



**CELSIUS COAL**  
**LIMITED**

ASX RELEASE | 24 March 2014

**CELSIUS ANNOUNCES 40 MILLION TONNE INCREASE**  
**IN JORC RESOURCE**  
**AT UZGEN BASIN COKING COAL PROJECT**

**HIGHLIGHTS**

- Total Inferred JORC Code Resource increased by 40Mt to 295Mt of coal at the Uzgen Basin Coking Coal Project.
- Major Inferred resource increase of 35Mt to new total of 60Mt at Kokkia being a 140% increase over prior Resource level.
- 5Mt increase in Inferred Resource to 235Mt for Kargasha.
- Consistent quality data with continuing very low moisture, low ash, low phosphorus and moderate sulphur.
- Open Pit Resources now being estimated and auger mining study progressing.

**Celsius Coal Limited (ASX Code: CLA) (Celsius or the Company)** is pleased to announce a updated JORC Code compliant Resource estimate for the Company's flagship Uzgen Basin Coking Coal Project located in Kyrgyz Republic (Figure 3).

Commenting on the new JORC compliant Resource statement Technical Director Mr. Alistair Muir stated "Much of the aim of the this years drilling program was the first exploratory work in the Kokkia area of the Uzgen Basin Coking Coal Project. We're very happy with the 140% increase in inferred Resource in this area of the deposit, and this builds upon the favorable coal quality data we have received for the drilling works to date, both at Kokkia and Kargasha."



## RESOURCE SUMMARY

The updated Resource statement for Celsius' Uzgen Basin Coking Coal Project includes total Inferred JORC Code Resources of 295 million tonnes. The total Inferred Resource estimate comprises 235 million tonnes at Kargasha and 60 million tonnes at Kokkia (Table 1). This represents a growth in total resource of 40 million tonnes or approximately 16% over the prior 2013 Resource statement. The coal Resource is based on results from Celsius' 2012/2013 drilling (18 drill holes), Soviet era drilling of 54 drill holes, information from circa 164 adits and extensive field mapping within the project areas (Figure 1).

The Coal Resource Statement was completed by Australian technical coal specialist resource estimation firm G&S Resources using the advanced Vulcan resource modelling package.

The Company has now significantly grown its Resource level based on the second year of diamond drilling, and has also completed the first year of drilling and coal quality testing for the Kokkia deposit. The work done over the last exploration season continues to show the potential of the Uzgen Basin to be a major Central Asian coking coal resource.

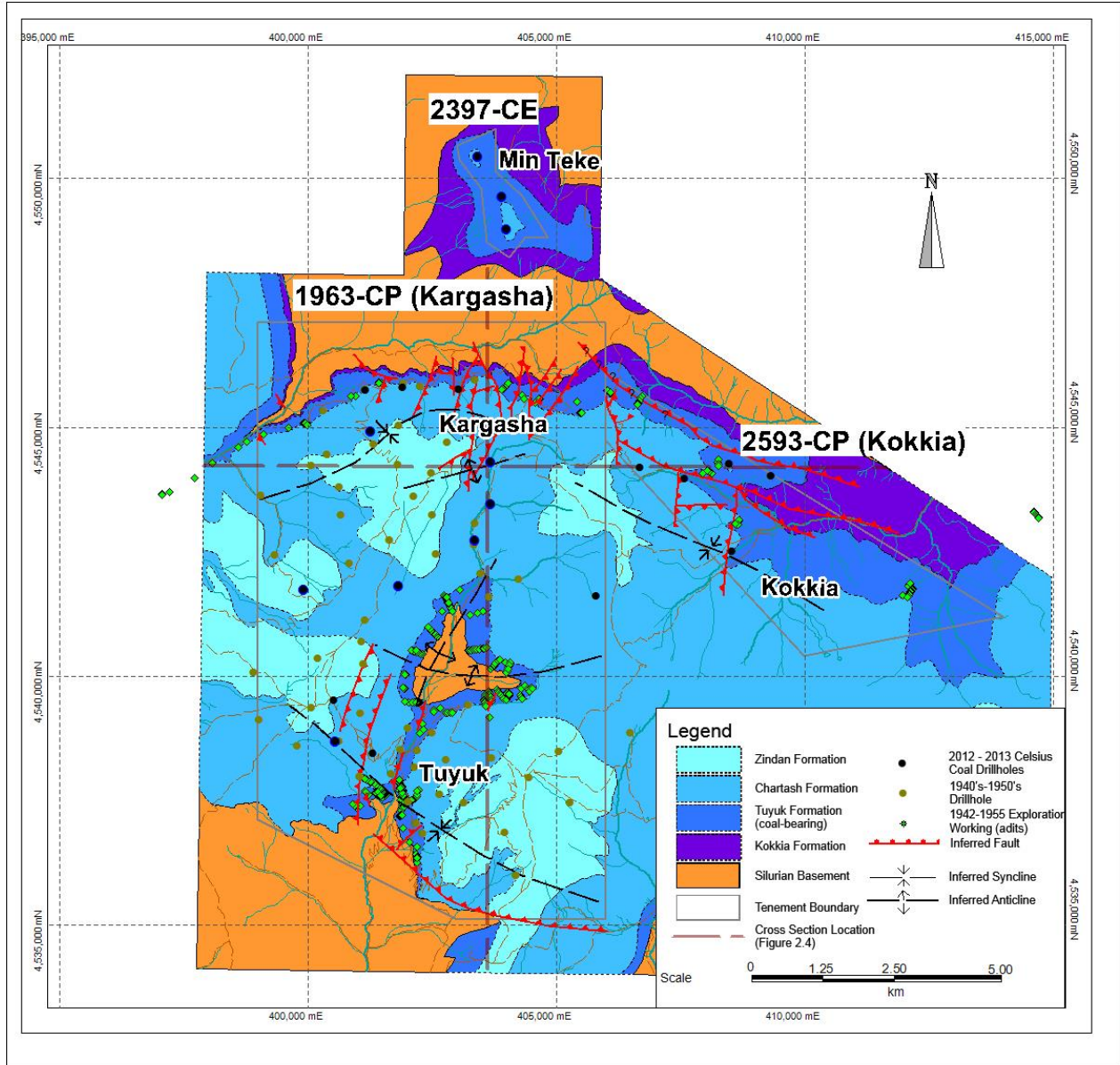
**Table 1: Inferred JORC Code Resources at Uzgen Basin Coking Coal Project**

Project Area	Inferred Resource Mt	Ash % (ad)	Inherent Moisture %	Volatile Matter % (ad)	Total Sulphur % (db)
<b>Kargasha</b>	235	14.2	1.2	31.4	0.64
<b>Kokkia**</b>	60	18.8	0.9	30.5	0.83
<b>Total (rounded)</b>	295	15.1	1.2	31.2	0.68

\*\* Note: For Kokkia, 25Mt of the estimated Resource is derived from areas outside the last points of observation but has been included in the Resource Statement because of the strong evidence of geological continuity based on adits, trenching and comprehensive geological mapping.

The diagram below presents the distribution of points of observation for drill holes and adits that have been used for resource modeling purposes (Figure 1).

