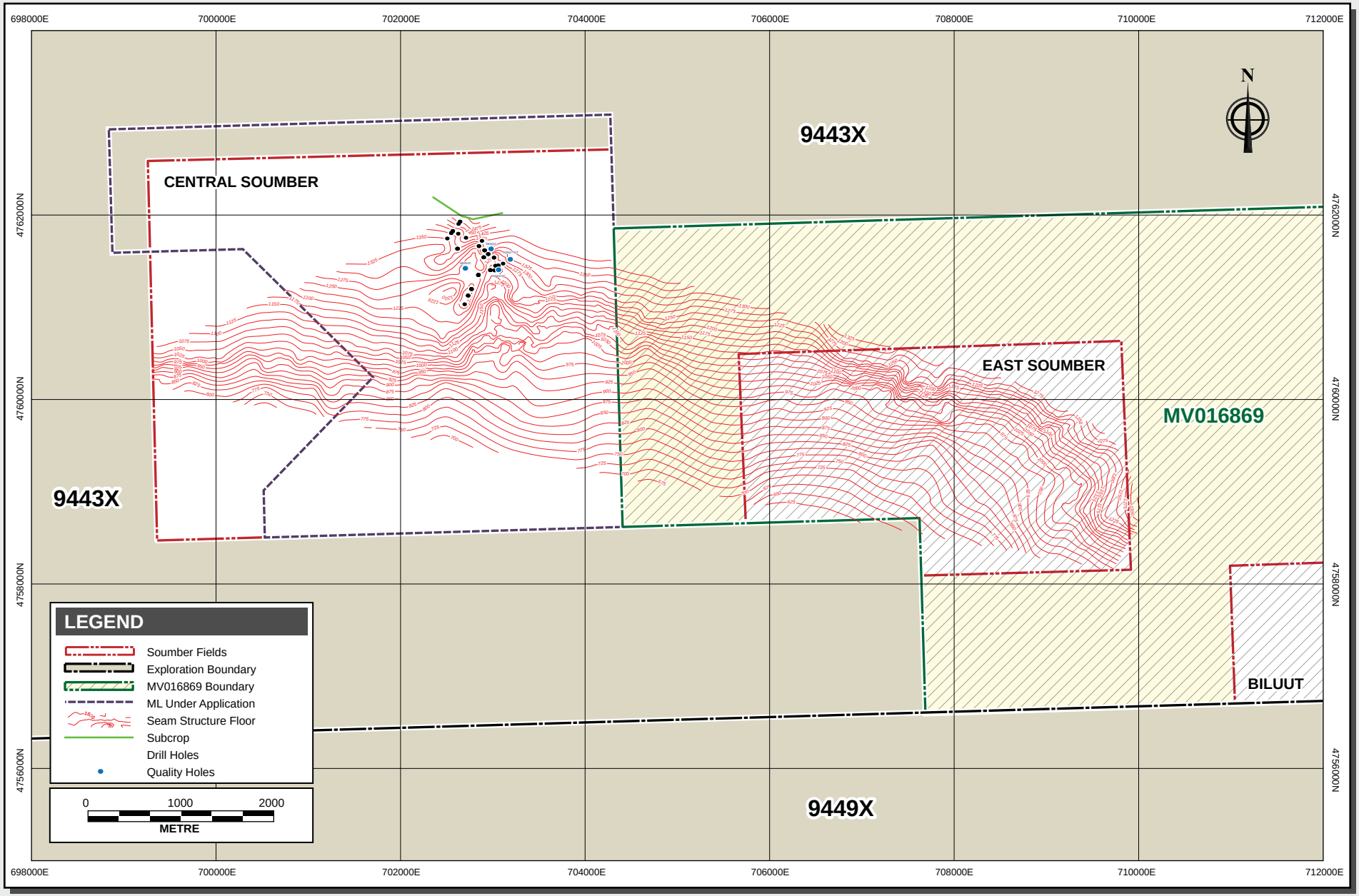
Client : **SOUTHGOBI RESOURCES LTD**	Job No. ADV-MN-00092-A
Project : **SGQ PROJECT**	Date : March 2013
Figure : **SOUMBER SEAM 1 GROUP THICKNESS**	FIGURE No.10



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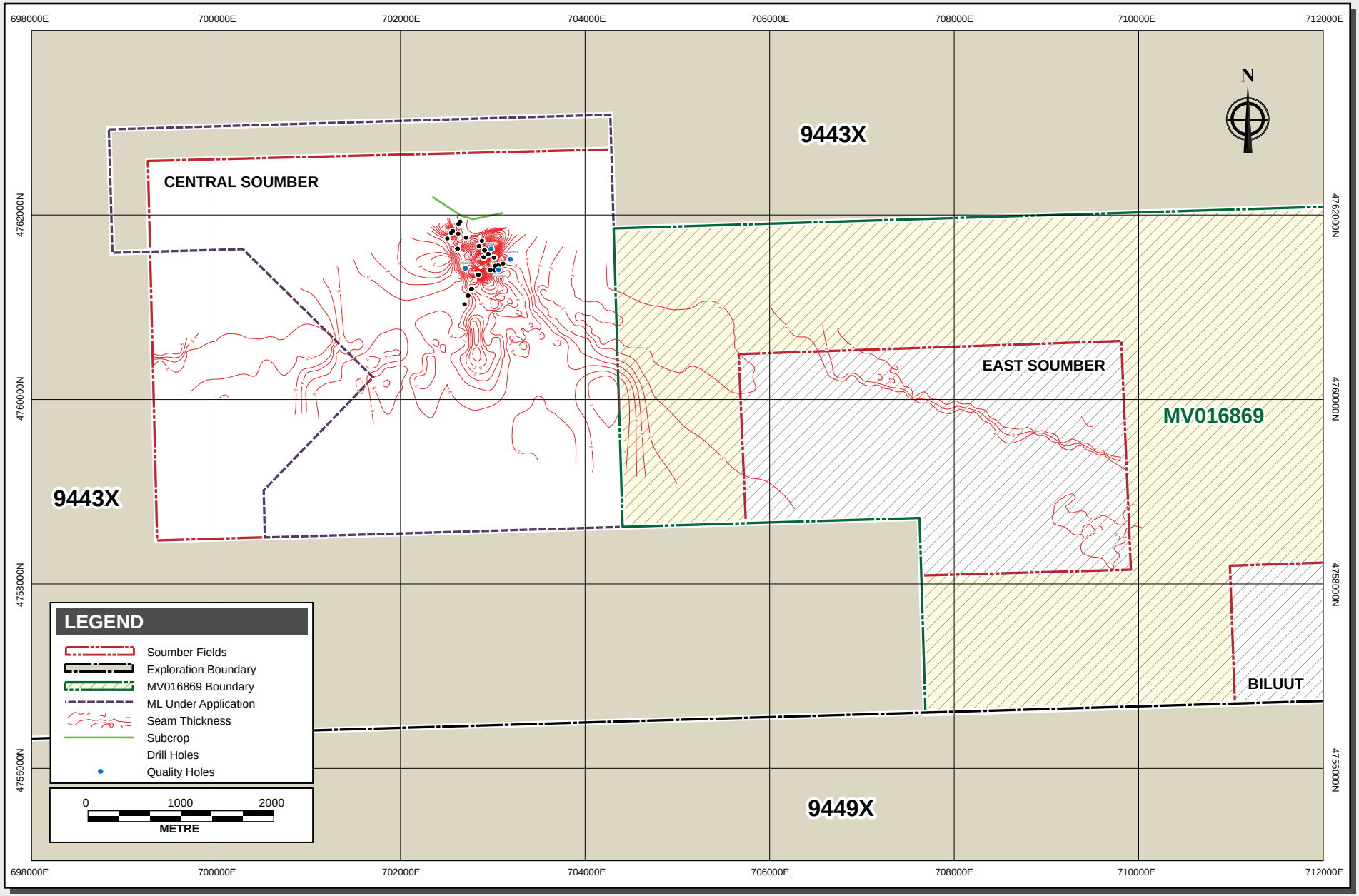
Client : **SOUTHGOBI RESOURCES LTD**	Job No. ADV-MN-00092-A
Project : **SGQ PROJECT**	Date : March 2013
Figure : **SOUMBER SEAM 0 GROUP STRUCTURE FLOOR**	FIGURE No.11



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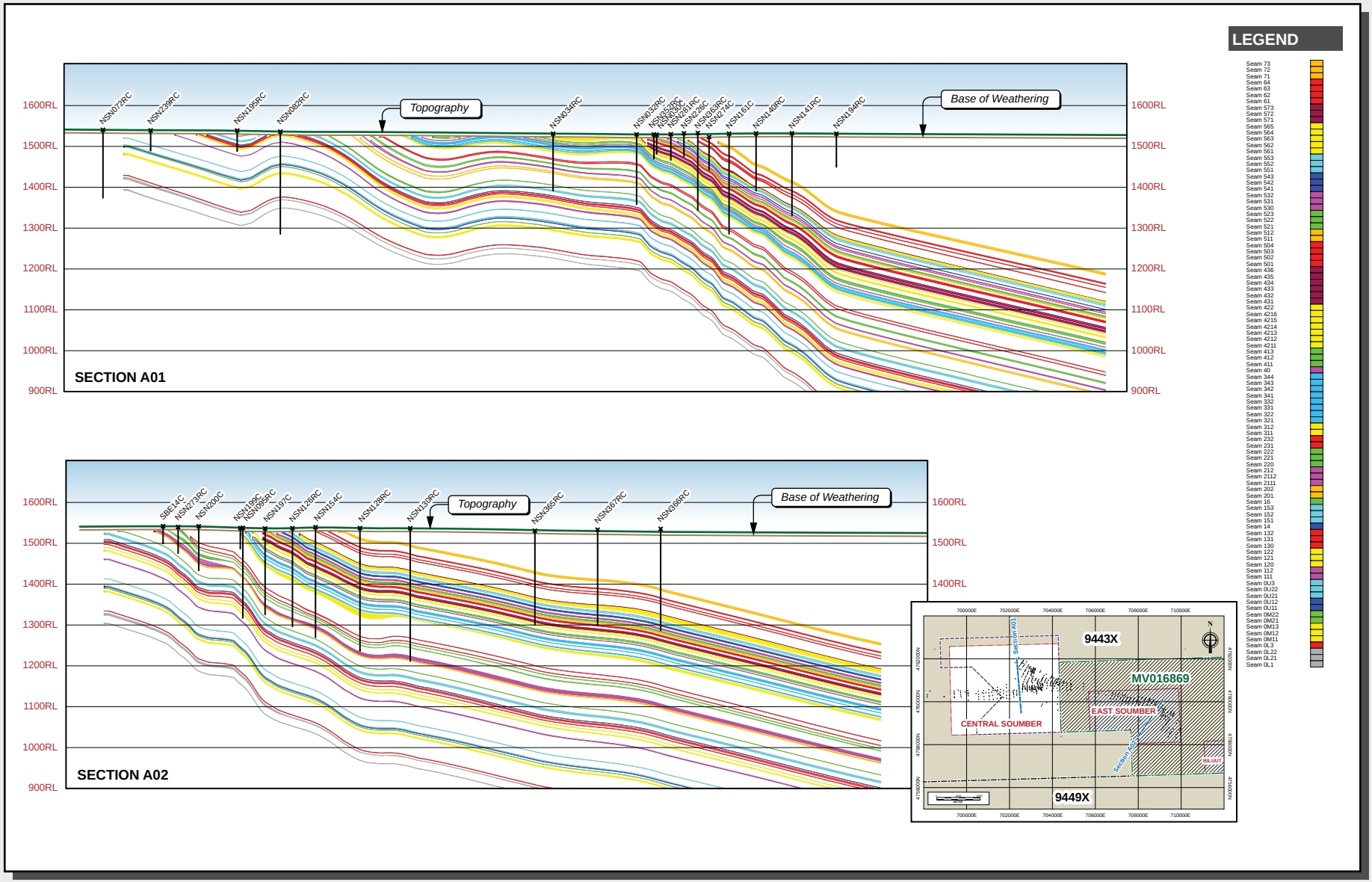
Client : **SOUTHGOBI RESOURCES LTD**	Job No. ADV-MN-00092-A
Project : **SGQ PROJECT**	Date : March 2013
Figure : **SOUMBER SEAM 0 GROUP THICKNESS**	FIGURE No.12



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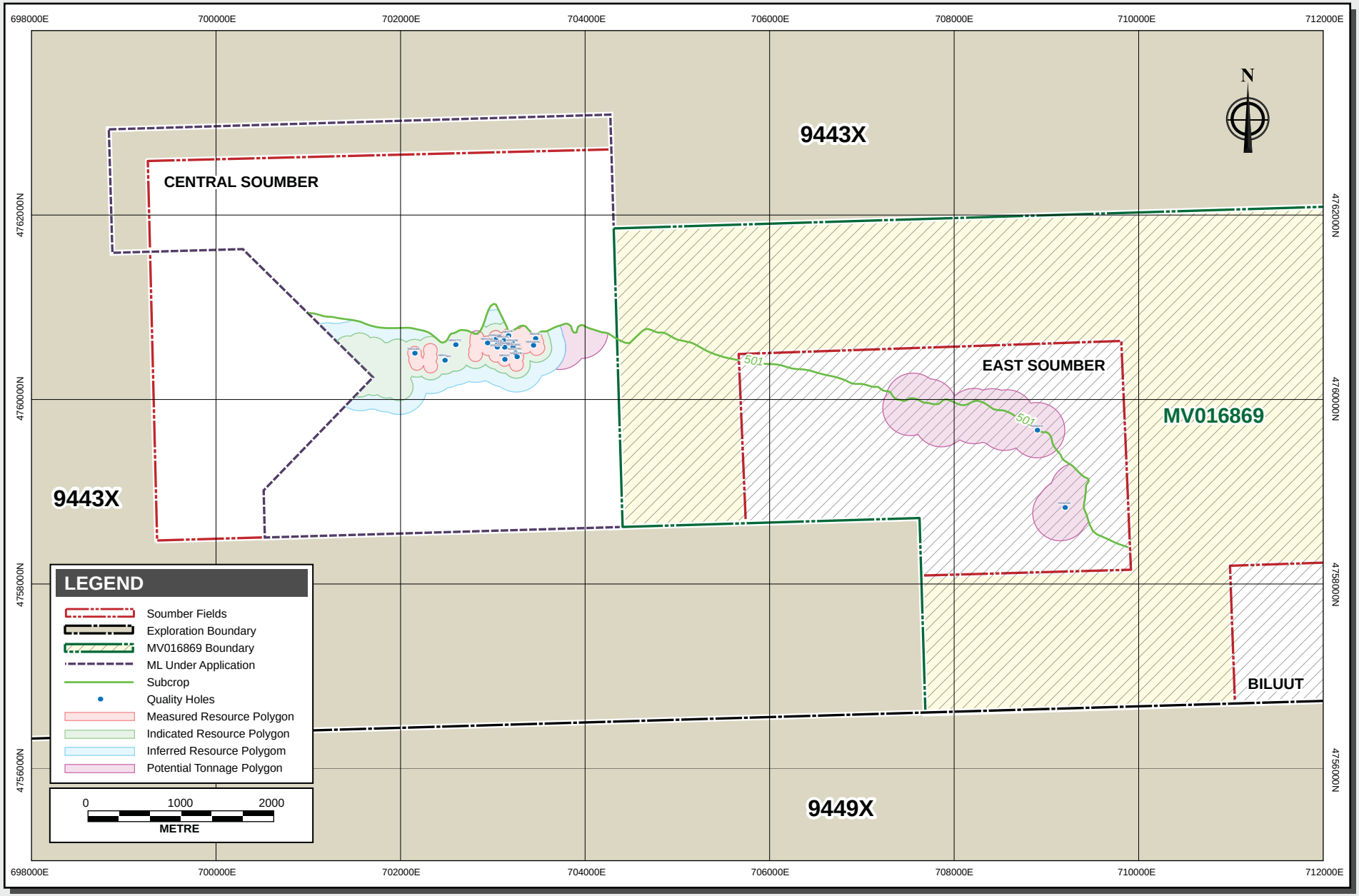
SouthGobi Resources	Project : **SGQ PROJECT**	Date : March 2013
	Figure : **SOUMBER TYPICAL CROSS SECTIONS**	FIGURE No.13



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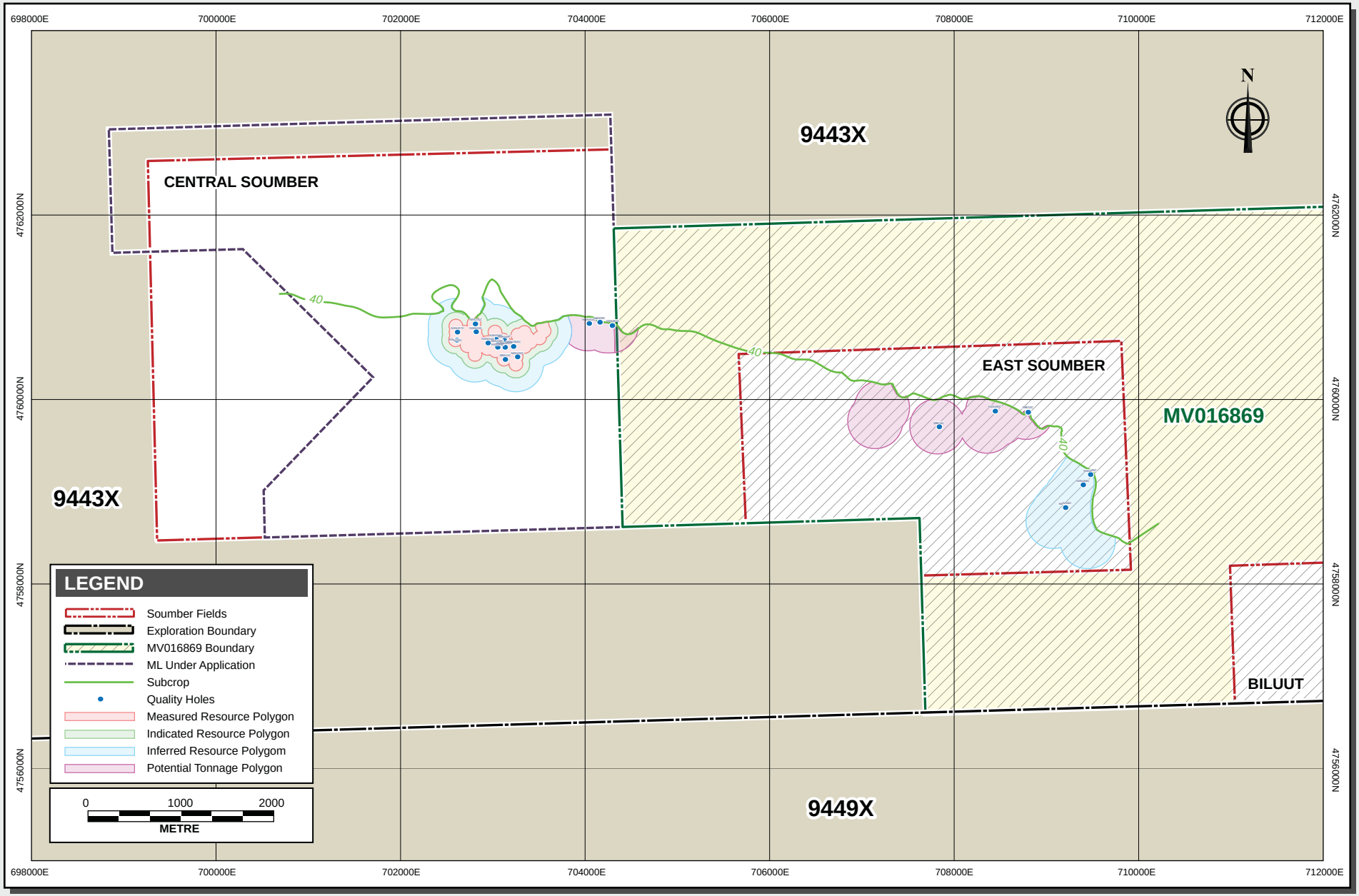
Client : **SOUTHGOBI RESOURCES LTD**	Job No. ADV-MN-00092-A
Project : **SGQ PROJECT**	Date : March 2013
Figure : **SOUMBER SEAM 5 GROUP RESOURCE POLYGONS**	FIGURE No.14



