COMPETENT PERSONS REPORT ON THE COAL ASSETS OF SHUBARKOL KOMIR JSC, REPUBLIC OF KAZAKHSTAN

Prepared For

Eurasian Resources Group Sarl

Report Prepared by

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UK30133

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1 INTRODUCTION

1.1 Background

SRK Consulting (UK) Limited ("SRK") has been commissioned by Eurasian Resources Group Sarl ("ERG") to prepare a Competent Persons Report ("CPR") on the coal assets (the "Coal Assets") of JSC Shubarkol Komir ("Shubarkol" or "the Company") located in the Republic of Kazakhstan ("Kazakhstan").

The Coal Assets includes the special coke plant (which was acquired by Shubarkol from TOO Sary-Arka SpetsKoks LLP in 2015.

The CPR has been prepared in support of an anticipated public listing of the Coal Assets on the Kazakhstan Stock Exchange ("KASE"). The KASE Listing Rules as set out in Article 1 General definitions and Specifications, no.32, and Appendix 3.1 List of documents, Item A. 7. Item A.7 in Appendix 3.1 state that the public report of the Competent Person must be prepared according to CRIRSCO standards (Committee for Mineral Reserves International Reporting Standards).

The focus of this CPR is to present the latest Coal Resources and Coal Reserves and provide a technical and economic opinion in respect of the Coal Assets. The CPR has been prepared following SRK's multi-disciplinary due diligence review of the Coal Assets, covering the disciplines of geology and resource estimation, mining engineering, processing, environmental and social, and economics.

This CPR presents the following key technical information as at 31 December 2017:

- The latest Coal Resource and Coal Reserve statements reported in accordance with the terms and definitions of the JORC Code (defined later);
- Historical production analysis from 2015 through 2017; and
- The life of mine plan supporting the Coal Reserves, such that the Coal Assets can be demonstrated to provide a net positive return over the period of the mine life.

1.2 SRK Previous Involvement

SRK has been involved with the Coal Assets as follows:

- Independent Resource and Reserve audit of the Coal Assets carried out on behalf of ENRC in July 2008. This audit was based in part on information gathered during site visits conducted on the Shubarkol and JSC Mugotex mines of the Shubarkol Basin deposit in 2006; Independent Technical Report on the Coal Assets in February 2011. This audit was based on a site visit to Shubarkol in January 2011 and assessment of information received

from the Company and ENRC;

- A due diligence review in 2012 in support of ENRC's acquisition of the remaining shares of Shubarkol not yet in its ownership;
- Technical Report on Shubarkol Komir for ENRC in 2014, and
- Annual reviews of production and Form 7 returns to the GKZ. and updated Coal Resource and Coal Reserve statements in accordance with the JORC Code, since 2013 until the present.

1.3 Compliance and Reporting Standard

The reporting standard adopted for the reporting of the Coal Resource and Coal Reserve statements for the Coal Assets to be included in the CPR is that defined by the terms and definitions given in "The 2012 Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves as published by the Joint Ore Reserves Committee of the Australasian Institute of Mining and Metallurgy, Australian Institute of Geoscientists and Minerals Council of Australia" (the "JORC Code").

The JORC Code is a reporting code which has been aligned with the Committee for Mineral Reserves International Reporting Standards ("CRIRSCO") reporting template, which is recognised by the KASE.

1.4 Limitations, Reliance on SRK, Declaration, Consent, Copyright

1.4.1 Limitations

Save for the responsibility arising under the JORC Code and to the fullest extent permitted by law, SRK does not assume any responsibility and will not accept any liability to any other person other than the addressees for any loss suffered by any such other person as a result of, arising out of, or in connection with the CPR or statements contained therein.

1.4.2 Reliance on Information

SRK believes that its opinion must be considered as a whole and that selecting portions of the analysis or factors considered by it, without considering all factors and analyses together, could create a misleading view of the process underlying the opinions presented in this CPR.

The statements of Mineral (Coal) Resources and Ore (Coal) Reserves, and the presentation of preliminary results of technical-economic parameters ("TEPs"), are based on information provided by the Company. The Mineral Resources and Ore Reserves and the TEPs are based on assumptions regarding commodity prices and exchange rates prevailing at the date of this report. These assumptions can change significantly over relatively short periods of time and should these change materially the Mineral Resources and Ore Reserves and the TEPs could be materially different in these changed circumstances. Further, SRK has no obligation or undertaking to advise any person of any change in circumstances that comes to its attention after the date of this CPR or to review, revise or update the CPR or opinion.

1.4.3 Copyright

SRK has assigned copyright and other intellectual property ownership rights in this CPR to the Company who engaged SRK to prepare this CPR. It is a condition of that assignment to the Company that this CPR may not be utilised or relied upon by any person other than as expressly named in, nor, for any purpose other than as stated within the CPR and, that SRK shall not be liable to any other person for any loss or damage caused by such use or reliance. Accordingly, SRK hereby gives notice to any other person reading this CPR that SRK accepts no direct responsibility, duty of care or liability for any loss caused by any use or reliance placed upon any information, warranties or representations contained in this CPR including for the purposes of making any investment or raising any finance. In any event, SRK shall not be liable to any person whatsoever for loss caused by use or reliance upon any edited or modified version of this CPR except as approved by SRK.

1.4.4 Declaration

SRK will receive a fee for the preparation of this report in accordance with normal professional consulting practice. SRK does not have any pecuniary or other interests that could reasonably be regarded as capable of affecting its ability to provide an unbiased opinion in relation to the Coal Assets and the projections and assumptions provided by the Company, opined upon by SRK and reported herein.

Neither SRK, the SRK Competent Persons who are responsible for authoring this CPR, nor any Directors of SRK have at the date of this report, nor have had within the previous two years, any shareholding in the Company, the Coal Assets or advisors of the Company. Consequently, SRK, the SRK Competent Persons and the Directors of SRK consider themselves to be independent of the Company.

This CPR includes technical information, which requires subsequent calculations to derive subtotals, totals and weighted averages. Such calculations may involve a degree of rounding and consequently introduce an error. Where such errors occur, SRK does not consider them to be material.

1.5 Qualifications of Consultants

SRK is an associate company of the international group holding company, SRK Global Limited (the “SRK Group”). The SRK Group comprises over 1,300 staff, offering expertise in a wide range of resource engineering disciplines with 45 offices located on six continents. The SRK Group’s independence is ensured by the fact that it holds no equity in any project. This permits the SRK Group to provide its clients with conflict-free and objective recommendations on crucial judgement issues. The SRK Group has a demonstrated track record in undertaking independent assessments of resources and reserves, project evaluations and audits, Mineral Experts’ Reports, Competent Persons’ Reports, Mineral Resource and Ore Reserve Compliance Audits, Independent Valuation Reports and independent feasibility evaluations to bankable standards on behalf of exploration and mining companies and financial institutions worldwide. The SRK Group has also worked with a large number of major international mining companies and their projects, providing mining industry consultancy service inputs. SRK also has specific experience in commissions of this nature.

This CPR has been prepared based on a technical and economic review by a team of five key consultants sourced from SRK offices in the United Kingdom. These consultants are specialists in the fields of geology, resource and reserve estimation and classification, open-pit mining, geotechnical engineering and mineral economics. They have extensive experience in the coal mining industry and are members in good standing of appropriate professional institutions.

- Anna Fardell, MSc, BSc, FGS, MAIG – geology and coal resources;
- Erhan Karakaya, BSc, MSc, MAIMM – mining engineering and coal reserves;
- Zhanar Faizuldayeva, BSc – environmental and social;
- Richard Oldcorn, MSc, BSc, FGS, CGeol, – project management; and
- Sabine Anderson, MEng, MIMMM, CEng – mineral economics.

The Competent Person who is responsible for the declaration of the Coal Resource as it appears in this report is Anna Fardell, a Senior Resource Geologist with SRK (UK) Ltd. Ms Fardell has 9 years of experience relevant to the style of mineralisation and type of the deposit. She is a member in good standing of the Australasian Institute of Geoscientists, member number 6555, a recognised professional organisation (RPO) included in a list promulgated by the ASX from time to time, and available on the JORC website, and a Competent Person as defined in the JORC Code.

The Competent Person responsible for the declaration of Coal Reserve and the review of the Life of Mine Plan as reported by the Company is Mr Erhan Karakaya, BSc, MSc, MAusIMM (CP), who is a full-time employee of and Principal Consultant (Mining) at SRK Kazakhstan. He is a Member of and Chartered Professional in the Australasian Institute of Mining and Metallurgy, member number 225841, an RPO included in a list promulgated by the ASX from time to time, and available on the JORC website. Mr Karakaya is a Mining Engineer with over 20 years' experience in the mining and metals industry, including operational experience in open cast coal mines, and as such qualifies as a Competent Person as defined in the JORC Code.

The Competent Person who has overall responsibility for the CPR is Mr Richard Oldcorn, who is a corporate consultant with SRK and Managing Director of SRK Consulting (UK) Ltd. He is a Chartered Geologist and Fellow of the Geological Society of London, member number 1001089, which is a recognised overseas professional organisation (ROPO) included in a list promulgated by the ASX from time to time, and available on the JORC website. Mr Oldcorn has 25 years of experience in the mining and metals industry and has been involved in the preparation of Mineral Expert's Reports, Competent Persons Reports and Independent Technical Reports on various properties internationally during the past five years.

The Coal Resource and Reserve statement is presented by SRK, the commissioned entity. Accordingly, SRK assumes responsibility for the Coal Resource and Reserve statement. Where relevant, all references to SRK shall include the Competent Persons and vice versa.

2 COAL ASSETS BACKGROUND, HISTORY AND LOCATION

The Shubarkol coal deposit is located in the Nurinsky area of the Karaganda oblast approximately 500 km to the west south west of the regional capital, Karaganda (Figure 2-1 and Figure 2-2). The deposit is linked by a rail spur to the Karaganda - Zhezkazgan trunk railway, which passes 112 km to the southeast. The main road to the site runs parallel to the railway line, also as a spur from the main A17 Karaganda - Zhezkazgan highway (see Figure 2-2).

The deposit is currently being worked by two open pit mines: Zapadny open pit in the west and Centralny open pit in the north central part of the deposit. A third part of the deposit, the Vostochny resource block, is located to the east of the Centralny Contract area and is planned to be worked as an extension to the Centralny open pit, but operations have not reached this area yet. Figure 2-3 shows the general layout of the mine operations and facilities. The southern central portion of the Shubarkol basin is currently owned and operated by a third party and is not an asset of Shubarkol Komir or ERG.

The region is located in an area of dry steppe with flat relief. The surface elevation of the area of the basin varies from 450 to 490 m. The climate of the region is strongly continental with harsh winters and hot summers.

Exploration of the Shubarkol basin commenced in 1952 and was completed in 1986. The GKZ resources for the Shubarkol deposit area were confirmed in Protocol # 10288 of 1 April 1987.

Production in the Centralny area commenced in the late 1980s and was taken over by Shubarkol Komir JSC in 1997. The Zapadny operation (formerly owned by JSC Mugotex) commenced mining on the western crop in 1999. Both operations are continuing and are still physically separate.

ERG owns 99.81% of Shubarkol Komir as of 01 January 2018, following an initial acquisition of 25% in February 2009 and a further acquisition of the remaining 74.81% in April 2012.

Figure 2-1: Regional Location of the Shubarkol Coal Assets

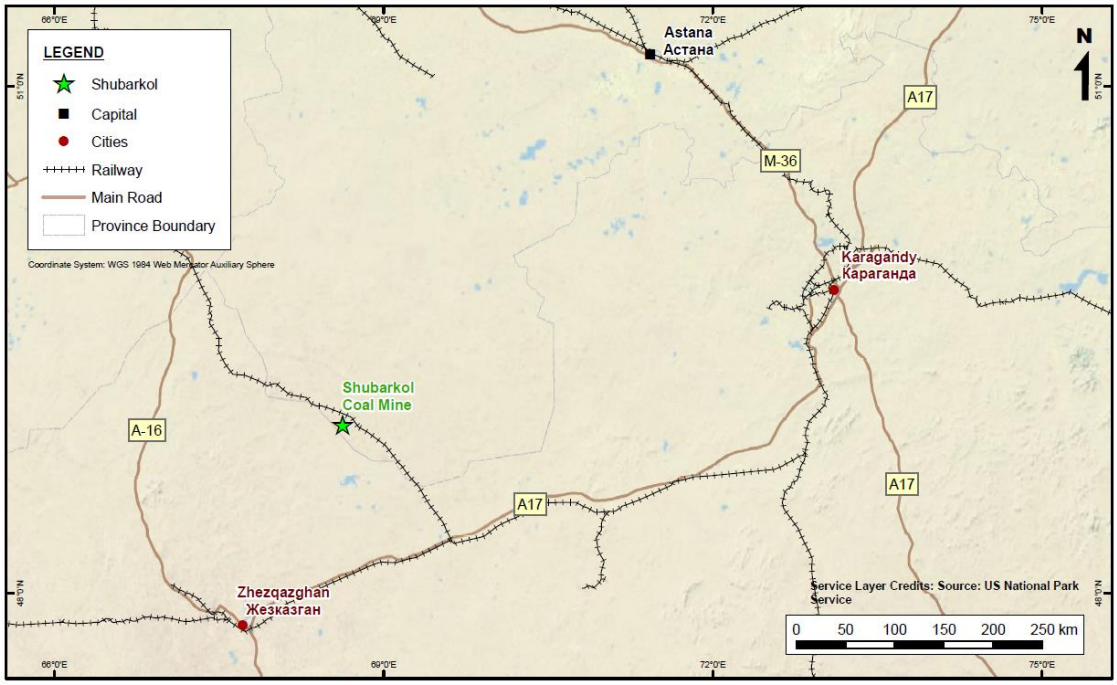


Figure 2-2: Location of the Shubarkol Coal Mine and Key Infrastructure

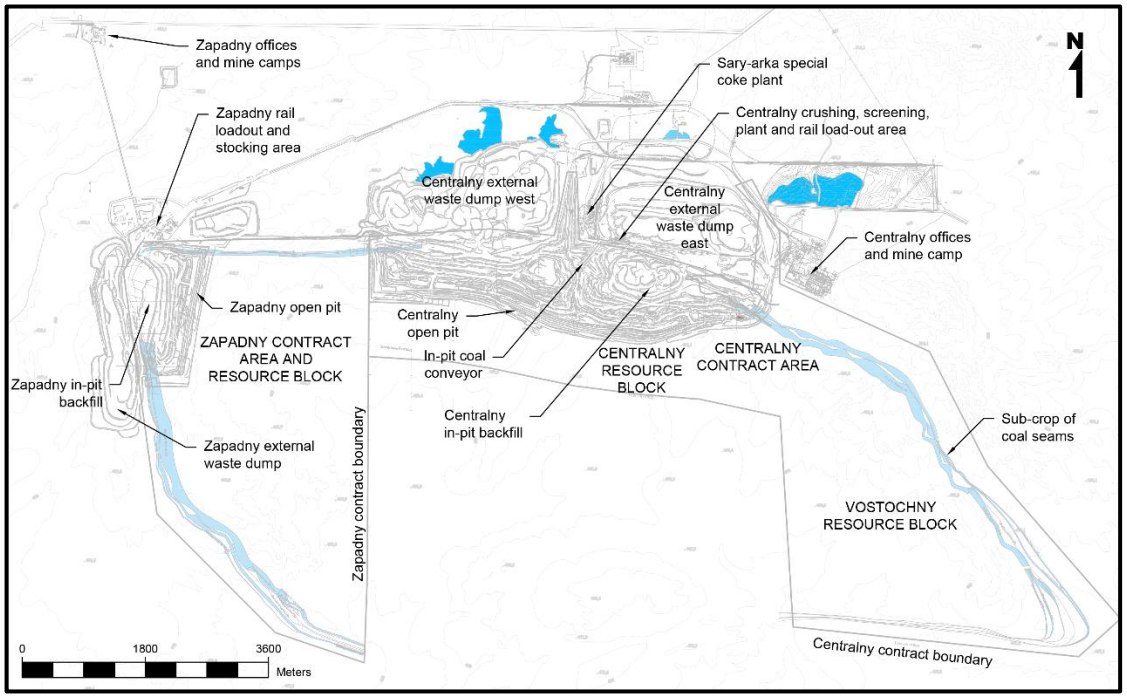


Figure 2-3: Plan of the Shubarkol Coal Basin, Contract Areas, Mining Operations and Mine Facilities

3 TITLE AND CONTRACTS

Shubarkol holds two Mining Contracts, Centralny (Central) and Zapadny (West) which cover approximately three quarters of the Shubarkol Coal basin, see Table 3-1 and Figure 2-3 above.

Table 3-1: Shubarkol Mining Contracts

Mining Asset	Status	Type	No.	Issued	Expiry date	Contract Area (Ha)
Zapadny	Production	Open pit	326	08/05/1999	30/09/2021	1,740
Centralny	Production	Open pit	391	20/12/1999	08/11/2050	2,821

The southern central portion of the Shubarkol basin is covered by a separate Mining Contract ("Shubarkol South"), which is held by a third party, and is not owned by Shubarkol and/or ERG.

The Centralny Mining Contract comprises two resource areas, Centralny and Vostochny (East), which are reported separately in the Centralny Form 7 (Coal) return to the GKZ. The Vostochny area was previously held by a separate company. The Vostochny mining contract, No.1890, had an expiry date of 08 August 2050. When the Vostochny site and contract were acquired by Shubarkol in 2005, an addendum to contract 391 (addendum No.4) changed the expiry date of the whole contract area (Centralny and Vostochny) to November 2050.

The Zapadny Mining Contract increased in size to 1,740 Ha (from 950 Ha previously) as a result of Addendum 7 to the contract, signed on 31 July 2014, but the date of expiry of the contract has not changed, and can only be extended closer to the expiry date. This enlarged Mining Contract now covers the full area of the Zapadny part of Shubarkol and allows the Zapadny mine plans to be developed effectively.

4 GEOLOGY AND MINERAL RESOURCES

The Shubarkol coal deposit forms part of an asymmetrical basin, the long axis of which extends for some 12 km east-west. It has a maximum width of approximately 6 to 7 km and a maximum depth of 150 m (see Figure 4-1). Dips are variable on a large scale, but at the operational scale are very consistent. The dip of the strata is more gentle on the west and east limbs of the basin and slightly steeper in the northern and southern limbs, but in general do not exceed 30 to 40 degrees, except in certain areas close to the crop (see Figure 4-2 and Figure 4-3), . Away from the limbs, towards the basin axis, dips are gentle, not exceeding 5º, and become essentially flat towards the centre of the basin. The deposit has a relatively simple structure with little faulting and few washouts.

The coals are Jurassic in age. Three coal bearing horizons are recognised: Upper, Middle and Lower. The Lower horizon is up to 50 m thick and contains up to six mainly thin (0.2 to 1.5 m thick) coal bands with interbedded sediments. The Middle coal horizon is the thinnest of the deposit, comprising a single seam of up to 2.8 m thick. Currently, only the Upper coal horizon is being worked and SRK does not consider it likely that the Middle and Lower coal horizons will be worked by open pit methods.

The Upper horizon consists of three main seams. The highest seam (2V), with a thickness between 12.8 and 21.9 m (average 18 m), is separated from seam 1V by a parting of between 1 to 5 m thick. Seam 1V is between 8.3 and 12.0 m thick (average 10.7 m). The lowest seam is seam V0, which is between 1 m and 1.55 m in thickness (average 1.2 m). The structure of the seams of the Upper horizon is simplest and most consistent to the north and west of the deposit. To the south and the south east increasing sediment input at the time of deposition has resulted in numerous partings and lower coal content, as shown in Figure 4-3.

The Shubarkol coals are hard, humic, thermal coals which have a relatively low in situ ash, approximately 12% when excluding partings greater than 1 m that have ash contents of greater than 45%. The ash content of the clean coal component of the seams, which excludes partings, ranges from 4% to 6%. The current working practice is to selectively remove partings more than 0.3 m thick in order for the average ash content of the run of mine ("RoM") coal to be around 7%. The coals have a low sulphur content of 0.4%, a volatile content of 43 to 44%, an average moisture content of 14.5%, and a net calorific value of 5,250 kcal/kg air dried basis ("adb"). The coal is described according to Kazakhstan coal specifications as grade D, long-flame coal. This grade of coal shows high volatile characteristics (30 to 40%, or more), moisture contents of around 14 to 15%, and in some cases good propensity as raw material for semi coking. Summaries of the coal quality of the Shubarkol coal deposit are presented in Table 4-1 and Table 4-2 below.