Figure 1: Location of drill holes and adits – Kargasha and Kokkia



### KOKKIA RESOURCE DESCRIPTION

The Inferred Resource of 60 million tonnes at Kokkia is contained in 11 seams across the tenement. For Resource estimation purposes a seam thickness cut off of 0.5m has been applied. Details of the Resource on a seam-by-seam basis are as follows (Table 2):



**Table 2: Inferred Resource at Kokkia on a Coal seam basis**

*(Summation down columns may not precisely equate to totals due to rounding)*

Seam Name	Million tonnes	Ash % (ad)	Inherent Moisture %	Volatile Matter % (ad)	Total Sulphur % (db)	Average Seam Thickness (m)
Q	3.79	27.5	0.8	29.2	1.19	0.6
N3	7.64	17.7	1.0	31.4	0.72	0.8
M3	0.48	12.3	1.2	32.3	0.72	0.6
K1	16.59	13.2	1.0	32.9	0.82	1.7
J1	10.18	25.7	0.8	31.0	0.75	0.9
H	0.73	16.3	1.0	30.7	1.10	0.6
G	7.17	22.2	0.8	27.9	1.22	0.9
F	1.76	15.4	0.8	30.2	1.37	0.7
E	9.39	18.9	0.8	27.8	0.52	0.9
D	2.13	12.1	0.9	30.2	0.64	0.7
B	0.33	9.5	0.9	30.0	0.57	0.5
<b>Total (rounded)</b>	<b>60</b>	<b>18.8</b>	<b>0.89</b>	<b>30.5</b>	<b>0.83</b>	

25Mt of the Resource estimate at Kokkia is based on five fully cored drill holes DD13KK001-5 drilled in 2013, trenching undertaken in 2012 and extensive field mapping completed in 2013.

## KARGASHA RESOURCE DESCRIPTION

The Inferred Resource of 235 million tonnes at Kargasha is contained in 17 seams across the tenement. For Resource estimation purposes a seam thickness cut off of 0.5m has been applied. Details of the Resource on a seam-by-seam basis are as follows (Table 3):





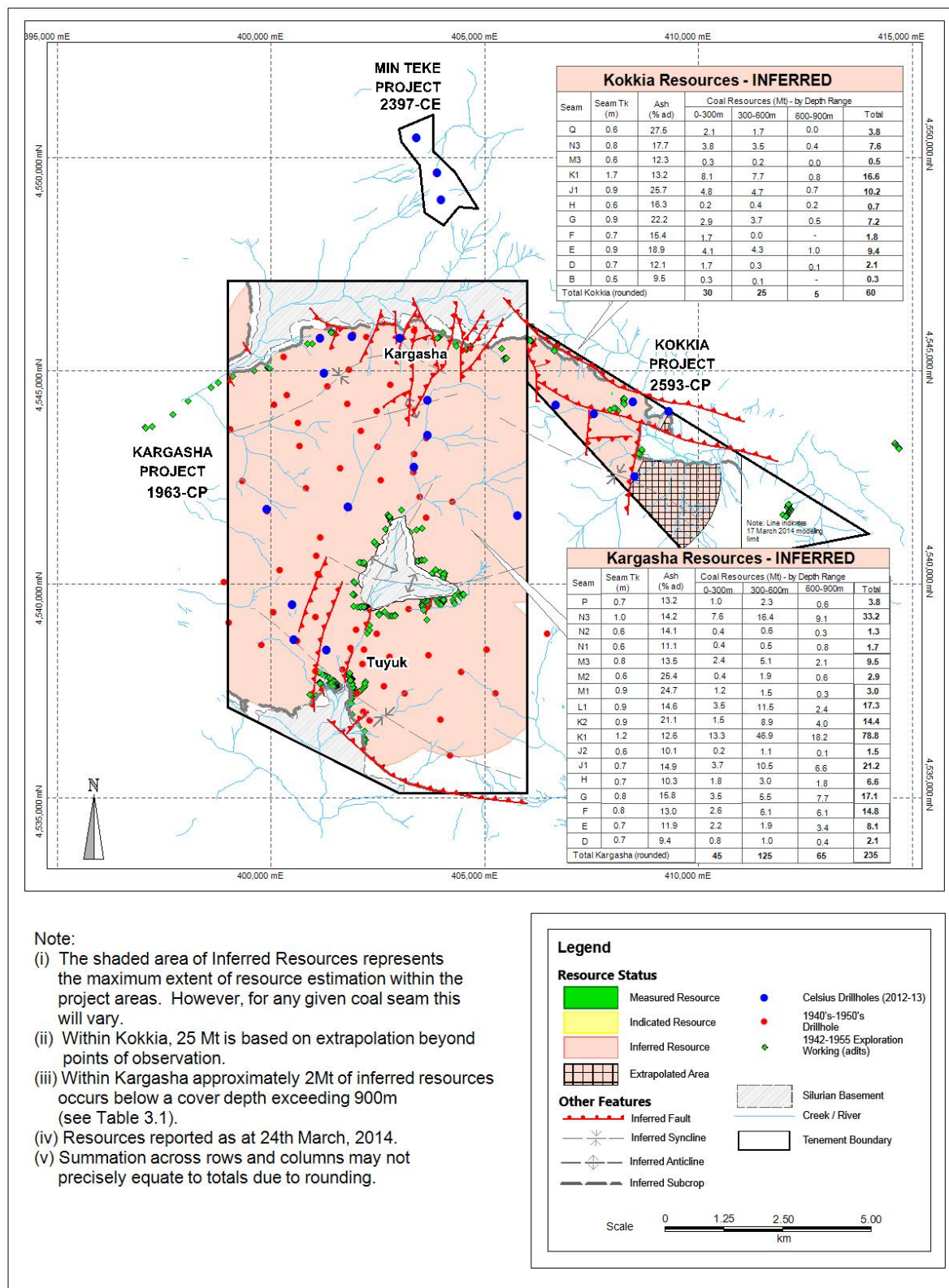
**Table 3: Inferred Resource Kargasha on Coal seam basis**  
(Summation down columns may not precisely equate to totals due to rounding)

Seam Name	Million tonnes	Ash % (ad)	Inherent Moisture %	Volatile Matter % (ad)	Total Sulphur % (db)	Average Seam Thickness (m)
P	3.83	13.2	1.2	31.0	0.79	0.7
N3	33.21	14.2	1.4	34.0	0.58	1.0
N2	1.31	14.1	1.3	34.9	0.61	0.6
N1	1.72	11.1	1.3	34.0	0.98	0.6
M3	9.50	13.5	1.3	34.0	0.76	0.8
M2	2.90	25.4	1.4	30.3	0.89	0.6
M1	2.96	24.7	1.1	34.4	0.73	0.9
L1	17.31	14.6	1.2	32.7	0.69	0.9
K2	14.40	21.1	1.1	32.5	0.73	0.9
K1	78.77	12.6	1.3	29.3	0.53	1.2
J2	1.49	10.1	1.2	35.3	0.68	0.6
J1	21.18	14.9	1.1	31.9	0.69	0.7
H	6.56	10.3	1.3	33.8	0.71	0.7
G	17.05	15.8	1.2	30.9	0.81	0.8
F	14.77	13.0	1.1	30.6	0.73	0.8
E	8.11	11.9	1.1	29.2	0.58	0.7
D	2.14	9.4	1.1	30.0	0.75	0.7
<b>Total(rounded)</b>	<b>235</b>	<b>14.2</b>	<b>1.2</b>	<b>31.4</b>	<b>0.64</b>	-

The Resource estimate at Kargasha is based on seven fully cored drill holes DD12TK001-7 and six fully cored drill holes DD13TK008-13 completed by Celsius in 2012 and 2013 respectively, 54 Soviet era drill holes (approximately 29,000m) SV001-060 completed 1945-1954, circa 164 adits developed between 1945-1954 and field mapping completed in 2013.