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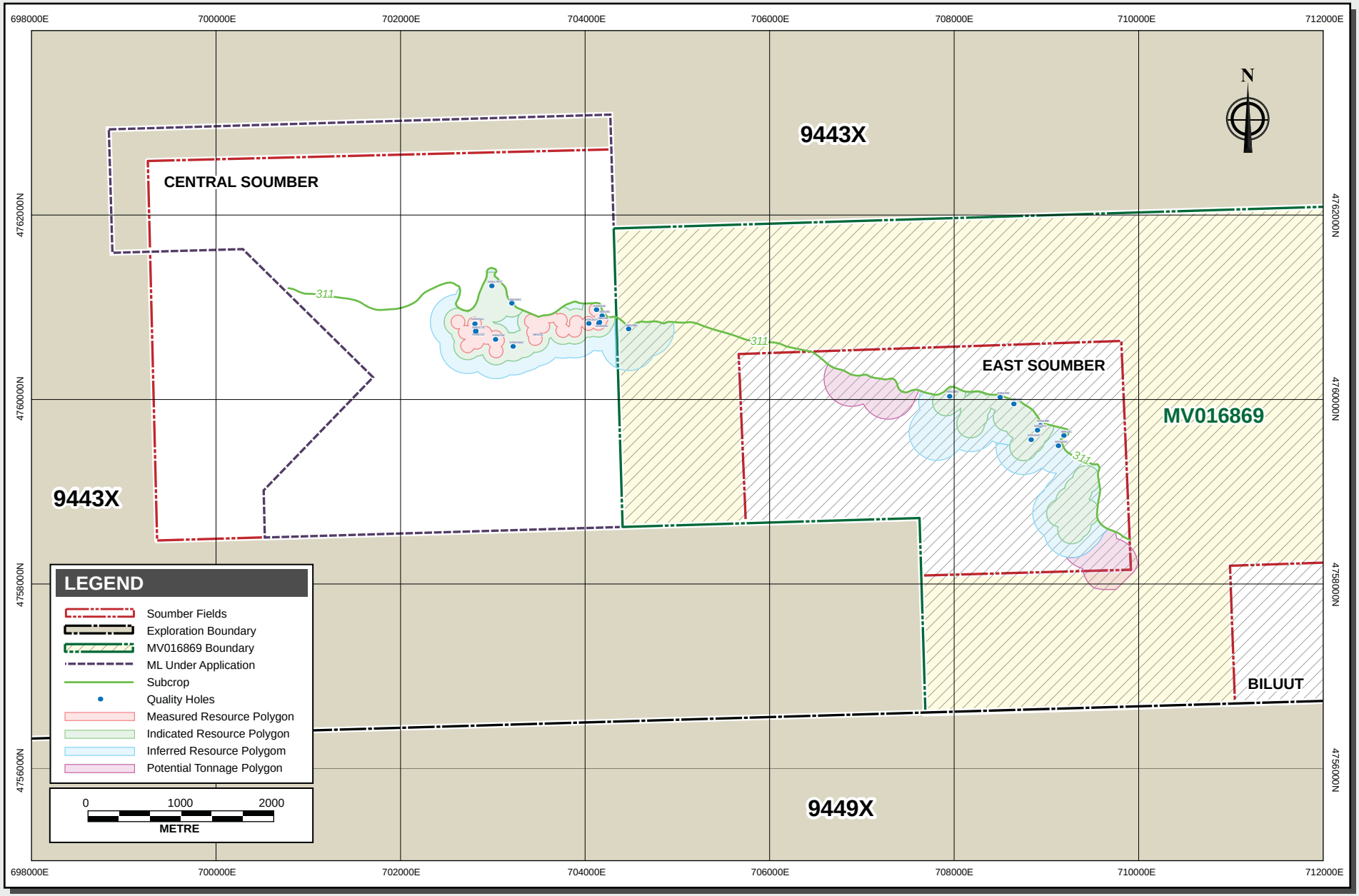
Client : **SOUTHGOBI RESOURCES LTD**	Job No. ADV-MN-00092-A
Project : **SGQ PROJECT**	Date : March 2013
Figure : **SOUMBER SEAM 4 GROUP RESOURCE POLYGONS**	FIGURE No.15



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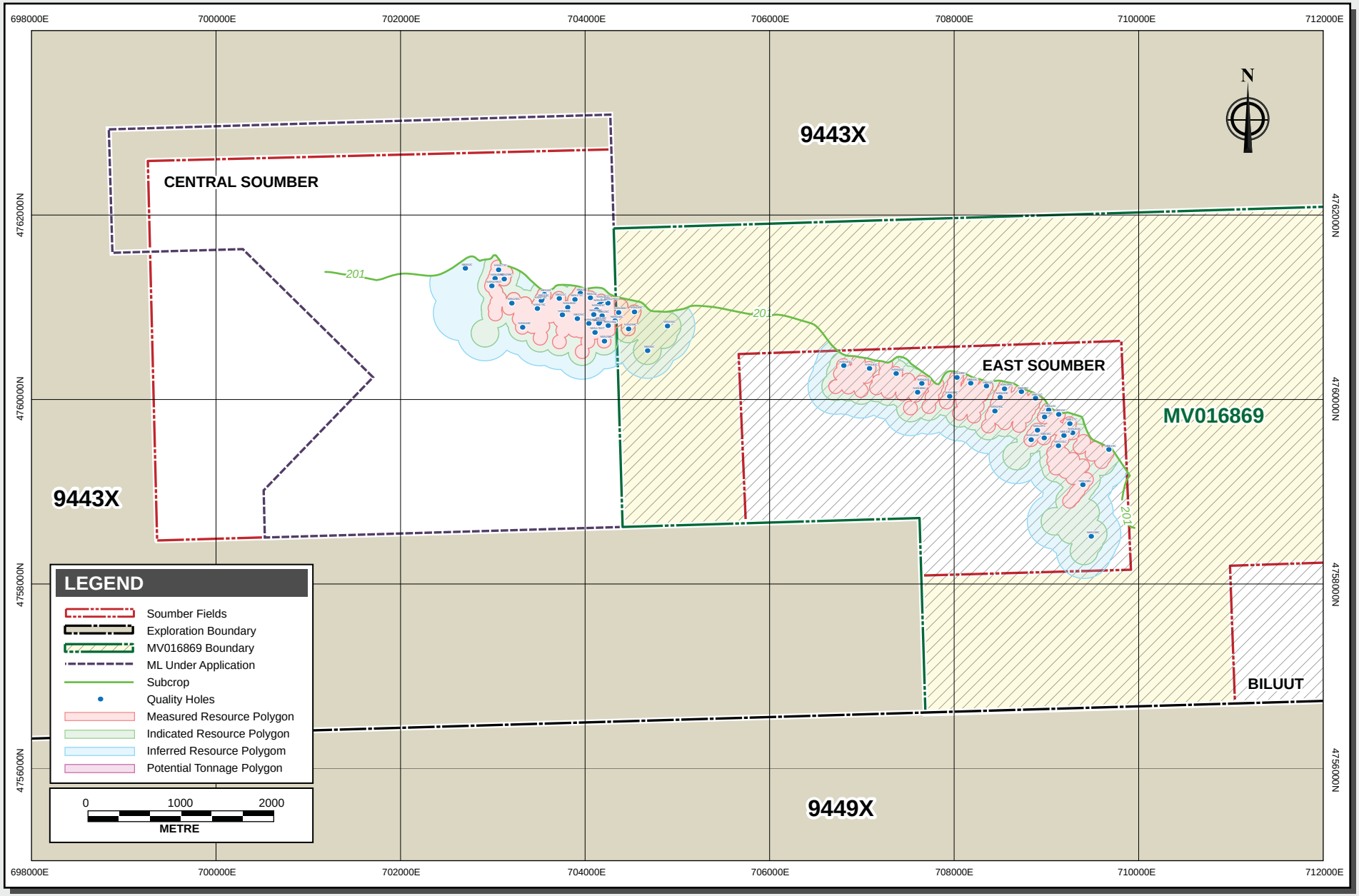
Client : **SOUTHGOBI RESOURCES LTD**	Job No. ADV-MN-00092-A
Project : **SGQ PROJECT**	Date : March 2013
Figure : **SOUMBER SEAM 3 GROUP RESOURCE POLYGONS**	FIGURE No.16



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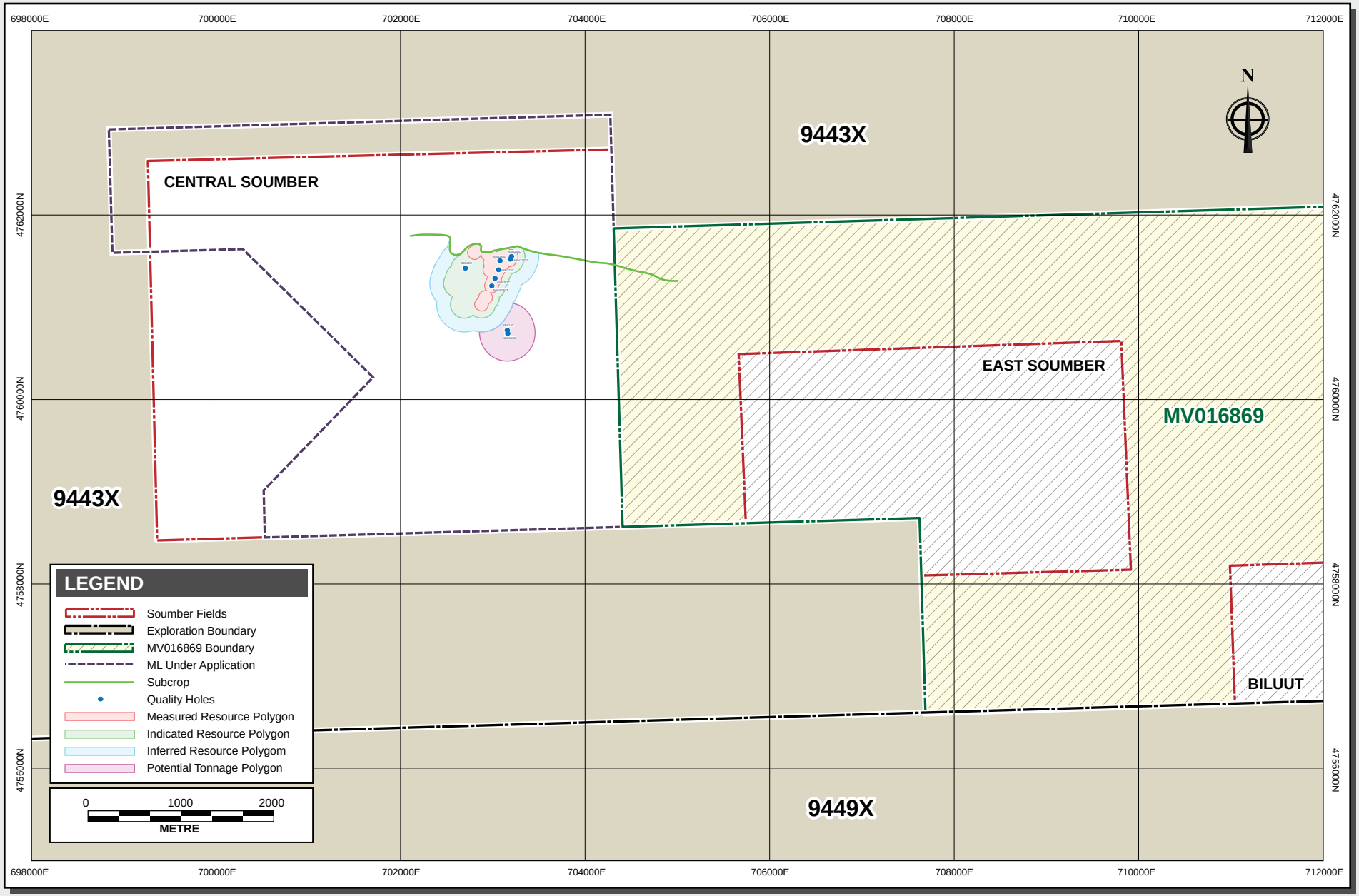
Client : **SOUTHGOBI RESOURCES LTD**	Job No. ADV-MN-00092-A
Project : **SGQ PROJECT**	Date : March 2013
Figure : **SOUMBER SEAM 2 GROUP RESOURCE POLYGONS**	FIGURE No.17



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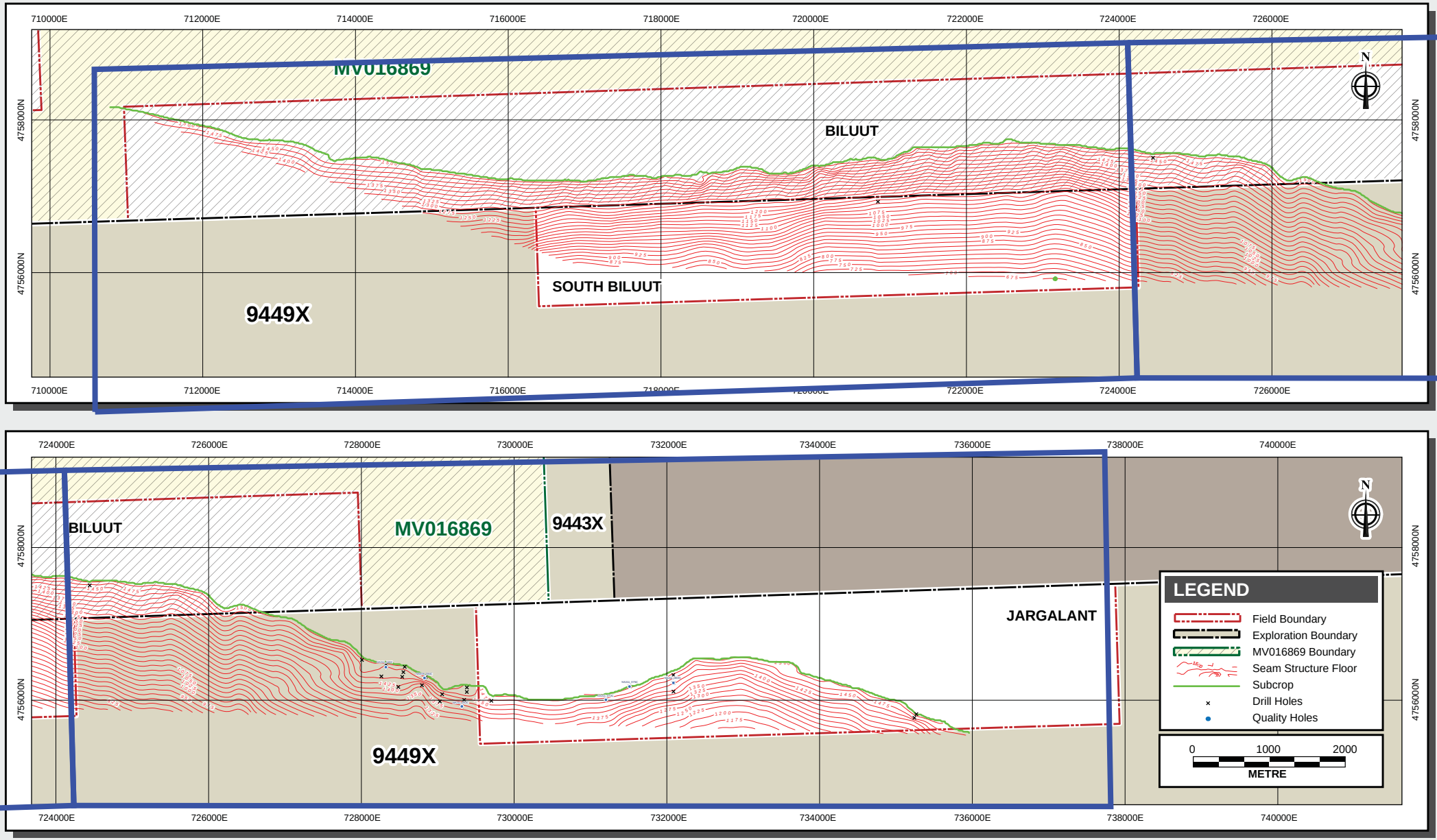
Client : **SOUTHGOBI RESOURCES LTD**	Job No. ADV-MN-00092-A
Project : **SGQ PROJECT**	Date : March 2013
Figure : **SOUMBER SEAM 1 GROUP RESOURCE POLYGONS**	FIGURE No.18