Table 4-1: %Ash Content for Raw Coal and Clean Coal taken from the 2008 TEO Report and GKZ Statement

Seam	Raw Coal Ash Content (% DB)			Clean Coal Ash Content (% DB)		
	Minimum	Maximum	Average	Minimum	Maximum	Average
2V	3.7	28.0	6.7	1.6	7.5	4.7
1V	2.6	28.7	13.4	2.6	8.8	4.9
1V1	8.6	28.1	15.7	6.7	13.9	9.4
1V2	3.1	21.7	9.4	2.9	10.4	5.9

*This relates to the tonnages reported as per the adjusted 2008 conditions and, in the unchanged blocks, the 1987 conditions

Table 4-2: Coal Quality for each seam taken from the 1987 Protocol for the original undepleted Shubarkol GKZ Statement across the whole basin

Seam	Mark	All Drillholes		Coal Quality Drillhole Samples							
		Raw Coal Ash (% DB)	Clean Coal Ash (% DB)	Raw Coal Ash (% DB)	Inherent Moisture (%)	Volatiles (% DAF)	Total Sulphur (% DB)	Phos - phorus (% DAF)	Hydr - ogen (% DAF)	Carbon (% DAF)	Calorific Value DAF (MJ/kg)
2V	D	7.9	4.7	7.2	6.0	44.1	0.36	0.014	5.44	77.40	31.00
2V2+3+4	D	6.6	4.2	2.7	6.3	43.7	0.26	0.014	5.30	76.65	32.90
2V4	D	15.2	8.8	7.4	5.2	44.3	0.29	0.036			30.62
2V3	D	14.0	9.7	9.4	7.6	42.3	0.36				30.25
2V2	D	17.7	10.4								
2V1	D	18.9	10.2	18.7	5.1	44.3	0.50	0.023	5.63	77.14	31.33
1V	D	16.2	5.6	14.6	8.3	43.0	0.44	0.010	5.00	78.02	30.19
1V2	D	13.6	6.1	11.4	4.8	43.0	0.34	0.010	5.62	77.13	30.59
1V22	D	15.0	7.9	9.3	5.7	43.1	0.49	0.010	5.16	76.60	31.18
1V12	D	17.2	7.7	5.2	8.2	42.9	0.57	0.009	4.89	75.12	31.41
1V1	D	15.8	8.3	10.5	6.1	41.9	0.55	0.007	5.19	76.94	30.80

*This relates to the tonnages reported as per the original 1987 conditions, with a maximum of 45% ash

Рис. 4.1 Изогипсы почвы Верхнего угольного горизонта

Figure 4-1: Plan showing the geological structure and depth of the Shubarkol Deposit taken from Figure 4.1 in the 2014 TEO Update Report

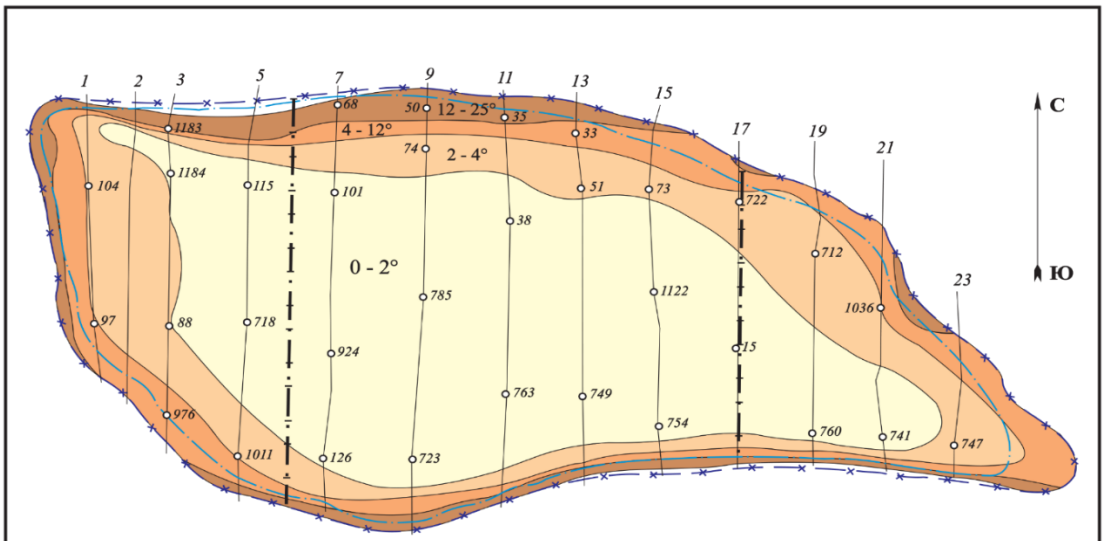


Рис. 4.2 Районирование месторождения по углам падения почвы Верхнего горизонта

Figure 4-2: Plan showing the geological structure and strata dip of the Shubarkol Deposit taken from Figure 4.2 in the 2014 TEO Update Report

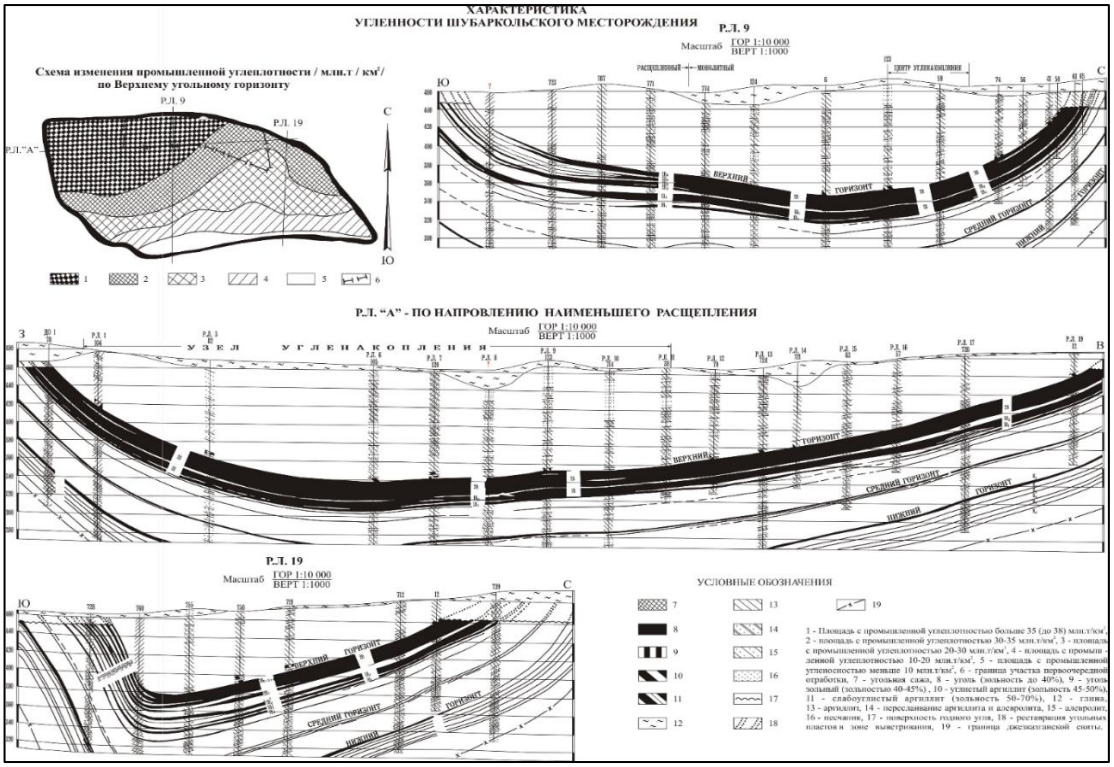


Figure 4-3: Cross-sections though the Shubarkol Deposit taken from Figure 2.2 in the 2008 TEO Report (note x10 vertical exaggeration)

4.1 Exploration

4.1.1 Historical Exploration

Regional exploration started in the area in the early 1950's with the publishing of a 1:200,000 geological map in 1952, and an aeromagnetic survey in 1956. Further work continued in the period 1960-1980 with mapping and gravity surveys with the specific objective of finding Palaeozoic bauxites. In 1981-1984 regional geophysical studies were undertaken which resulted in the discovery in 1983 of the coal deposits within the Shubarkol flexure. Further exploration was carried out in 1985 and accelerated to such an extent that drilling of the entire basin was completed by 1987. During this period extensive geohydrology and geotechnical studies were also completed.

A total of 1,134 boreholes, for a total of 113 km of cored drilling, were completed in the Shubarkol basin between 1985 and 1987, with a maximum depth of approximately 350 m. Core recovery was generally above 80%. Most holes were geophysically logged, including natural gamma, calliper, resistivity and density. Detailed graphical logs for each borehole were produced following the drilling which included core descriptions, core recoveries (usually summarised for the entire hole) and sample intervals with analyses. Geophysical logs were available for cross checking against core records as necessary. No downhole surveys were completed but the holes are quite shallow, drilled vertically and with an average hole depth of around 150m. The expected deviations at these depths are very small compared to the average spacing of the boreholes.

Boreholes were organised on sections lines, north-south and east-west, approximately perpendicular to the strike direction, as shown in Figure 4-1. The main section lines are approximately 500 m apart with boreholes spaced 250 m along the section with additional infill section lines and drilling close to the seam outcrops. It is unknown how the historical boreholes collars were surveyed and no historical collars have been found and resurveyed in the field.

During production, some blast holes are geophysically logged and channel samples are taken from the benches for quality control purposes.

The Resource extents are fully defined within the Shubarkol Basin and there are no areas at depth or outside of the drilling that could be considered as Exploration Potential.

4.1.2 Sampling and Analysis Procedures

Cores were sampled to lithological boundaries and according to the following criteria:

- Partings of less than 5cm were sampled with coal;
- Partings of greater than 5cm were sampled and tested separately; and
- No sample length exceeded 5m.

All samples were analysed for ash and density. A smaller number of drillholes were sampled for comprehensive coal quality analysis including ash, moisture, volatiles, sulphur and calorific value. The locations of the coal quality drillholes are shown in Figure 4-4. Analyses were undertaken in laboratories certified to GOST (State) standards. In addition, Hydrogen, Oxygen, Nitrogen, Free Swelling Index, Ash Fusion Temperature and coking coal properties were determined.

SRK visited the onsite laboratory at Shubarkol in 2006, 2011 and 2016, and found the facility to be clean, well ordered and well equipped. There was evidence of regular checking and calibration of equipment. The laboratory is certified to operate to state standards which include a requirement for monthly duplicate samples to high degrees of repeatability of results. External control samples are also submitted to the Nits Ugol Laboratory in Karaganda, Kazakhstan and to the SGS Laboratory in Chita, Russia.

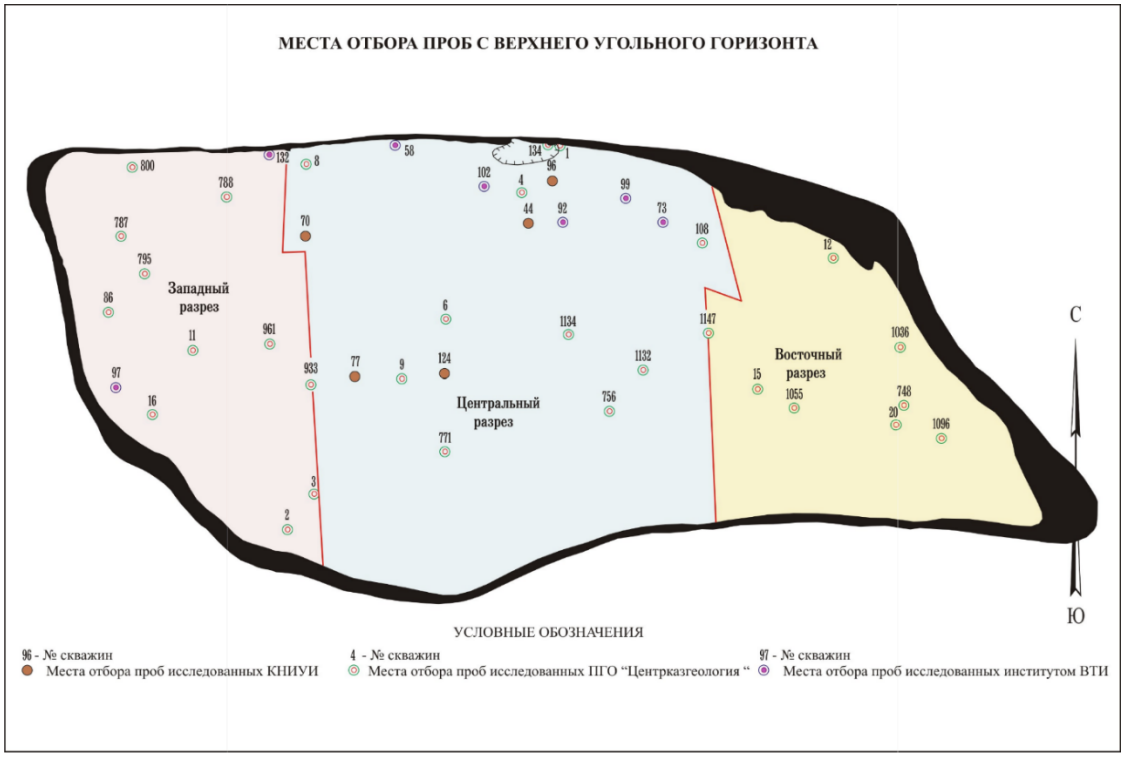


Figure 4-4: Boreholes used for comprehensive Coal Quality Analyses taken from Figure 7.1 from the 2008 TEO Report

4.2 Data Quantity and Quality

SRK considers that the deposit has been drilled on a consistent grid that can adequately characterise the coal deposit and productive seams. The data were collected according to prescriptive standards and protocols and are considered to be of good quality.

4.2.1 Proposed Exploration/Infill Drilling Programme

An exploration programme is proposed in order to gain more information on the seam splitting and ash content in a more complex area of the deposit, being the southeast area of the Centralny resource block, as operations move towards the Vostochny resource block area further to the east. The results of this drilling programme will form the basis for an updated geological model and mine plan in this area which will cover the next two to three years' production.

14 diamond boreholes are planned for completion in 2019, between sections RL13 and RL17 in the southeastern part of the Central'ny resource block area. The boreholes, orientated vertically, will be drilled to the southeast of the advancing pit position, have an average depth of approximately 100m and comprise a total of 1,500m. They will be drilled on a 50mx100m grid along existing and intermediate section lines. The drilling will be completed by a contractor and the geological logging, sampling and geophysical logging will be conducted by Shubarkol Komir. Proximate analysis will be completed on the samples to determine % ash content, % moisture content, % volatile content, % total sulphur, calorific value and density.

4.3 Coal Resource Estimation

4.3.1 Methodologies

Tonnage Calculation

All coal estimation to date has been undertaken by traditional paper-based techniques. The geological structure was modelled on cross sections constructed from the drilling results. Reserve block plans showing structural contours, seam thickness, ash content and reserve blocks were developed for each seam.

The reserve block method was used for calculation of coal reserves under the Kazakhstan state reporting system (GKZ). The GKZ coal reserve blocks were delineated using adjacent holes where seam thickness, ash content and structural contours were consistent. Where the geology appeared to be very consistent, reserve blocks tended to be larger and were classified as A category, whilst less consistent blocks were classified as categories B and C. The latter classification tended to be in areas of more widely spaced drilling and near to seam outcrops.

For each block, those holes within the block that did not intersect the full seam (either being cropped at surface or faults) were ignored in average thickness calculations. To derive volumes, seam thicknesses were converted to true thickness and reserve block areas measured on the horizontal plane were converted to areas on inclined planes. Partings greater than 1 m thick and with an ash content of greater than 45% were excluded from the GKZ reserves. To calculate the tonnage, the average bulk density was based on the average specific gravity of the core samples including water content.

In 2008, the GKZ reserve conditions were revised for several blocks denoted on the reserve block plans as -H. The conditions were changed so that partings greater than 0.5 m thick and with an ash content of greater than 20% were excluded from the GKZ reserves.

As part of the 2006 audit SRK carried out random checks to verify that this information had been accurately transcribed onto cross sections and the seam by seam reserve block plans. SRK also evaluated the percentage of low-ash coal which could be reasonably mined from total seam sections for the different sections of the deposits from the stratigraphic logs for a limited number of random sample detailed boreholes. SRK noted that the analysis was consistent with the percentages of clean coal given in the coal resource estimate for clean coal (i.e. excluding partings).

SRK considers that the exploration of the Shubarkol deposit has been extensive and thoroughly carried out by experienced geological personnel working to established procedures and standards. SRK believes that the traditional paper-based modelling and resource evaluation procedures are valid and have been followed closely by experienced and able personnel. Shubarkol has made significant progress in preparing a digital geological database for the deposit and has developed a block model in Surpac software.

SRK recommends that the Company completes and updates its electronic databases and scans all the requisite documents for both seam thickness and quality information in order that seam quantities and qualities can be modelled for both improved reserve estimation and production scheduling.

Coal Quality

Shubarkol's coal quality department carries out quality sampling and analyses at four points in the production process in the Zapadny operation and at five points in the Centralny operation:

- Channel samples at 100 m intervals;
- Face samples;
- Truck samples;
- Conveyor samples (Central'ny only); and
- Train samples.

SRK notes that the coal quality is not reported by resource classification and that the information provided did not enable SRK to verify the coal quality by resource category. However, SRK also notes that the coal quality is reasonably consistent across the deposit with the principal variation being the ash content and therefore has quoted the statistics provided. Completion of the digital databases and acquisition of appropriate software referred to above would enable better forward planning and interpretation of natural quality variations.

4.3.2 Annual Resource Statements and Reconciliation

Annual return forms (Form-7 Coal) from 2006 through to end-2017 have been provided to SRK for previous reviews and for the 2018 update and subsequent CPR. These forms show the coal resources for each of the years, with deductions for coal worked during the year, operational and other losses, and also a statement of remaining coal resources at the start of each year. SRK notes that the balance of coal resources provided include both high-ash and low-ash coal.

No true reconciliation has been completed of the estimated coal in the planned areas and the total worked according to the plan so the accuracy and reliability of the GKZ block estimates is not appraised. SRK recommends this exercise is done to improve the accuracy and reliability of the geological model and understand the variation in coal quality at a mining scale compared to the polygonal block scale on which the GKZ estimate is based.

4.3.3 Coal Resource Classification

The Shubarkol deposit has been re-classified in accordance with the JORC Code. SRK has reviewed the classification with respect to the data quality and quantity, the geological continuity and continuity of coal seam quality, the quality of the estimate and SRK's experience with other deposits of similar style.

Quality of Data

SRK considers that the exploration of the Shubarkol area has been extensive and thoroughly carried out by experienced geological personnel working to established procedures and standards.

Quantity of Data

The deposit has been regularly drilled on a 500m to 600m grid across the whole licence area. At the basin edges the borehole spacing decreases to 100m to 150m spaced sections with boreholes between 50m and 100m along section. All boreholes have been sampled for ash content. The coal deposit has been well drilled relative to the geological complexity, with borehole spacing decreasing in more complex areas. SRK considers that the deposit has been well defined to the basin limits and at depth and that it is not open to extensions.

Geological and Coal Quality Continuity

The geology of the Shubarkol deposit has shown to be most complex at the basin edges where the main seams thin and split and consist of more variable quality. However, as previously stated, the current borehole spacing adequately characterises the structure and complexity of the coal seams. SRK believes further information and infill drilling would not be expected to impact the overall volumes and qualities stated in the Coal Resource Statement.

Quality of the estimate

The quality of the estimate can only be judged by true reconciliation between the predicted coal and the mined coal. As this reconciliation exercise is not completed at Shubarkol, there is no true assessment of the quality of the estimate and estimation techniques. It is noted that the Resource estimate is calculated with two different criteria in terms of parting thickness and maximum ash content. The average ash content is much lower than even the lower ash cut-off of 20%. The tonnage and coal quality would not be expected to materially change if the 2008 conditions were applied to the other blocks. Considering all the above, SRK believes the estimate to be of good quality.

Overall Conclusions

SRK has reviewed and reclassified the Shubarkol Komir Coal Resources in line with the provisions of the JORC Code, an internationally recognised reporting code for Mineral Resources and Ore Reserves. SRK considers the on-balance coal resources in categories A and B as reported within the GKZ system to be equivalent to Measured Coal Resources as reported in the JORC Code, and the on-balance resources in class C1 as equivalent to Indicated Coal Resources, based on drill-hole coverage and the simple structure of coal deposit of the Shubarkol coal basin.

On-balance coal resources from the C2 category are classified as Inferred Coal Resources, as they are not only based on wider spaced drilling, but also are located deeper, have more waste partings and contain less clean coal.

4.3.4 Coal Resource Statement

SRK has reviewed and reclassified the GKZ on-balance Coal Resources in accordance with the JORC Code. The JORC Code considers that Coal Resources are defined as material that has potential for eventual economic extraction. The Shubarkol Resource is worked by open pit methods, has the ability to selectively mine to 0.5 m, and as such has minimum reporting constraints of:

- 0.5 m minimum parting thickness;
- 20% maximum ash; and

- 1 m minimum coal seam thickness.

A summary of the Coal Resources is presented in Table 4-3 and the detailed resources, split by Contract area and seam are presented in Table 4-4.

Only seams from the Upper coal horizons are included in the Coal Resource Statement. The Middle and Lower horizon coal seams were excluded from the estimate as the seams are considered likely to be too thin and inconsistent to be worked extensively.

The Resources are reported to a depth of 170m below surface. The depths and the ratio of Coal to waste material are considered suitable for extraction by opencast methods.