Figure 2: Kargasha and Kokkia Resource estimate boundary for all Coal seams



Note:

- (i) The shaded area of Inferred Resources represents the maximum extent of resource estimation within the project areas. However, for any given coal seam this will vary.
- (ii) Within Kokkia, 25 Mt is based on extrapolation beyond points of observation.
- (iii) Within Kargasha approximately 2Mt of inferred resources occurs below a cover depth exceeding 900m (see Table 3.1).
- (iv) Resources reported as at 24th March, 2014.
- (v) Summation across rows and columns may not precisely equate to totals due to rounding.



## DEPTH CONSIDERATIONS

From a depth consideration the resources are categorized in Table 4 below:

**Table 4: Resources by Depth**

	Kargasha		Kokkia	
Depth Increment	Increment Mt	Cumulative Mt	Increment Mt	Cumulative Mt
0-300m	46.3	46.3	30.0	30.0
300-600m	124.4	170.7	26.5	56.6
600m-900m	64.4	235.2	3.6	60.1
<b>Total (rounded)</b>		<b>235</b>		<b>60</b>

## COAL QUALITY SUMMARY

Float sink and coal quality analyses on 2013 drilling is still in progress, however from Celsius' 2012 drilling results at Kargasha the key features of the coal quality are demonstrated by the analyses from washed composites (though it equally applies to raw low ash samples). This data is summarized as follows:

- Air dried inherent moisture (IM) is low and consistent at 0.9%.
- Ash averages 5% (ad), with the lowest at 2.6% and highest 7.5%.
- Volatile matter (VM) on a dry ash free (daf) basis averages 39.2% and has a relatively small range.
- Gross calorific value (GCV) is high due to the generally low ash of the composites averaging 7862 kcal/kg (ad).
- Total sulfur (TS) values are moderate to low, averaging 0.71% on a dry basis (db) and range from 0.44% to 1.00%.
- Phosphorus is generally low at 0.021% (db).
- Hard-grove Grindability Index (HGI) is reasonably consistent averaging 51, with a range of 43 to 60.
- Ultimate carbon (daf) averages 85.0%, which is consistent with the rank of the coal and shows little variability.
- Hydrogen is reasonably consistent at 5.46%.
- Nitrogen is consistent and relatively low, averaging 1.46%.

The plastic properties of the washed coking composites are generally good and consistent across the coal seams:

- Free-swell Index (FSI) averages 7 to 7.5, with an overall range of 6 to 8.5.
- G Index averages 71 and is reasonably consistent ranging between 66 and 85.





- The Y index is consistent averaging 15mm and ranging from 13mm to 19mm. J seam has the highest average of 17mm.
- Maximum dilatation averages 61% and has significant variation between samples ranging from 31% to 91%.

With regard to laboratory washability testing there is a wide range of head ash ranging up to 35%. All the samples exhibited pronounced separation characteristics with only relatively minor amounts of middlings material. At a cumulative float density of 1.50g/cc (CF1.50RD) the theoretical yield ranges between 41% to 94%, with 84% of values being >60%.

Note: The theoretical yields referred to in this document are laboratory float/sink yields on crushed material only. They have not been obtained from properly pretreated and sized material, and they do not take into account such factors as coal loss and dilution during mining, process plant design and efficiency, or differences in feed and washed product moisture levels.

## **FURTHER STUDIES**

Celsius is continuing with coking laboratory test work and has commenced open pit mining studies on the Kokkia deposit and auger mining studies on various prospective areas of both deposits.

## **COMPETENT PERSONS STATEMENT**

The information in this announcement that relates to resource estimates is based on information compiled by Dr Gavin Springbett, a Competent Person who is a Member of The Australasian Institute of Mining and Metallurgy. Dr Springbett is acting as a consultant to Celsius Coal Limited and is an employee of G&S Resources. Dr Springbett has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Dr Springbett consents to the inclusion in this announcement of the matters based on his information in the form and context in which it appears.

The information in this announcement that relates to Exploration Results is based on information compiled by Dr David Hornsby, a Competent Person who is a Member of The Australasian Institute of Mining and Metallurgy. Dr Hornsby is acting as a consultant to Celsius Coal Limited and is an employee of Gallagher Consulting Services Pty Ltd and is a member of The Minserve Group Pty Ltd. Dr Hornsby has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves ("JORC Code"). Dr Hornsby consents to the inclusion in this announcement of the matters based on his information in the form and context in which it appears.