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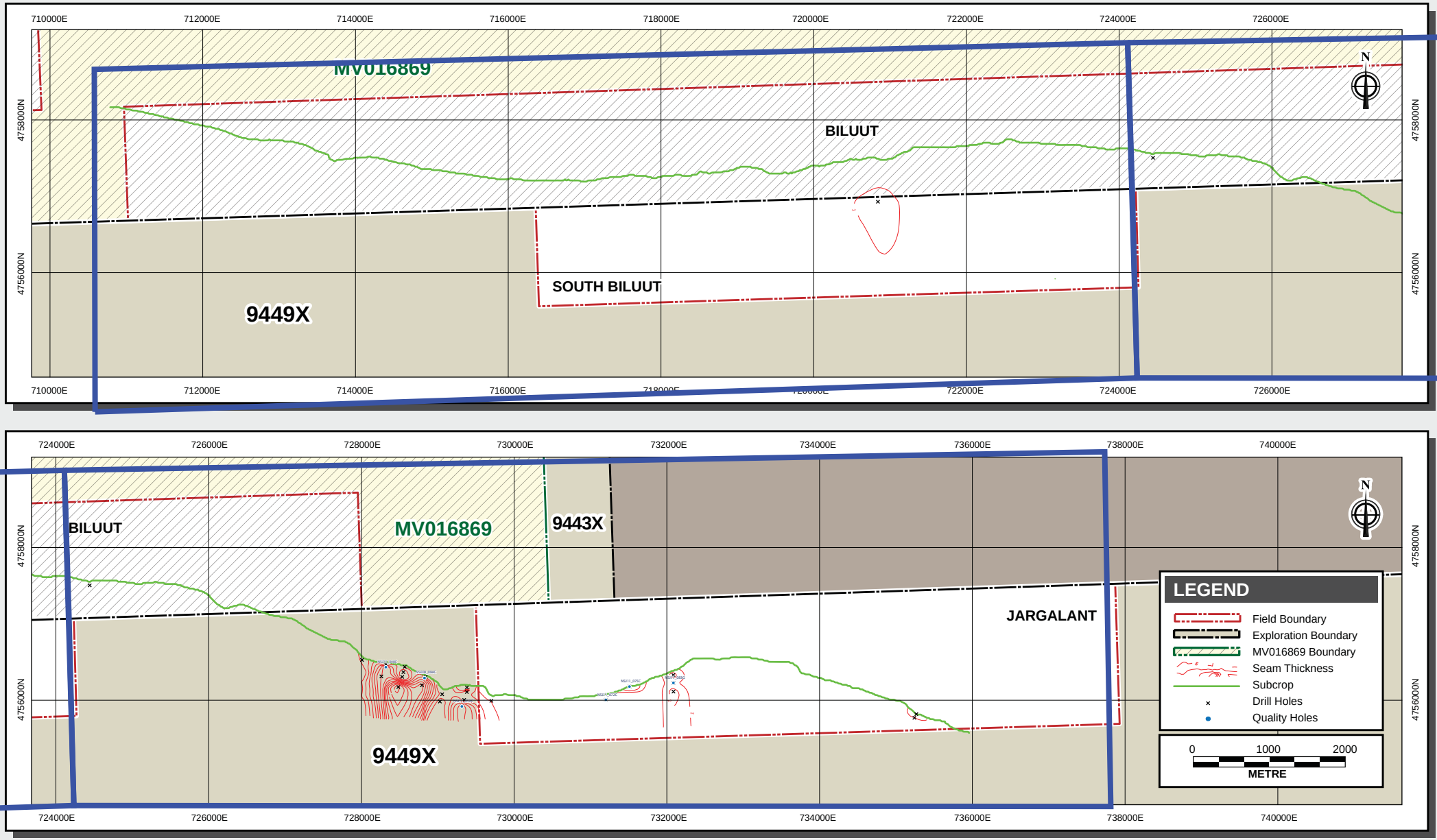
Client : **SOUTHGOBI RESOURCES LTD**	Job No. ADV-MN-00092-A
Project : **SGQ PROJECT**	Date : March 2013
Figure : **BILUUT / JARGALANT SEAM 3U GROUP STRUCTURE FLOOR**	FIGURE No.19



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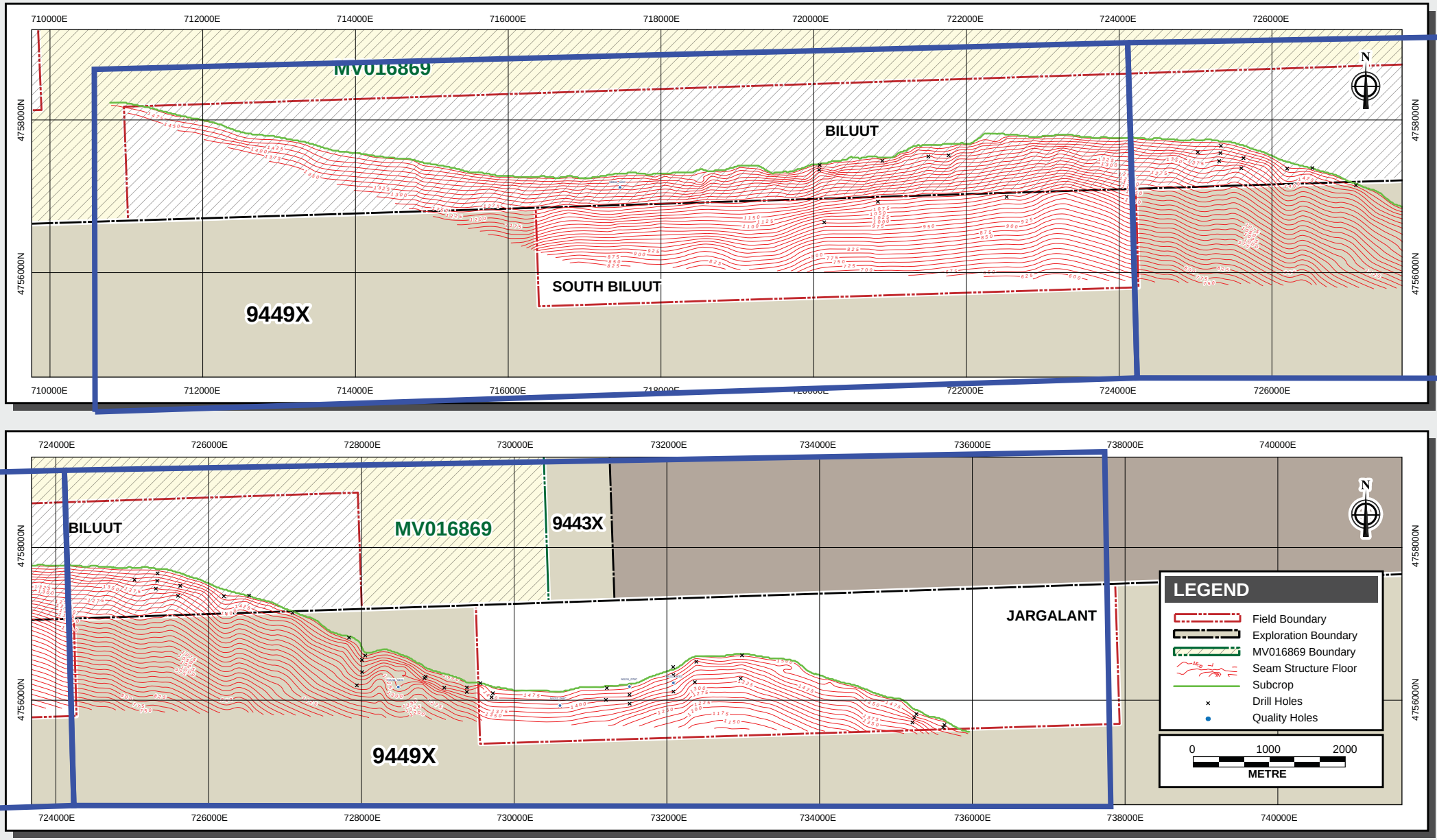
Client : **SOUTHGOBI RESOURCES LTD**	Job No. ADV-MN-00092-A
Project : **SGQ PROJECT**	Date : March 2013
Figure : **BILUUT / JARGALANT SEAM 3U GROUP THICKNESS**	FIGURE No.20



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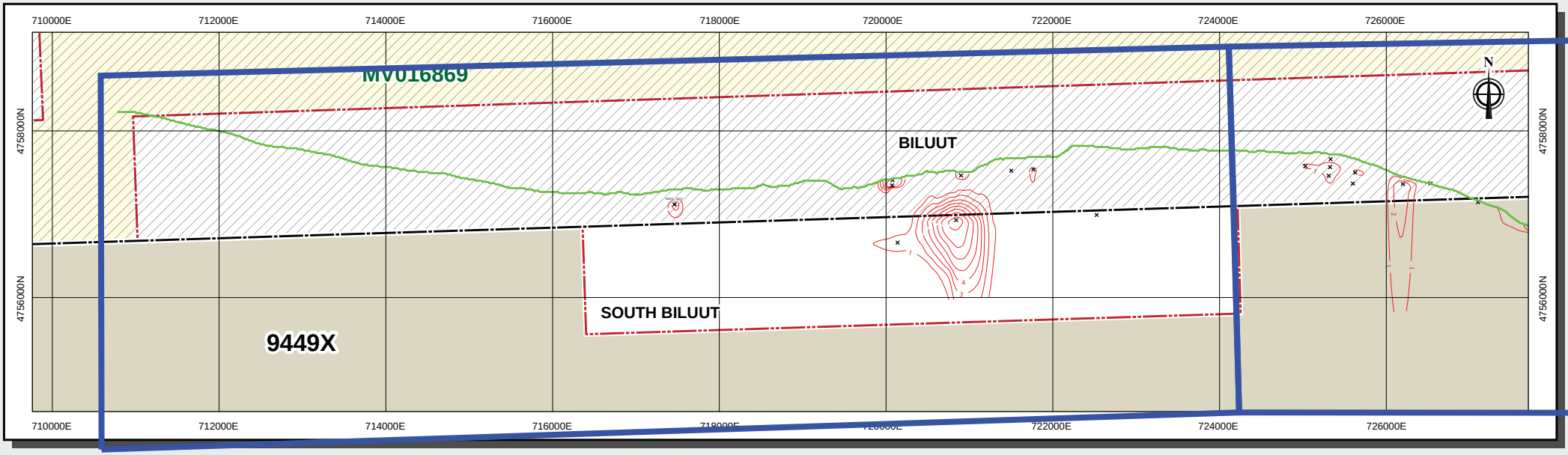
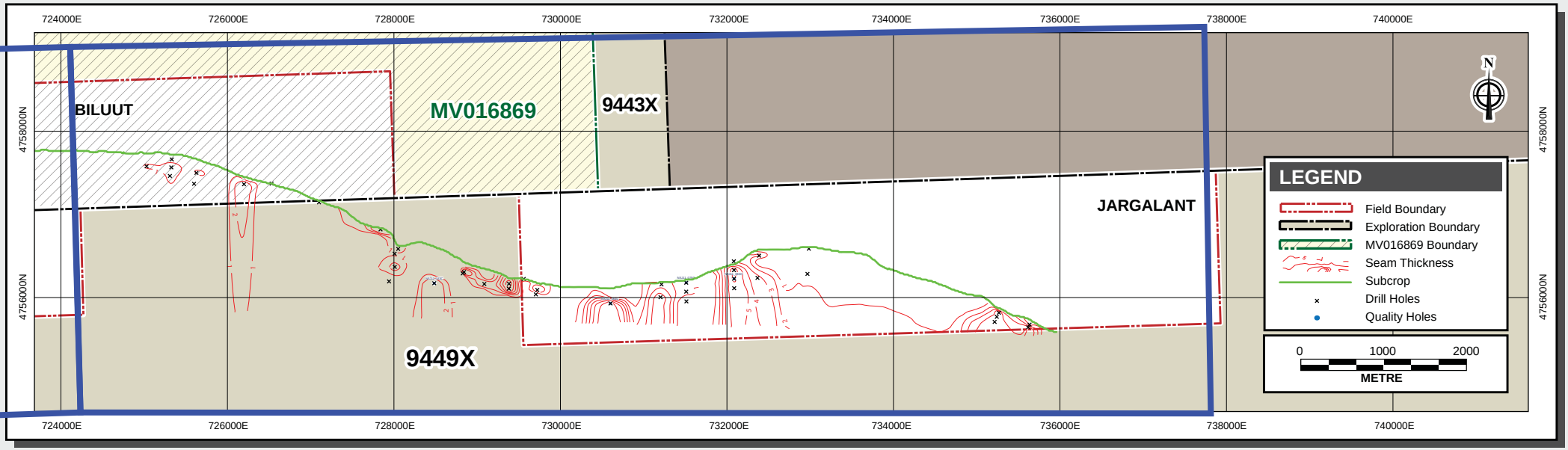
Client : **SOUTHGOBI RESOURCES LTD**	Job No. ADV-MN-00092-A
Project : **SGQ PROJECT**	Date : March 2013
Figure : **BILUUT / JARGALANT SEAM 3L GROUP STRUCTURE FLOOR**	FIGURE No.21





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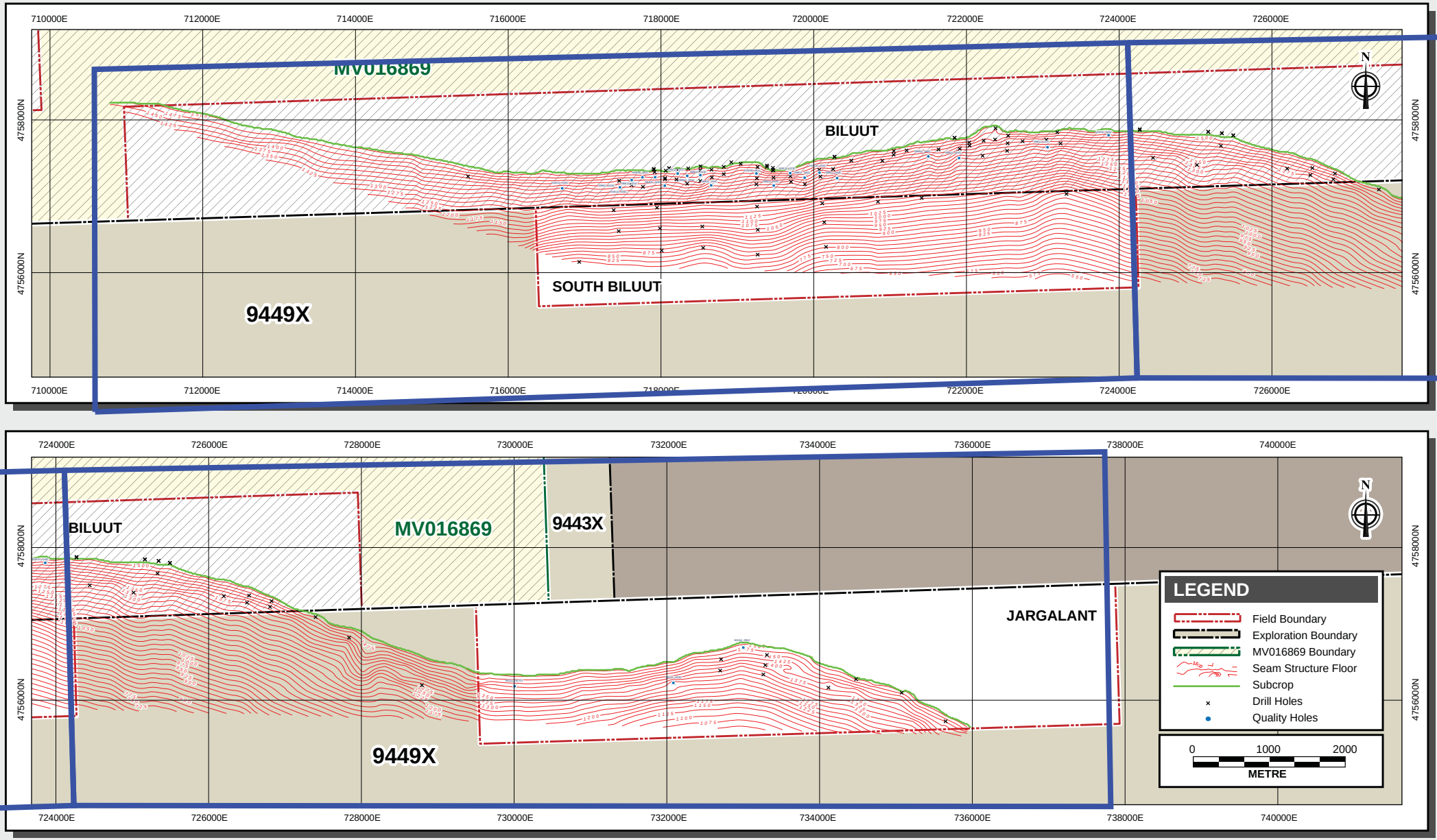
Client : **SOUTHGOBI RESOURCES LTD**	Job No. ADV-MN-00092-A
Project : **SGQ PROJECT**	Date : March 2013
Figure : **BILUUT / JARGALANT SEAM 3L GROUP THICKNESS**	FIGURE No.22