Table 4-3: Shubarkol Komir Summary Coal Resource Statement, 1 January 2018

Coal Resource Category	Tonnage	Quality				
	(Mt)	Ash ad (%)	Inherent Moisture ad (%)	Total Moisture ad (%)	Sulphur ad (%)	Calorific Value (nar) (kcal/kg)
Measured Coal Resources						
Zapadny O/P	298.7	11.1	6.0	15.3	0.40	5,250
Centralny (incl. Vostochny) O/P	315.4	11.5	6.0	14.5	0.40	5,250
Subtotal	**614.1**	**11.3**	**6.0**	**14.9**	**0.40**	**5,250**
Indicated Coal Resource						
Zapadny O/P	150.5	11.1	6.0	15.3	0.40	5,250
Centralny (incl. Vostochny) O/P	140.5	11.5	6.0	14.5	0.40	5,250
	291.0	**11.3**	**6.0**	**14.9**	**0.40**	**5,250**
Measured and Indicated Resources						
Zapadny O/P	449.2	11.1	6.0	15.3	0.40	5,250
Centralny (incl. Vostochny) O/P	455.9	11.5	6.0	14.5	0.40	5,250
Total Measured and Indicated	**905.1**	**11.3**	**6.0**	**14.9**	**0.40**	**5,250**
Inferred Coal Resources						
Zapadny O/P	14.5	11.1	6.0	15.3	0.40	5,250
Centralny (incl. Vostochny) O/P	48.2	11.5	6.0	14.5	0.40	5,250
Inferred Total	**62.7**	**11.4**	**6.0**	**14.7**	**0.40**	**5,250**
Total Coal Resources						
Zapadny O/P	463.7	11.1	6.0	15.3	0.40	5,250
Centralny (incl. Vostochny) O/P	504.1	11.5	6.0	14.5	0.40	5,250
Total Coal Resources	**967.7**	**11.3**	**6.0**	**14.9**	**0.40**	**5,250**

Table 4-4: Shubarkol Komir Coal Resource Statement, 1 January 2018

Centralny Open Pit (Centralny and Vostochny Resource areas)							
Classification	**Seam**	**Tonnes (Mt)**	**% Ash (ad)**	**% Inherent Moisture**	**% Total Moisture**	**% Total Sulphur (ad)**	**Calorific Value (Net As Received) (kcal/kg)**
Measured	2V	230.1					
	1V	25.0					
	1V2	55.2					
	1V1	3.9					
	V0	1.1					
Total		315.4	11.5	6.0	15.3	0.4	5,250
Indicated	2V	70.8					
	1V	12.7					
	1V2	36.5					
	1V1	15.2					
	V0	5.3					
Total		140.5	11.5	6.0	15.3	0.4	5,250
Measured +	2V	300.9					
Indicated	1V	37.7					
	1V2	91.7					
	1V1	19.1					
	V0	6.4					
Total		455.9	11.5	6.0	15.3	0.4	5,250
Inferred	2V	25.7					
	1V	-					
	1V2	12.0					
	1V1	-					
	V0	8.5					
Total		48.2	11.5	6.0	15.3	0.4	5,250

Zapadny Open Pit							
Classification	**Seam**	**Tonnes (Mt)**	**% Ash (ad)**	**% Inherent Moisture**	**% Total Moisture**	**% Total Sulphur (ad)**	**Calorific Value (Net As Received) (kcal/kg)**
Measured	2V	215.9					
	1V	47.8					
	1V2	31.4					
	1V1	3.6					
Total		298.7	11.1	6.0	14.5	0.4	5,250
Indicated	2V	79.8					
	1V	19.2					
	1V2	38.1					
	1V1	13.3					
Total		150.5	11.1	6.0	14.5	0.4	5,250
Measured +	2V	295.7					
Indicated	1V	67.0					
	1V2	69.5					
	1V1	16.9					
Total		449.1	11.1	6.0	14.5	0.4	5,250
Inferred	2V	10.4					
	1V	-					
	1V2	-					
	1V1	4.1					
Total		14.5	11.1	6.0	14.5	0.4	5,250

The detailed Coal Resource Statement in Table 4-4 was produced in August 2018 and based on the information available at that time. It is based on the GKZ estimate from the 2008 TEO Report which has been depleted to the end of 2017. The Coal Resource Statement was produced by Ms Anna Fardell, the Competent Person, who is a member of the Australian Institute for Geoscientists (6555). Ms Fardell is a full-time employee of SRK and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which she has undertaken to qualify as a Competent Person as defined by the JORC Code.

5 MINING

5.1 Introduction

The Shubarkol Centralny and Zapadny opencast mines were designed by the State Institute for Mining, based on conventional open pit mining techniques. The Vostochny resource area was previously a separate mining contract; however, this has now been combined with the Centralny resource area within the Centralny Contract. The total coal production for 2016 and 2017 is presented in Table 5-1. Actual production during 2017 has been around 9% lower than planned, due to market demand. The waste stripping was equally below that planned, however in line with coal production.

The ash qualities in 2017 were lower than forecast, for both Zapadny and Centralny. As a result, the calorific value was higher than forecast.

Table 5-1: 2 Year Plan vs Actual

		2016 Plan	2016 Actual	2017 Plan	2017 Actual
Waste					
Centralny	(kbcm)	18,570	17,462	20,730	19,083
Zapadny	(kbcm)	10,070	8,372	11,143	10,998
Total	(kbcm)	28,640	25,835	31,873	30,082
Waste					
Centralny	(kt)	37,140	34,925	41,460	38,167
Zapadny	(kt)	20,140	16,745	22,285	21,997
Total	(kt)	57,280	51,669	63,745	60,164
RoM Coal					
Centralny	(kt)	5,645	5,205	6,540	6,105
Zapadny	(kt)	4,160	3,467	4,900	4,350
Total	(kt)	9,805	8,672	11,440	10,455
Stripping Ratio					
Centralny	(m^3/t)	3.3	3.4	3.2	3.1
Zapadny	(m^3/t)	2.4	2.4	2.3	2.5
Total	(m^3/t)	2.9	3.0	2.8	2.9
Ash Content					
Centralny	(%)	n/a	n/a	6.7	5.0
Zapadny	(%)	n/a	n/a	4.7	3.3
Total	(%)	n/a	n/a	5.8	4.3

5.2 Mining Operations

Centralny is excavated using shovel and truck. It is a large excavation with a 4 km long face, which is split by management into three operational faces. There is a central road from the north for coal and waste trucks. The first 10 m to 13 m of the overburden excavation in Centralny pit is in superficial deposits or softer rock, which is excavated without drilling and blasting. Excavation of this bench is accelerated during the summer and suspended in the winter months when the material is frozen and too difficult to mine. All other benches including coal are drilled and blasted for excavation.

Draglines were used in the past to excavate the overburden bench directly above the coal. However, they are not used anymore due to high operating cost of aged equipment. There are currently 3 draglines operating with a bucket capacity of 10 m^3 and these are mainly used for rehandling of waste on internal and external backfill and dump areas when required.

Coal is selectively mined to maximise calorific value and minimize the ash content. Coal is loaded into small trucks using 5-10 m³ electric rope shovels. Small trucks are used, particularly for large coal, to avoid breakage. The coal is taken to the in-pit crusher and conveyor where it is conveyed to a separate railhead and stocking area. A screening plant is sited at the head of the conveyor, which was built for a specific market. The screening plan at Centralny has an annual capacity of 4.7 Mt. When the capacity of the screening plant is full, the coal is taken directly to a stocking area and railhead. When there is high ash coal, it is taken to a separate stocking area. Overburden material is mined by larger shovels and loaded into larger trucks simultaneously on several benches.

Zapadny pit applies the same shovel and truck methodology for both coal and overburden. The benches are wide enough to accommodate larger excavators and trucks. The stripping ratio is lower at Zapadny compared to Centralny. Overburden is trucked to both internal and external dumps. Coal is selectively dug at the coal face and taken to the screening plant on trucks for loading into the rail trucks. There is no conveyor installed at Zapadny for coal transport. The screening plant has an annual capacity of 4 Mt. When there is more coal than the screening capacity, the coal is taken directly to a stocking area and railhead.

Figure 5-1: View of Zapadny mining operation. July 2018, looking south

The excavation faces and dumps, viewed during the July 2018 site visit, appeared to be constructed at a reasonable angle and to be stable. Bench width and face heights are designed for specific excavators and trucks. The bench widths are designed to an optimum size to minimise the size of the pit and hence the volume of material taken to external dump. The bench widths were adequate for the type of excavators and trucks used.

The Shubarkol deposit and operations are shown as of the end of 2017 in Figure 5-2.

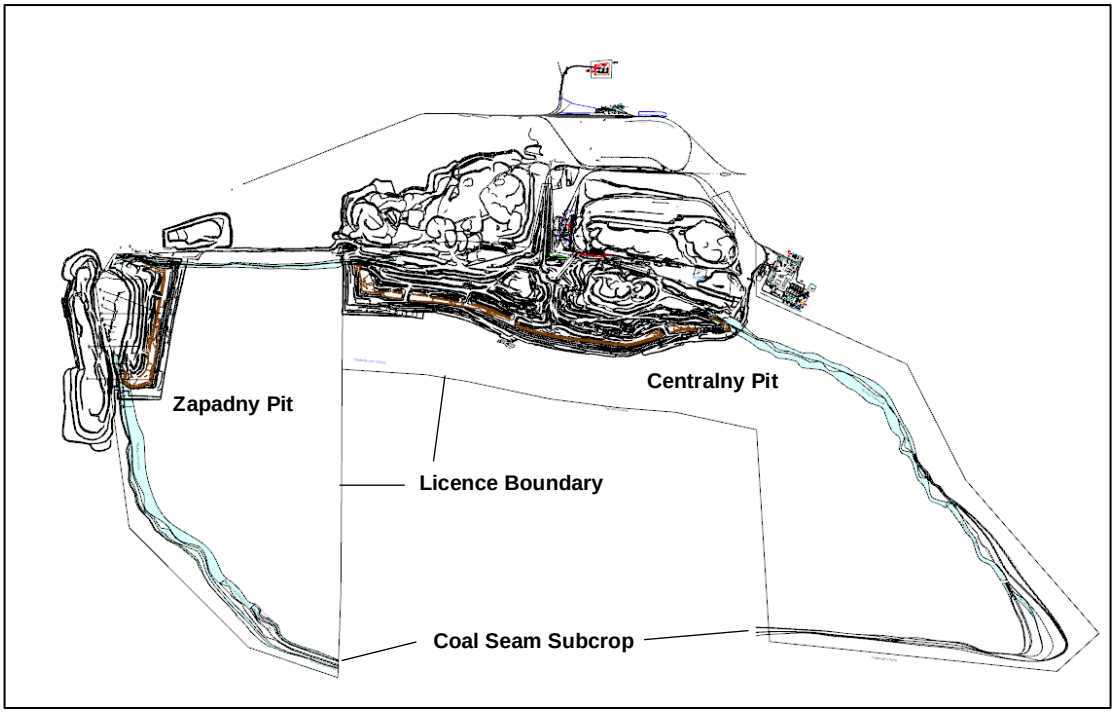


Figure 5-2: Shubarkol Operations, as at 1 January 2018

The Centralny deposit is progressing to the south and east. The Zapadny deposit will continue progressing to the east. The mine plan for 2018 is produced by the technical team in Shubarkol's office in Karaganda, with input from the ERG head office marketing department in respect of the coal sales plan for the short, medium and long term. Figure 5-3 and Figure 5-4 show the current development of the Centralny and Zapadny operations, respectively, and the 2018 mining and backfill plans.

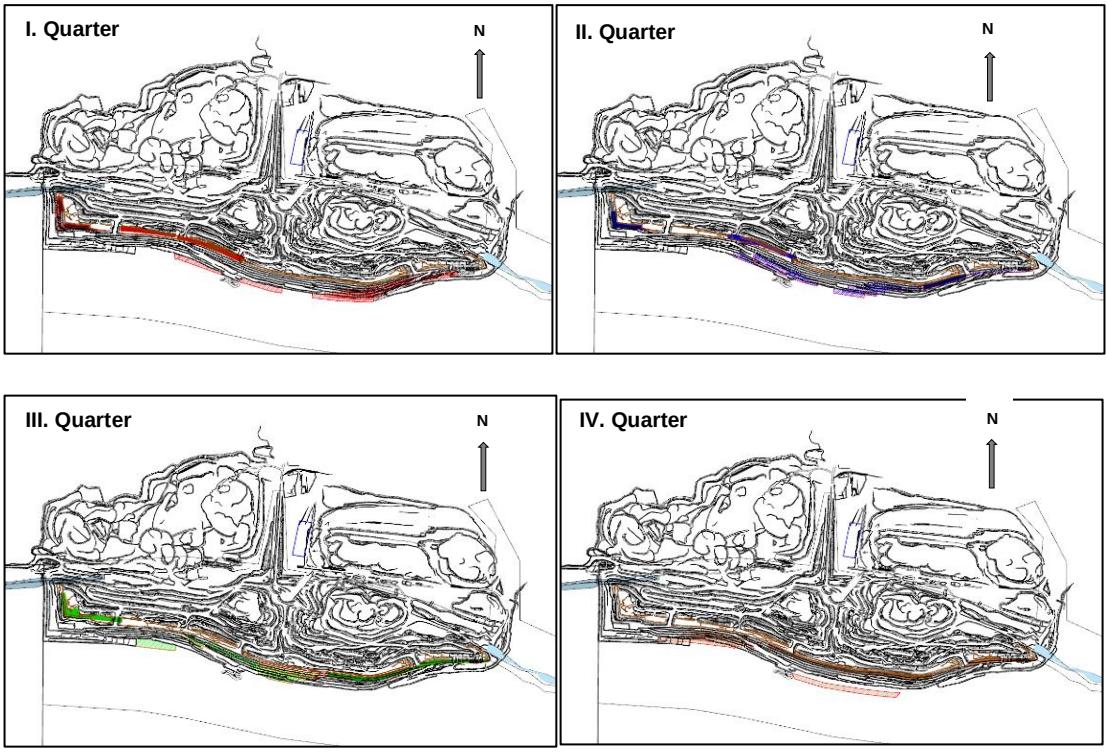


Figure 5-3: Centralny Production Plan for 2018 on Quarterly Basis

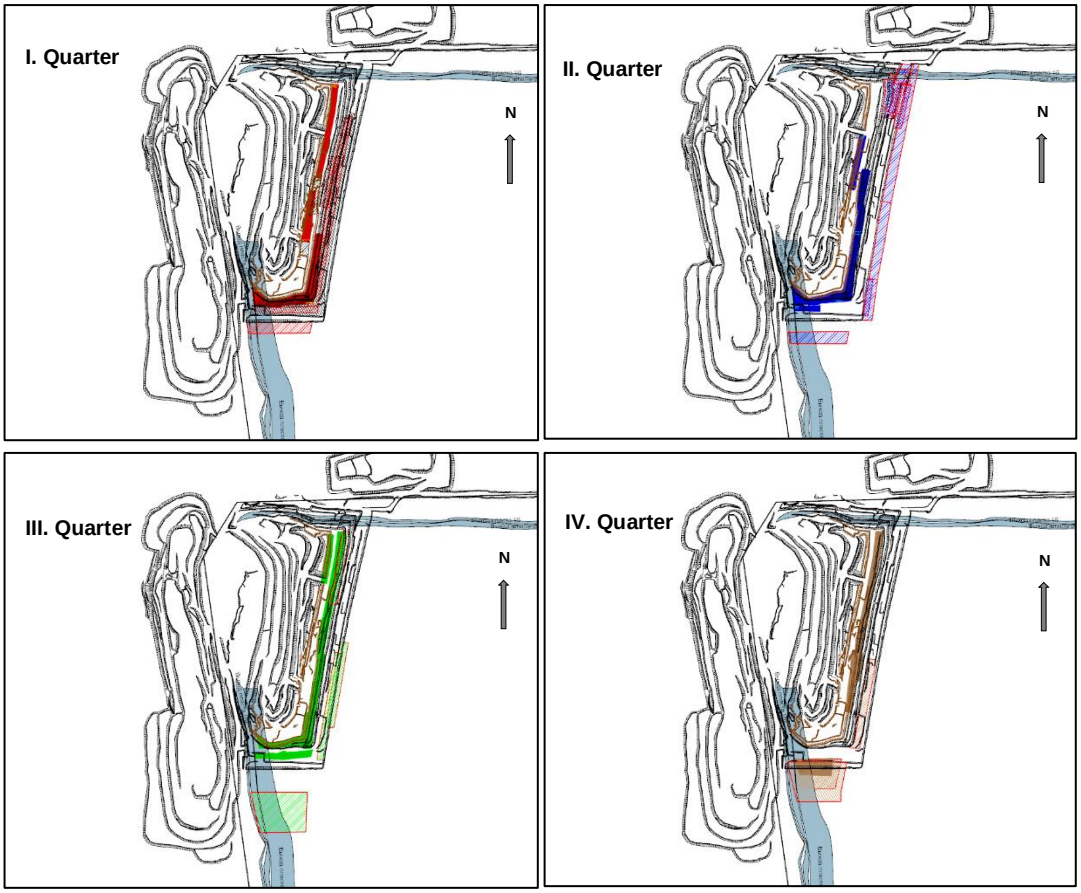


Figure 5-4: Zapadny Production Plan for 2018 on Quarterly Basis

In the current working areas, the strata dip to the south at Centralny and to the southeast at Zapadny, and therefore the number of overburden benches increases as mining progresses towards the centre of the Shubarkol coal basin. In general, the overburden from the upper benches is hauled to the external waste dumps on haul roads on the edge of the pit. Most of the overburden in the mid to lower benches is mined with shovels and hauled with trucks to the in-pit backfill areas. Temporary ramps are built with waste on the pit high walls to decrease total haulage distance travelled. Typical cross sections through the Centralny and Zapadny operations, showing development of the open pits and backfill to date and planned for 2018, are presented in Figure 5-5 and Figure 5-6.

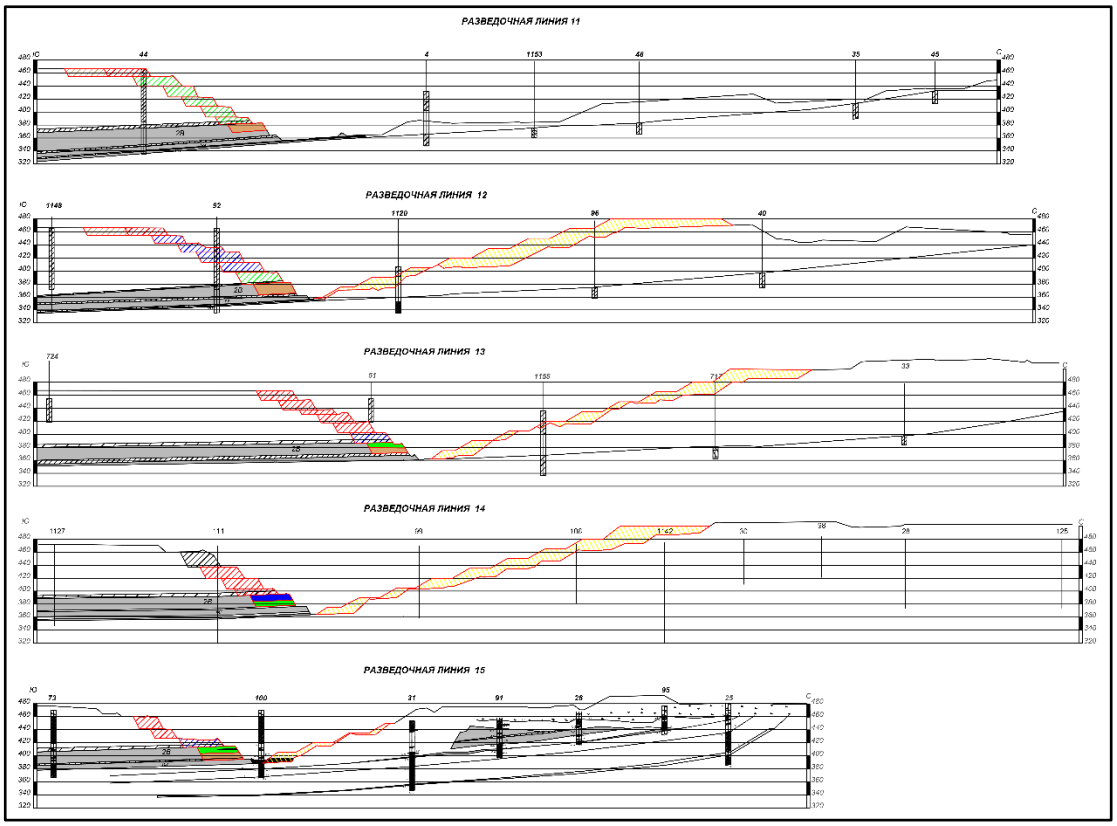


Figure 5-5: South North Sections through the Centralny mine, showing end-2017 status and 2018 mining and stripping plan, and in-pit backfill

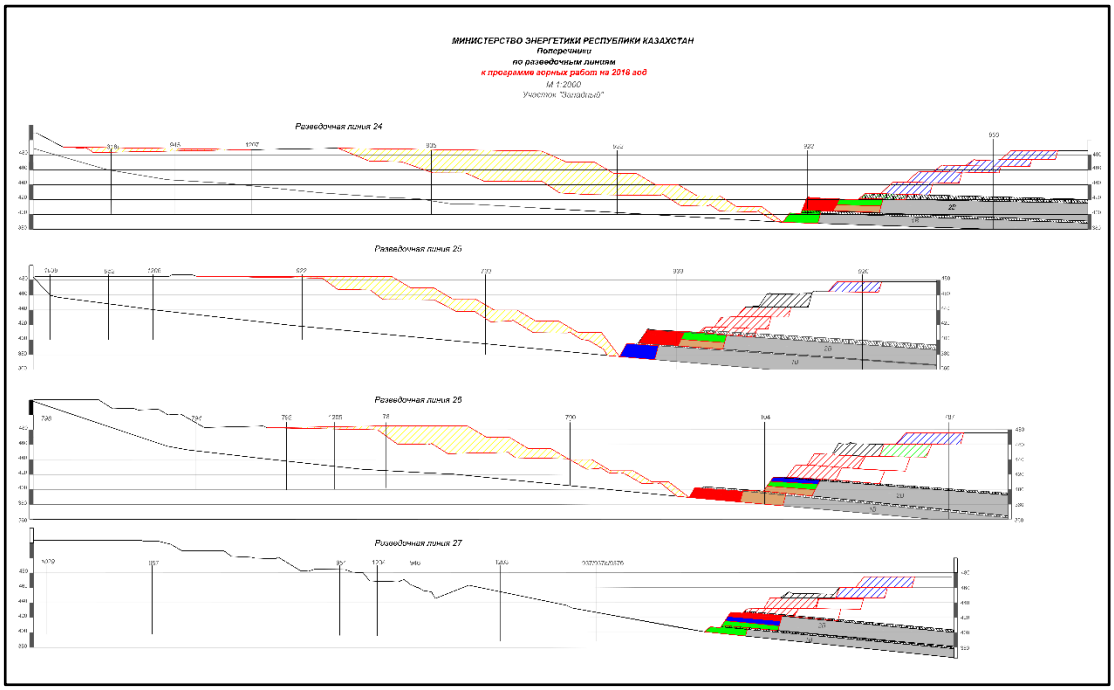


Figure 5-6: Selected West - East Sections through the Zapadny mine, end-2017status and 2018 mining and stripping plan, and in-pit backfill

A thin layer of oil shale sits directly above the coal seam, which is currently mined as waste material. Due to the oil shale's potential to self-ignite in 3 to 5 months if left exposed, the oil shale is backfilled in the lower levels of the mined-out pit and covered with clay.