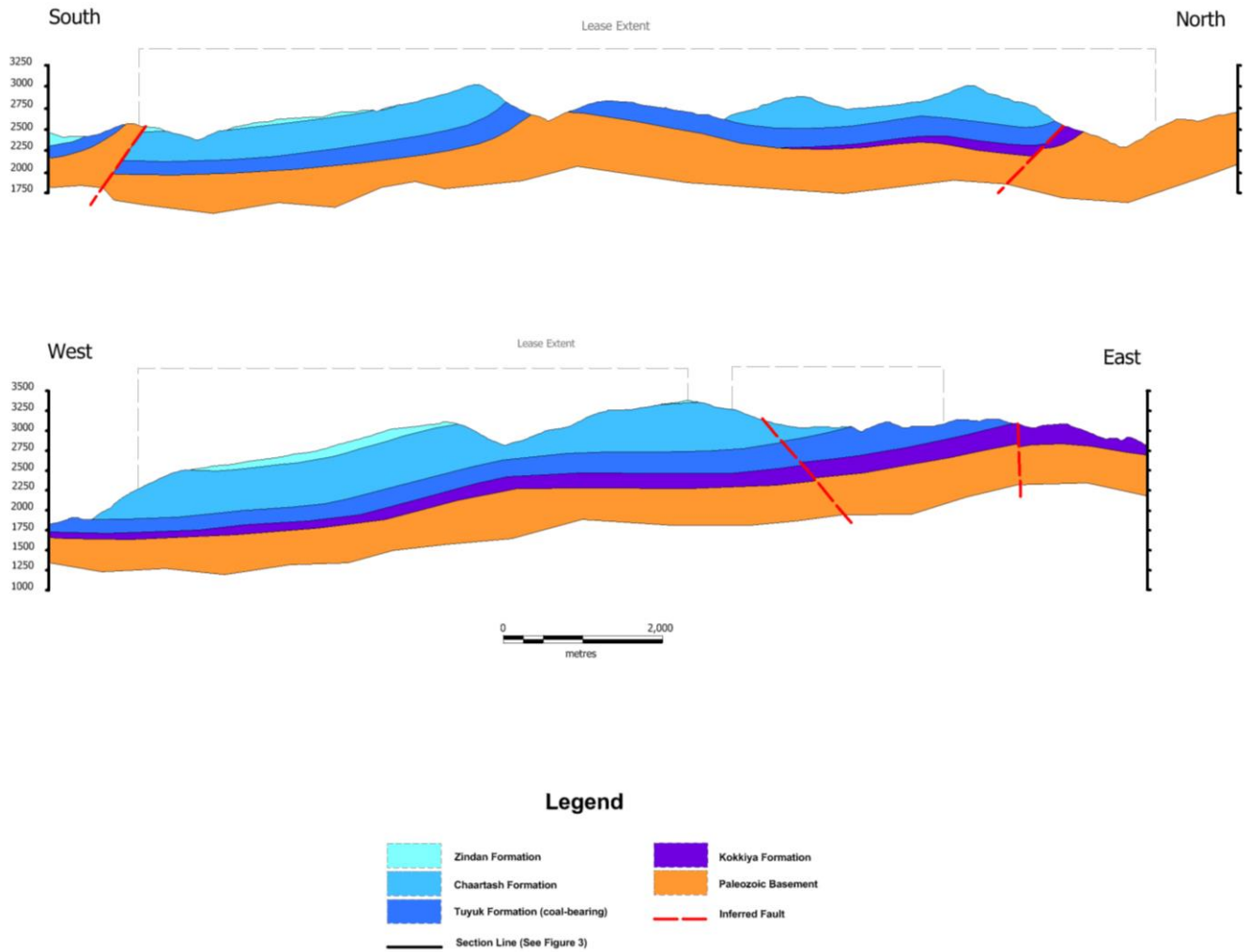


Figure 3: Location of Celsius coal projects, Kyrgyz Republic





Figure 4: Uzgen Basin Coking Coal Project geology and schematic cross-sections





## **ABOUT CELSIUS COAL**

Celsius Coal Ltd is focused on developing coking and thermal coal deposits in the Kyrgyz Republic.

Celsius owns 80% of its Uzgen Basin Coking Coal Project (comprising: Kargasha; Kokkia; and Min Teke), which cover an established Soviet-era coking coal resource. It also owns 90% of its Alai Range Projects (comprising: Sary Mogol and Bel Alma).

For more information, please visit [www.celsiuscoal.com.au](http://www.celsiuscoal.com.au) or contact Mr Ranko Matic, Company Secretary on +61 (08) 9226 4500.

## APPENDIX A JORC Code, 2012 Edition – Table 1 Report Template

### Appendix A: Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections.)

Criteria	JORC Code explanation	Commentary
<b>Sampling techniques</b>	<ul style="list-style-type: none"> <li><i>Nature and quality of sampling (eg 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.</i></li> <li><i>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</i></li> <li><i>Aspects of the determination of mineralisation that are Material to the Public Report.</i></li> <li><i>In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.</i></li> </ul>	<ul style="list-style-type: none"> <li>Samples were predominately obtained by core sampling, with all drilling fully cored. Some sampling was also undertaken in adits and inclines excavated in the vicinity of seam subcrop.</li> <li>Specific documentation of sampling/testing objectives and procedures in pre Celsius Coal exploration (i.e. Soviet investigations over 1947-1955) are unavailable. However, the general scheme deduced from the analytical data set in drill holes and adits, appears to involve ply sampling in line with lithological variation. Specifically, coals do not appear to be combined with adjoining coaly/carbonaceous horizons and coal bands as fine as 0.1m were sampled separately. Rare exceptions include thin intraseam clastic beds up to 0.1m. A maximum sample length of approximately 1m appears to have been applied, as thicker seam developments are typically sub-divided.</li> <li>Seams are not always fully sampled in Soviet drilling, especially where split by non-coal intraseam horizons, or parting and the reason for this apparent omission is unclear. Roof and floor samples were generally not collected, unless composed of coaly shale.</li> <li>During Celsius Coal exploration over 2012 – 2013, ply sampling was undertaken to a maximum thickness of 1.0m and down to 0.3m. All coal intervals &gt;0.2m were sampled and for coal bands exceeding 0.5m thick, roof and floor samples of 0.1m were also collected. Seams less than 0.2m were sampled where immediately adjacent to other coal horizons. Sample definition is based on lithological variations (e.g. coal type changes, nature and extent of clastics interbeds, seam boundaries etc.). Inseam clastics &lt;0.1m thick were sampled together with the adjacent coal in 2012 drill holes, while &lt;0.05m was applied in 2013 exploration.</li> <li>Sample selection and preparation of 2012-213 exploration was supervised by Celsius Coal. Cores were handled to minimise moisture losses and preserve core condition.</li> </ul>
<b>Drilling techniques</b>	<ul style="list-style-type: none"> <li><i>Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger,</i></li> </ul>	<ul style="list-style-type: none"> <li>Drilling was undertaken in four principal phases and a total of 78 full cored drill holes completed (Appendix D). These include: (i) SV Series (Soviet era) core drilling: 17</li> </ul>



Criteria	JORC Code explanation	Commentary
	<p><i>Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).</i></p>	<p>drill holes comprised of SV001 to SV015, SV022 and SV023 (1947-1951, Soviet exploration); (ii) SV Series core drilling: 43 drill holes comprised of SV015 to SV060, excluding SV022 and SV023 (1954-1955, Soviet exploration); (iii) TK Series core drilling: 7 drill holes comprised of TK0001 to TK0007 (2012, Celsius Coal Limited exploration) mostly twinning pre-existing Soviet drilling. (iv) TK/KK Series core drilling: 11 drill holes comprised of TK008 to TK0013 and KK0001 to KK0003 (2013, Celsius Coal Limited exploration) representing infill and extension drilling.</p> <ul style="list-style-type: none"> <li>• For SV series drilling a variety of hole diameters were reported, with the most common 75, 85, 89, 91, 101, 110, 130 and 146mm. The corresponding core diameters are unknown. Drilling generally penetrates the Kokkia Formation underlying the coal bearing interval, or Silurian basement. However, some exceptions occur reflecting operational difficulties during drilling.</li> <li>• The 2012 Celsius Coal drilling primarily recovered HQ (and NQ) core, i.e. 63 mm and 47.6 mm, respectively using standard core barrels. 2012 sites generally twin older Soviet drill holes and only occasionally intersect basement.</li> <li>• The 2013 Celsius Coal drilling involved 9 HQ and 2 PQ cored holes (63 and 85mm) using a 3m HQ3 split triple tube core barrel and 1.5m PQ core barrel, respectively. Drilling was undertaken to the base of the coal sequence.</li> </ul>
<p><b>Drill sample recovery</b></p>	<ul style="list-style-type: none"> <li>• <i>Method of recording and assessing core and chip sample recoveries and results assessed.</i></li> <li>• <i>Measures taken to maximise sample recovery and ensure representative nature of the samples.</i></li> <li>• <i>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.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Core recovery data is available for all drilling with the exception of 12 Soviet series drill holes (<i>viz.</i> 001, 002, 018, 030, 033, 034, 035, 036, 050, 055, 057 and 060).</li> <li>• In Soviet drilling, the recovered core thickness assigned to each lithological interval and the corresponding interpreted thickness were used to determine percentage recovery (i.e. lineal basis). The precise methodology by which the losses were assigned over a run is not fully documented, but is believed to involve standard procedures developed by the Soviet Ministry of Geology.</li> <li>• In 2012 – 2013 Celsius Coal drilling, the drillers’ records of run length and geologists core measurements were applied to calculate core recovery. There appeared to be very little transfer of core from run to run, although this was reviewed prior to sampling. In cases where losses occurred at coal/shale boundaries, the missing portions (typically &lt;0.2m) were generally allocated to coal.</li> <li>• Core recovery over individual seams varies considerably, ranging from &lt;10% to 100%. In general, core recovery in initial Soviet drilling was poor, but increased over time, presumably with increased drilling experience in the area. Low core recoveries and/or incomplete sampling in SV series drilling precluded use of ~half the available analytical data within any given seam. Recovery tended to be consistently high in the 2012 - 2013 drill holes (exceeding 95% over the coal bearing Tuyuk Formation).</li> <li>• Core recovery is assessed for each individual seam during the modelling process. Furthermore, this is combined with the portion the seam sampled/analysed, as some variability exists in historical (i.e. Soviet) drilling, whereby portions of the seam may</li> </ul>