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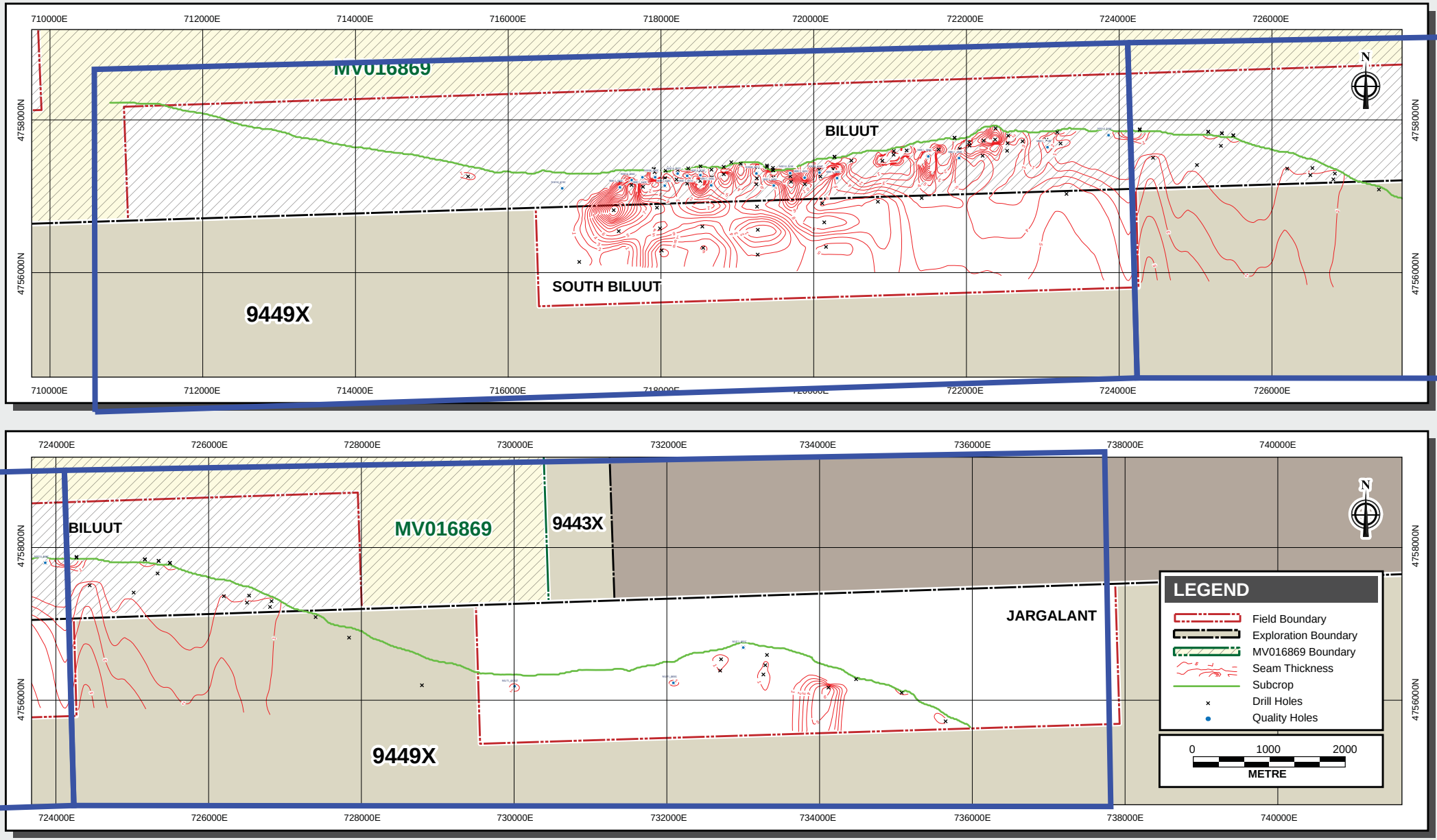
Project : **SGQ PROJECT**	Date : March 2013
Figure : **BILUUT / JARGALANT SEAM 2U GROUP STRUCTURE FLOOR**	FIGURE No.23



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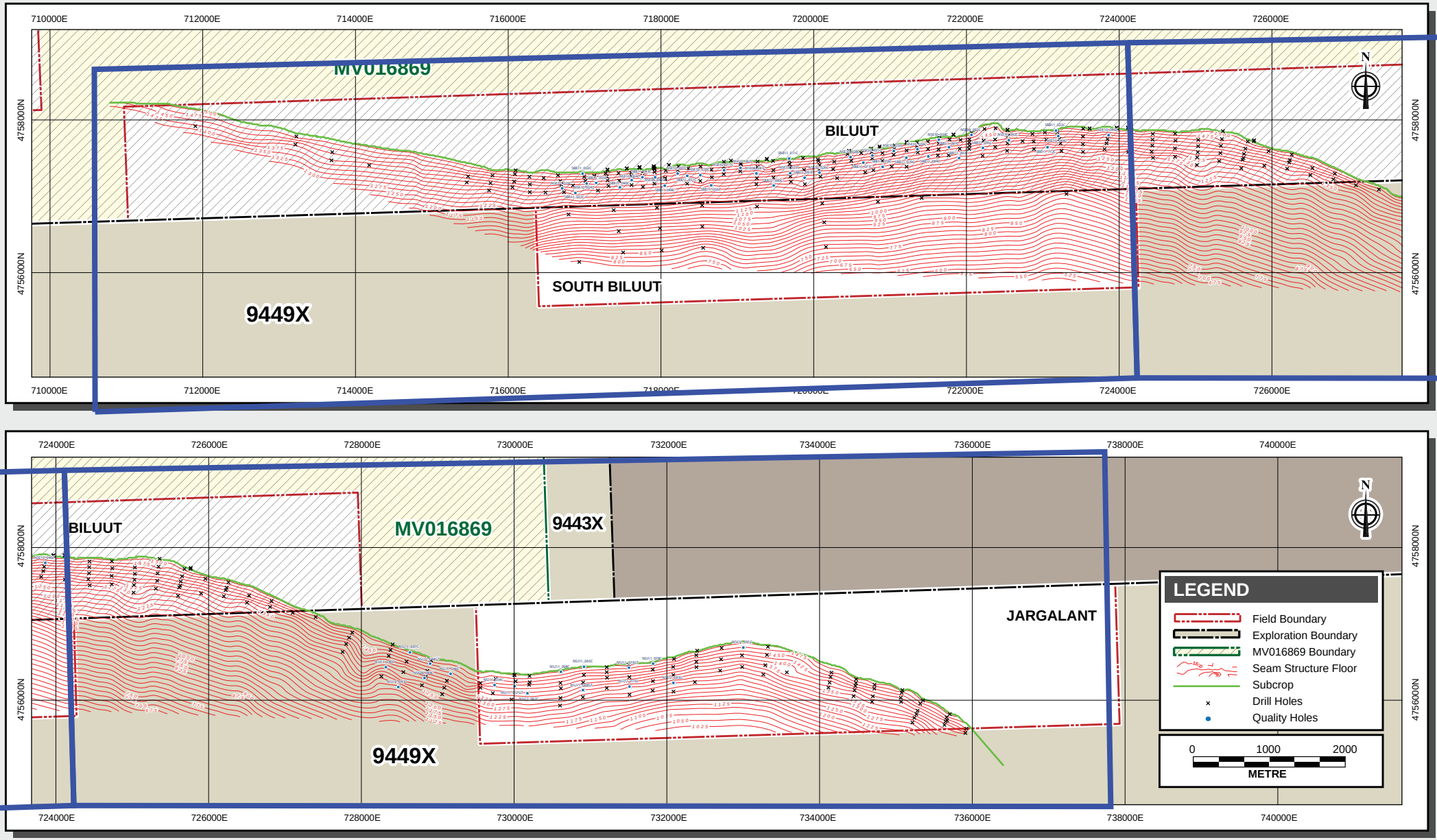
Client : **SOUTHGOBI RESOURCES LTD**	Job No. ADV-MN-00092-A
Project : **SGQ PROJECT**	Date : March 2013
Figure : **BILUUT / JARGALANT SEAM 2U GROUP THICKNESS**	FIGURE No.24



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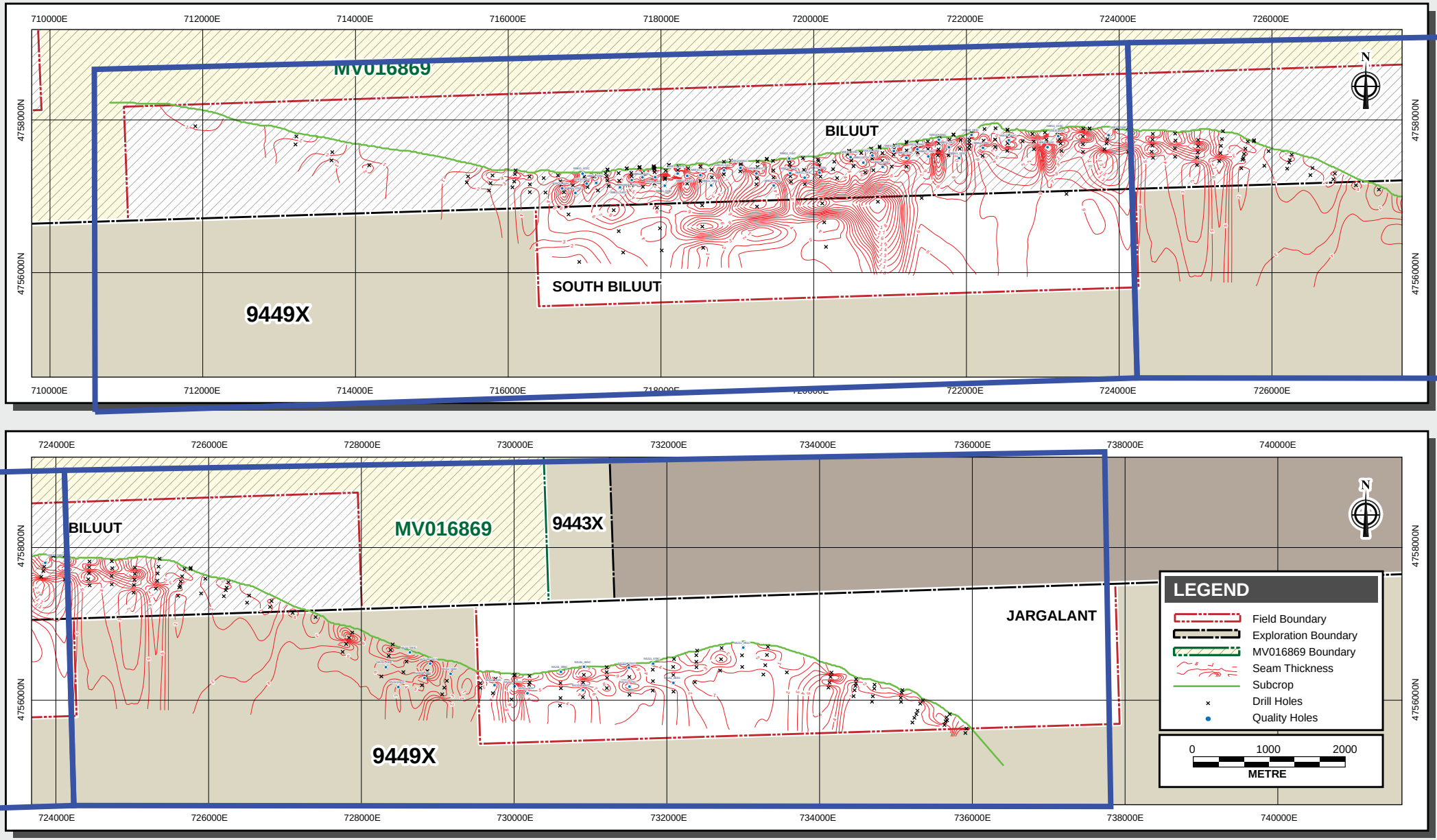
Project : **SGQ PROJECT**	Date : March 2013
Figure : **BILUUT / JARGALANT SEAM 2L GROUP STRUCTURE FLOOR**	FIGURE No.25



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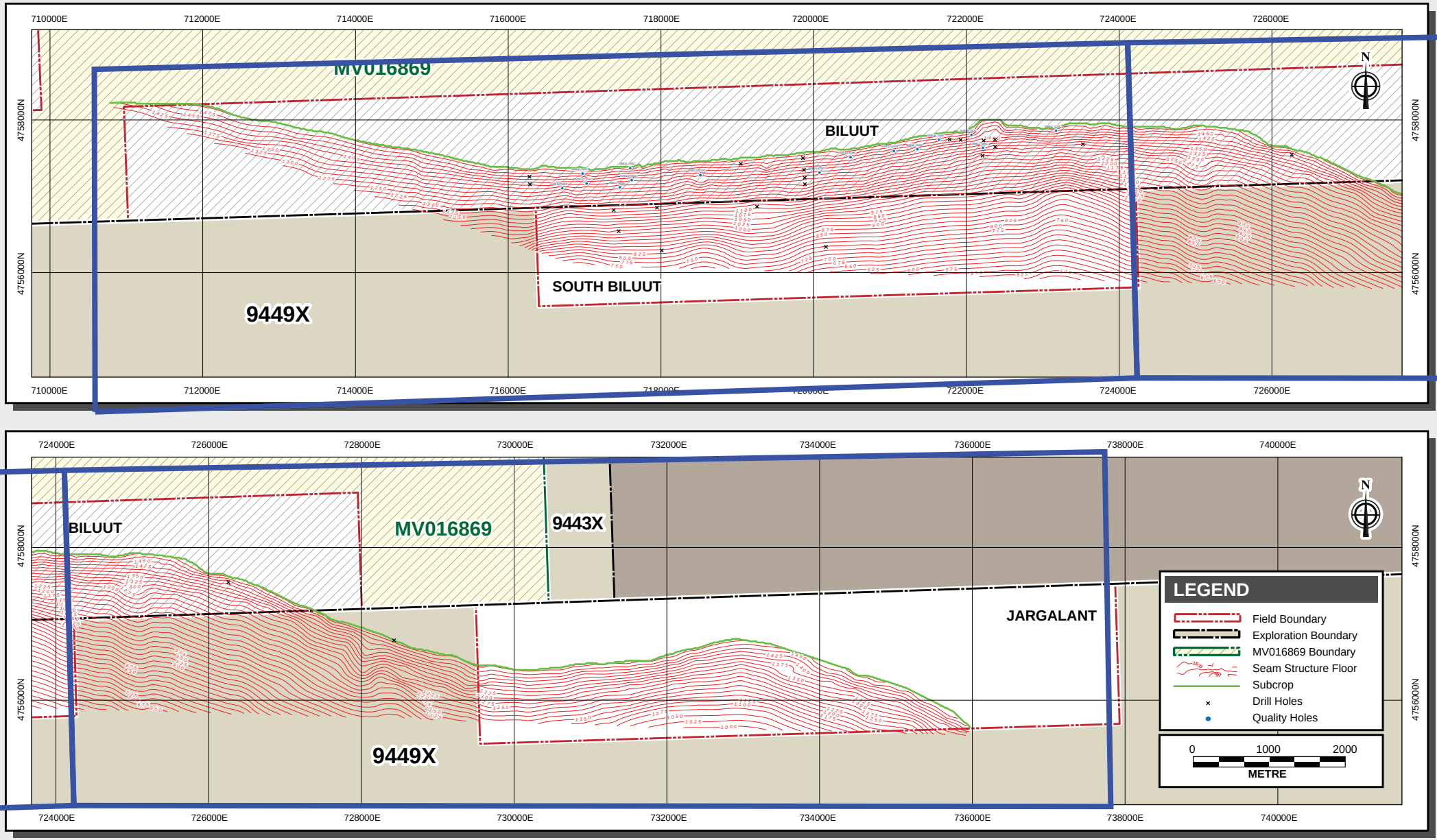
Client : **SOUTHGOBI RESOURCES LTD**	Job No. ADV-MN-00092-A
Project : **SGQ PROJECT**	Date : March 2013
Figure : **BILUUT / JARGALANT SEAM 2L GROUP THICKNESS**	FIGURE No.26



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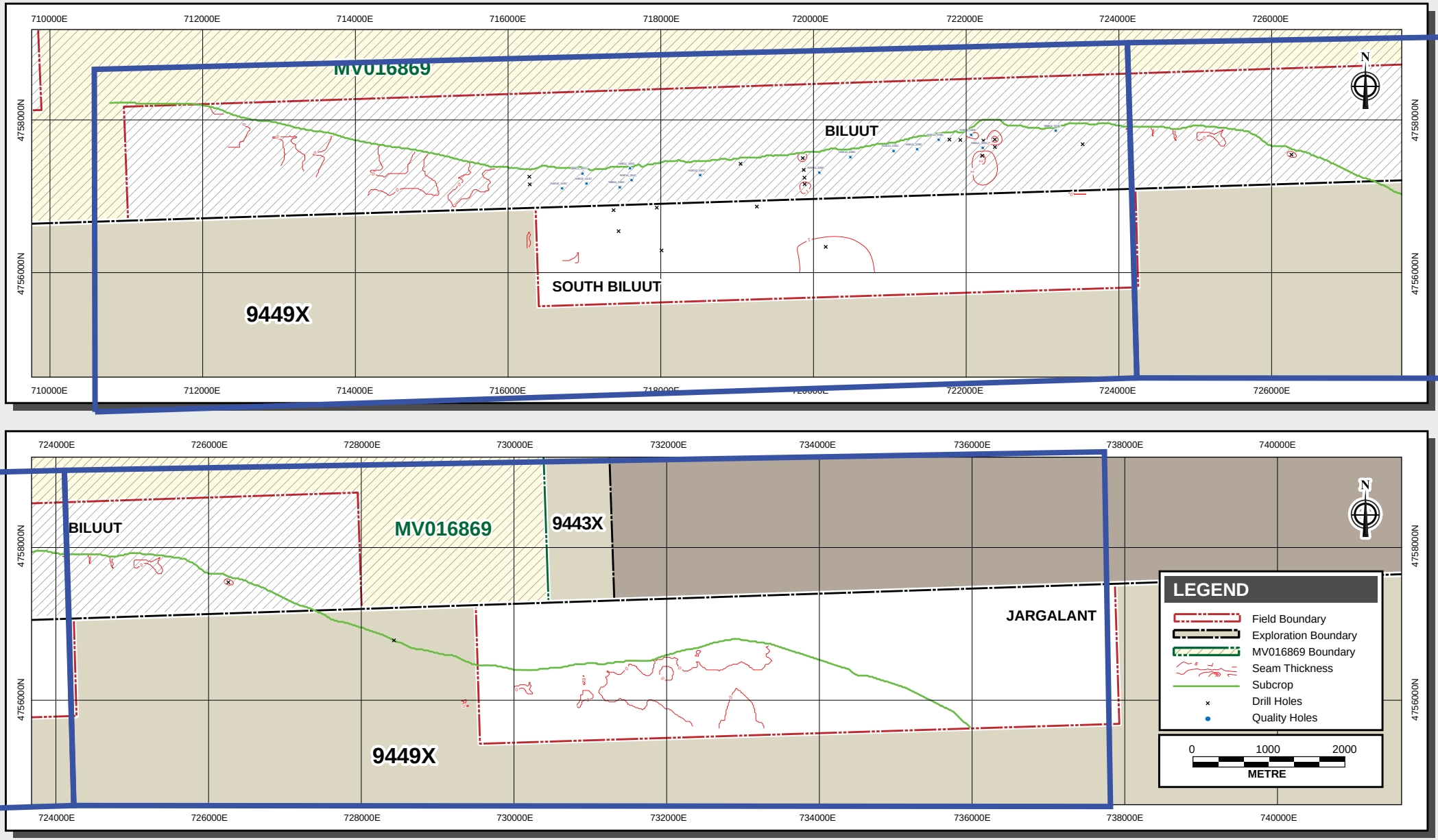
Client : **SOUTHGOBI RESOURCES LTD**	Job No. ADV-MN-00092-A
Project : **SGQ PROJECT**	Date : March 2013
Figure : **BILUUT / JARGALANT SEAM 1U GROUP STRUCTURE FLOOR**	FIGURE No.27