The final mine designs show that the external waste dumps account for 25% of the total overburden mined, with the remainder stored as backfill within the pit limits.

For the volume calculations, a block model in Surpac format is used based on the surveyed topography file. However, the block model is not particularly useful for reporting coal tonnes and coal properties as it is not complete. A geological model with sections incorporating thickness of the coal seam, partings and interbedding is used for reporting purposes.

5.2.1 Mining Equipment

The mining equipment fleet is assigned to each pit but shared between the mining areas when necessary. The roads and ramps have been designed at 40 m for dual access based on the 220 t haul trucks. A list of loading and hauling equipment is provided in Table 5-2.

Table 5-2: Mining Fleet

	Equipment Size	Centralny (No)	Zapadny (No)	Total (No)
Loading Units				
Coal Excavator	5 m³	9	6	15
Overburden Excavator	8 m³	1	3	4
Overburden Excavator	11 m³	1	1	2
Overburden Excavator	12.5 m³	2	0	2
Overburden Excavator	21 m³	2	1	3
Rope Shovels	10 m³	2	1	3
Rope Shovels	5 m³	1	0	1
Draglines	10 m³	3	0	3
Hauling Units				
Belaz Trucks	45 t			9
Hitachi Trucks	60 t			20
Belaz Trucks	90 t			1
Belaz Trucks	130 t			7
Hitachi Trucks	185 t			4
Belaz Trucks	220 t			10
Conveyors				
Coal Conveyor	-	2	n/a	2

Shubarkol has a 10-year equipment schedule for replacements and new purchases. This is updated every year in line with production requirements, focusing on the subsequent few years. Shubarkol has budgeted to purchase one Hitachi excavator with 11 m³ bucket capacity and 3 CAT 777 trucks with 90 t capacity in 2018. Equipment replacements will continue in 2019 with the purchase of two Hitachi excavators with bucket capacity of 11 m³ and 21 m³ and 9 more CAT 777 trucks. The overall strategy is to eliminate Belaz trucks in time and modernize the hauling fleet with 90 t CAT 777 trucks for coal and 185 t Hitachi trucks for overburden removal.

5.2.2 Coal Screening and Quality Control

There are separate coal screening facilities at Centralny and Zapadny with a capacity of 4.7 Mt and 4.0 Mt per annum, respectively. Screening is done based on the coal particle size mainly in three groups; 0-50 mm, 20-50 mm and 50-300 mm but can vary depending on market demands. Depending on the specific coal face mined, trucks are directed to specific stockpiles based on the ash qualities at the exit of Centralny pit from where it is rehandled by a wheel loader and loaded on two conveyors through a grizzly with maximum particle size of 300 mm. Coal transported to the screening facility on these conveyors is directly loaded on to the rail cars after sizing. There is no conveyor transportation for coal at Zapadny. Coal is hauled to the screening facility on trucks from the coal faces. Trucks are also directed to the specific stockpiles based on the ash qualities when screening capacity is full.

In order to verify the ash quality of the coal, face sampling is undertaken at each coal face every shift. These values are attributed to the specified trucks to obtain a weighted average ash quality of the stockpiles. Shubarkol has several active coal stockpiles at different maximum ash qualities (6%, 7%, 10%, and 20%).

The outgoing rail cars are also sampled, and the tonnage and ash qualities are used to update the stockpile balances on a daily basis.

5.2.3 Dewatering

The groundwater level is approximately 15 m below surface. A large in-pit sump is located at the bottom level of the Centralny deposit. Two 300 m^3/hr and two 180 m^3/hr pumps are installed at the sump. The pumps feed a 320 mm steel pipe that transports the water to a large evaporation pond to the north of the operation. The Company states that the pump capacity is twice that needed during the highest water inflows. The Zapadny pit is observed to be a dry pit.

5.2.4 Mine Planning

As a general practice the mine planning at Shubarkol is divided into three stages: the long term plan ("LTP"), the medium term plan ("MTP") and the short-term plan ("STP").

The LTP is usually completed by Institutes whenever there is a significant change, such as a contract change or change in demand in the coal market in the long term. The operation is then scheduled in 4 to 5-year stages for both deposits. The LTP uses the geological model to divide the deposits into mineable blocks for estimating material quantities and ash quality. Coal loss and dilution estimates are made on a seam by seam basis by understanding the thicknesses of the partings or interburden from sections generated from the geological model. A coal cut-off of 20% ash and 1 m coal thickness has been applied, as well as inclusion as coal of any partings less than 0.5 m. In general, these cut-offs apply to blocks within the next 10 years or so of mine life. All other blocks use the original cut-off strategy of 45% ash and 1 m coal thickness, with all partings less than 1 m being included as coal.

The progress of mining from Centralny and Zapadny in the 2014 TEO LTP is shown in Figure 5-7.

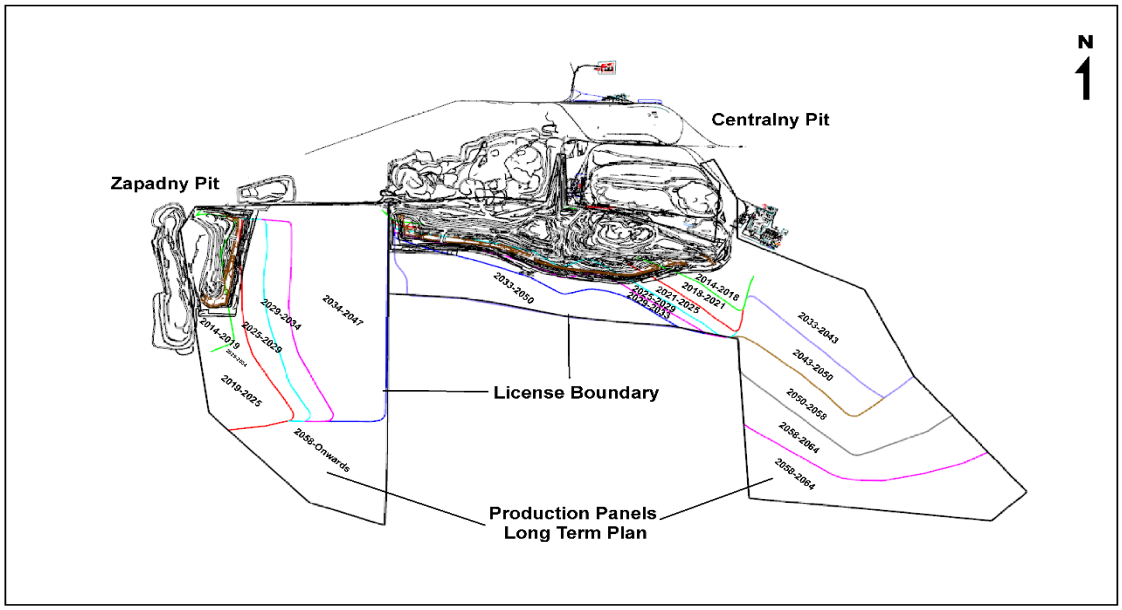


Figure 5-7: Mining progress as set out in the Long-Term Plan (from 2014 TEO)

The LTP is based on the Institute study completed in 2014 and is shown in Figure 5-8. The original plan in 2014 was for coal production of 20 Mtpa. The production rate has however been revised downwards in response to market conditions.

The MTP is a quarterly plan for the next two years, which is updated every quarter. The MTP follows the strategy as outlined in the LTP. Face sampling data is used to create east-west sections which are projected along the seam to form an estimate of ash content for the MTP.

The STP, consisting of a rolling two-month plan, is completed by the mine technical planning department in Karaganda and updated every month in cooperation with the site. The STP is based on the MTP quarterly plan and sales forecast received from ERG's Astana office.

The LTP is considered by SRK to be at a sufficient level of detail for long term planning of the Shubarkol mine and supports the LoM plan, given the length of the coal production faces and the slow speed of advance through the deposit. Small scale variations in the quality can be readily addressed by blending at the crushing and screening plant and through the stockpiles.

Shubarkol has been increasing coal production since 2010 from around 6 Mtpa to just over 12 Mtpa budgeted for 2018.

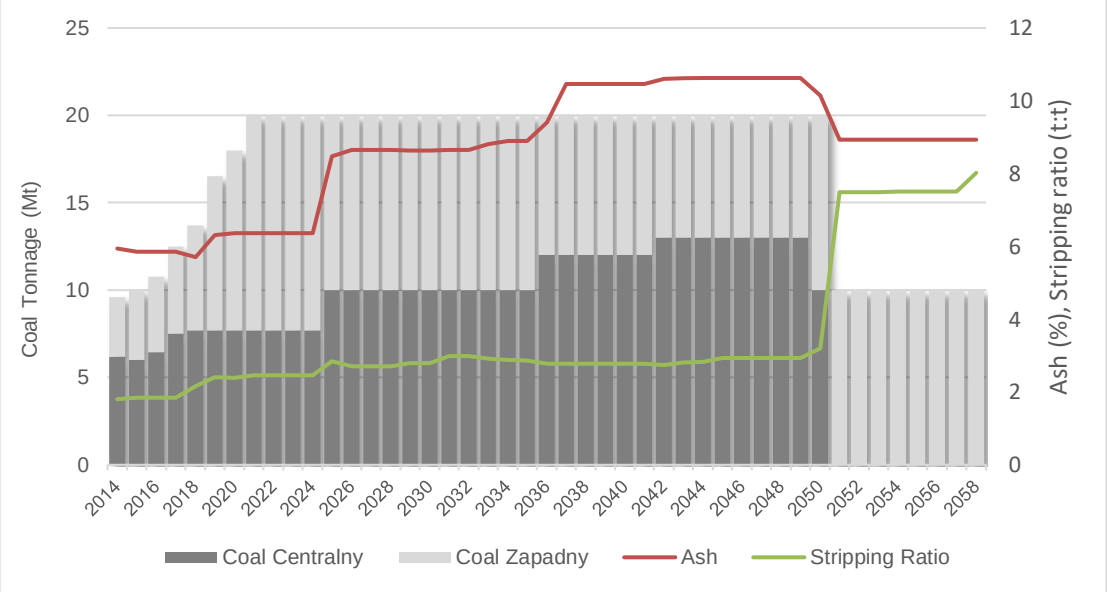


Figure 5-8: 2014 Study Plan (LTP) (from 2014 TEO)

5.3 Shubarkol Life of Mine Plan

Since completion of the 2014 LTP, the Company's current strategy has resulted in a reduced production rate of 12.3 Mtpa RoM coal. The Coal Reserves are based on this production rate. SRK has prepared an Adjusted LoM plan deriving waste movements and ash qualities from the 2014 study, see Figure 5-9 to Figure 5-11.

Higher ash contents are expected in Centralny after 2023, in the southern and eastern parts, where the seams split and more waste partings are present.

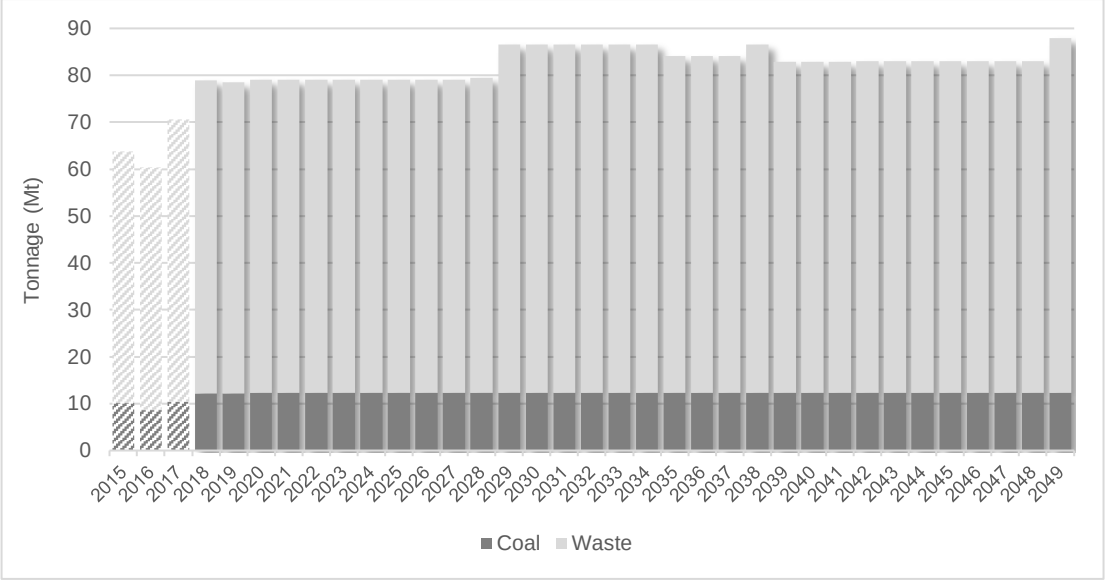


Figure 5-9: SRK Adjusted LoM Plan based on 12.3 Mtpa – Material Movement

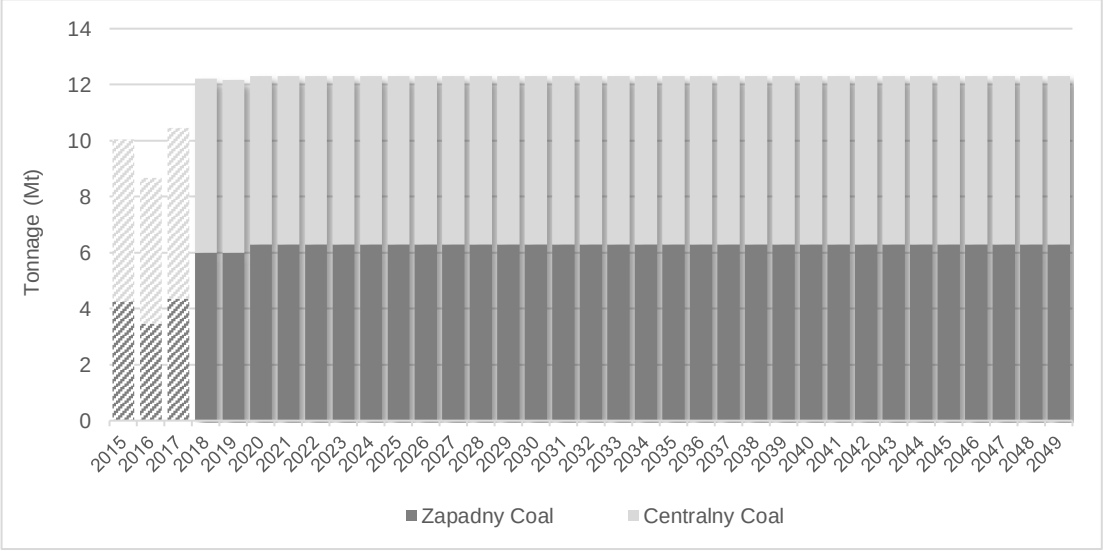


Figure 5-10: SRK Adjusted LoMp based on 12.3Mtpa – Coal Mining per Deposit

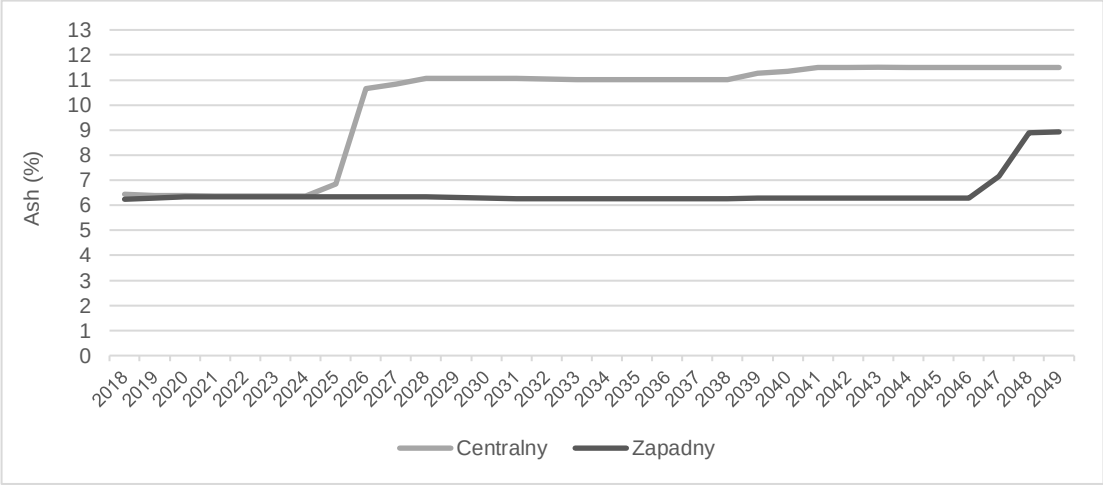


Figure 5-11: SRK Adjusted LoMp based on 12.3Mtpa – Ash Content per Deposit

Table 5-3 shows a summary of the current SRK Adjusted LoM plan that supports the Coal Reserves.

Table 5-3: SRK Adjusted Life of Mine Plan - 12.3 Mtpa (2018-2050), supporting the Coal Reserves

	Units	Total	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Total																		
Coal	(Mt)	**406**	12.2	12.2	12.2	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3
Ash	(%)	**8.1**	5.6	6.3	6.4	6.4	6.4	6.4	6.4	6.4	6.6	8.5	8.5	8.6	8.6	8.6	8.6	8.6
Waste	(Mm^3)	**1,159**	33.3	33.4	33.2	33.4	33.4	33.4	33.4	33.4	33.4	33.4	33.4	33.6	37.1	37.1	37.1	37.1
	(Mt)	**2,318**	66.5	66.7	66.4	66.7	66.7	66.7	66.7	66.7	66.7	66.7	66.7	67.2	74.2	74.2	74.2	74.2
Strip Ratio	(m^3/t)	**2.9**	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	3.0	3.0	3.0	3.0
Centralny																		
Coal	(Mt)	**199**	6.2	6.2	6.2	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Ash	(%)	**9.9**	6.5	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.8	10.7	10.8	11.1	11.1	11.1	11.1	11.0
Waste	(Mm^3)	**582**	19.6	19.7	19.5	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0
	(Mt)	**1,164**	39.2	39.4	39.1	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0	38.0
Strip Ratio	(m^3/t)	**2.9**	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
Zapadny																		
Coal	(Mt)	**207**	6.0	6.0	6.0	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3
Ash	(%)	**6.4**	4.7	6.2	6.3	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.3	6.3	6.3	6.3	6.3
Waste	(Mm^3)	**577**	13.7	13.7	13.7	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.6	18.1	18.1	18.1	18.1
	(Mt)	**1,154**	27.3	27.3	27.3	28.7	28.7	28.7	28.7	28.7	28.7	28.7	28.7	29.1	36.2	36.2	36.2	36.2
Strip Ratio	(m^3/t)	**2.8**	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.9	2.9	2.9	2.9
	Units	**2034**	**2035**	**2036**	**2037**	**2038**	**2039**	**2040**	**2041**	**2042**	**2043**	**2044**	**2045**	**2046**	**2047**	**2048**	**2049**	**2050**
Total																		
Coal	(Mt)	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3
Ash	(%)	8.6	8.6	8.6	8.6	8.6	8.6	8.7	8.8	8.8	8.8	8.8	8.8	8.8	8.8	9.3	10.2	10.2
Waste	(Mm^3)	37.1	37.1	35.9	35.9	35.9	37.2	35.3	35.3	35.3	35.3	35.3	35.3	35.3	35.3	35.4	35.4	37.8
	(Mt)	74.2	74.2	71.8	71.8	71.8	74.3	70.6	70.6	70.6	70.7	70.7	70.7	70.7	70.7	70.7	70.7	75.6
Strip Ratio	(m^3/t)	3.0	3.0	2.9	2.9	2.9	3.0	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	3.1
Centralny																		
Coal	(Mt)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Ash	(%)	11.0	11.0	11.0	11.0	11.0	11.0	11.3	11.3	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5
Waste	(Mm^3)	19.0	19.0	17.8	17.8	17.8	17.8	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	17.4
	(Mt)	38.0	38.0	35.6	35.6	35.6	35.6	29.8	29.8	29.8	29.8	29.8	29.8	29.8	29.8	29.9	29.9	34.8
Strip Ratio	(m^3/t)	3.2	3.2	3.0	3.0	3.0	3.0	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.9
Zapadny																		
Coal	(Mt)	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3
Ash	(%)	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	7.2	8.9	8.9
Waste	(M m^3)	18.1	18.1	18.1	18.1	18.1	19.3	20.4	20.4	20.4	20.4	20.4	20.4	20.4	20.4	20.4	20.4	20.4
	(Mt)	36.2	36.2	36.2	36.2	36.2	38.7	40.8	40.8	40.8	40.8	40.8	40.8	40.8	40.8	40.8	40.8	40.8
Strip Ratio	(m^3/t)	2.9	2.9	2.9	2.9	2.9	3.1	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2

5.4 Coal Reserve Estimation

Typically, in-situ resource estimates are converted to run-of-mine or saleable quantities and qualities by applying modifying factors. The principal factors applied are for mining losses and dilution. Other factors to be considered include the quality of the resource; environmental. legal or political constraints; and any other factors which could affect the proportion of the in-situ resource that will eventually be sold.