Criteria	JORC Code explanation	Commentary
<b>Logging</b>	<ul style="list-style-type: none"> <li>• Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</li> <li>• Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</li> <li>• The total length and percentage of the relevant intersections logged.</li> </ul>	<p>be omitted and/or thin intraseam non-coal material excluded.</p> <ul style="list-style-type: none"> <li>• Lithological logs are available for all drill holes, with a broadly consistent level of detail across the various exploration programs. This includes rock type, lithological description, stratigraphic identifier, seam correlation and bedding angle. In addition, drilled thickness and core recovery are provided for each lithological interval.</li> <li>• In Soviet drill holes, lithological logging was undertaken to an interval of ~0.01m and recorded in a paper format. Logs were then reproduced within geological reports in an interpreted, depth corrected form, with both graphical and tabular outputs. The 2012 - 2103 Celsius Coal geological logging is based on the ACARP 2012 borehole data standard for the Australian Coal Industry (CoalLog V1.1). Over the coal bearing interval, lithological characteristic were logged to ~0.05m detail and all information recorded in an electronic form.</li> <li>• A specific program was undertaken by Celsius Coal to capture the paper based lithological data for SV001 to SV060 (see "Database Integrity" item of this table). Logs for 2012 - 2013 drilling were prepared in a digital format concurrent with exploration by Celsius Coal.</li> <li>• Interpreted limits of soil and scree are included within Soviet lithological logs and vary from &lt;1m to 38m, averaging ~8 m, while base of weathering interpretations are not included.</li> <li>• Geotechnical core logging was undertaken by Celsius Coal for 2013 drill holes. Point load testing was conducted at ~2m throughout the Tuyuk Formation and samples taken at ~5-10m intervals for Slake Durability, UCS and indirect tensile strength.</li> <li>• Core was photographed during both the 2012 and 2013 drilling programs.</li> <li>• Most drill holes have some form of geophysical log (i.e. 50 of 60 SV drill holes and 16 of 18 drill holes from 2012-2013). The 1947-1955 Soviet drilling was geophysically logged using electrical lateral tools. The operator is unknown, but is thought to be a government geophysical logging agency.</li> <li>• Celsius Coal's 2012 exploration drilling was geophysically logged by Kyrgyz Geophysica, a Kyrgyzstan based company, operating from Bishkek. The logging suite included long spaced density (~30cm source-detector spacing), caliper, gamma and electrical and SP. Several logs were obtained either within drill rods, or casing and data was acquired in 5 of the 7 TK series drill holes, with casing precluding logging in TK0002 and TK0006. Of the logged holes only TK0004, TK0005 and TK0007 provided density logs in open hole conditions.</li> <li>• The 2013 exploration drilling was geophysically logged by Monkarotaj, a Mongolian company working in co-operation with Australian logging contractor Auslog (a part of Weatherford International Ltd.). Logs acquired included short and long spaced density, gamma, caliper, sonic, resistivity and deviation. Log resolution was considerably improved over the 2012 suite (consistent with significantly improved</li> </ul>

Criteria	JORC Code explanation	Commentary
<b>Sub-sampling techniques and sample preparation</b>	<ul style="list-style-type: none"> <li><i>If core, whether cut or sawn and whether quarter, half or all core taken.</i></li> <li><i>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</i></li> <li><i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i></li> <li><i>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</i></li> <li><i>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.</i></li> <li><i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i></li> </ul>	<p>probe technology) and 6 of the 2012 drill holes were re-logged.</p> <ul style="list-style-type: none"> <li>Sampling of cores in both Soviet and Celsius Coal evaluations are based on full cores (i.e. no core splitting was undertaken). The total sample was submitted to the laboratory for analysis.</li> <li>Sampling in adits and inclines involved channelling through the seam (~0.15m wide, by ~0.1m deep). Analysis of samples from adits and inclines essentially replicates the criteria applied for testing of cores from Soviet drill holes.</li> <li>During 2012 – 2013 drilling all coal and carbonaceous intervals were wrapped in plastic to maintain moisture immediately after cleaning and measurement of core recovery.</li> <li>Samples were selected in line with lithological characteristics during 2012 – 2013 exploration (refer "Sampling Techniques" item of this table) to ensure they reflect inherent coal quality variations. Similar procedures are thought to have occurred in the Soviet era exploration.</li> </ul>
<b>Quality of assay data and laboratory tests</b>	<ul style="list-style-type: none"> <li><i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i></li> <li><i>For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</i></li> <li><i>Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.</i></li> </ul>	<ul style="list-style-type: none"> <li>Coal quality testing during Soviet exploration normally included proximate analysis (ash, moisture and volatile matter) and total sulphur. Calorific value and the Sapoznikov X and Y indices were often determined and ultimate carbon and hydrogen occasionally undertaken. Analysis was typically performed on the individual ply samples and composite samples were rarely created.</li> <li>The sampling and testing program was expanded significantly for 2012 - 2013 drilling. Ply samples from the 2012 exploration drilling were tested for: proximate analysis, RD, CV and total sulphur. Moisture Holding Capacity (MHC) was also determined on plies of &lt;60% (ad) ash, with the exception of drill hole TK001. HGI testing was undertaken on approximately 1 in 5 samples and phosphorous 1 in 10. Composite testing was undertaken on a full seam basis, typically &gt;0.5m thick, excluding partings &gt;0.3m and roof/floor dilution. For seams of &lt;10% ash (ad) composite analysis was completed on the raw material. Specifically, these samples were float/sink tested and cumulative floats 1.50RD washed composites constructed. Both the raw and washed composites were typically analysed for proximate, calorific value, total sulphur, phosphorous, ash composition, ultimate, FSI, G index, Sapoznikov X and Y indices, dilatation, vitrinite reflectance and maceral composition. HGI was determined where there was sufficient sample. The testing was virtually uniform across all 25 washed composites and on most of the 17 raw composites.</li> <li>The analytical program for 2013 drilling replicated that developed in 2012. In addition the two PQ core holes were sampled for washability, G Caking Index, Aru Dilatometer, drop shatter, small scale coke oven and coke strength after reaction.</li> </ul>