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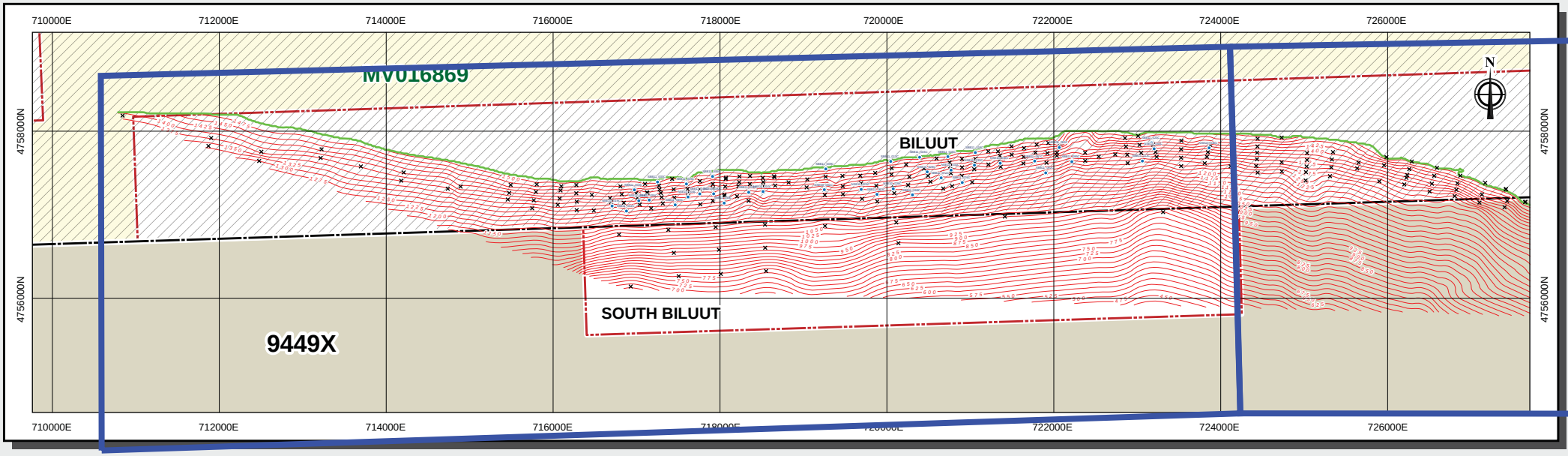
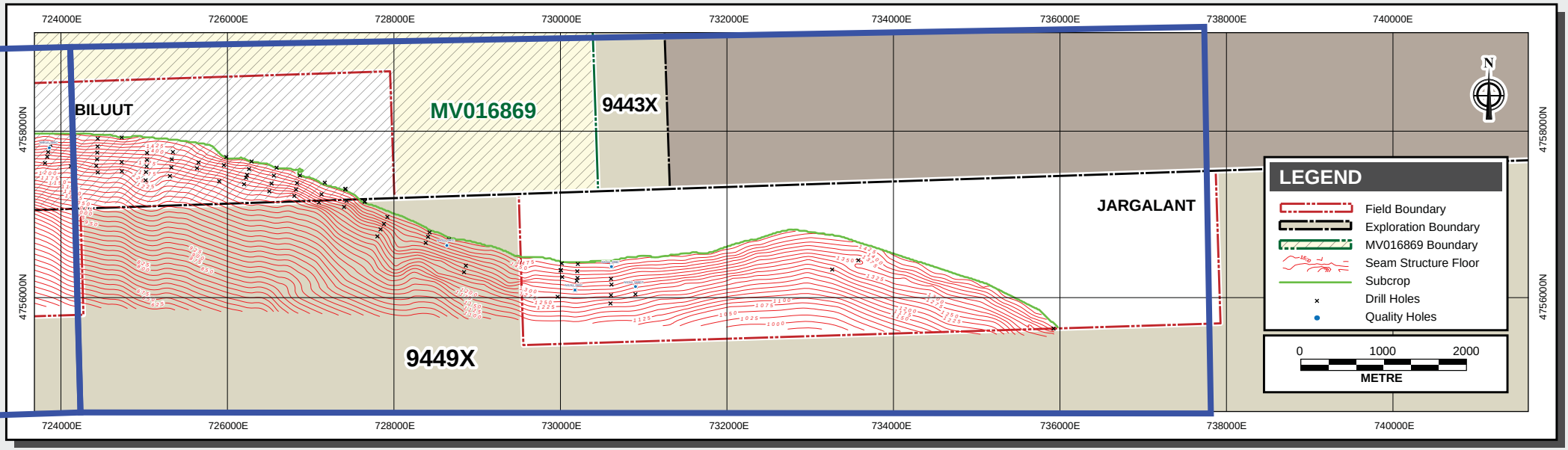
Client : **SOUTHGOBI RESOURCES LTD**	Job No. ADV-MN-00092-A
Project : **SGQ PROJECT**	Date : March 2013
Figure : **BILUUT / JARGALANT SEAM 1U GROUP THICKNESS**	FIGURE No.28





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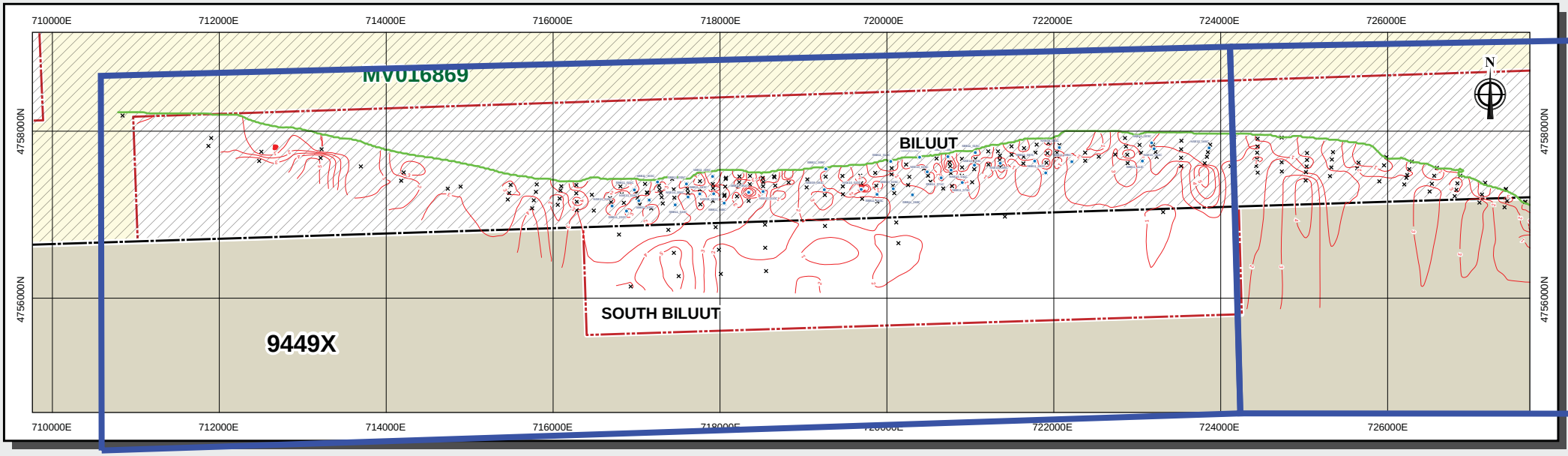
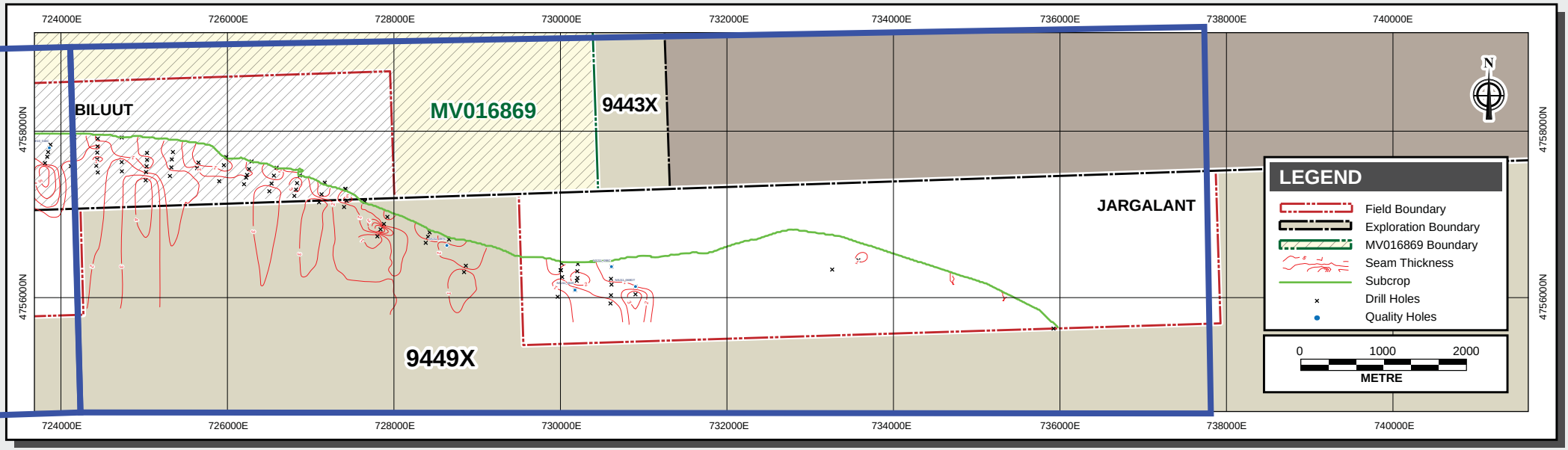
Project : **SGQ PROJECT**	Date : March 2013
Figure : **BILUUT / JARGALANT SEAM 1L1 GROUP STRUCTURE FLOOR**	FIGURE No.29





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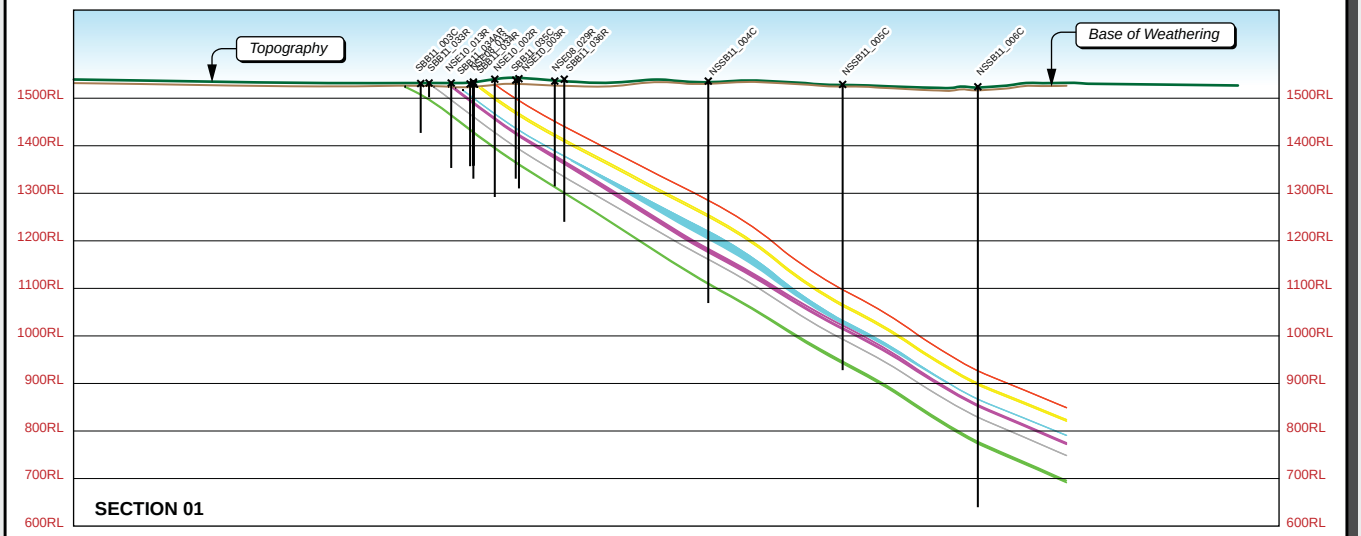
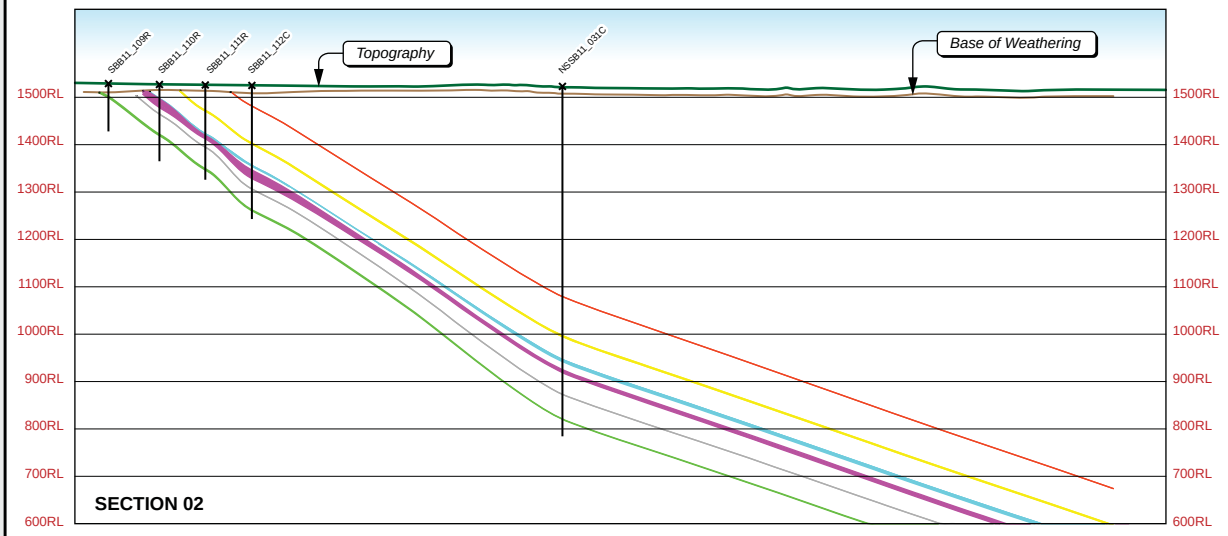
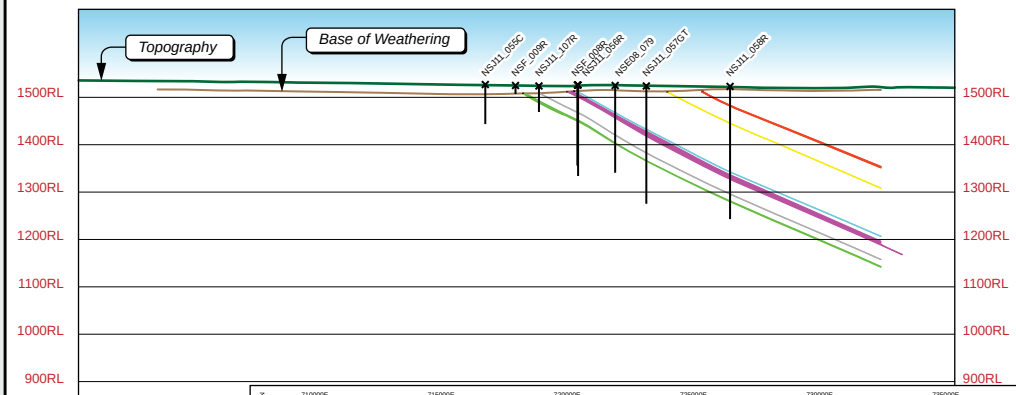
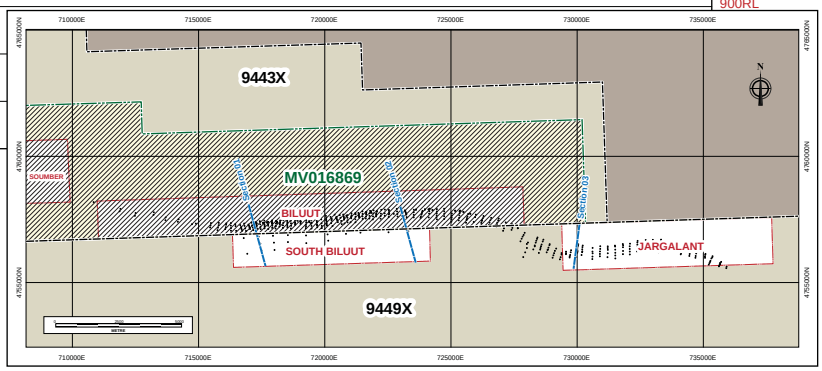
Client : **SOUTHGOBI RESOURCES LTD**	Job No. ADV-MN-00092-A
Project : **SGQ PROJECT**	Date : March 2013
Figure : **BILUUT / JARGALANT SEAM 1L1 GROUP THICKNESS**	FIGURE No.30









LEGEND

- Seam 3U2
- Seam 3U1
- Seam 3L1
- Seam 3L2
- Seam 2U3
- Seam 2U1
- Seam 2U2
- Seam 2L1
- Seam 2L2
- Seam 1U
- Seam 1L1
- Seam 1L0