SRK considers that at Shubarkol the only modifying factors that should be applied are mining loss and dilution. The mining loss and dilution factors need to reflect the fact that the in-situ resource includes some of the thinner partings (<1 m) in the estimation of the tonnage and quality, whilst some of these (>0.30 m) are selectively mined and discarded.

5.4.1 Loss and Dilution

SRK determined the actual modifying factors from the Form 7 annual statements Shubarkol submits each year. SRK understands that the losses are determined by detailed survey measurements against production and therefore considers that the statistics are an accurate reflection of current practice. The overall mining losses quoted in the Form 7 represent the sum of the mining loss and dilution in terms of estimating the tonnage. These are summarised in Table 5-4.

At the Zapadny operation, the design losses are stated as varying between 7.28% and 9.20%, with a planned dilution of 1.5%. Actual losses for 2017 were reported as 0.29 Mt (6.84%) overall.

At the Centralny operation, the revised design losses are stated as 7.4%, with a planned dilution of 1.5%. Actual losses for 2017 were reported as 0.60 Mt (9.96%) overall, based on production of 6.11 Mt. In addition, 0.45 Mt was lost during a revision from the exploration programme.

Table 5-4: Historical Mining Losses per Area

Area	Unit	2010	2011	2012	2013	2014	2015	2016	2017
Centralny	(%)	9.30	7.50	8.60	9.50	8.50	8.86	8.66	9.96
Zapadny	(%)	8.00	8.90	8.30	7.60	7.80	7.51	7.70	6.84

SRK has assumed that the ratio of coal to parting thickness is effectively constant and used the historic product quality as its estimate of the quality for the remaining reserve. Given that the coal seams are thick (total ~30 m) and the partings thin (total ~2 m) and that no material changes are evident over the deposit, SRK considers this assumption to be reasonable.

5.4.2 LoM Plan

Whilst the seam is dipping, the deposit will not get materially deeper and the mining method is sufficiently flexible to cope with the deepening operations. Whilst SRK considers that the mine plan for the reduced production rate has not been developed in detail, the deposit geometry and operations are relatively simple, and the operating parameters proposed are reasonable. Therefore, SRK considers that the proposed mine plan is technically feasible.

Under the JORC Code, a Coal Reserve must be technically and economically proven viable (that is, a mine design and mine plan must exist, and the economics estimated) and the coal must lie within the Mining Contract boundary. The 33-year mine plan does not mine all the Coal Resources and does not pass the Mining Contract boundary in the Centralny or Zapadny pits. SRK has limited the Coal Reserves to the coal tonnage in the 33-year mine plan which is within the Mining Contract boundaries, as it mines the same quantum of coal as the previous 20 Mtpa option, which reached the southern boundary of the Centralny contract area in 2031.

Although a plan showing reserve blocks and ash content has been reviewed, insufficient data is available to enable the coal quality to be estimated by location. The database provided to SRK contains limited quality information and has been used by SRK to estimate ash values for the modelled resources, excluding partings, which are consistent with those achieved in production.

SRK's Coal Reserve estimate was constrained by both the extent of the current Mining Contract and by the proposed LoM plan design limits.

As a result of the above, SRK's estimates of Coal Reserves are conservative in terms of both tonnages and ash values. SRK considers the modifying factors used to derive Coal Reserves from Coal Resources to be reasonable and that the resource base is sufficiently large to support Shubarkol's long-term plans.

5.5 Analysis of Future Work

As mining progresses, both pits will increase in length and depth with longer haul distances and hence higher unit costs. Shubarkol is mitigating the extra haulage costs in two ways:

- Introduction of 220 t and 130 t trucks which will reduce the unit haulage cost, particularly over longer haul distances; and
- Introducing additional haulage routes to the in-pit dumps.

The Company is looking at all options to improve the efficiency and reduce the cost of overburden stripping in the longer term. The assessment is at a very early stage and schemes such as bridge conveyors and large draglines are being considered. Such an approach will require substantial capital investment. The current life of mine plan does not include any such reduction in operating costs nor inclusion of the associated capital investment.

5.6 Coal Reserve Statement

The mine is in operation and the modifying factors are based on current experience. Whilst the seam is dipping the deposit will not get materially deeper, and the mining method is sufficiently flexible to cope with slightly deeper operations. Whilst SRK considers that the plan has not been developed in detail, the operation is relatively simple, and the operating parameters proposed are reasonable. SRK considers that the adjusted life of mine plan is technically feasible.

Under the JORC Code, a Coal Reserve must be technically feasible and proven economically viable (i.e. a mine design and mine plan must exist, and the economics estimated) and the coal must lie within the Mining Contract boundary. The SRK Adjusted LoM plan has been limited to 2050 (33 years) but does not mine all of the Coal Resources and does not pass the Mining Contract boundaries for either the Centralny or Zapadny contracts. SRK has limited the Coal Reserves to the coal tonnage in the SRK Adjusted LoM plan, all of which is within the Mining Contract boundaries, as presented in Table 5-3.

The SRK Adjusted LoM plan period is based on the duration of the Centralny contract, which is valid to 2050. The Zapadny contract will require a 25-year extension to 2046 plus another four years, which SRK considers a reasonable assumption.

Because of insufficient detail about the coal quality and detail with respect to the mine plans, SRK has classified the Centralny and Zapadny coal as Probable Coal Reserves.

The quality at Vostochny (part of Centralny) deteriorates to the south and therefore the mining losses and dilution will increase, reducing the proportion of low ash coal that will be available with the specifications required by the market. Insufficient information exists to be able to assess what the changes in modifying factors will be. SRK recommends that Shubarkol prepares projections of average quality on a year by year basis, sub-block by sub-block, both in spreadsheets and on working plans, in order to fully understand the potential for significant changes in quality over the LoM plan. The geological model used for such an exercise should be fit for purpose, ensuring that the required attributes have been adequately modelled.

The Coal Reserve Statement as at 31 December 2017 is presented in Table 5-5.

SRK considers that there is potential for the Coal Reserves to be upgraded from Probable to Proven Reserve status through re-evaluating the coal quality and improving the granularity of the mine planning to show more detailed estimates of tonnage and quality on a yearly basis combined with operational plans that are specific rather than schematic.

The Coal Reserves are reported on an air-dried basis as Run of Mine (“RoM”) coal within an engineered design pit which has been demonstrated to be technically feasible and economically viable at a selling price of USD16.6/t of thermal coal (USD14.25/t in 2017) and USD85/t of coke (as per 2017).

The Competent Person responsible for the statement of Coal Reserves and the review of the Life of Mine Plan as reported by the Company is Mr Erhan Karakaya. He is a Member of and Chartered Professional in the Australasian Institute of Mining and Metallurgy, member number 225841, an RPO included in a list promulgated by the ASX from time to time, and available on the JORC website. Mr Karakaya is a full time employee of and Principal Consultant (Mining) at SRK Kazakhstan, and is a Mining Engineer with over 20 years’ experience in the mining and metals industry, including operational experience in open cast coal mines, and as such qualifies as a Competent Person as defined in the JORC Code. A site visit to the Shubarkol mine was carried out by Erhan Karakaya AusIMM (CP) as part of the 2018 CPR audit from 16 to 17 July 2018.

Table 5-5: Shubarkol Coal Reserves, 31 December 2017

Ore Reserve Category	Tonnage	Quality				
		Ash	Inherent Moisture	Total Moisture	Sulphur	Calorific Value (nar)
	(Mt)	ad (%)	ad (%)	ad (%)	ad (%)	(kcal/kg)
Proved Coal Reserves						
Zapadny O/P	0.0	-	-	-	-	-
Centralny (incl. Vostochny) O/P	0.0	-	-	-	-	-
Subtotal	**0.0**	**-**	**-**	**-**	**-**	**-**
Probable Coal Reserves						
Zapadny O/P	207.0	6.43	6.0	14.2	0.50	5,660
Centralny (incl. Vostochny) O/P	198.6	9.90	6.0	14.0	0.50	5,370
Subtotal	405.6	8.13	6.0	14.1	0.50	5,518
Proved and Probable Coal Reserves						
Zapadny O/P	207.0	6.43	6.0	14.2	0.50	5,660
Centralny (incl. Vostochny) O/P	198.6	9.90	6.0	14.0	0.50	5,370
Total Proved and Probable	405.6	8.13	6.0	14.1	0.50	5,518

6 QUALITY, PRODUCTS AND COKING PLANT

The following section details coal quality and products produced; and the special coke plant

6.1 Coal Quality

The three seams that form the upper horizon at Shubarkol are of the same quality. The coal is a high volatile sub-bituminous coal with low sulphur content, low ash and a moderate calorific value (grade D). The ash content across the seams is between 12-15%. However, with selective mining and the exclusion of partings above 200 mm in thickness, the ash content of the shipped coal was reduced to an average of 4.3% during 2017. Of the 10.5 Mt shipped in 2017, 609 kt was high ash coal at an average ash content of 15.1%. An amount of high ash coal is also blended with low ash coal for specific customers.

The coal does not have any high-grade caking qualities and therefore is regarded as a thermal coal. Other aspects of quality important for thermal coal include: levels of chlorine and phosphorus are extremely low at 0.03% and 0.003%, respectively; from a chemical analysis of the ash provided to SRK, both the ‘slagging’ and ‘fouling’ factors have also been determined as low.

6.2 Crushing and Screening and Coal Products

Crushing and screening of coal at Centralny is carried out in two areas, to produce a variety of sized products for Shubarkol’s many customers.

Sized Coal Production at the Coal Crushing and Screening Plant, “UDSU”:

1. The 0-300 mm coal is conveyed from the bin along a belt conveyor and screened at 150 mm, having a capacity of 1,000 t/h. The oversize product reports to a jaw crusher, having a capacity of 185 t/h. The crushed product and screening undersize are conveyed and further screened at 50x50 mm and 20x20 mm. Three coal products are produced, with sizes 0-20 mm, 20-50 mm and 50-150 mm.

2. As above, however with screening at 100 mm and further screening at 25x25 mm. Two coal products are produced, with sizes 0-25 mm and 25-100 mm.
3. As above, however with an initial 80 mm screening, resulting in two coal products with sizes 0-25 mm and 25-80 mm.
4. The 0-300 mm coal is directly conveyed and screened at 50x50 mm. Two coal products are produced with sizes 0-50 mm and 50-300 mm.
5. As above, however with screening at 20x20 mm, resulting in two coal products with sizes 0-20 mm and 20-300 mm.

Sized Coal Production at the Crushing and Screening Plant, “DSK”:

1. The 0-300 mm coal is conveyed from the bin along a belt conveyor, followed by a chain conveyor with installed 25 mm screening, having a capacity of 500 t/h. The undersize product reports to the fine coal bin, and the oversize to the coarse coal bin. The two coal product sizes are 0-25 mm and 25-300 mm.
2. As above, however with initial screening at 50 mm, and further screening of the oversize coal at 150 mm. This results in three coal products with sizes 0-50 mm, 50-150 mm and 150-300 mm.

Coal transported from the Centralny pit directly by truck normally goes direct to the coking plant.

The quality of each product size is generally the same and is of a higher quality than that specified by the majority of customers. There are a few exceptions, when the ash content is adjusted by blending or a particular low ash product is selectively loaded. The high ash product, generally 12% ash or higher, is supplied as a 0-300 mm product.

As most of the coal is loaded direct to rail wagons there is very little homogenizing of product which means a high level of quality monitoring and control is required and the ash content of the mined coal is often significantly lower than the specification required by the customer to provide a margin of safety in product quality.

Figure 6-1: Centralny Screening and Coal Load-Out Plant – loading of screened Centralny coal to rail trucks

At Zapadny, four coal products are produced with sizes 0-50 mm, 20-50 mm, 50-150 mm and 150-300 mm. There is no conveyor installed for coal transport. Coal is selectively dug at the coal face and taken straight to the screening plant. Coal is hauled from Zapadny pit by trucks and unloaded into a 120 t bin. The 0-300 mm coal from the bin goes to the chain conveyors with installed 0-50 mm and 50-150 mm screens (700 t/h capacity). The undersize (0-50 mm) goes to the bottom line of belt conveyor No.2, then the 20-50 mm product via screen GISL-62 goes to conveyor No.4 and reports to an unloading hopper. The 0-50 mm product is taken via conveyor No.3 to stockpile No.9 or through a stopping mechanism to conveyor No. 5, which reports to a railway unloading hopper. The undersize product (50-150 mm) and the oversize product (150-300 mm) are fed directly into the railway unloading hoppers.

Figure 6-2: Zapadny Screening and Coal Load-Out Plant – direct loading of Zapadny coal to rail trucks via Conveyor No.1

There are plans to upgrade the current facilities and build new facilities to increase the screening capacity in the coming years to 8.9 Mt per annum at Centralny and to 9 Mt at Zapadny, a 5 Mt unit at Centralny area and two 4.5 Mt units at Zapadny area. The Centralny area upgrading project is included in the Company's investment program. The project for upgrading of the existing screening plant and construction of a new screening plant is still at the study stage.

6.3 Special Coke Plant

The special coke plant is owned and managed by Shubarkol. It processes approximately 0.4 Mtpa of 25-100 mm sorted coal, from the total 12.3 Mt coal mined (3%), to produce approximately 0.2 Mtpa special coke. This production rate is currently forecast for the duration of the life of mine.

In 2017, 206 kt special coke was produced from 399 kt sorted coal. This was slightly up from 190 kt special coke produced in 2016.

The special coking plant,commissioned in 2006, consists of a Chinese designed medium temperature coking plant for processing Shubarkol low ash coal to produce special coke. It has a production capacity of 210 ktpa. Shubarkol coal does not swell and has no caking or other properties that would make it suitable for producing premium coke for blast furnace use. The process at Shubarkol is designed only to reduce the volatile content of the coal and thereby increase the carbon content.

Figure 6-3: Sary-Arka Special Coke Plant

The process requires approximately 2 t of coal to produce 1 t of special coke. When the special coke exits the oven, it is cooled and screened at 10 mm, 25 mm and 40 mm. The average quality of the special coke product is presented in Table 6-1.

Table 6-1: Average Quality of the Special Coke

Parameter	Units	Quality
Ash	(% dry)	5.8
Volatiles	(% dry ash free)	6.3
Sulphur	(% dry)	0.32
Phosphorus	(% dry)	0.022

The increased carbon content product (the “special coke”) is sold mostly to ERG group companies, namely JSC Kazchrome, for use as a raw material in the smelters for the production of ferroalloys, and primarily to the Aktobe Smelter at Kazchrome. External sales are projected to be no more than 20 ktpa.

Tar and gas are byproducts of the process. SRK understands that 1.6 MW of power generated is sufficient to power the coking process. The remaining gas is flared off. The Company has considered the potential for expanding the power generating capacity to utilise the surplus gas.

The high carbon present in the special coke product presents a number of potential opportunities in other ferro-carbon markets. Specialist companies such as Elkem manufacture a wide range of products utilising low volatile coals.

6.4 New Special-Coke Plant Project

As a result of the new furnaces at JSC Kazchrome’s Aksu and Aktobe smelters, a higher quality and quantity of semi-coke is needed. Specifically, improved stability of moisture and volatiles content is required. This has led to a new special-coke project.

This project is not part of the base case Life of Mine plan, which supports the Coal Reserves.

The location of the new plant is planned to be adjacent to the existing coking plant. Transport routes to Aktobe and Aksu remain to be confirmed, due to the significant transportation costs.

The coal feed requires an ash content of less than 5%. At present, the existing plant receives coal with 2.5% to 3% ash, thereby satisfying the requirement. In addition, the specification for the new plant requires at least 72% Carbon with not greater than 20.79% volatile carbon; less than 0.6% sulphur; 15% moisture, 45% volatiles, and 0.015% Phosphorus

While 0.4 Mtpa sorted coal is currently fed to the existing plant for upgrading, considering the new plant, the production is planned to increase that to up to 1.2 Mtpa, to produce a forecast maximum in 2022 of 0.61 Mtpa of special coke.

The project has advanced to FEL2 (equivalent to a feasibility study), meaning that preliminary flow diagrams, equipment design, plant layout, costs estimates (±25-30% accuracy), and schedules have been prepared. FEL3 is being progressed. The capital investment of the project is currently estimated to be USD 90 million, with a projected payback period of 3 years. The final investment decision is some 12 months away. Planned Construction would be mid-2020 with commissioning in 2022.

The unit operating cost of the new plant is forecast to be around USD 31.5/t, some 13% less than the existing plant at USD 36/t (including all operating costs, such as mining).

7 INFRASTRUCTURE

Shubarkol is a mine site with a large footprint and good established infrastructure, spread out to support the operations. The main infrastructure includes the following;

- A unified water supply system including a network of wells equipped with submersible pumps, 47 km long water lines, pumping stations, water storage tanks with an associated distribution network;
- A single coal transportation network with 112 km of railway tracks alongside the open pit mines connecting the Shubarkol mine with the general rail network of Kazakhstan;
- Several workshops at the mine site area for the maintenance and repair of mining equipment;
- Coal crushing, screening and sorting complexes;
- Warehouses for materials, and storage for explosives and fuel used in the operation;
- A coal powered heating plant providing heating and hot water supply for residential and administrative buildings; and
- A power supply network, substations and transformers for the distribution of electricity throughout the site.

The Uzkolsky fresh water body is the main source for water supply and is located 40 km to the west of the mine site. This water body is divided into four operational areas. Four wells with submersible pumps are located on the second section from which the water is pumped with a maximum pumping capacity of 1,900 m³ per day. The wells and pumps have the following specifications:

- Well No.13: the depth of the well is 70 m with a pumping capacity of 16 m³ per hour.
- Well No.16: the depth of the well is 60 m with a pumping capacity of 40 m³ per hour.
- Well No.17: the depth of the well is 90 m with a pumping capacity of 16 m³ per hour.

- Well No. 20: the depth of the well is 70 m with with a pumping capacity of 10 m³ per hour.

Total water consumption for the site is 1,408 m³ per day. Water from the wells is pumped through a steel pipeline to the several pump stations from which water is distributed by gravity.

The external power supply for Shubarkol is provided from the main Barsengir 220/110/10 kV substation, on a single-circuit. Power runs overhead along a 128 km line, to the Shubarkol Novaya 110/35/6 kV substation, from which power is distributed to the site through several transformers. In addition to external power supply, Shubarkol produces electricity from the gas obtained as a bi-product from the Sary-Arka coal plant.

8 MANPOWER

The total workforce on 16 July 2018 is 2,769 of which approximately 550 are management/ engineering and 977 are involved in moving coal and waste, e.g. drivers of excavators, trains, trucks, graders etc. The remainder are support workers involved in maintenance, security, sales and all other office personnel.

The support workers and management are a high proportion of the total workforce. The Company is addressing this by introducing new, larger equipment that will require less maintenance and less manpower to operate. The larger machines will also enable a substantial reduction in the maintenance workforce. The sales department with 370 workers involved is another high proportion of the total workforce. This could be reduced by consolidating the workforce into one centralized group.

The Company is expecting it to become increasingly difficult to attract new workers and to retain the existing workforce in such a remote location. They have improved the accommodation on the mine and introduced recreational facilities. The Company has also created a summer holiday camp for families.