Criteria	JORC Code explanation	Commentary
		<ul style="list-style-type: none"> <li>Analytical testing of Soviet drilling (i.e. SV0001 to SV060) was undertaken in government laboratories and may have occurred at the Laboratory of Middle Asia, Tashkent. The specific analytical procedures, standards and control procedures applied during the Soviet exploration are unknown. However, it is assumed that the program conformed with the appropriate government standards and protocols in place at the time.</li> <li>Testing of 2012 samples and 2013 HQ core samples was performed at the SGS Novokuznetsk laboratory. The laboratory routinely conducts coal sample preparation and testing according to Russian (GOST) standards, or to ISO, ASTM, or Australian standards where appropriate. As part of the program to maintain acceptable levels of accuracy and precision, the facility regularly participates in international proficiency test programs conducted by Laboratory Quality Services International (involving testing of standard samples on a monthly, bi-monthly or quarterly basis).</li> <li>PQ cores recovered during 2013 were analysed by ALS Coal Laboratories, Queensland a NATA accredited laboratory.</li> </ul>
<b>Verification of sampling and assaying</b>	<ul style="list-style-type: none"> <li><i>The verification of significant intersections by either independent or alternative company personnel.</i></li> <li><i>The use of twinned holes.</i></li> <li><i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i></li> <li><i>Discuss any adjustment to assay data.</i></li> </ul>	<ul style="list-style-type: none"> <li>The historical (1947-1955) geological data set at Kargasha and Kokkia is problematic with respect to independent verification (i.e. in line with the limited resolution of borehole geophysics and variable core recovery associated with this data). However, the extensive adit/incline excavations and associated structural, seam thickness and coal quality data, together with some twinned drilling, provided a basis for evaluation. In particular, an integrated assessment of data source specific properties (viz. 2012-2013 drilling vs. 1947-1955 drilling, 1947-1955 drilling vs. adit/incline excavations) was attempted.</li> <li>With respect to the drilling, seven sites of twinned drill holes (2012-2013 vs. 1947-1955) exist with lateral separations of &lt;100m. At five of the seven sites the repeatability of coal identification, correlation and thickness was reasonable within well-developed seams (i.e. &gt;0.5m in thickness). However, the resolution of thinner seams was considerably reduced in the older drilling, probably reflecting lower core recoveries and limited resolution geophysics. Of the remaining two drill sites, one is interpreted as significantly faulted, while the other involved a borehole encountering major drilling difficulties, precluding meaningful comparison. Assessment of coal quality between twinned SV and TK drill holes was not feasible, due to a lack of consistently high core recoveries and full seam sampling across the respective data sets. However, a broad statistical assessment of the Soviet and 2012 drill hole coal quality data sets, while not conclusive, indicates that comparable data populations were reasonably consistent.</li> <li>Sites for comparison of drill holes and adits are limited to southern Kargasha where two Soviet boreholes penetrate, or are drilled within an adit. Seam thicknesses and depths are similar in the respective data sets (within 15% and 1m, respectively). However, drill hole thickness interpretations in both instances are based on low core</li> </ul>



Criteria	JORC Code explanation	Commentary
		<p>recovery intervals. For drill sites located at distances exceeding 100m from adits, seam thicknesses are broadly comparable with closer spaced data sets, although showing slightly increased variability. With respect to coal quality, ash contents in drill holes are generally similar with the range shown in surrounding adits, however on average there is a tendency for the adits to show a slightly lower ash (~2 to 4% ad).</p> <ul style="list-style-type: none"> <li>In summary, findings from the data comparisons between historical Soviet data and 2012-2013 Celsius Coal data are informative, but not entirely conclusive, or definitive. Notwithstanding possible slight systematic differences based on procedures and criteria associated with seam definition and/or sample selection and some seam thickness/ash content variability, there is a relatively good degree of agreement across the recent Celsius Coal drilling, Soviet drilling and adit/incline data sets. Based on these findings and the general data sparsity, it was not considered valid to globally exclude data source specific information from the current modelling and resource evaluation. However, a progressively diminishing reliance on historical data should be a key objective of ongoing evaluation at Kargasha and Kokkia.</li> <li>Further data scrutiny and validation of historical data was undertaken during modelling (refer "Estimation and Modelling Techniques" item of this table).</li> <li>With respect 2012-2013 Celsius Coal exploration, the 18 drill holes provide reliable geophysically logs, show high core recovery, apply current standardised industry procedures for logging, sampling and testing and are considered reliable.</li> </ul>
<p><b>Location of data points</b></p>	<ul style="list-style-type: none"> <li>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</li> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	<ul style="list-style-type: none"> <li>The co-ordinates for Soviet drill holes were provided in geological reports and all represent surveyed collar positions. Co-ordinates for SV001 – SV032 were initially surveyed in Pulkovo 32, while those for SV033 – SV060 were acquired in Pulkovo 42. The surveying organisation used for SV drilling programs is unknown. Conversion of drill hole co-ordinates to a WSG84 grid system was performed by Celsius Coal using proprietary GIS software routines (Mapinfo Co-ordinate Extractor and TNTmips).</li> <li>2012 and 2013 drill holes were surveyed in WSG84 by ALP project Ltd (ALP) and Alpstroy Ltd, respectively. During the latter program, 29 historical Soviet drill sites and the 2012 collar positions were also resurveyed.</li> <li>The entrance positions of adits and inclines are defined on 1:1,000 survey plans and 1:10,000 geological maps, for southern Kargasha and northern Kargasha-Kokkia, respectively. The precision associated with the determination of excavation start coordinates is estimated to be within 5 to 10m (1:1,000 plans) and 10 to 50m (1:10,000 plans). Surveyed RL's were available for southern Kargasha (i.e. where 1:1,1000 survey plans exist) while elsewhere RL's were derived from 1:25,000 topographic plans. Co-ordinates were converted from Pulkovo 32 and 34, to WSG84 by Celsius Coal, using an identical methodology to the drill hole data. The surveying organisation responsible for the positioning of adits and inclines is unknown.</li> <li>Topographic data was acquired in 1961 and consists of 10m contours and occasional</li> </ul>

Criteria	JORC Code explanation	Commentary
		<p>spot height point data. The agency responsible is unknown, although it is considered to be of government origin (possibly military). Topographic data was acquired in Pulkovo 1942, zone 13, then digitised and converted to WSG84, zone 43 by ALP in December 2012. The conversion was undertaken using TNTmips software.</p> <ul style="list-style-type: none"> <li>• A comparison of Soviet XY survey data converted to WGS84, against re-survey positions from 2013 showed variable offsets of ~10-20m, thought to correspond to the expected conversion difference from Pulkovo 42 to WGS 84 for the Kyrgyz Republic region. The variations showed no systematic trend and the updated XY survey positions (as acquired in WGS84) were used for collar positioning. However, comparison of Soviet Z Pulkovo 42 acquired values against WGS84 levels, showed a consistent offset of ~40m. A clear explanation of this discrepancy is unavailable at present. For the current evaluation Z levels in: topographic data, Soviet surveyed borehole and adit/incline survey data were retained as per the MapInfo and TNTmips conversions, while 2012 – 2013 drill hole collar positions and Soviet boreholes re-surveyed in 2013, were modified (by +37.9m) to derive a consistent Z level basis across all data sets.</li> <li>• A validation check of the Soviet drill hole collar heights against topographic contours generally showed reasonable agreement, given the extent of natural surface variation over the project areas (average offset ~6.5m). Four drill holes were identified where variations exceed 20m and a further ten showed differences between 10 and 20m. The larger variations mostly occur in the initial phase of Soviet drilling (i.e. 1947-1951).</li> <li>• All survey data was either converted to, or acquired in a WSG84 grid system. Modelling was undertaken on WSG84.</li> </ul>
<p><b>Data spacing and distribution</b></p>	<ul style="list-style-type: none"> <li>• <i>Data spacing for reporting of Exploration Results.</i></li> <li>• <i>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.</i></li> <li>• <i>Whether sample compositing has been applied.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Access over the Kargasha and Kokkia area is locally challenging (in line with the rugged topography) and the establishment of a regular drilling grid problematic. However, a drill hole spacing of approximately 1 km has been achieved over much of the Kargasha tenement, although separations between adjacent boreholes may vary from 250m to 1400m. A zone approximately 2.5km wide along the north-eastern portion of the tenement (coinciding with a zone of elevated topography, i.e. &gt; 3000m) is yet to be explored by drilling. At Kokkia drilling is restricted to the western portion of the tenement where five drill holes occur, at an approximate spacing of 1 - 1.5km.</li> <li>• Adits and inclines are unevenly distributed at Kargasha and Kokkia and occur along the three outcrop zones (viz. the ~west-east trending Kargasha River in the north, and south-central and southern outcrops associated with the ~north-south trending Tuyuk River).</li> <li>• The current distribution of drill hole, adits/inclines and extensive surface geological mapping over the Kargasha and Kokkia tenements is judged to be acceptable for definition of Inferred Resources.</li> </ul>