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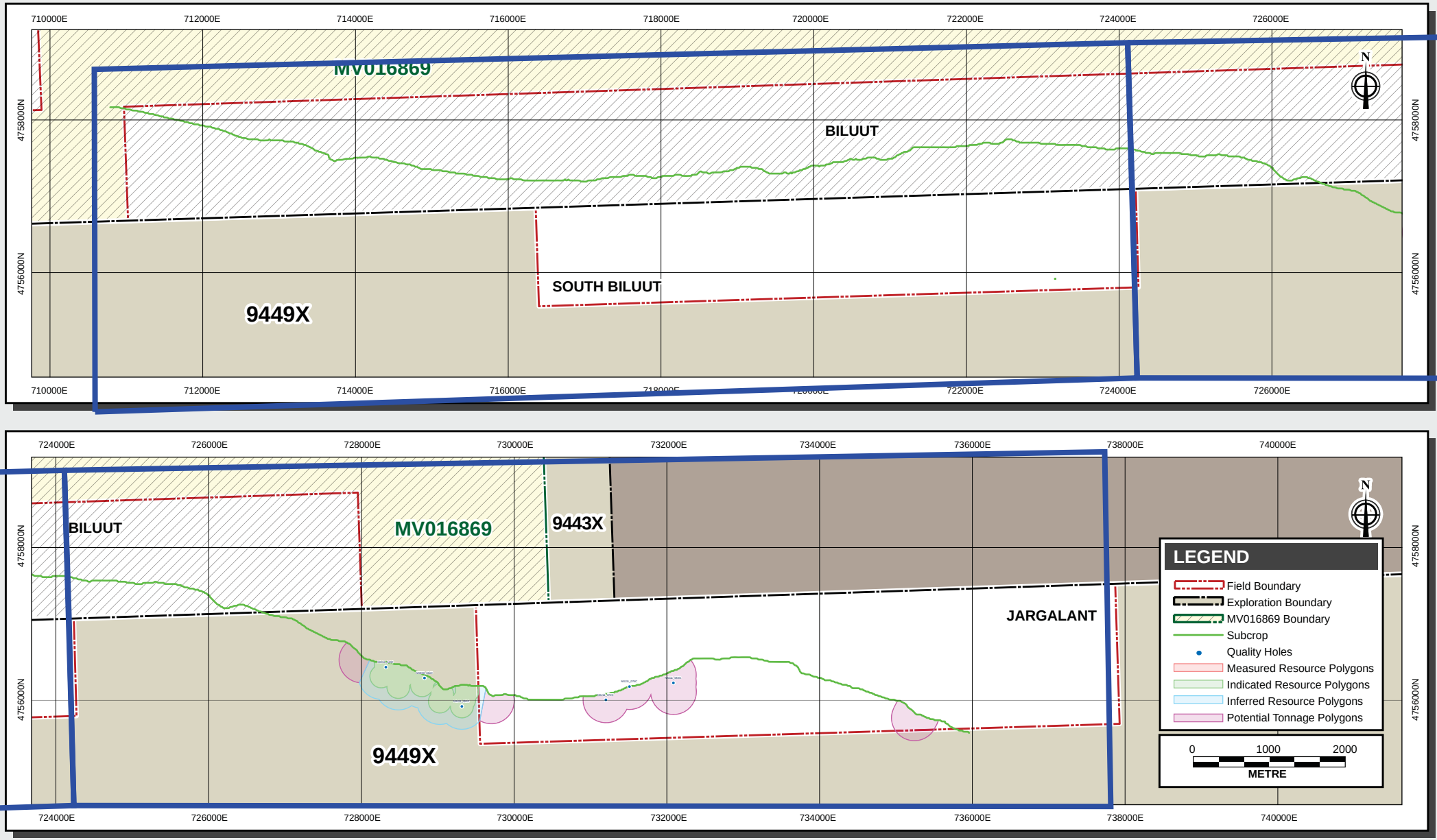
SouthGobi Resources	Project : **SGQ PROJECT**	Date : March 2013
	Figure : **BILUUT / JARGALANT TYPICAL CROSS SECTIONS**	FIGURE No.31



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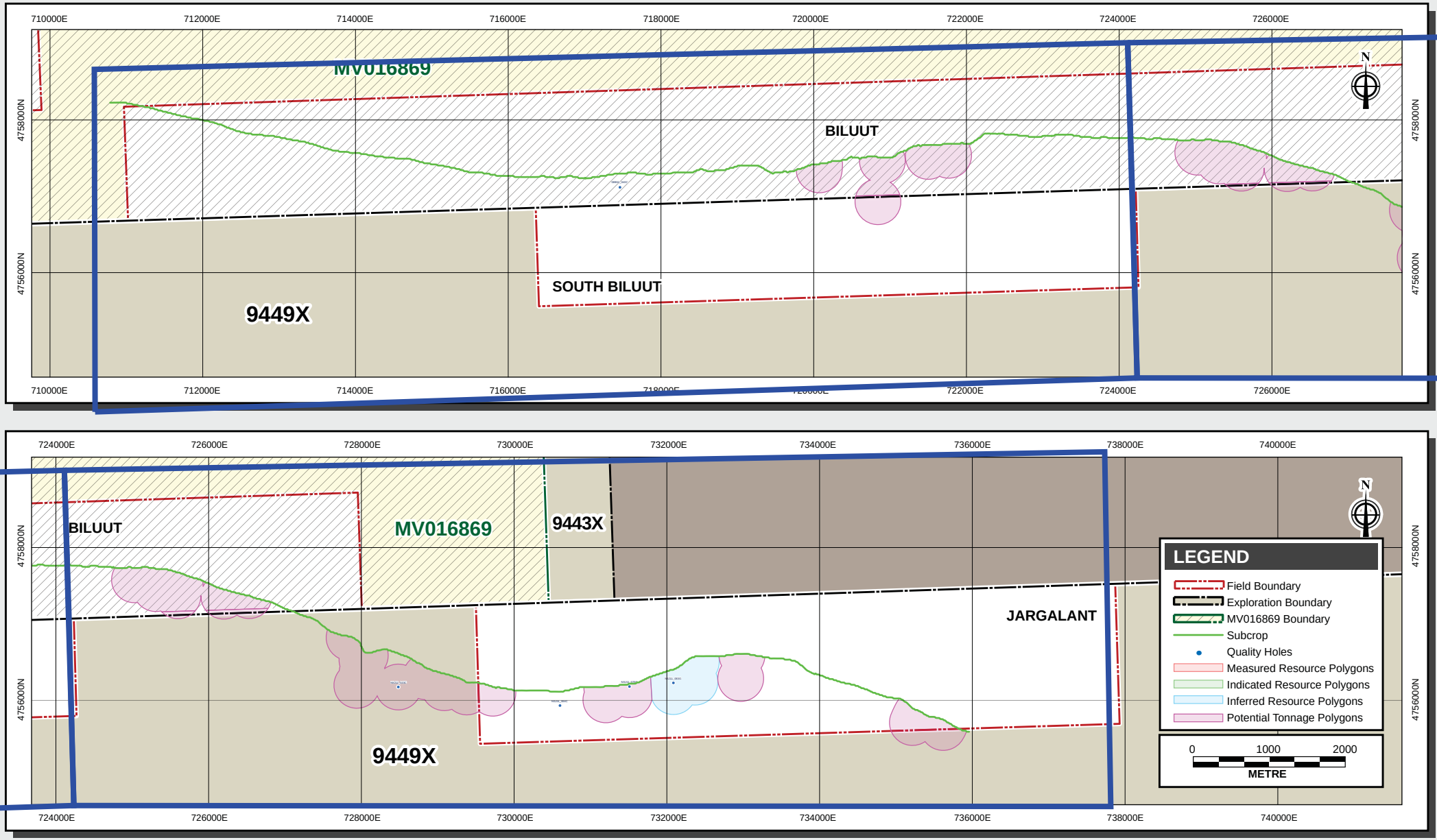
Client : **SOUTHGOBI RESOURCES LTD**	Job No. ADV-MN-00092-A
Project : **SGQ PROJECT**	Date : March 2013
Figure : **BILUUT / JARGALANT SEAM 3U GROUP RESOURCE POLYGONS**	FIGURE No.32



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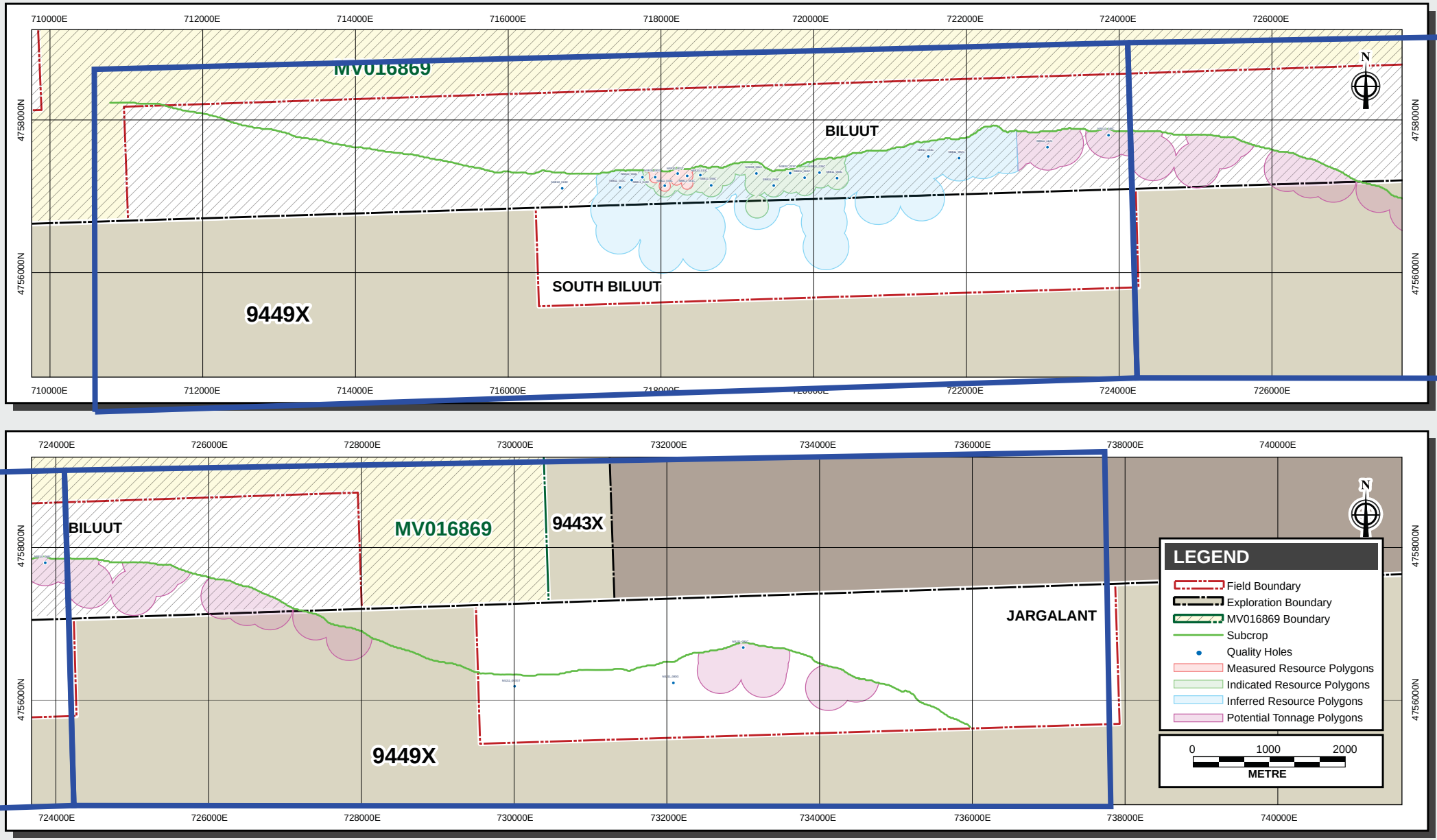
Client : **SOUTHGOBI RESOURCES LTD**	Job No. ADV-MN-00092-A
Project : **SGQ PROJECT**	Date : March 2013
Figure : **BILUUT / JARGALANT SEAM 3L GROUP RESOURCE POLYGONS**	FIGURE No.33



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Client : **SOUTHGOBI RESOURCES LTD**

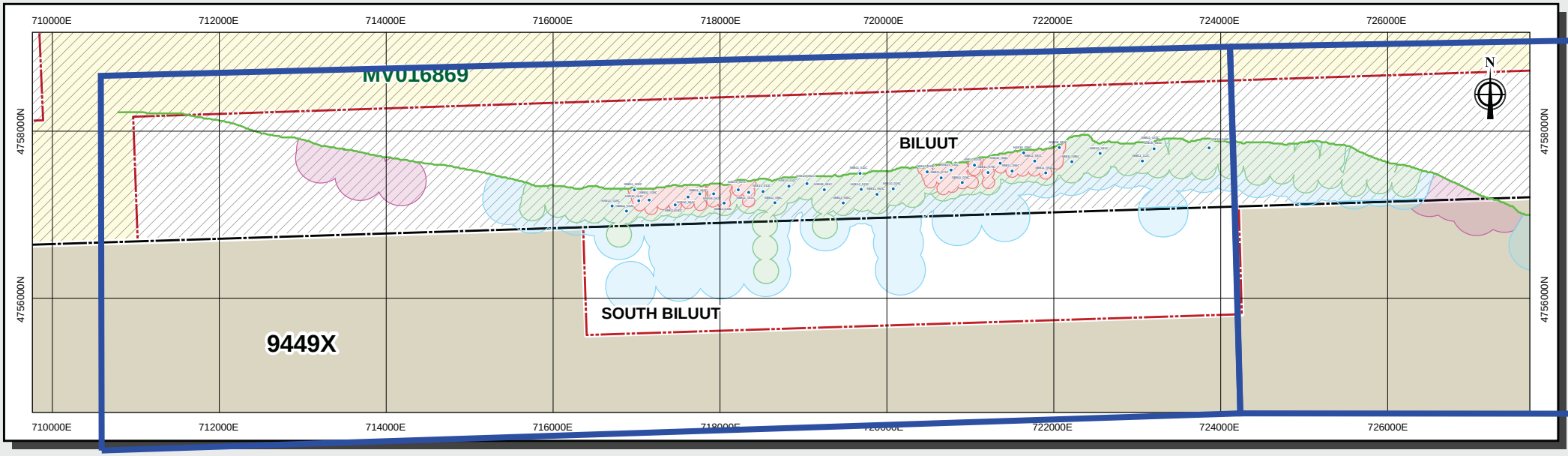
Job No. ADV-MN-00092-A

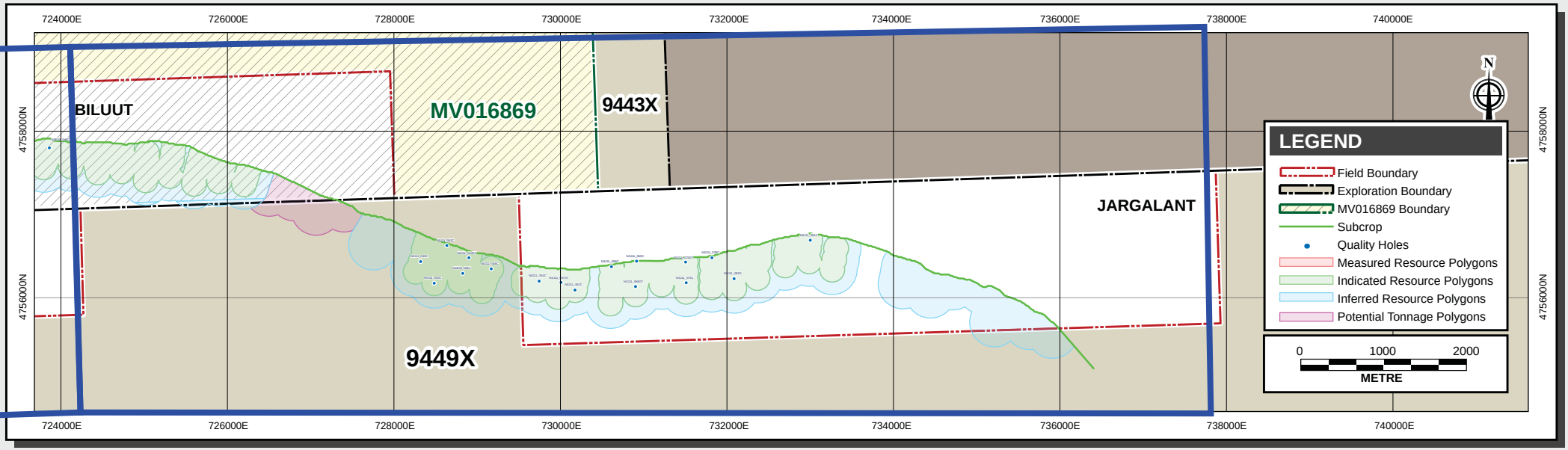
Project : **SGQ PROJECT**

Date : March 2013

Figure : **BILUUT / JARGALANT SEAM 2U GROUP RESOURCE POLYGONS**

FIGURE No.34





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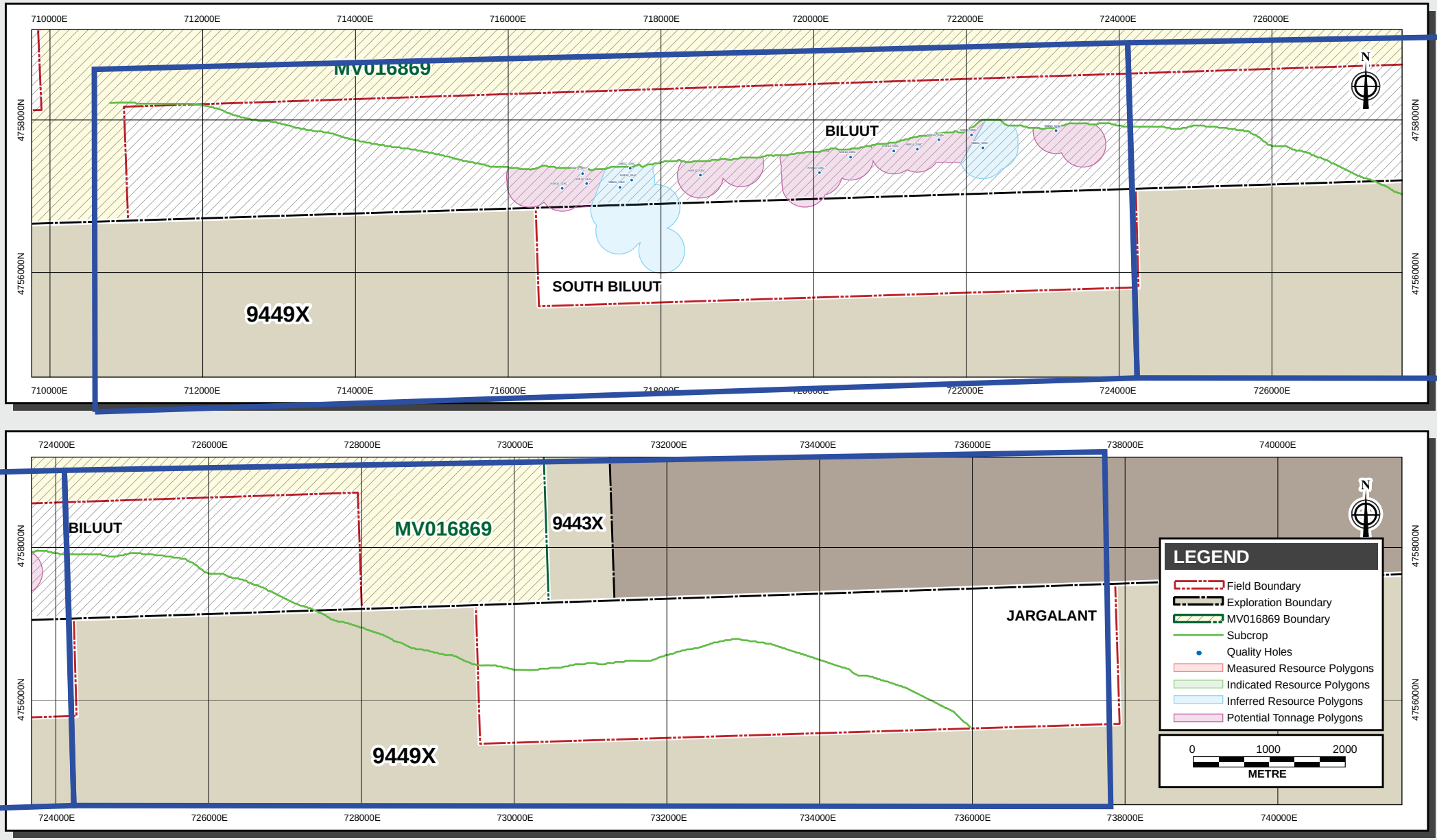
Client : **SOUTHGOBI RESOURCES LTD**	Job No. ADV-MN-00092-A
Project : **SGQ PROJECT**	Date : March 2013
Figure : **BILUUT / JARGALANT SEAM 2L GROUP RESOURCE POLYGONS**	FIGURE No.35