The introduction of larger equipment together with the other improvements will enable the Company to increase production without a proportional increase in the workforce. The manpower cost, per tonne of production, should significantly reduce.

9 HEALTH AND SAFETY MANAGEMENT

9.1 Introduction

Coal mining is an inherently risky activity requiring a high level of health and safety organisational and management competence to protect the workforce, to prevent catastrophic events and to safeguard against asset value losses.

Due to the time constraints placed on this report, this is restricted to a desktop exercise and is confined to a review of the accident statistics.

9.2 Accidents Statistics

The accident statistics shown below are not high. The accident rate for 2017 showed an improvement of the previous years. However, there does not appear to be an improving trend.

Table 9-1: Accident Statistics

Category	2011	2017
Total workforce	2,241	2,769
Total accidents	5	6
serious accidents	2	2
lethal accidents	0	0
group accidents	1	0
Total victims	6	2
grave results	4	2
lethal results	0	0
Total victims in group accidents	2	0
lethal results		
Workdays lost	176	
Accident rate per 1,000 employees	2.68	2.13
Accident severity rate	n/a	n/a
Total victims of occupational diseases	2	6

Rates of occupational injuries per 1000 workers during 2015-2017 are shown in Table 9-2. All three rates from 2015 to 2017 are very low and show that that incident prevention and health and safety is effective.

Table 9-2 Rates of occupational injuries per 1000 workers

2015	2016	2017
3.32	1.42	2.13

The total budget for health and safety management is presented in Table 9-3. The 2017 budget of KZT 573 million is equivalent to USD 1.8 million.

Table 9-3 Shubarkol Health and Safety Budget (KZT)

2015	2016	2017
415,675,700	870,730,400	572,888,370

SRK considers that current financial provisions for health and safety management system are sufficient for maintaining the H&S performance of the operation.

10 ENVIRONMENTAL AND SOCIAL

10.1 Environmental and Social Permitting and Management

10.1.1 Environmental and Social Setting

The Shubarkol deposit is located in Ulytau and Nura regions of the Karaganda district of Kazakhstan. The nearest settlements are Shubarkol town, about 10 km to the east, and Algabas, about 42 km to the south-west. The surrounding terrain is described as “low hill steppe plain”, and elevations in the area range from 450 to 556 m above mean sea level.

The prevailing climate is continental with high diurnal and annual temperature variations. The average monthly temperature in January is -16.5°C while that in July is 21.8°C. Windy conditions result in dust storms in summer and snowstorms in winter. The annual precipitation is 130-150 mm and the maximum registered snow accumulation is 25-35 mm.

The mine site is drained by the ephemeral Kyzylzhar River to the west and by several small ephemeral watercourses. Flow occurs in the watercourses during snowmelt period and breaks down into small chains of pools after this period. Surface water and groundwater in the area varies in composition with mineralization from 0.3 to 3 g/l.

Land around the operation is used for low intensity livestock grazing, particularly along watercourses. Crop cultivation occurs in patches but is limited by low soil fertility and saline soils.

The mine is operated in shifts and the shift camps are capable of accommodating up to 1,300 people.

As there are no licensed solid waste landfills in the nearest settlement, the mine had to create and permit its own landfill located on the waste rock dump of the Centralny deposit. Slime from domestic sewage treatment facilities is disposed of in the landfill together with some types of industrial wastes. Other types of wastes including haul truck tyres are passed over to third party companies that receive and utilise the wastes.

Electrical power is supplied from the national grid, while heat is generated on-site using coal fired boiler plants. Potable water is supplied from the Zapadny underground water deposit located 25 km west from Shubarkol deposit.

Water from pits is pumped out to evaporation ponds located near the Centralny deposit waste rock dumps at the rate of 438,000 m^3/year, with 190,000 m^3/year used for road dust suppression.

10.1.2 Relevant Legislation on Environmental and Social Approvals

Environmental regulatory requirements in the Republic of Kazakhstan are contained in a hierarchy of legal controls, starting at the highest level with the Constitution and followed sequentially by: constitutional laws and decrees; codes; national laws and decrees; national regulations; local regulations, rules, standards and instructions. The natural resources of Kazakhstan, including water, minerals, forestry, and flora and fauna, are owned by the state, with use of these resources requiring approval from one or more regulatory authorities.

The four main controlling pieces of legislation relating to environment, mining, water and land are described below (note: supporting legislation is regularly updated and the references given below are valid as of August 2018). The requirements relating to pollution prevention (air, water and waste) and closure management are addressed in more than one of these controlling pieces of legislation and multiple authorities are often involved in the controlling mechanisms.

The Environmental Code (Law No 212-III, January 2007, amended 29 June 2018)

The Environmental Code defines the legal, economic and social aspects of environmental protection and aims to prevent the adverse impacts of business activities on the environment, preserve ecological balance, and implement sustainable environmental management. The Committee of environmental regulation and control (CERC) of The Ministry of Energy is currently the main environmental authority responsible for environmental protection though the Environment Code.

The Code includes a number of generic requirements directly applicable to mining projects, such as topsoil conservation, waste management, radioactive materials handling, habitat protection and a requirement to take cognisance of the international agreements and conventions ratified by the Republic of Kazakhstan. These requirements can be superseded by specific requirements within the asset's individual environmental permits or other legal agreements.

Key permits include permits for: environmental emissions (effluent discharges, air emissions and waste disposal); abstraction of water; and disturbance to forestry or other designated natural resources. To obtain the necessary environmental permit/s, an environmental impact assessment (OVOS) is a mandatory procedure for mining projects. The Environmental Code sets out the process for environmental permitting, including in the need for and process of OVOS. The procedure for conducting and reviewing an OVOS is provided by the Ministry of Environment under Order № 204-п issued June 2007 and amended 17 June 2016. There is a requirement for public consultation and engagement in the OVOS.

In Kazakhstan, the basis for evaluation of impacts comprises a comparison of a project's expected environmental releases (to air, water or land) with a range of Maximum Allowable Concentrations (MACs). The MACs use human health as the criteria for their determination rather than ambient environmental protection. They are recognized as being outdated but have not been updated in recent times. Estimates of the expected environmental releases and waste likely to be generated by a project are submitted with the OVOS, along with the associated monitoring programme and action plans to enable the necessary permits to be obtained. These estimates will be used to set the permit conditions, against which the project will be evaluated.

The emissions permitting system in Kazakhstan is a "pay-to-pollute" system wherein the developer pays for the 'right' to make emissions to the environment; emission permits contain specified limits that must be adhered to. There are also maximum permissible concentrations (sanitary norms) that apply on the boundary of sanitary protection zones around hazardous facilities. Regulatory authorities impose high penalties for non-compliance with permit limits or sanitary norms. Permit fees are paid quarterly and are linked to the permitted level of environmental releases, with exceedances of these limits subject to an additional fee at 10 times the permit fee.

Permits must be renewed every one to five years depending on the type of activity and permit. If the OVOS documentation is no longer applicable, then permit renewal will be based on separate submission documents such as the Maximum Allowable Discharge Report, Maximum Allowable Air Emission Report, Quantitative Estimates of Waste Generation and Disposal Report.

The Environmental Code includes the provision for the environmental authority to suspend or stop operations that are being undertaken without the necessary permits or which are causing severe harm to the environment or human health.

An approved OVOS is required if new technology is introduced, if new facilities are constructed and if existing facilities are altered.

The Land Code (Law No 442 II ZPK, 2003, amended 29 June 2018)

The Land Code enables land to be given designated uses. The Code requires owners/users of land, whether state or privately owned, not to harm public health or the environment, not to pollute the land or cause deterioration in soil fertility, to conserve topsoil and to rehabilitate disturbed land. The Land Code allows for state appropriation of land for "public needs" (which may include mineral exploration/exploitation) or if the land is not being used as per its designated land use. It also includes the legal procedure for changing land use. Managing land is the responsibility of the Committee for Land Management of the Ministry of Agriculture of the Republic of Kazakhstan.

The Water Use Code (Law No 481, 2003, amended 29 June 2018)

As with the Environment Code, the Water Use Code stipulates a permit must be obtained for industrial (and mining) water use and the discharge of effluents (referred to as "special water uses"). The permitting process is as described for the Environment Code and is the responsibility of the Committee on Water Resources the Ministry of Agriculture of the Republic of Kazakhstan.

Industrial water users have to measure and record their water use, including water consumption and discharge, and must recycle water through the process as much as possible. They also have to have suitable facilities for water treatment, monitor groundwater where there is a risk of pollution by seepage and must restore any polluted land. Water use guidelines and acceptable discharge rates are defined in the code.

Mining Laws

Mining law has been updated recently, the Subsoil and Subsoil Use Law (№291-IV 24 June 2010, amended 24 May 2018) was superseded by Subsoil and Subsoil Use Code in 29 June 2018.

Permission to mine is by means of a Mineral Resource Use Contract, with a limited validity period. At the end of this period, a new contract must be arranged or the site must be handed back to the Government. Information below provides a summary on mining regulations that are enforced by existing Mineral Resource Use Contracts.

The law outlines the process for control of mineral (sub-soil usage) rights and stipulates the need for participation of non-governmental organisations and private individuals in the approval and supervisory process of this control. The Mining Regulations oblige the holder of mining (subsurface) rights to comply with the Republic of Kazakhstan's environmental and health and safety standards and requirements (i.e. the various Codes described above). Upon the conclusion of mining operations or at the time the contract concludes, the contractor is required to conduct an environmental clean-up (rehabilitation) of the contract area.

Subsoil and Subsoil Use Code

This Code identifies the types of subsoil use, the procedure for granting land for subsoil use, and lists the subsoil use regulatory and oversight bodies.

For mining activities, depending on the category of minerals, there are three competent authorities; the Ministry of Investment and Development (solid minerals), Ministry of Energy (oil, gas, coal and uranium) and regional akimats (sand and clay). The Ministry of Investment and Development also supervises the mining industry through its sub-ordinate Committee on Geology and Subsoil Use (the Geology Committee). Permission to mine is by means of a Subsoil Use License or Contract, with a limited validity period. At the end of this period, a license can be extended or the site must be handed back to the Government.

Specific Requirements for Closure (Liquidation)

Mines currently in operation have Mineral Resource Use Contracts established under applicable legislation at the time. It is therefore appropriate to discuss the requirements of the both the repealed and the current mining law, specifically:

- The recently repealed Subsoil and Subsoil Use Law (Law № 291-IV, 24 June 2010, amended 24 May 2018 and associated Rules for Mine Closure and Conservation (Rule № 634 06 June 2011, amended 27 February 2015);
- The new Subsoil and Subsoil Use Code (№ 156-VI4 June 2018) and the associated Instructions for developing a liquidation plan and a methodology for calculating the approximate cost of liquidating the consequences of operations for the extraction of solid minerals (Decree № 386 28 May 2018);

The new Subsoil Code provides that previously issued Mineral Resource Use Contracts will remain in force, but also provides for application of a retrospective effect to some elements of contracts executed prior to its effective date, including liquidation requirements. Detail on how this retrospective effect will apply is not yet available.

The repealed Subsoil and Subsoil Use Law requires that mines are closed when mineral resources are depleted or 'conserved' when mining operations are terminated (for example when the contract has expired). According to Article 111 of this Law, closure or conservation must be carried out in accordance with a plan designed by an authorised engineering company in the field of environmental protection and funded from a liquidation fund. Contributions to the liquidation fund, held by a bank of the Republic of Kazakhstan, are made by the mine operator. At the time of closure or conservation, the mine operator can use the funds with the permission of the competent authority. The terms of payment to the fund (the frequency and amount of payments) are established by the Mineral Resource Use Contract. If the closure cost exceeds the fund's savings the mining operator must cover the closure cost.

Closure or conservation work is considered complete after official acceptance of this closure plan by a committee of competent authorities in the fields of: environmental protection; mineral resources management; industrial safety; sanitary-epidemiological service; land management services; and local authority. The certificate of acceptance of closure or conservation work will be issued by the Environmental Protection Authority. The Government of the Republic of Kazakhstan can decide that the operation should continue after the current Mineral Resources User completes its mining. In this case, the mining operator's obligations for implementation of the closure program will be waived and they will waive all rights to the accumulated liquidation fund.

The new Subsoil and Subsoil Use Code has introduced new requirements regarding closure and financial assurance for closure. According to Article 54 of this Code, mines and associated auxiliary facilities must be closed when term of right for subsoil use have expired. Liquidation and reclamation work can be carried out during life of mine to relinquish the portion of the land and lower the cost of liquidation.

Under the new Code, the aim of the liquidation is health and safety of the population and environmental protection. The associated Instructions for planning and cost estimation are founded on this aim and require an objectives-based approach to liquidation planning. The liquidation aim is supported principles that guide the selection of clear and measurable liquidation objectives for all project components. For each liquidation objective, subsoil users have to propose a set of liquidation options that could achieve the objective, and a selected liquidation activity is chosen from these options. Liquidation criteria measure whether the selected activity achieves the specific objective.

The Code requires financial assurance for liquidation is provided to cover 100% liquidation costs by means of a guarantee, bank deposit and/or insurance. The mine operator can use the funds for its closure activities with the permission of the competent authority.

The following legislation also has requirements pertinent to closure (relating to clean up of pollution, remediation of disturbed land and revegetation):

- Environmental Code (Law No 212-III, January 2007, amended 29 June 2018);
- Instruction for land reclamation projects development (Decree №346, 17 April 2015);
- The Land Code (Law No 442 II ZPK, 20 June 2003, amended 29 June 2018);
- The Water Code (Law No 481, 09 July 2003, amended 29 June 2018); and
- The Forest Code (Law № 477-II 08 July 2003, amended 24 May 2018).

10.1.3 Environmental and Social Approvals

The Mining Contracts for both Centralny and Zapadny deposits contain general environmental and social conditions. Shubarkol has to report to the regulatory authorities on compliance with the conditions on a quarterly basis. SRK reviewed the reports (state reporting form LKU-№1). These show that Shubarkol is compliant with the conditions in the Mining Contract, which is valid until 30 December 2021.

Shubarkol has the environmental permits required to operate. The mine has the emissions and water use permits listed in Table 10-1. These permits are updated as required.

Table 10-1: Shubarkol Emission and Special Water Use Permits

Emissions permit and Special water use permit	No	Validity
Emissions permit for Shubarkol Komir	№: KZ07VCZ00101824	19.09.2016 till 31.12.2025
Emissions permit for sites №4-14	№: KZ66VDD00059524	30.09.2016 - indefinite
Emissions permit for the Kuduk construction material deposit	№: KZ67VCZ00108116	18.10.2016 till 31.12.2025
Special water use permit: Discharges of pit water to evaporation pond	KZ06RUB00000672 Series: Kulanu	07.02.2017 till 31.12.2025
Special water use permit: Discharges of domestic, industrial and technical water to evaporation pond	KZ65RUB00000386 Series: Kulanu	07.10.2016 till 31.12.2025
Special water use permit: abstraction of water from Taldisai deposit (3 wells)	№19-11-4-12/1262 Series: Nura	19.10.2015 till 06.10.2018
Special water use permit: water use of Central pit water for industrial purposes	№19-11-4-12/1420 Series: Kulanu	28.12.2013 till 28.12.2018
Special water use permit: abstraction of water from Taldisai deposit (1 well)	KZ48VTZ00000343 Series: Sarysu	07.04.2016 till 31.03.2019

No significant exceedances of the permitted emissions were recorded during period of 2015-2018, according to the mine's environmental monitoring reports and state inspection reports. No significant violations were recorded during inspections by regulatory authorities. Minor issues identified during such inspections are resolved within the appropriate time frame.

10.1.4 Approach to Environmental and Social Management

Shubarkol has integrated management systems for quality management, environmental management, health and safety management. These are certified to the ISO 9001:2015, ISO 14001:2015 and OHSAS 18001:2007 standards. The current certificate for the integrated management systems is valid till 13 December 2020.

Current environmental management practices are considered to be basic and devoted to the compliance with legal requirements. There is also general good housekeeping within the operation's departments.

The environmental department has three permanent employees in Shubarkol's Karaganda office. The environmental department was understaffed during the site visit. Employees undertake site visits according to schedule several times per year.

The 2017 environmental budget was KZT 55.7 million (USD 0.18 million). Actual expenditure was KZT 222 million (USD 0.7 million), including significant investment into dust suppression installations and water reticulation.

The annual pollution payment for air emissions, water discharges and waste disposal during period from 2015 to 2018 is represented in Table 10-2. This reflects positively on the Company.

Table 10-2: Emissions payments from 2015 to 2018 in KZT

Emissions payments	2015	2016	2017	2018
1st quarter	32,988,679	40,219,637	37,680,917	1,362,766
2nd quarter	27,233,226	36,478,578	39,436,134	
3rd quarter	36,136,788	38,617,168	53,350,078	
4th quarter	42,531,741	41,554,292	66,279,312	
Total	138,890,434	156,869,675	196,746,441	1,362,766

10.1.5 Stakeholder Engagement

Shubarkol has not undertaken a formal stakeholder identification and analysis exercise and does not have a formal stakeholder engagement plan in place. It does, however, engage with stakeholders by means of public hearings that are legally required for OVOS approvals and updates to environmental permits, management plans and monitoring plants.

An annually renewed memorandum of mutual cooperation exists between the mine and the government. This defines financial support to be provided by the mine to the local community. According to the memorandum of mutual cooperation for 2017 – 2018, the amount allocated by ERG to support and develop the social development of the region is KZT 182.6 million (USD 0.58 million) in 2017. Over KZT 41 million have already been invested into repair and maintenance of the boiler house in Shubarkol village. Additionally, KZT 51 million was allocated for the removal of boiler houses from residential buildings in the city of Shakhtinsk and Shahan. In addition, JSC Shubarkol Komir provided 3000 tonnes of coal to residents of the village of Kyzylzhar.

The mine does not have a formal grievance mechanism and complaints are dealt with in various ways depending on their nature. A dedicated committee of Shubarkol management reviews the complaints and defines appropriate actions to be undertaken. No stakeholder complaints have been recorded recently.

10.1.6 Key Technical Environmental and Social Issues

No major environmental or social issues were identified during the review of the Shubarkol operation.

Air emissions from the site include dust (from mining operations, waste rock disposal, coal transport and vehicles on roads) and emissions from boilers, the Sary-Arka coking plant and vehicles. Potential sources of water pollution include suspended solids eroded from disturbed areas, sewage discharges and runoff from mine workings/dumps. SRK did not see evidence of significant air or water pollution during the site visit. The available monitoring data also does not provide evidence of significant environmental pollution.

The water discharges from open pits are small in volume and are within the limits set in permits. In the CPR report of 2014, it was noted that the domestic sewage treatment systems needed to be upgraded to meet the permitted sewage effluent discharge limits. Shubarkol has upgraded the sewage treatment and does not exceed permitted sewage effluent discharge limits.

10.1.7 Asset Retirement Obligation and Closure Cost

Law pertinent to mine closure (“liquidation” is the term used in Kazakhstan) is outlined in Section 10.1.2. It is notable that the closure planning requirements in legislation have been updated and could be applied retrospectively to existing Mining Contracts.

SRK has seen a range of closure cost estimates for the assets but has not seen closure plans and detailed breakdowns of costs that substantiate the estimates.

The Company has estimated the asset retirement obligation (“ARO”) as KZT 670.4 million (USD 1.86 million). An ARO is cost required to rehabilitate the sites as they stand today, in accordance with legislation. SRK considers this number to be too low.

Mine closure costs were estimated historically as part of the project documentation prepared for each Mining Contract. These estimated closure costs are not applicable to the LOM in this report. These estimated costs are KZT 6.5 billion and KZT 3 billion for Centralny pit and Zapadny pit, respectively. These estimates are for operations with lives and production rates that are longer and higher than is the case covered in the financial model (77 years at average of 15 million tpa for the Centralny Deposit and 129 years at average rate of 5 million tpa for the Zapadny Deposit).

Under each Mining Contract, a liquidation fund has been created. The value of the liquidation funds for the Centralny and Zapadny deposit as of 31 December 2017 are KZT 2.77 billion (USD 9 million), and KZT 50 million (USD 150,000) respectively. SRK is of the opinion that the liquidation funds do not adequately cover current and future closure liabilities. As explained in Section 10.1.2, if the actual closure costs exceed the liquidation funds' savings, the mining operator must cover the closure costs.

In the absence of reliable closure cost estimates for the assets, SRK recommends that financial model includes a provision of about KZT 7 billion/ USD 20 million for the mine closure cost associated with operations until the depletion of the Ore Reserves, being in 2050.

Conservation of the Kuduk construction material deposit was completed in August 2016 and act of acceptance was sign by the Committee. The Mining Contract was terminated and the Company does not carry liability for the closure works.

Progressive reclamation is not formally carried out by the Company.

10.2 Environmental and Social Summary

Shubarkol mine is in a remote location and is 10 km from the nearest settlement. No major environmental or social issues were identified during the review of Shubarkol operation. SRK did not see evidence of significant air or water pollution during the site visit. The available monitoring data also does not provide evidence of significant environmental pollution.

Shubarkol has integrated management systems for quality management, environmental management, health and safety management. These are certified to the ISO 9001:2008, ISO 14001:2004, and OHSAS 18001:2007 standards.