Criteria	JORC Code explanation	Commentary
<b>Orientation of data in relation to geological structure</b>	<ul style="list-style-type: none"> <li>• Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>• If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</li> </ul>	<ul style="list-style-type: none"> <li>• No compositing of samples has been undertaken, other than the combination of contiguous ply samples to facilitate testing over full seam intervals.</li> <li>• Downhole deviation data was measured in most Soviet drilling (i.e. SV016 – SV060, excluding SV022-SV023) and in all 2012- 2013 drill holes.</li> <li>• Deviation measurements in Soviet drilling primarily utilised Polyakov’s inclinometer, with the ISh-2 inclinometer occasionally employed. Both are thought to involve a hydrofluoric acid methodology (and in some cases copper sulphate). The downhole measurement interval was usually ~50m. The majority of the boreholes drilled showed no significant deviation, with appreciable offsets restricted to nine drill holes. Where measurements commenced midway down the drill hole, a smoothed trajectory was simulated by projection back to the collar position (i.e. progressive fitting) to ensure a smooth fit. The remainder of the SV series exploration showed no detectable deviation and drill holes are treated as vertical. Drill holes drilled prior to SV016, where directional data is unavailable, are also treated as vertical.</li> <li>• During 2012 drilling, deviation data was collected using a Reflex-Ez-Shot electronic single shot orientation instrument. Measurements were typically acquired at vertical intervals of 30 to 50m, with separation decreasing downhole. Deviation typically ranged from 1 to 3° at total drilled depth (i.e. 300 to 600m). Azimuth was recorded in four of the seven drill holes undertaken during this program.</li> <li>• Deviation data was acquired in 2013 drilling during geophysical logging operations, with measurements acquired at vertical intervals of 0.1m. Borehole deviation was limited during this program (typically &lt;4° for depths of 500m).</li> <li>• Drill hole derived samples (i.e. nominally vertical orientated, but showing slight deviation with depth) are not considered to introduce any bias for coal quality evaluation and modelling. Furthermore, the down hole position is accounted for during modelling (see “Estimation and Modelling Techniques”)</li> </ul>
<b>Sample security</b>	<ul style="list-style-type: none"> <li>• The measures taken to ensure sample security.</li> </ul>	<ul style="list-style-type: none"> <li>• Limited details are available regarding sample handling, transport and security in Soviet drill holes. It is understood the majority of logging and sampling occurred at the drill site. Furthermore, it is assumed samples were under government control from the drill site to the laboratory and during analysis, limiting the potential for disturbance of any kind.</li> <li>• For 2012 -2103 drilling, core boxes were handled in accordance with advice provided by the Snowden Consulting Group, whereby core trays containing coaly material were wrapped in cling wrap after core recovery, padded to minimise disturbance and transported to the base camp for logging, photography and sampling. Samples were double bagged and tagged in heavy duty plastic bags and stored in poly weave sacks. They were typically processed to this stage within 48hrs from initial sample layout. Samples were dispatched by road to Bishkek and subsequently to the SGS laboratory in Novokuznetsk, Russia. The process from drill site to laboratory took between 2 and</li> </ul>

Criteria	JORC Code explanation	Commentary
		10 weeks.
<b>Audits or reviews</b>	<ul style="list-style-type: none"> <li>The results of any audits or reviews of sampling techniques and data.</li> </ul>	<ul style="list-style-type: none"> <li>Celsius Coal engaged Snowden Consulting Group to provide advice on sampling and testing prior to the 2012 exploration program. The Minserve Group were subsequently engaged in 2013 to assist with the design of the analytical test program.</li> </ul>

## APPENDIX A: Section 2 Reporting of Exploration Results

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

Criteria	JORC Code explanation	Commentary
<b>Mineral tenement and land tenure status</b>	<ul style="list-style-type: none"> <li>Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.</li> <li>The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.</li> </ul>	<ul style="list-style-type: none"> <li>The Kargasha and Kokkia Project areas are covered by exploration licenses 1963-CP and 2593-CP, respectively.</li> <li>A significant portion of the Kokkia tenement is believed to lie within the Saimaluu Tash National Park (boundaries poorly defined). The Kyrgyz Government has undertaken a "land swap" such the area can be removed from the Park, the signing of a governmental decree to achieve this is expected shortly. The Kargasha tenement is outside of the National Park.</li> <li>The land within the area is agricultural and no permanent settlements exist. The precise nature of land ownership within the tenement areas is unclear, but is thought to be under the control of local authorities.</li> <li>Land tenure and exploration/mining titles held by Celsius Coal have not been specifically validated by G&amp;S Resources in preparing the resource statement.</li> </ul>
<b>Exploration done by other parties</b>	<ul style="list-style-type: none"> <li>Acknowledgment and appraisal of exploration by other parties.</li> </ul>	<ul style="list-style-type: none"> <li>Historical drilling, adit/incline excavation and analytical testing undertaken during Soviet era investigations (1947 - 1955) is incorporated with the recent Celsius Coal exploration in each of the specific criteria items of this table.</li> </ul>
<b>Geology</b>	<ul style="list-style-type: none"> <li>Deposit type, geological setting and style of mineralisation.</li> </ul>	<ul style="list-style-type: none"> <li>The Kargasha and Kokkia tenements contain 29 correlated coal seams over a stratigraphic interval of ~100 to 150m. Seam thickness typically ranges from &lt;0.5m to 1m, with occasional developments exceeding 2m. K1 Seam is the thickest and most regionally extensive, with other significant seams including F, G, J1, L1, M3 and N3. Several seams are restricted, or best developed in the northern portion</li> </ul>