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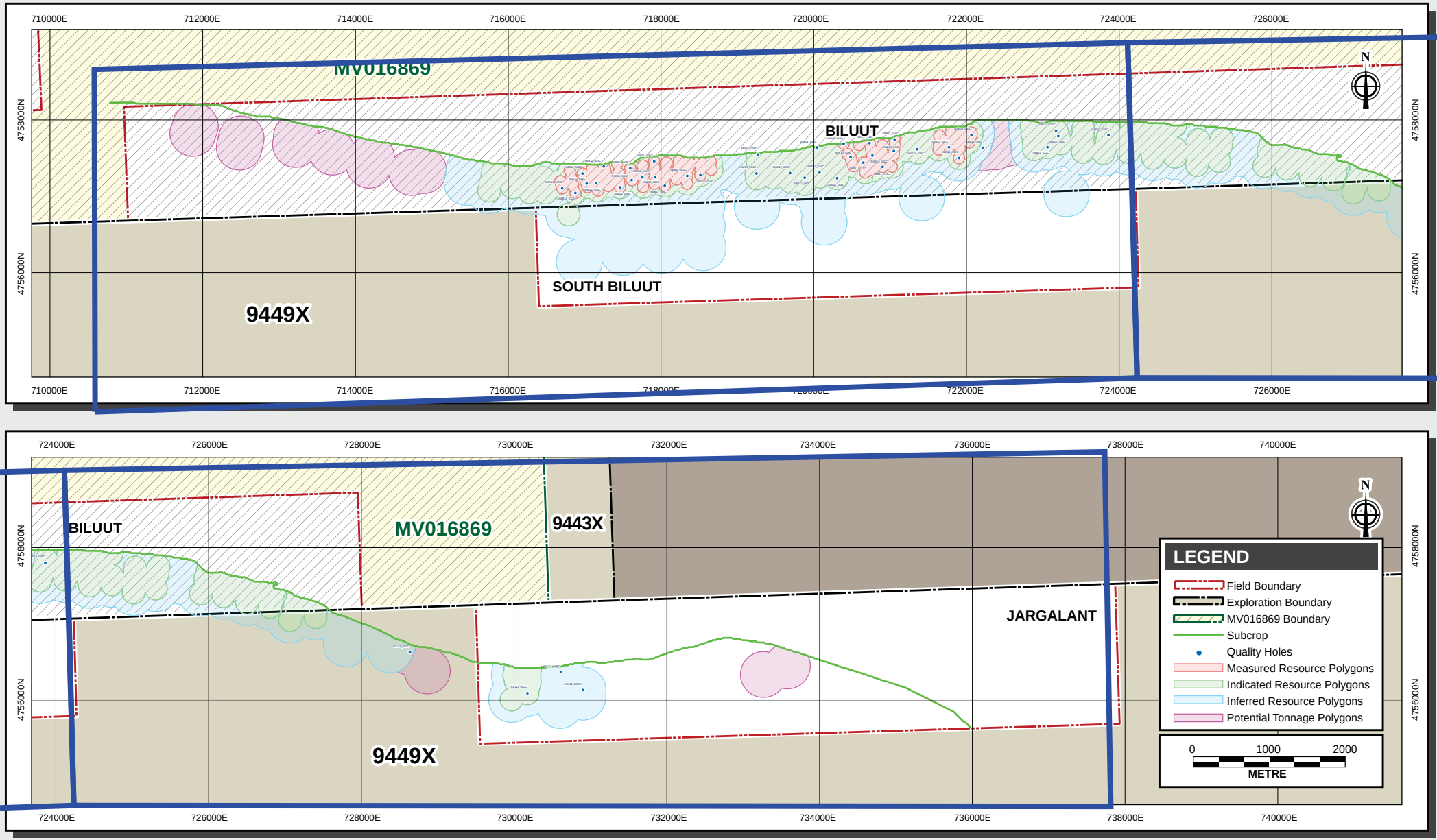
Job No. ADV-MN-00092-A

Project : **SGQ PROJECT**

Date : March 2013

Figure : **BILUUT / JARGALANT SEAM 1U GROUP RESOURCE POLYGONS**

FIGURE No.36



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Job No. ADV-MN-00092-A

Project : **SGQ PROJECT**

Date : March 2013

Figure : **BILUUT / JARGALANT SEAM 1L1 GROUP RESOURCE POLYGONS**

FIGURE No.37

20 REFERENCES

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21 DATE AND SIGNATURE PAGE

The effective date of publication of this technical report is 25 March 2013

Dated at Brisbane, Australia, this 25 March 2013

ORIGINAL SIGNED BY AUTHOR

Merryl Peterson
Principal Geologist RungePincockMinarco 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 RungePincockMinarco Limited, of Level 12, 333 Ann Street, Brisbane QLD, Australia. Minarco-MineConsult is a trading name of RungePincockMinarco Limited. This certificate applies to the Technical Report on the Resource Estimate for the Soumber Deposit, Mongolia, prepared for SouthGobi Resources Ltd, dated 25 March 2013 (the "Technical Report"), do hereby certify that:

1. I am a registered member and Chartered Professional Geology 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 5th to 8th December 2011.

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 1.5 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 25 March 2013

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Merryl Peterson

22 APPENDIX A – GLOSSARY OF TERMS

The key terms used in this report include:

- **Company** means SouthGobi Resources 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 metal** 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

  Cu – 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 right** 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

• **lb**	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 production**	is the total raw production from any particular mine
• **Mineable Quantities**	Estimates of in ground tonnes and grades which are recoverable by mining
• **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 mineral deposits**	are mineral deposits formed directly from magmas or hydrothermal processes

- **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

23 APPENDIX B – DETAILED SEAM TABLES

Table B1
Soumber Field Coal Seam Characteristics

Seam	No.holes	Thickness (m)			Interburden (m)
		Mean	Minimum	Maximum	Mean
73	3	1.03	0.60	1.80	
72	3	1.11	0.92	1.40	1.90
71	4	0.98	0.49	1.40	1.30
64	2	0.34	0.30	0.37	24.28
63	4	1.08	0.30	1.93	0.85
62	14	1.13	0.38	1.98	4.95
61	19	1.24	0.37	2.92	3.80
573	13	0.90	0.30	2.41	28.54
572	21	1.32	0.27	3.18	1.16
571	22	1.39	0.43	2.60	0.79
565	1	0.64	0.64	0.64	1.65
564	2	0.83	0.75	0.90	1.01
563	3	1.30	0.40	2.10	1.31
562	44	2.11	0.30	6.80	0.47
561	46	2.07	0.69	5.63	1.04
553	36	1.24	0.30	4.32	1.32
552	44	1.70	0.17	6.60	1.09
551	36	1.33	0.10	4.10	2.21
543	13	3.65	0.99	6.48	5.14
542	24	2.49	0.48	5.50	0.78
541	19	1.59	0.60	3.70	0.95
532	20	2.14	0.90	4.10	4.24
531	32	2.73	0.40	5.58	1.60
530	14	2.13	0.33	3.39	1.03
523	13	2.48	0.80	4.05	2.63
522	16	2.32	0.76	3.87	0.68
521	22	2.42	0.54	5.95	0.58
512	20	3.48	0.80	7.94	2.45
511	27	3.06	0.73	9.26	0.57
504	2	1.07	0.61	1.52	5.21
503	12	1.85	0.93	3.50	1.40
502	22	2.06	0.68	4.25	0.81
501	20	1.69	0.67	3.55	0.88
436	23	3.42	0.91	9.48	4.80
435	20	2.44	0.83	5.96	2.15
434	21	2.30	0.63	5.07	1.31
433	20	2.33	0.58	5.00	1.32
432	18	2.30	0.80	5.00	0.65
431	11	2.32	0.39	4.59	1.16
422	16	4.31	1.60	10.23	2.03
4216	12	1.18	0.15	2.40	3.94
4215	12	1.14	0.15	2.30	0.07
4214	17	1.88	0.20	6.87	0.07
4213	18	1.52	0.15	4.20	0.31

Seam	No.holes	Thickness (m)			Interburden (m)
		Mean	Minimum	Maximum	Mean
4212	22	2.02	0.20	6.97	0.43
4211	22	1.41	0.15	4.10	0.69
413	11	2.43	1.22	4.05	6.92
412	28	4.16	0.70	11.80	0.22
411	38	3.01	0.60	10.80	1.27
40	4	4.70	2.53	6.88	6.83
344	7	2.46	1.00	6.48	9.70
343	4	1.68	0.40	3.70	0.91
342	7	1.18	0.40	2.00	1.01
341	7	2.94	0.71	7.56	0.74
332	20	5.27	1.40	9.90	3.75
331	18	5.10	0.80	11.45	2.27
322	18	5.29	1.00	11.35	3.90
321	19	4.51	0.50	12.56	0.74
312	45	3.92	0.70	11.50	1.83
311	53	3.53	0.45	10.74	1.18
232	11	2.03	0.60	3.25	36.32
231	11	1.70	0.30	3.32	7.80
222	57	4.33	0.49	13.33	9.50
221	117	3.82	0.40	10.35	4.35
220	9	1.72	0.64	3.56	3.83
212	95	3.64	0.16	11.87	18.53
2112	185	3.03	0.26	10.08	1.97
2111	158	1.82	0.14	8.18	0.15
202	73	1.73	0.10	6.28	2.78
201	59	1.83	0.10	6.42	1.48
16	3	4.60	1.67	9.40	1.48
153	5	1.96	0.44	2.66	10.99
152	5	0.81	0.30	1.33	1.23
151	8	1.80	0.96	3.40	1.30
14	4	1.43	1.09	1.99	8.47
132	18	2.41	0.43	8.20	2.81
131	17	2.20	0.20	5.30	1.25
130	4	1.22	0.89	1.79	3.27
122	15	2.98	1.00	7.76	3.81
121	12	4.58	0.70	12.88	2.38
120	5	2.63	0.93	4.14	1.41
112	11	3.22	0.81	6.16	1.66
111	16	2.23	0.53	4.53	1.30
0U3	10	2.23	1.07	3.25	34.93
0U22	15	1.28	0.15	4.61	20.90
0U21	15	2.20	0.58	4.55	0.54
0U12	15	1.86	0.42	4.95	1.91
0U11	12	2.37	0.51	6.05	0.67
0M22	3	3.71	2.00	6.80	3.20
0M21	3	4.07	2.50	5.20	0.37
0M13	4	2.53	1.33	4.00	0.00
0M12	3	1.76	1.05	2.50	1.38
0M11	4	1.43	0.35	3.50	0.65

Seam	No.holes	Thickness (m)			Interburden (m)
		Mean	Minimum	Maximum	Mean
0L3	4	4.76	1.62	7.65	51.50
0L22	6	3.37	0.68	10.67	7.68
0L21	5	2.97	0.87	8.73	1.27
0L1	5	3.98	0.40	12.27	18.70

Table B2
Biluut Field Coal Seam Characteristics

Seam	No. holes	Thickness (m)			Interburden (m)
		Mean	Minimum	Maximum	Mean
3U2	12	1.8	0.4	4.9	
3U1	15	2.5	0.4	5.2	4.5
3U	9	3.7	0.3	9.3	
3L2	15	1.1	0.3	2.6	52.4
3L1	28	1.0	0.0	5.8	6.8
3L	23	3.8	0.6	7.6	
2U3	3	3.9	1.8	7.0	73.8
2U2	33	2.6	0.0	7.8	7.8
2U1	34	3.6	0.3	16.5	4.1
2U	92	4.7	0.4	17.6	
2L2	111	3.7	0.2	13.4	16.3
2L1	152	2.5	0.0	13.6	3.0
2L	235	5.1	0.7	18.1	
1U	38	0.8	0.1	2.8	27.4
1L1	291	2.4	0.0	8.2	35.8
1L0	18	1.8	0.2	6.0	3.1