Shubarkol has the environmental permits required to operate. These permits are updated as required.

10.2.1 Risks

No major environmental or social issues were identified during the review of Shubarkol operation.

Detailed mine closure plans and corresponding cost estimates are not available.

10.2.2 Recommendations

- Progressive reclamation should be considered to lower the LoM closure costs at the end of the life of mine, and to reduce the risk associated with inadequate closure planning, such as undervaluation of the closure work volumes, costs and financial assurances;
- Dust suppression equipment should be upgraded; and

- Mine closure plans should be further developed to verify and improve the confidence in the closure cost estimates. The combined allowance presented in the CPR is however deemed reasonable by SRK.

11 COAL SALES AND PRICES

The Company sells its coal to more than 30 companies, consisting of external companies and sister ERG companies, namely Aluminium of Kazakhstan JSC, SSGPO JSC, TNC Kazchrome JSC, and Transcom LLP. Coal sales in 2017 amounted to 10.1 Mt and 200 kt of special coke from Sary-Arka. This included approximately:

- 1.3 Mt (13%) of coal sales sold to the internal ERG companies;
- 3.4 Mt (34%) in Europe to traders, primarily to TELF AG;
- 3 Mt (30%) in Kazakhstan;
- 1.5 Mt (15%) in Russia;
- Less than 1 Mt (9%) sold in Kyrgyzstan and Uzbekistan.

Various qualities and sizes of coal are sold, predominantly in the ranges 0-50 mm, 0-300 mm and 50-300 mm. The average ash quality was 4.3%, and calorific value 5,818 kcal/kg. Some 800 kt coal are sold having an ash quality between 10% and 17%.

Coal prices are dominated by the coal type and customer, in 2017 prices varied between USD 10 /t and USD 20 /t. Some coal was sold in Russia at a price of USD 40/t. Forecast prices are projected to increase slightly and result in long term prices of USD 18.3/t, USD 15.7/t and USD 13/t for domestic industrial, domestic thermal and export coal respectively. The long-term coke prices are projected at USD 98/t.

As a point of reference, SRK notes that long term prices for export thermal coal are around the $65/t mark.

Coal sales are forecast to increase to 11.4 Mt in 2018, with a similar split between internal Kazakhstan and overseas customers as in 2017.

12 ECONOMIC ASSESSMENT

SRK has developed a cash flow model based on the life of mine plan as presented in the CPR, and to confirm economic viability of the Coal Reserves dated 31 December 2018 and presented herein. The coal mining production rate is 12.3 Mtpa as planned by the Company, for 33 years until 2050.

The cash flow model has been prepared in Microsoft Excel, in US dollars and in real money terms at Q1 2018.

12.1 Key Assumptions

The following general assumptions have been applied to the evaluation of Shubarkol:

- All costs and revenues are in Q1 2018 real terms;
- The exchange rate used to derive Q1 2018 coal prices is 309 Kazakh Tenge to one US Dollar;

- The long-term coal prices applied are USD 17/t, USD 13/t and USD 98/t for domestic, export and coking coal respectively, delivered to the rail head;
- The basis of operating costs is the actual 2017 unit operating costs, in US Dollars, applying 2.3% inflation
- The start date of the cash flow model is 01 January 2018;
- There is no Mineral Extraction Tax applicable;
- The economic assessment has been undertaken on a pre-tax and pre-finance basis; and
- A real discount rate of 10% has been applied for net present value calculations.

12.2 Production

The production plan in the cash flow model is that presented in Section 5 and Table 12-1 below. SRK has not made any adjustments to this plan, which is deemed to be reasonably achievable.

12.3 Capital Costs

SRK has used the capital provided by the Company, for the period 2018 to 2026. Thereafter, SRK has included an average of the 2018 to 2026 period, being USD 27.8 million per annum. The capital costs are presented in Table 12-1. The capital expenditure in 2017 was USD 20 million.

SRK notes that the new special coke plant and the coal mining expansion capital do not form part of the base case (Coal Reserve case) and are not included in the cash flow model.

12.4 Operating Costs

SRK has analysed historical costs. The Company's reporting system has changed, and the historical operating cost reports have not been amenable to SRK making adequate comparisons between the previous 3 years of production.

As the production method remains the same and the annual stripping ratios are similar, SRK has relied on the 2017 actual unit costs for forecasting, in the latest ERG reporting format. These were USD 7.40/t coal produced (USD 7.25/t including inventory movements). An inflation of 2.3% has been applied to report Q1 2018 unit costs.

SRK expects coal hauling distances and costs to slowly increase as the Zapadny and Centralny coal faces move further to the West and South East respectively. SRK has added a nominal annual incremental cost of USD 0.01/t coal sales, per year. This is an allowance and has not been estimated from first principles.

12.5 Cash Flow Model

The cash flow model summary is presented in Table 12-1 based on the base case life of mine plan (Coal Reserves), with SRK's minor adjustment made to the coal mining operating costs.

Table 12-1: Cash Flow Model, 2018 to 2027 (Next 10 Years)

Year		2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Mining											
Waste	(Mm3)	33	33	33	33	33	33	33	33	33	33
	(Mt)	67	67	66	67	67	67	67	67	67	67
RoM Coal	(Mt)	12.2	12.2	12.2	12.3	12.3	12.3	12.3	12.3	12.3	12.3
	(% ash)	5.6	6.3	6.4	6.4	6.4	6.4	6.4	6.4	6.6	8.5
Total Material Moved	(Mt)	79	79	79	79	79	79	79	79	79	79
Stripping Ratio	(bcm/t)	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
Product											
Domestic	(Mt)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.1	5.1	5.1
Export	(Mt)	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.9	6.8	6.8
Coking	(Mt)	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Total	(Mt)	**12.0**	**12.0**	**12.0**	**12.1**	**12.1**	**12.1**	**12.1**	**12.1**	**12.1**	**12.1**
Revenue											
Coal Prices											
Domestic	(USD/t)	16.1	16.2	16.3	16.5	17.0	17.0	17.0	17.0	17.0	17.0
Export	(USD/t)	14.7	13.7	13.3	12.8	13.0	13.0	13.0	13.0	13.0	13.0
Coking	(USD/t)	94.9	95.5	95.9	96.2	96.4	97.5	97.5	98.1	98.1	98.1
Total	(USD/t)	**16.7**	**15.9**	**15.7**	**15.8**	**16.1**	**16.1**	**16.1**	**16.0**	**16.1**	**16.1**
Total Sales Revenue											
Coal	(USDm)	80	82	82	83	86	86	86	86	86	86
Export	(USDm)	99	94	90	88	89	89	89	89	89	89
Coking Coal	(USDm)	20	16	16	20	20	20	20	19	20	20
Total	**(USDm)**	**200**	**192**	**189**	**191**	**195**	**195**	**195**	**194**	**195**	**195**
Operating Costs											
Materials	(USDm)	20.4	20.4	20.3	20.5	20.5	20.5	20.5	20.5	20.5	20.5
Power	(USDm)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Staff	(USDm)	15.7	15.8	15.7	15.9	15.9	15.9	15.9	15.9	15.9	15.9
Mining Contractors	(USDm)	6.1	6.1	6.1	6.2	6.2	6.2	6.2	6.2	6.2	6.2
Maintenance	(USDm)	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
Other Taxes	(USDm)	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Insurance	(USDm)	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Other	(USDm)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
G&A	(USDm)	23.3	23.3	23.2	23.5	23.5	23.5	23.5	23.5	23.5	23.5
Distribution Costs	(USDm)	16.7	16.8	16.7	16.9	16.9	16.9	16.9	16.9	16.9	16.9
Total	**(USDm)**	**92**	**92**	**92**	**93**	**93**	**93**	**93**	**93**	**93**	**93**
Capital Costs											
Total	**(USDm)**	**40**	**37**	**34**	**27**	**26**	**24**	**20**	**18**	**24**	**28**
Economics (Real)											
Sales Revenue	(USDm)	200	192	189	191	195	195	195	194	195	195
Operating Costs	(USDm)	92	92	92	93	93	93	93	93	93	93
Operating Profit (EBITDA)	(USDm)	108	100	97	98	102	102	102	101	102	102
Capital Expenditure	(USDm)	40	37	34	27	26	24	20	18	24	28
Net Free Cash (pre tax, pre finance)	**(USDm)**	**68**	**62**	**62**	**71**	**76**	**79**	**82**	**83**	**78**	**74**
Cumulative NFC	(USDm)	68	130	193	263	339	417	500	582	660	734

Table 12-2 presents the cash flow model Life of Mine totals and/or averages. The net present values at various discounted rates are presented in Table 12-3.

Table 12-2: Life of Mine Totals

Mining		
Waste	(Mm3)	1,159
	(Mt)	2,318
RoM Coal	(Mt)	406
	(% ash)	268
Total Material Moved	(Mt)	2,723
Stripping Ratio	(bcm/t)	2.9
Product		
Domestic	(Mt)	167
Export	(Mt)	226
Coking	(Mt)	7
Total	(Mt)	**399**
Revenue		
Coal Prices		
Domestic	(USD/t)	16.9
Export	(USD/t)	13.1
Coking	(USD/t)	97.7
Total	(USD/t)	**16.1**
Total Sales Revenue		
Coal	(USDm)	2,822
Export	(USDm)	2,952
Coking Coal	(USDm)	643
Total	**(USDm)**	**6,418**
Operating Costs		
Materials	(USDm)	678
Power	(USDm)	99
Staff	(USDm)	523
Mining Contractors	(USDm)	203
Maintenance	(USDm)	97
Other Taxes	(USDm)	26
Insurance	(USDm)	27
Other	(USDm)	84
G&A	(USDm)	774
Distribution Costs	(USDm)	556
Total	**(USDm)**	**3,069**
Unit Operating Cost	(USD/t Sales)	7.78
Capital Costs		
Total	**(USDm)**	**891**
Economics (Real)		
Sales Revenue	(USDm)	6,418
Operating Costs	(USDm)	3,069
Operating Profit (EBITDA)	(USDm)	3,349
Net Free Cash (pre tax, pre finance)	**(USDm)**	**2,458**

Table 12-3: Net Present Value (pre-tax, pre-finance)

Discount Rate	Net Present Value (USD million)
0%	2,458
6%	1,014
8%	809
10%	**663**
12%	556
14%	476

12.6 Sensitivities

SRK has assessed the Coal Assets' sensitivity to the key economic drivers, being operating and capital cost and coal sales prices. The Coal Assets are most sensitive to a change in the coal prices with a breakeven price (of the NPV at a 10% discount rate) at some 37% below the long-term prices applied in the cash flow model. The breakeven coal sales prices are therefore USD 10.7/t, USD 8.2/t and USD 62/t for domestic, export and coking coal. The Coal Assets are relatively insensitive to operating costs, and further insensitive to capital costs.

The individual tables individually showing the sensitivities to coal prices and costs are presented in Table 12-4. A dual sensitivity test for coal prices and operating costs is shown in Table 12-5. This shows a stress point where prices reduce by 30% and operating costs increase by 20%. SRK is of the opinion that this event is unlikely, demonstrating the robust economic viability of the Coal Reserves.

Table 12-4: Single Sensitivities

		Sensitivity to - Coal Prices						
		-30%	**-20%**	**-10%**	**0%**	**10%**	**20%**	**30%**
DISCOUNT FACTORS	6.0%	209	477	746	1,014	1,283	1,551	1,820
	8.0%	163	379	594	809	1,024	1,240	1,455
	10.0%	132	309	486	663	841	1,018	1,195
	12.0%	108	258	407	556	706	855	1,004
	14.0%	91	219	347	476	604	732	860
		Sensitivity to - Operating Costs						
					0%	**10%**	**20%**	**30%**
DISCOUNT FACTORS	6.0%				1,014	886	757	629
	8.0%				809	706	603	500
	10.0%				663	579	494	409
	12.0%				556	485	414	342
	14.0%				**476**	**414**	**353**	**292**
		Sensitivity to - Capital Costs						
					0%	**10%**	**20%**	**30%**
DISCOUNT FACTORS	6.0%				1,014	976	937	898
	8.0%				809	778	746	715
	10.0%				663	637	611	585
	12.0%				556	534	512	489
	14.0%				**476**	**456**	**437**	**417**

Table 12-5: Dual Sensitivity

		Sensitivity to - Coal Prices						
		-30%	**-20%**	**-10%**	**0%**	**10%**	**20%**	**30%**
Sensitivity to Operating Costs	**0%**	132	309	486	663	841	1,018	1,195
	10%	47	224	401	579	756	933	1,110
	20%	(38)	139	317	494	671	848	1,026
	30%	(123)	55	232	409	586	764	941

13 CONCLUSION

13.1 Introduction

SRK has undertaken a technical due diligence review of the Coal Assets of JSC Shubarkol Komir in line with the requirements for a Public Report for the Kazakhstan Stock Exchange ("KASE"). In support of the Coal (Mineral) Resources, SRK has reviewed the underlying geology of the Shubarkol coal deposit, the initial estimation of the mineral resources undertaken and subsequent depletions to the balance of resources through various factors during operations, which are ongoing for over 30 years, primarily through mining. In support of the Coal (Ore) Reserves statement, SRK has reviewed the operational factors, including mining, waste rock disposal and coal processing; economic factors including costs, sales and revenues; and also environmental and social factors, that support the Life of Mine Plan presented by the Company to demonstrate that this is both technically achievable and economically viable. This report and the Coal Resources and Coal Reserves Statements presented herein have been prepared to CRIRSCO standards, namely in compliance with the JORC Code.

13.2 Coal Resources and Coal Reserves

As at 01 January 2018 the total Coal Resources reported in accordance with the terms and definitions of the JORC Code amount to 967.7 Mt. These include material classified as Measured and Indicated Coal Resources of 905.1 Mt, with qualities of: CV - 5,250 kcal/kg; Ash - 11.4%; Sulphur - 0.4%; Inherent Moisture – 6.0%, all reported on an air-dried basis, and Total Moisture - 14.7%, plus Inferred Mineral Resources of 62.7 Mt.

Total Coal Reserves amount to 405.6 Mt, based on the mine plan to 2050 provided by the Company, which has been modified from the 2014 Institute design to reflect a long-term coal production target of 12.3 Mtpa. All Reserves are classified as Probable, due to the insufficient detail regarding the spatial distribution of the coal quality parameters (ash, essentially) and detail with respect to the mine plans (adjusted from a 20 Mtpa plan down to the current 12.3 Mtpa). Ash in the Reserves is reduced from the Resources, to 8.1%, due to selective mining, with a corresponding uplift in Net CV, to 5,518 kcal/kg.

In reporting the Coal Resource and Coal Reserve Statements, SRK notes the following:

- All references to Coal Resources and Coal Reserves are stated in accordance with the JORC Code;
- Resources and Reserves are reported as at 31 December 2017. No depletion has been applied for mining since that time;
- Resource and Reserve qualities are reported on an air-dried basis.
- The Coal Resources are inclusive of those Coal Resources modified to produce Coal Reserves, i.e. they are reported on an 'inclusive basis'.
- There is no washing of coal at Shubarkol, only crushing and screening for specific product requirements. Higher ash areas identified in the mining faces are scheduled and blended into the required products for the various customers; therefore all Run of Mine coal produced from the open pits is shipped as direct sales to customers; and thus for the purposes of this report, all Coal Reserves can be effectively equated with Marketable Coal Reserves, as defined in the JORC Code.

- The Competent Person responsible for the Coal Resource Statement is Ms Anna Fardell, who is a member of the Australian Institute for Geoscientists. Ms Fardell is a full-time employee of and Senior Consultant (Resource Geology) at SRK and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which she has undertaken to qualify as a Competent Person as defined by the JORC Code.
- The Competent Person responsible for the statement of Coal Reserves and the review of the Life of Mine Plan as reported by the Company is Mr Erhan Karakaya. He is a Member of and Chartered Professional in the Australasian Institute of Mining and Metallurgy. Mr Karakaya is a full-time employee of and Principal Consultant (Mining) at SRK and is a Mining Engineer with over 20 years' experience in the mining and metals industry, including operational experience in open cast coal mines, and as such qualifies as a Competent Person as defined in the JORC Code.

Table 13-1 presents the Coal Resources and Coal Reserves subdivided by Contract area, as at 31 December 2017.

Table 13-1: Shubarkol Coal Resource and Coal Reserve Statement, 31 Dec 2017

Coal Reserve Category	Tonnage	Quality					Coal Resource Category	Tonnage	Quality				
	(Mt)	Ash ad (%)	Inherent Moisture ad (%)	Total Moisture ad (%)	Sulphur ad (%)	Calorific Value (nar) (kcal/kg)		(Mt)	Ash ad (%)	Inherent Moisture ad (%)	Total Moisture ad (%)	Sulphur ad (%)	Calorific Value (nar) (kcal/kg)
Proved Coal Reserves							**Measured Coal Resources**						
Zapadny O/P	0.0	0.0	0.0	0.0	0.0	0.0	Zapadny O/P	298.7	11.10	6.0	15.3	0.4	5,250
Centralny (incl. Vostochny) O/P	0.0	0.0	0.0	0.0	0.0	0.0	Centralny (incl. Vostochny) O/P	315.4	11.50	6.0	14.5	0.4	5,250
Subtotal	**0.0**	**0.00**	**0.0**	**0.0**	**0.00**	**0**	**Subtotal**	**614.1**	**11.31**	**6.0**	**14.9**	**0.40**	**5,250**
Probable Coal Reserves							**Indicated Coal Resource**						
Zapadny O/P	207.0	6.43	6.0	14.2	0.50	5,660	Zapadny O/P	150.5	11.10	6.0	15.3	0.40	5,250
Centralny (incl. Vostochny) O/P	198.6	9.90	6.0	14.0	0.50	5,370	Centralny (incl. Vostochny) O/P	140.5	11.50	6.0	14.5	0.40	5,250
Subtotal	**405.6**	**8.13**	**6.0**	**14.1**	**0.50**	**5,518**		**291.0**	**11.29**	**6.0**	**14.9**	**0.40**	**5,250**
Proved and Probable Coal Reserves							**Measured and Indicated Resources**						
Zapadny O/P	207.0	6.43	6.0	14.2	0.50	5,660	Zapadny O/P	449.2	11.10	6.0	15.3	0.40	5,250
Centralny (incl. Vostochny) O/P	198.6	9.90	6.0	14.0	0.50	5,370	Centralny (incl. Vostochny) O/P	455.9	11.50	6.0	14.5	0.40	5,250
Total Proved and Probable	**405.6**	**8.13**	**6.0**	**14.1**	**0.50**	**5,518**	**Total Measured and Indicated**	**905.1**	**11.30**	**6.0**	**14.9**	**0.40**	**5,250**
							Inferred Coal Resources						
							Zapadny O/P	14.5	11.10	6.0	15.3	0.40	5,250
							Centralny (incl. Vostochny) O/P	48.2	11.50	6.0	14.5	0.40	5,250
							Inferred Total	**62.7**	**11.41**	**6.0**	**14.7**	**0.40**	**5,250**
							Total Coal Resources						
							Zapadny O/P	463.7	11.10	6.0	15.3	0.40	5,250
							Centralny (incl. Vostochny) O/P	504.1	11.50	6.0	14.5	0.40	5,250
							Total Coal Resources	**967.7**	**11.31**	**6.0**	**14.9**	**0.40**	**5,250**

ad – Air Dried; nar – Net As Received.

13.3 SRK Comments

SRK notes the following based on a review of the Shubarkol operations and mine planning processes:

- The Shubarkol Coal Resources are substantial and well defined in terms of tonnage and quality, though more detail on quality is required to verify future trends. Otherwise the coal quality is attractive as a thermal coal being low in sulphur;
- The geological structure of the Shubarkol coal basin is relatively simple and does not cause any significant mining issues. The overall depth of the resources is only approximately 150m from the surface and stability of slopes and backfill, and groundwater, can all be manged effectively. Spontaneous combustion of an oil shale layer above the topmost seam can be managed through selective placement and capping in the waste dumps;
- The mine planning horizons (short-, medium- and long-term) employed at Shubarkol are in line with standard operating procedures. On site personnel have a good understanding of the requirements of the plans and how to achieve them;
- The operations are moving down-dip and therefore the strip ratio is increasing, though not significantly. The mining method is sufficiently flexible to cope with this gradual increase;
- The infrastructure is in good order and in a position to support the current operation and planned expansions;
- The adjusted LTP which supports the Coal Reserves is a manually modified plan originating from the 2014 LTP as developed in the TEO update, and incorporating the new ERG management strategy to limit coal production to 12.3 Mtpa. SRK recommends that the 2014 LTP is updated to present waste and coal tonnages by block and sub-block, per year. The appropriate mine design diagrams (plans and sections) also need to be updated;
- The recommended revised LTP should include projections of average quality on a year by year basis, sub-block by sub-block, both in spreadsheets and on working plans, in order to fully understand the potential for significant changes in quality over the mine life. Any impact on sales strategy and sales prices should be assessed in light of the results of this exercise. Currently, with long coal production faces and the slow speed of advance through the deposit, small scale variations in the quality can be readily addressed by blending at the crushing and screening plant, but this will be more critical after 2026 in Centralny, when average ash will increase from approximately 6% to 11%;
- The above recommended changes should allow Shubarkol to report a portion of its Coal Reserves as Proved;
- SRK supports undertaking additional infill drilling as proposed in the southeastern corner of the Centralny resource area, to assist with definition of higher ash areas.
- Currently, mine planning on site is undertaken with a 2D approach, which is appropriate for the type of deposit. However, SRK recommends using a grid/seam model in future planning in order to facilitate continuous updates to the mine plans. A grid/seam model would be better suited to the deposit, rather than a block model, as it will allow modelling and scheduling of the thin coal seams and interburden/waste layers, as well as allowing integration into rapid, flexible mine design and scheduling packages;

- SRK has limited the Coal Reserves to the portion within both the Mining Contract boundaries and the date of the expiry of the Centralny Contract at the end of 2050.