Table B3

Soumber Drillhole Quality Statistics

Seam	No.	Total Moisture % ar			Inherent moisture % ad			Ash % ad			Volatile matter % ad			Calorific Value kcal/kg ad			Total Sulphur % ad			FSI			Relative density		
	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
562	4	0.6	14.8	7.7	0.4	0.6	0.5	15.8	56.9	40.1	12.6	18.9	15.5	3259	6867	4775	0.04	1.21	0.68	0.5	5.7	1.9	1.45	1.98	1.73
561	5	0.6	13.6	7.8	0.3	0.9	0.5	14.9	56.9	33.2	8.8	19.3	14.8	3259	7173	5413	0.03	1.77	1	0.0	6.0	2.1	1.43	1.98	1.67
552	1	18.6	18.6	18.6	0.4	0.6	0.5	32.4	51.8	42	13.1	19.7	16.1	3883	5267	4554	0.07	1.92	0.81	1.0	1.5	1.2	1.58	1.89	1.77
551	2	9.2	10.5	9.8	0.3	0.5	0.4	22.9	54.9	40.1	13.4	18.6	15.8	3304	6248	4655	0.04	0.55	0.19	1.0	1.5	1.1	1.56	2.02	1.79
543	5	8.9	14.1	11.9	0.4	0.8	0.6	21.3	59.2	33	13.3	19.3	16.9	2783	6443	5306	0.13	1.14	0.55	0.8	1.5	1.1	1.5	2.06	1.67
542	7	8.9	14.1	11.5	0.4	0.8	0.6	11.3	59.2	27.4	13.3	19.3	16.7	2783	7486	5883	0.13	1.65	0.65	0.8	2.5	1.4	1.45	2.06	1.61
541	5	2.5	14.1	9.4	0.5	0.8	0.6	27.1	59.2	35.8	13.3	17.6	15.7	2783	5836	4994	0.11	1.01	0.49	0.8	1.5	1.2	1.55	2.06	1.69
532	5	6	13.1	9.2	0.3	0.8	0.6	20.9	42.8	29.7	15.4	19.4	17.4	4458	6392	5576	0.03	1	0.4	0.9	1.8	1.2	1.52	1.76	1.63
531	8	5.7	12.7	9	0.3	0.8	0.5	8.9	51.3	29.7	14.9	19.1	17.4	3449	7698	5638	0.03	1.3	0.42	0.0	8.3	2.2	1.37	1.95	1.63
530	4	7.7	12.7	10.5	0.3	0.8	0.6	20.9	44.5	30.3	14.9	18.8	16.8	4321	6392	5595	0.08	1	0.45	0.9	2.0	1.4	1.52	1.86	1.65
523	4	7.7	13	10.2	0.3	0.7	0.6	20.9	79.3	36.3	9.9	18.4	16.2	770	6392	4987	0.01	1.08	0.37	1.0	1.8	1.2	1.52	2.31	1.71
522	4	7.2	13.1	10.2	0.3	0.7	0.6	21.1	37.7	28.7	15.1	18.3	16.8	5017	6438	5767	0.03	1.13	0.47	1.0	2.5	1.4	1.49	1.72	1.58
521	5	7.3	19.5	12.1	0.4	0.7	0.6	21.1	47.1	32	11.3	18.3	15.8	4297	6438	5496	0.06	1.13	0.54	0.0	2.5	1.1	1.49	1.79	1.62
512	3	4	14.8	10.4	0.4	0.7	0.6	12.8	70.1	32.6	13.5	18.2	16.1	1277	7369	5258	0.08	0.68	0.4	0.0	2.0	1.0	1.47	2.25	1.7
511	4	4.7	15	10.5	0.5	0.7	0.6	21.3	45.7	29.4	10.2	18.5	16.3	4282	6436	5667	0.07	1.19	0.45	0.8	2.0	1.3	1.51	1.78	1.61
504	1	8.4	8.4	8.4	0.7	0.7	0.7	51.3	51.3	51.3	13.3	13.3	13.3	3731	3731	3731	0.21	0.21	0.21	1.0	1.0	1.0	1.91	1.91	1.91
503	3	2.3	8.7	6.5	0.6	0.7	0.7	18.7	68.6	46.2	11.2	18.4	14.3	2043	6609	4128	0.11	0.75	0.36	0.0	2.8	1.3	1.5	2.18	1.86
502	3	6.1	8.7	7.1	0.4	0.6	0.6	17.7	80.1	44.7	10	19.2	15.1	2203	6739	4503	0.03	0.7	0.34	0.0	2.6	1.3	1.49	2.45	1.91
501	3	4.4	8.4	6.8	0.4	0.7	0.6	11.5	84	39.5	11.6	18.3	15.6	5509	7472	6227	0.01	0.41	0.16	0.0	1.5	0.8	1.45	2.62	1.83
436	5	4.2	16.3	9.2	0.4	0.8	0.6	12.2	61.6	34	13.9	19	16.5	3107	7314	5357	0.02	0.26	0.11	0.6	3.4	1.3	1.42	2.16	1.69
435	6	4.7	13.3	9	0.4	0.7	0.6	18.4	67.9	31.1	14.3	18.2	17	3380	6679	5568	0.09	0.21	0.13	0.4	1.5	1.2	1.52	2.27	1.67
434	3	7.9	9.6	8.5	0.4	0.6	0.5	22.3	42.7	33	14.5	18.3	16.3	4541	6294	5344	0.06	0.2	0.13	1.0	1.3	1.2	1.52	1.92	1.7
433	5	5.8	16.1	9.5	0.4	0.7	0.6	17	49.4	33.8	14.5	17.7	16.3	3880	6807	5247	0.05	1.52	0.35	1.0	2.0	1.4	1.5	1.92	1.69
432	6	2.9	16.1	9.4	0.4	0.7	0.6	17	65.7	37.2	13.9	17.6	16.2	3877	6807	5450	0.05	1.18	0.29	0.4	2.0	1.3	1.5	2.17	1.73
431	4	5.4	17.3	9.4	0.5	0.7	0.6	22.3	51.3	36.7	15.3	17.1	16.3	4183	6294	5024	0.06	1.15	0.38	0.6	2.0	1.2	1.52	1.92	1.7
422	6	7.2	9.9	8.7	0.3	0.8	0.6	12.7	46	28.3	15.9	21.1	17.5	4081	7449	5751	0.1	1.7	0.43	1.0	7.5	2.2	1.35	1.92	1.61
4216	4	9.5	9.9	9.7	0.6	0.7	0.7	19.4	49.3	35.3	14.3	19.6	16.1	3426	6841	5077	0.1	1.94	0.95	1.5	6.5	2.9	1.41	1.87	1.64
4215	4	9.5	9.9	9.8	0.6	0.7	0.7	19.4	50.5	35.6	14	19.6	16.1	3305	6841	5047	0.1	2.05	0.97	1.5	6.5	2.9	1.41	1.89	1.64
4214	4	8.7	9.9	9.5	0.5	0.7	0.6	19.4	42.5	33.2	14.3	19.6	16.6	4247	6841	5282	0.1	1.65	0.79	1.5	6.5	2.9	1.41	1.75	1.61
4213	4	6.8	9.9	8.7	0.3	0.7	0.6	19.4	40.9	28.3	16	19.6	17.5	4247	6841	5768	0.1	1.65	0.67	1.0	6.5	2.4	1.41	1.75	1.59
4212	4	7	10.6	9.3	0.4	0.7	0.6	19.4	37.2	29.1	16	19.6	17.4	4798	6841	5689	0.1	1.65	0.63	1.0	6.5	2.4	1.41	1.73	1.61
4211	4	5.6	10.6	8.1	0.4	0.8	0.6	21.3	50.1	31	14.6	20.5	17.5	3803	6366	5371	0.08	1.19	0.33	1.0	2.0	1.3	1.53	1.97	1.68
413	4	8.5	13.4	10.2	0.4	0.9	0.6	21.3	52.6	38.6	14.9	17.8	16.4	2955	6366	4489	0.03	0.7	0.22	0.5	2.0	1.1	1.53	1.96	1.75
412	8	2.6	21	9.4	0.3	2.1	0.7	11.9	52.6	28.4	12.8	19.5	16.4	2955	7521	5607	0.03	0.7	0.25	0.0	2.0	1.1	1.44	1.96	1.64
411	7	6.1	13.8	11.2	0.2	0.9	0.6	7.5	52.6	25.1	13.7	18.9	15.9	2955	8171	6122	0.11	2.68	0.95	0.0	8.5	2.7	1.35	1.95	1.58
40	1	11.5	11.5	11.5	0.8	0.8	0.8	16.8	16.8	16.8	18.3	18.3	18.3	6871	6871	6871	1.94	1.94	1.94	7.5	7.5	7.5	1.43	1.43	1.43
344	4	3.1	6.4	4.5	0.5	0.8	0.6	17.1	41.5	29	15	18.8	17.3	4330	6775	5620	0.1	1.32	0.84	1.0	2.0	1.6	1.5	1.73	1.61
343	2	3.7	4.3	4	0.4	0.6	0.5	17.1	28.8	22.9	17	18.8	17.9	5803	6775	6289	0.1	0.6	0.35	1.0	1.8	1.4	1.5	1.68	1.59
342	4	0.9	4.6	3.4	0.4	0.8	0.6	17.1	41.8	32.7	15.4	18.8	16.8	4023	6775	5241	0.1	0.91	0.41	1.0	2.0	1.6	1.5	1.84	1.69
341	4	0.9	4.3	3.1	0.4	0.8	0.6	17.1	37.1	30.8	16	18.8	17.2	4896	6775	5551	0.1	0.91	0.34	1.0	2.0	1.6	1.5	1.69	1.63
332	7	0.3	10	6	0.3	0.8	0.6	15.2	45.8	28.6	13.9	21	17.9	3803	7248	5730	0.09	1.26	0.63	0.6	9.0	4.6	1.37	1.79	1.58
331	7	0.7	9.1	4.2	0.2	0.9	0.6	18.3	45.7	30	15.6	23	18.4	3803	6826	5647	0.07	0.91	0.4	0.6	9.0	4.2	1.45	1.81	1.6
322	5	0.4	10.3	6.1	0.3	0.7	0.5	14.3	37.1	21.5	15.5	21.3	18.9	4783	7550	6720	0.1	2.15	1.13	1.4	9.0	6.3	1.36	1.7	1.48
321	5	0.4	10.3	5.5	0.3	0.7	0.5	13	37.1	22.1	15.5	19.7	18.4	4783	7490	6580	0.1	2.2	1.23	1.4	9.0	5.9	1.36	1.7	1.5
312	7	0.3	17.6	5.7	0.3	0.7	0.5	7.7	37.5	19.5	13.7	21.9	18.2	4783	8063	6786	0.1	1.53	0.92	0.0	9.0	5.4	1.34	1.7	1.48
311	7	0.3	17.6	8.2	0.3	0.7	0.5	7.7	44.5	18.4	14.7	21.9	18.9	4329	8063	6893	0.09	1.82	0.86	1.0	9.0	5.3	1.34	1.79	1.48

Seam	No.	Total Moisture % ar			Inherent moisture % ad			Ash % ad			Volatile matter % ad			Calorific Value kcal/kg ad			Total Sulphur % ad			FSI			Relative density		
	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
232	2	8.1	13.4	10.7	0.4	0.5	0.4	10.1	44.1	21.8	10.1	21.3	17.4	4586	7856	6721	0.51	1.86	1.3	0.5	9.0	6.2	1.37	1.87	1.54
231	5	2	13.4	7.2	0.4	0.6	0.5	10.9	26.7	17.6	18	21.7	20.3	6243	7856	7137	0.86	1.63	1.28	7.5	9.0	8.5	1.37	1.45	1.4
222	18	0.3	19.8	7	0.1	1.2	0.5	9.8	27.7	15.4	14	24.3	20.3	6126	7783	7200	0.31	2.02	1.28	1.0	9.0	6.2	1.33	1.86	1.45
221	24	1.7	15.9	7	0.3	0.8	0.5	11.7	65.7	21.9	11.7	23.4	19.7	2416	7722	6708	0.28	2.01	1.26	1.0	9.0	6.4	1.38	2.09	1.51
220	9	1.7	5.4	4.1	0.3	0.9	0.5	11.3	39.5	21.5	16.3	22.9	20.6	4786	7722	6730	1.21	2.01	1.52	2.5	9.0	7.2	1.38	1.68	1.49
212	29	1	31.5	6.5	0.2	7.8	0.8	11.2	71.8	26	12.6	31.7	18.9	1513	7655	6148	0.14	3.83	1.38	0.0	9.0	4.9	1.31	2.29	1.58
2112	37	1	20.6	6.8	0.2	3.8	0.6	5.6	71.8	26	11.2	24.8	17.9	1513	8552	6181	0.24	3.47	1.14	0.0	9.0	4.9	1.29	2.29	1.57
2111	32	0.3	20.5	6.8	0.2	1.6	0.5	5.2	68.3	30.1	11	24.8	17.3	1906	8117	5743	0.24	3.47	1.05	0.0	9.0	4.0	1.29	2.21	1.62
202	18	0.9	11.2	6.1	0.3	1.3	0.6	10.6	66.1	30.5	13.5	23.9	18.5	2799	7663	5774	0.12	2.34	1.11	0.0	8.5	4.3	1.38	2.15	1.59
201	15	0.5	9.2	4.3	0.3	0.9	0.6	12.3	66.2	35.8	12.1	24.6	18.9	3407	7433	5416	0.16	1.58	0.91	1.0	8.2	4.3	1.38	2.14	1.65
16	1	4.6	4.6	4.6	0.1	0.1	0.1	10.8	10.8	10.8	24.2	24.2	24.2	7660	7660	7660	1.23	1.23	1.23	9.0	9.0	9.0	1.34	1.34	1.34
153	1	4.1	4.1	4.1	0.2	0.2	0.2	11.8	11.8	11.8	22.8	22.8	22.8	7659	7659	7659	1.41	1.41	1.41	9.0	9.0	9.0	1.39	1.39	1.39
152	1	2	2	2	0.2	0.2	0.2	14.7	14.7	14.7	24	24	24	7243	7243	7243	1.34	1.34	1.34	9.0	9.0	9.0	1.41	1.41	1.41
151	1	2	2	2	0.2	0.2	0.2	14.7	14.7	14.7	24	24	24	7243	7243	7243	1.34	1.34	1.34	9.0	9.0	9.0	1.41	1.41	1.41
14	1	4.3	4.3	4.3	0.6	0.6	0.6	22	22	22	23.3	23.3	23.3	6504	6504	6504	1.14	1.14	1.14	7.5	7.5	7.5	1.49	1.49	1.49
132	2	3.2	6.8	5	0.4	0.9	0.6	19.3	41.8	30.5	17.8	18.5	18.1	4679	6899	5789	1.44	2.19	1.82	3.5	8.0	5.8	1.5	1.64	1.57
131	2	2	2.4	2.2	0.4	0.8	0.5	25.3	33	29.2	16	19.6	17.6	5611	6338	5889	0.41	0.88	0.58	2.5	5.9	4.3	1.54	1.61	1.58
130	2	5.6	6.1	5.8	0.9	0.9	0.9	52	62.5	57.3	13.9	17.8	15.8	2542	3774	3158	0.96	1.21	1.09	3.0	3.5	3.3	1.66	1.72	1.69
122	2	1.5	1.9	1.7	0.2	0.9	0.5	25.7	35.6	30.6	20.1	22.6	21.4	5990	7500	6745	0.55	0.74	0.65	4.5	6.2	5.4	1.55	1.6	1.57
121	4	1.9	5.7	4.1	0.2	0.7	0.5	13.5	35.6	21.8	20.1	24.4	22.2	6716	7537	7176	0.55	1.61	1.12	6.2	7.5	6.9	1.36	1.6	1.46
120	1	5.7	5.7	5.7	0.7	0.7	0.7	17.2	17.2	17.2	22.8	22.8	22.8	6716	6716	6716	1.61	1.61	1.61	7.5	7.5	7.5	1.36	1.36	1.36
112	3	1.7	6.3	4.3	0.5	1	0.7	10.3	27.3	16.7	19.5	25	22.7	6260	7989	7243	0.79	1.58	1.21	7.3	7.3	7.3	1.32	1.59	1.43
111	3	1.7	7.7	5.5	0.4	0.8	0.6	12	27.3	17.8	19.5	26.5	23	6260	7649	7115	0.79	1.48	1.19	6.9	6.9	6.9	1.4	1.59	1.47
0U22	1	4.8	4.8	4.8	0.6	0.6	0.6	10.1	10.1	10.1	25.5	25.5	25.5	8071	8071	8071	1.06	1.06	1.06	-	-	-	1.4	1.4	1.4
0U21	3	2.5	5.3	4.2	0.2	0.6	0.4	10.1	30.1	17.3	20.2	25.5	22.4	5751	8071	7097	0.29	1.19	0.85	1.0	2.5	1.8	1.4	1.64	1.49
0U12	1	3.8	3.8	3.8	0.6	0.6	0.6	34.6	34.6	34.6	21.7	21.7	21.7	5202	5202	5202	3.57	3.57	3.57	1.0	1.0	1.0	1.73	1.73	1.73
0U11	1	3.8	3.8	3.8	0.6	0.6	0.6	34.6	34.6	34.6	21.7	21.7	21.7	5202	5202	5202	3.57	3.57	3.57	1.0	1.0	1.0	1.73	1.73	1.73
0M22	1	1.5	1.5	1.5	0.3	0.3	0.3	10.3	10.3	10.3	24.8	24.8	24.8	7700	7700	7700	1.12	1.12	1.12	9.0	9.0	9.0	1.41	1.41	1.41
0M21	1	2.8	2.8	2.8	0.6	0.6	0.6	25.1	25.1	25.1	20.7	20.7	20.7	6196	6196	6196	1.28	1.28	1.28	1.2	1.2	1.2	1.56	1.56	1.56
0L3	1	2.4	2.4	2.4	0.3	0.3	0.3	17.3	17.3	17.3	23.7	23.7	23.7	7781	7781	7781	0.36	0.36	0.36	8.1	8.1	8.1	1.42	1.42	1.42

Table B4

Biluut Drillhole Quality Statistics

Seam	No. Holes	Total Moisture % ar			Inherent Moisture % ad			Ash % ad			Volatile Matter % ad			Calorific Value kcal/kg ad			Total Sulphur % ad			FSI			Relative density			Fixed Carbon % ad		
		Minimum	Maximum	Mean	Minimum	Maximum	Mean	Minimum	Maximum	Mean	Minimum	Maximum	Mean	Minimum	Maximum	Mean	Minimum	Maximum	Mean	Minimum	Maximum	Mean	Minimum	Maximum	Mean	Minimum	Maximum	Mean
3U2	4	3.3	9.2	5.6	0.3	0.6	0.5	7.7	48.3	23.7	14.6	27.8	21.8	4,145	7,944	6,389	0.38	0.67	0.52	1.0	7.4	3.7	1.33	1.80	1.52	36.6	64.9	54.0
3U	2	12.4	16.3	14.4	0.4	1.1	0.7	21.8	44.5	33.1	15.1	23.6	19.3	4,490	6,478	5,484	0.40	0.43	0.42	4.4	4.4	4.4	1.49	1.76	1.63	39.4	53.1	46.2
3U1	3	3.6	11.1	7.6	0.4	0.5	0.4	11.7	28.5	19.5	17.0	27.6	23.1	5,831	7,269	6,704	0.40	0.81	0.58	1.0	6.0	4.1	1.41	1.59	1.48	54.2	60.2	57.0
3L2	3	2.9	9.8	6.4	0.3	1.0	0.6	17.7	74.7	47.5	12.3	22.9	17.5	4,034	6,928	5,481	0.33	2.03	0.95	7.2	7.2	7.2	1.45	2.30	1.84	12.0	59.1	34.4
3L	3	0.7	7.7	4.9	0.6	0.8	0.7	11.8	84.1	39.5	9.4	23.0	18.2	6,486	7,459	6,972	0.02	0.69	0.29	3.4	5.5	4.4	1.40	2.50	1.80	5.7	64.6	41.6
3L1	3	1.6	4.3	2.8	0.5	0.6	0.6	31.3	59.2	41.3	12.8	23.1	17.3	2,997	5,678	4,710	0.26	0.63	0.49	1.0	1.0	1.0	1.58	1.95	1.74	24.1	55.4	40.8
2U3	1	4.6	4.6	4.6	0.5	0.5	0.5	14.1	14.1	14.1	29.7	29.7	29.7	7,426	7,426	7,426	1.11	1.11	1.11	7.0	7.0	7.0	1.39	1.39	1.39	55.7	55.7	55.7
2U2	6	0.8	6.8	4.0	0.2	0.6	0.4	13.6	19.2	16.7	26.7	31.1	28.5	6,849	7,444	7,146	0.30	1.11	0.58	3.8	9.0	7.3	1.37	1.46	1.40	51.2	57.6	54.2
2U	16	0.7	14.1	4.8	0.3	1.0	0.5	10.5	52.9	25.5	13.9	31.9	25.7	3,634	7,896	6,319	0.20	2.42	0.57	1.0	8.3	5.7	1.34	1.83	1.51	27.0	59.0	48.2
2U1	5	0.3	6.2	3.3	0.2	0.8	0.4	12.3	30.2	18.3	25.6	29.9	27.3	5,702	7,586	6,946	0.18	0.67	0.35	3.6	8.3	6.8	1.37	1.52	1.42	42.9	59.3	53.8
2L2	27	1.3	13.9	5.4	0.2	2.0	0.5	5.3	51.4	23.8	11.7	31.9	23.6	3,556	7,845	6,435	0.18	1.04	0.47	1.0	9.0	5.7	1.35	1.99	1.51	29.1	63.5	52.0
2L	30	0.5	14.5	7.4	0.2	1.0	0.5	10.2	53.7	26.8	9.5	28.6	20.8	3,555	7,736	6,064	0.20	3.34	0.63	0.5	8.6	5.2	1.35	2.04	1.57	30.1	66.2	51.8
2L1	27	0.6	15.9	5.7	0.2	1.1	0.6	9.4	55.0	27.7	8.4	31.2	15.6	2,956	7,832	5,952	0.17	1.08	0.53	1.0	8.5	5.2	1.36	1.99	1.62	34.9	79.0	56.0
1U	15	1.0	13.8	4.9	0.4	4.8	1.0	13.6	39.7	27.5	9.1	21.8	12.6	4,318	7,445	5,780	0.14	0.80	0.50	2.5	2.5	2.5	1.44	1.83	1.62	43.3	75.5	58.8
1L1	43	1.0	17.1	5.5	0.2	2.2	0.7	11.7	68.9	20.6	7.5	20.7	12.4	1,838	7,336	6,536	0.13	0.77	0.39	-	-	-	1.39	2.20	1.58	19.6	77.7	66.2
1L0	2	1.8	9.4	5.6	0.7	0.8	0.7	25.3	28.3	26.8	10.7	11.7	11.2	5,635	6,224	5,930	0.28	1.10	0.69	-	-	-	1.63	1.65	1.64	59.2	63.3	61.3