  SRK notes that the Zapadny contract expires in 2021, but understands that the renewal process will only begin 6 to 12 months prior to expiration and the Shubarkol team then expects that a 45-year extension will be granted. SRK considers that this is a realistic expectation by Shubarkol, or at the very least a 25-year extension, followed by another extension in 2046;

- There are significant Coal Resources in the Shubarkol deposit not yet captured within the Coal Reserves to potentially continue mining operations beyond 2050, assuming the current annual plan of 12.3 Mt as set out in the adjusted LTP that supports the Coal Reserves;

- New capital projects include an upgrade to the Sary-Arka special coke plant to enable an increased volume of special coke production at a higher quality than currently, to supply future Kazchrome requirements, and an increase in production of 1 to 2 Mtpa, with additional supporting equipment and infrastructure to reach and maintain this target. SRK understands that design and engineering projects are in progress and these should be readily achievable as long as approved by ERG management. SRK notes that Shubarkol coal is suitable as feed for the production of the special coke required by the new plant;

- Mine closure costs are those costs which are estimated as being required, in 2018 money terms, to rehabilitate and secure the operational sites until the depletion of the Ore Reserves, being in 2050 (in the current plan). The Company has estimated the asset retirement obligation (“ARO”) at KZT 670.4 million (USD 1.86 million), being that cost required to rehabilitate and secure the sites as they stand today, in accordance with legislation. SRK considers this number to be too low. In the absence of reliable closure cost estimates for the assets, SRK recommends that the financial model includes a provision of approximately KZT 7 billion/ USD 20 million for the mine closure cost associated with the operations;

- No significant environmental or social issues relate to the mine or affect the performance of the mine plan and the Company’s ability to extract the Coal Reserves. SRK notes, however, that detailed mine closure plans and corresponding cost estimates are not available. Progressive reclamation should be considered to lower the LoM closure costs at the end of the life of mine, and reduce the risk associated with inadequate closure planning such as undervaluing of the closure work volumes, costs and financial assurances. Mine closure plans should be further developed to verify and improve the confidence in the closure cost estimates;

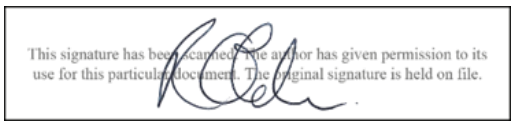
- Operating costs are well understood at the mine, given the long history of production in both operational areas. SRK has made some slight adjustments to the mining costs in the cost model to reflect longer haulage distances in the later years of the mine plan, but this has a negligible effect on the economics of the project;

- Capital requirements are well understood and are related to replacement capital of equipment and infrastructure to maintain the planned 12.3 Mtpa in the mine plan, at USD 27.8 million per annum. The planned expansion by 1 to 2 million tonnes per annum for potential increased sales and the expansion of the Sary-Arka special coke plant have not been included in the Coal Reserves case, nor has ERG presented alternative upside scenarios at this time;

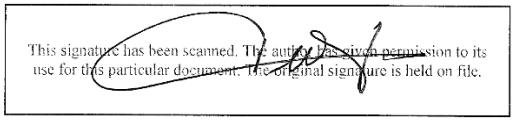
- Shubarkol's historical and forecast coal sales prices are reflective of a long history of many existing customers both internally within ERG, and externally in both Kazakhstan and overseas. SRK notes that whilst, in dollar terms, long term prices are well below consensus market forecasts for high quality thermal coal, with the current operating costs at the mines, breakeven sales prices are over 35% lower than the forecast. Thus, the economics of the operations are considered very robust;
- Assuming appropriate markets. Shubarkol has the flexibility to increase production significantly with appropriate investment, as noted above;
- Additional production of high value special coke from the Sary-Arka plant will also likely have a positive financial impact if the new project is implemented.

Overall, SRK considers the adjusted Life of Mine Plan presented in this CPR to be realistic and achievable. The coal prices and costs applied as part of the economic assessment indicate that the Coal Reserves are economically viable to mine.

For and on behalf of SRK Consulting (UK) Limited



Richard Oldcorn,
Corporate Consultant (Due Diligence),
Project Manager
SRK Consulting (UK) Limited



Sabine Anderson
Principal Consultant (Due Diligence),
Project Director
SRK Consulting (UK) Limited

APPENDIX

A JORC CODE TABLE 1

Section 1 Sampling Techniques and Data

Criteria	JORC Code explanation	Commentary
Sampling techniques	• *Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc.). These examples should not be taken as limiting the broad meaning of sampling.* • *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* • *Aspects of the determination of mineralisation that are Material to the Public Report.* • *In cases where 'industry standard' work has been done this would be relatively simple (e.g. 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information.*	Both borehole and extensive channel sampling has taken place over the deposit. This was performed in accordance with GOST standards. Excellent reconciliation of coal qualities over the LOM would suggest that the sampling techniques are appropriate for the deposit.
Drilling techniques	• *Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc.) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc.).*	All boreholes drilled were cored to acceptable GOST standards.
Drill sample recovery	• *Method of recording and assessing core and chip sample recoveries and results assessed.* • *Measures taken to maximise sample recovery and ensure representative nature of the samples.* • *Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.*	Core recoveries were generally over 80% and when this fell to below 60% a redrill was typically requested
Logging	• *Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.* • *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.* • *The total length and percentage of the relevant intersections logged.*	All boreholes were geophysically logged and included gamma, inclinometer and density.
Sub-sampling techniques and sample preparation	• *If core, whether cut or sawn and whether quarter, half or all core taken.* • *If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.* • *For all sample types, the nature, quality and appropriateness of the sample preparation technique.* • *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.* • *Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.* • *Whether sample sizes are appropriate to the grain size of the material being sampled.*	Boreholes were cored. The sampling was according to GOST industry standards.
Quality of assay data and laboratory tests	• *The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.* • *For geophysical tools, spectrometers, handheld XRF instruments, etc., the parameters used in determining the analysis including instrument make and model, reading times,*	The laboratory was visited and the facility was clean, well equipped and ISO 9001 certified. Duplicate analyses are performed to check repeatability. SRK understands that inter-laboratory checks are also performed but cannot verify this.

Criteria	JORC Code explanation	Commentary
	calibrations factors applied and their derivation, etc. • *Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.*	
Verification of sampling and assaying	• *The verification of significant intersections by either independent or alternative company personnel.* • *The use of twinned holes.* • *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.* • *Discuss any adjustment to assay data.*	SRK has reviewed the data along with cross sections and found no material discrepancies. Extensive sampling takes place from the production face to the train on a regular occurrence to check qualities.
Location of data points	• *Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.* • *Specification of the grid system used.* • *Quality and adequacy of topographic control.*	Boreholes and survey have been completed to the standards applicable to GKZ style exploration programs. Extensive use of trenching every 200m is used to supplement borehole results. Some production blast holes are geophysically logged and further exploration is taken within 200m of production face.
Data spacing and distribution	• *Data spacing for reporting of Exploration Results.* • *Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.* • *Whether sample compositing has been applied.*	Over 1,134 boreholes have been drilled which has resulted in a 500m grid with infill boreholes (250m) along section lines and close to seam outcrop. The resource classification has been modified from the GKZ system and is considered robust. Some production blast holes are geophysically logged and further exploration is taken within 200m of production face. Sample compositing has been applied.
Orientation of data in relation to geological structure	• *Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.* • *If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.*	There are few geological structures within the deposit. It is unlikely that there is any sampling bias and this is not reflected in any quality reconciliations.
Sample security	• *The measures taken to ensure sample security.*	Sample security is not known but remote location and social factors would suggest high level of security.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	SRK conducts audits on a yearly basis with field visits every two to three years.

Section 3 Estimation and Reporting of Mineral Resources

Criteria	JORC Code explanation	Commentary
Database integrity	• *Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.* • *Data validation procedures used.*	The existence of an electronic database has not been confirmed, SRK completed random checks that the information has been accurately transcribed onto cross sections and into the seam-by-seam reserve block plans. Random checks of geophysical logs have been undertaken by SRK and compared to drilling results
Site visits	• *Comment on any site visits undertaken by the Competent Person and the outcome of those visits.* • *If no site visits have been undertaken indicate why this is the case.*	Site visits are completed every 2-3 years, the most recent being in February 2016.
Geological interpretation	• *Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.* • *Nature of the data used and of any assumptions made.* • *The effect, if any, of alternative interpretations on Mineral Resource estimation.* • *The use of geology in guiding and controlling Mineral Resource estimation.* • *The factors affecting continuity both of grade and geology.*	The coal seams have a total thickness in excess of 11.5m. Only the upper horizon which comprises 3 interbedded seams within a coal horizon of 33m thick is presently mined. Borehole data, extensive channel samples and 30 years of operational experience help define the deposit.
Dimensions	• *The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.*	The deposit is within an asymmetrical basin with a maximum width of approximately 15 km from east to west and a depth up to 150 m. Dips are variable and are gentle in the center becoming fairly steep to near vertical close to the crops.
Estimation and modeling techniques	• *The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.* • *The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.* • *The assumptions made regarding recovery of by-products.* • *Estimation of deleterious elements or other non-grade variables of economic significance (e.g. sulphur for acid mine drainage characterisation).* • *In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.* • *Any assumptions behind modelling of selective mining units.* • *Any assumptions about correlation between variables.*	Although the estimation technique was not electronically generated it is still considered appropriate for a deposit of this type. The model was derived from information from cross sections constructed from the drilling results This was placed into defined polygons using thickness, ash content and structural domains. Previous estimates are available for reconciliation purposes. Partings greater than 1m and zones of greater than 45% ash were excluded. Partings over 0.3m thick were excluded since they would be selectively mined to improve ROM qualities

Criteria	JORC Code explanation	Commentary
	• *Description of how the geological interpretation was used to control the resource estimates.* • *Discussion of basis for using or not using grade cutting or capping.* • *The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.*	
Moisture	• *Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.*	The basis of the model is Air Dried.
Cut-off parameters	• *The basis of the adopted cut-off grade(s) or quality parameters applied.*	Ash content was limited to 53% cut-off.
Mining factors or assumptions	• *Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.*	The deposit is a large multi seam coal deposit with thick seams and shallow overburden that is suitable for open pit mining using a combination of dragline and truck and shovel. The mining face is 4km long.
Metallurgical factors or assumptions	• *The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.*	The mine has been operational since late 1980's and has been in continuous production since then. The coal is a good quality general purpose thermal coal that is supplied to a wide range of industries. Due to the nature of the partings, washing will not significantly upgrade the coal quality.
Environmental factors or assumptions	• *Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.*	There is sufficient available land to purchase for future waste storage outside the pit boundaries. No detailed in-pit storage has been untaken. SRK are not aware of any environmental constraints.
Bulk density	• *Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.* • *The bulk density for bulk material must have been measured by methods*	Average bulk density including moisture from the boreholes was used to convert volumes to tonnages.

Criteria	JORC Code explanation	Commentary
	that adequately account for void spaces (vugs, porosity, etc.), moisture and differences between rock and alteration zones within the deposit. • *Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.*	
Classification	• *The basis for the classification of the Mineral Resources into varying confidence categories.* • *Whether appropriate account has been taken of all relevant factors (i.e. relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).* • *Whether the result appropriately reflects the Competent Person's view of the deposit.*	SRK has based the classification on the GKZ Balanced Reserve for clean coal and consider this to be appropriate for this deposit. A long operational history, annual reconciliations, relatively simple geology and consistent coal qualities that are supported by regular reconciliations.
Audits or reviews	• *The results of any audits or reviews of Mineral Resource estimates.*	SRK conducts a review each year of the deposit with regular site visits.
Discussion of relative accuracy/ confidence	• *Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.* • *The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.* • *These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.*	A long operational history, relatively simple geology with low exploration and mining losses that are combined with consistent coal qualities suggests that the Mineral Resource estimate has a high degree of confidence. In-pit sampling combined with ongoing reconciliations of ROM and sales qualities ensure that the coal supplied meets the required specifications.

Section 4 Estimation and Reporting of Ore Reserves

Criteria	JORC Code explanation	Commentary
Mineral Resource estimate for conversion to Ore Reserves	• *Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve.* • *Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.*	The Coal Reserves are based on the Coal Resource estimate dated 31 December 2017, consisting of 905.1 Mt at 11.3% ash in Measured and Indicated categories. The Inferred Coal Resource includes an additional 62.7 Mt at 11.41% ash. The Coal Resources are inclusive of the Coal Reserves. The Coal Reserves amount to 405.6 Mt at 8.13% ash, in the Probable category.
Site visits	• *Comment on any site visits undertaken by the Competent Person and the outcome of those visits.* • *If no site visits have been undertaken indicate why this is the case.*	Site visits are completed every 2-3 years, the most recent being in July 2018.
Study status	• *The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.* • *The Code requires that a study to at least Pre-Feasibility Study level has been undertaken to convert Mineral Resources to Ore Reserves. Such studies will have been carried out and will have determined a mine plan that is technically achievable and economically viable, and that material Modifying Factors have been considered.*	The Coal Reserves are supported by a feasibility level study, and the mine is currently in operation. Long term mine plans have been developed to 2066, though the Coal Reserve life of mine plan only extends till 2050.
Cut-off parameters	• *The basis of the cut-off grade(s) or quality parameters applied.*	Ore loss and dilution estimates are made on a seam by seam basis by understanding the thicknesses of the partings or interburden. A coal cut-off of 20% ash and 1 m coal thickness has been applied, as well as inclusion as coal of any partings less than 0.5 m. In general, these cut-offs apply to blocks within the next 10 years or so of mine life. All other blocks use the original cut-off strategy of 45% ash and 1 m coal thickness, with all partings less than 1 m being included as coal.
Mining factors or assumptions	• *The method and assumptions used as reported in the Pre-Feasibility or Feasibility Study to convert the Mineral Resource to an Ore Reserve (i.e. either by application of appropriate factors by optimisation or by preliminary or detailed design).* • *The choice, nature and appropriateness of the selected mining method(s) and other mining parameters including associated design issues such as pre-strip, access, etc.* • *The assumptions made regarding geotechnical parameters (eg. pit slopes, stope sizes, etc), grade control and pre-production drilling.* • *The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate).* • *The mining dilution factors used.* • *The mining recovery factors used.*	The method and assumptions are reported in the 2014 Technical Report. The mine was originally designed by The State Institute for Mining who continue to monitor and revise the design as necessary. The mining method used to extract the coal is considered appropriate for the thickness of the seam and the need to separate partings. Waste stripping is undertaken by a variety of methods which are described in this report. The geotechnical parameters were reported in the 2014 Technical Report. The State Institute for Mining monitors slope stability and reviews geotechnical parameters. The mine is in operation and the modifying factors are based on current experience as explained in the main body of the report. There are no minimum widths. Widths are designed to specific equipment requirements.

Criteria	JORC Code explanation	Commentary
	• *Any minimum mining widths used.* • *The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.* • *The infrastructure requirements of the selected mining methods.*	The method and assumptions are reported in the 2014 Technical Report. The mine is in operation and the full infrastructure in place.
Metallurgical factors or assumptions	• *The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.* • *Whether the metallurgical process is well-tested technology or novel in nature.* • *The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.* • *Any assumptions or allowances made for deleterious elements.* • *The existence of any bulk sample or pilot scale test work and the degree to which such samples are considered representative of the orebody as a whole.* • *For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications?*	N/A to thermal coal. A small special coke plant treats some 400 kt per annum. The yield achieved in 2017 was 50%.
Environmental	• *The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterisation and the consideration of potential sites, status of design options considered and, where applicable, the status of approvals for process residue storage and waste dumps should be reported.*	Shubarkol mine is in a remote location and is 10 km from the nearest settlement. No major environmental or social issues were identified during the review of Shubarkol operation. SRK did not see evidence of significant air or water pollution during the site visit. The available monitoring data also does not provide evidence of significant environmental pollution. Shubarkol has integrated management systems for quality management, environmental management, health and safety management. These are certified to the ISO 9001:2008, ISO 14001:2004, OHSAS 18001:2007 standards. Shubarkol has the environmental permits required to operate. These permits are updated as required. SRK has not found a complete and adequate mine closure cost estimate. In discussion with the Company, SRK has allowed for a mine closure cost of USD22 million, for the purposes of providing a complete set of costs in the Coal Reserve life of mine plan. SRK further notes that there is a large difference between the closure costs estimated in the project documentation and the ARO for Shubarkol. The LoM costs for the mine should be reviewed and revised for the current planned LoM.
Infrastructure	• *The existence of appropriate infrastructure: availability of land for plant development, power, water, transportation (particularly for bulk commodities), labour, accommodation; or the ease with which the infrastructure can be provided, or accessed.*	The mine is a well-established operation with full infrastructure in place.
Costs	• *The derivation of, or assumptions made, regarding projected capital costs in the study.* • *The methodology used to estimate operating costs.* • *Allowances made for the content of deleterious elements.*	Forecast capital costs (USD million) are based on capital schedule provided by ERG, being as follows:

Criteria	JORC Code explanation	Commentary
	• *The source of exchange rates used in the study.* • *Derivation of transportation charges.* • *The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.* • *The allowances made for royalties payable, both Government and private.*	**2018 2019 2020 2021 2022 2023 2024 2025 2026** 39.6 37.4 34.2 27.4 26.3 23.7 19.9 18.3 23.8 SRK has allowed for an average USD 27.8 million per annum thereafter. Forecast average Life of Mine unit operating costs are based on the 2017 realised cash costs, adding a 2.3% inflationary increase, being • USD 7.78/t saleable coal Exchange rate fixed by Client and SRK. No mineral extraction tax is due on coal mining.
Revenue factors	• The derivation of, or assumptions made regarding revenue factors including head grade, metal or commodity price(s) exchange rates, transportation and treatment charges, penalties, net smelter returns, etc. • The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.	Prices are based on ERG price forecast for coal from Shubarkol at USD 16.1/t domestic and USD 14.7/t export thermal coal. Prices for coking coal have been set at USD 95/t as forecast by Shubarkol.
Market assessment	• *The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future.* • *A customer and competitor analysis along with the identification of likely market windows for the product.* • *Price and volume forecasts and the basis for these forecasts.* • *For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.*	Sales forecasts have been provided by ERG. Sales are to Kazakhstan, Russia, Kyrgyzstan, other export markets as well as to Group Companies.
Economic	• *The inputs to the economic analysis to produce the net present value (NPV) in the study, the source and confidence of these economic inputs including estimated inflation, discount rate, etc.* • *NPV ranges and sensitivity to variations in the significant assumptions and inputs.*	Based on the coal prices and costs described, there is a comfortable pre-tax and pre-finance profit margin, with positive annual cash flows. On this basis, the Coal Reserves are deemed economic.
Social	• *The status of agreements with key stakeholders and matters leading to social licence to operate.*	No major social issues were identified during the review of Shubarkol operation.
Other	*To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves:* • *Any identified material naturally occurring risks.* • *The status of material legal agreements and marketing arrangements.* • *The status of governmental agreements and approvals critical to the viability of the project, such as mineral tenement status, and government and statutory approvals. There must be reasonable grounds to expect that all necessary Government approvals will be received within the timeframes anticipated in the Pre-Feasibility or Feasibility study. Highlight and discuss the materiality of any unresolved matter that is dependent on a third party on which extraction of the reserve is contingent.*	None identified

Criteria	JORC Code explanation	Commentary
Classification	• *The basis for the classification of the Ore Reserves into varying confidence categories.* • *Whether the result appropriately reflects the Competent Person's view of the deposit.* • *The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).*	Based on the Form 7 classification (A, B and C1 can be converted into Coal Resources, and then to Reserves). The classification applied reflects the CP's view of the deposit, and is based on proposed mining methods and modifying factors. Because of insufficient detail in the mine plan, both in terms of tonnages and qualities over the LoM period, SRK has classified all the Coal Reserves as Probable Coal Reserves.
Audits or reviews	• *The results of any audits or reviews of Ore Reserve estimates.*	The last site visit was in July 2018.
Discussion of relative accuracy/confidence	• *Where appropriate a statement of the relative accuracy and confidence level in the Ore Reserve estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the reserve within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors which could affect the relative accuracy and confidence of the estimate.* • *The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation.* • *Documentation should include assumptions made and the procedures used.* • *Accuracy and confidence discussions should extend to specific discussions of any applied Modifying Factors that may have a material impact on Ore Reserve viability, or for which there are remaining areas of uncertainty at the current study stage.* • *It is recognised that this may not be possible or appropriate in all circumstances. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.*	This is an on-going operation with consistent and relatively simple geological conditions and straightforward operating conditions, and there have been no significant changes with respect to previous technical reviews. This gives a high level of confidence in the achievability of the mine plans going forward.