Criteria	JORC Code explanation	Commentary
		<p>Kargasha and Kokkia.</p> <ul style="list-style-type: none"> <li>• Seams outcrop in the north (over the full east – west extent of Kargasha and Kokkia) and partially in the south. An isolated area of local outcrop also occurs in the southern portion of Kargasha.</li> <li>• The sequence is moderately folded, with dips of 10 to 15° typical in the southern and central areas. Significantly higher dips up to ~40° occur in the north. Sediments predominately strike east-west and several broadly westerly plunging axial planes are inferred.</li> <li>• Three major, ~NW-SE trending faults have been interpreted based on drilling and mapping in the Kokkia area dip data, with displacements in the order of 50 – 200m. Additional, significant faults from 10 to 100m displacement, predominately oriented ~north –south have been inferred from mapping in the northern and southern Kargasha outcrop zones. Significant faulting is also inferred along the southern boundary in Kargasha and moderate faulting interpreted between adits and drill holes. However, the precise extent, distribution and nature of faulting in the project areas is poorly defined at present. Additional drilling and mapping is likely to result in increased fault detection.</li> <li>• The coal beading sequence is covered by a veneer of scree and alluvium, which appears quite variable in line with topographic characteristics and varies from ~7m to ~45m.</li> <li>• No igneous bodies have been identified from drilling and within adits.</li> <li>• More in depth discussion of the geology of the Kargasha and Kokkia areas including representative diagrams are presented in Section 2 of the resource statement.</li> </ul>
<b>Drill hole Information</b>	<ul style="list-style-type: none"> <li>• <i>A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:</i> <ul style="list-style-type: none"> <li>○ <i>easting and northing of the drill hole collar</i></li> <li>○ <i>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</i></li> <li>○ <i>dip and azimuth of the hole</i></li> <li>○ <i>down hole length and interception depth</i></li> <li>○ <i>hole length.</i></li> </ul> </li> <li>• <i>If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why</i></li> </ul>	<ul style="list-style-type: none"> <li>• Drilling was undertaken in four major phases with a total of 78 drill holes completed. All drill holes are fully cored and 66 drill holes have verifiable geophysical logs, including at least electrical properties. A geophysically logged suite of density, caliper, natural gamma and resistance logs was acquired in the 16 of the 18 drill holes completed in 2012/2013. Coal quality data is sourced from ~45 drill holes.</li> <li>• Individual drill hole results including: collar position (E, N, RL), total depth dip and azimuth of the hole, down hole length and seam intersection depths are presented in Appendix D.</li> </ul>

Criteria	JORC Code explanation	Commentary
<b>Data aggregation methods</b>	<p><i>this is the case.</i></p> <ul style="list-style-type: none"> <li>• In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.</li> <li>• Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</li> <li>• The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	<ul style="list-style-type: none"> <li>• Where multiple samples were taken over a single correlated seam, the individual results were weighted by RD and sample length to develop seam average quality. Where RD analysis was unavailable (i.e. historical SV series drilling) a RD value was estimated from an ash content (% ad, see Appendix C) and applied for weighting purposes.</li> <li>• Where multiple ply samples were combined into a single sample for analysis at the laboratory, the sample compositing process was undertaken at the laboratory using industry standard procedures.</li> <li>• Coal quality was modelled for individual seams using analytical values corresponding to the full seam interval (either from an individual sample spanning the seam, or an aggregation of multiple ply samples taken over the seam).</li> <li>• Other than the compositing of coal quality data to develop a full seam value, no further aggregation of analytical data, truncation, or averaging was undertaken.</li> </ul>
<b>Relationship between mineralisation widths and intercept lengths</b>	<ul style="list-style-type: none"> <li>• These relationships are particularly important in the reporting of Exploration Results.</li> <li>• If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> <li>• If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').</li> </ul>	<ul style="list-style-type: none"> <li>• Coal resources of the Kargasha and Kokkia areas occur within a moderately folded stratigraphic sequence.</li> <li>• All drilling was undertaken vertically, however, some deviation occurs over the borehole extent. Downhole deviation surveys are available for most the historical drilling and all 2012 - 2013 exploration, although data precision varies with era (see "Orientation of Data in Relation to Geological Structure" item of this table). For 2012-2103 exploration, deviation is typically &lt;math&gt;&lt;4^\circ&lt;/math&gt; for depths of 500m.</li> <li>• Data from adits and inclines were extracted as vertical thickness measurements.</li> <li>• Deviation data is incorporated into the borehole database. During modelling, apparent thicknesses from drill hole intersections were adjusted using measured downhole deviation, to derive vertical thickness and corrected seam roof/floor positions. All seam and interburden thickness models reflect vertical values.</li> </ul>
<b>Diagrams</b>	<ul style="list-style-type: none"> <li>• Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.</li> </ul>	<ul style="list-style-type: none"> <li>• A map of the surface geology over the Kargasha and Kokkia areas is presented in Section 3 of the resource statement, showing the extents of the coal bearing Tuyuk Formation. Drill hole locations, including differentiation between historical Soviet exploration and recent Celsius Coal drilling (2012 – 2013) and the position of adits and inclines is also included. The location of inferred faults and folds are shown.</li> <li>• Other diagrams presented in Section 3 of the resource statement include: (i) representative north-south and east-west cross sections; (ii) a generalised stratigraphic column showing coal distribution within the Tuyuk Formation and gross seam characteristics and (iii) a composite profile showing typical geophysical response over the coal sequence and seam attributes.</li> </ul>
<b>Balanced reporting</b>	<ul style="list-style-type: none"> <li>• Where comprehensive reporting of all Exploration Results is not practicable,</li> </ul>	<ul style="list-style-type: none"> <li>• A tabulation of all drill holes and coal seam picks from the Kargasha and Kokkia tenements is included in Appendix C.</li> </ul>

Criteria	JORC Code explanation	Commentary
	<p><i>representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.</i></p>	
<p><b>Other substantive exploration data</b></p>	<ul style="list-style-type: none"> <li>• <i>Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.</i></li> </ul>	<ul style="list-style-type: none"> <li>• An extensive program of adits and inclines were constructed along seam outcrops during Soviet exploration between 1943 and 1955. The former were oriented to achieve an approximately horizontal excavation, while the latter follow dip.</li> <li>• The total adit/incline data suite may be summarised as follows: (i) Kargasha (southern outcrops) – 92 adits and 187 inclines, averaging 48.0m and 10.4m, respectively. The maximum excavation length is 683m for adits and 80m for inclines; (ii) Kargasha (northern outcrops) – 51 adits and 113 inclines, averaging 27.7m and 6.9m, respectively. The maximum excavation length is 128m for adits and 40m for inclines; (iii) Kokkia – 25 adits and 31 inclines, averaging 10.8m and 9.8m, respectively. The maximum excavation length is 58m for both adits and inclines. In the southern portion of Kargasha, excavations primarily targeted Seams K1 and J1, while those in the north and at Kokkia, tend to be more evenly distributed through the coal sequence. Typical working heights and widths in adit/inclines were in the order of 1.5 to 2m and widths approximately 1.5 to 2m. Where positioned in thicker seams (or inter-banded coals) regularly spaced drives up and down were made to intersect seam boundaries.</li> <li>• Excavations were mapped in fine detail and show: lithological information, (including thin intraseam clastics bands and highly carbonaceous horizons associated with the coal), seam boundaries, seam splitting and structural features (faults, shear zones etc.). Full and part seam channel samples were collected periodically along excavations.</li> <li>• Structural data has been extracted from approximately 30% of the excavations for the current modelling and resource evaluation. Coal quality data for Kargasha is sourced from ~15% of the adits/inclines, with K1 Seam the most frequently tested. At Kokkia, excavation derived structural and coal quality data is not applied for resource evaluation due to uncertainties associated with the precise seam assignment.</li> <li>• Celsius Coal undertook two field mapping campaigns in 2013. The first was conducted in conjunction with SRK Consulting, over the Kargasha and Kokkia tenements. The objective was to conduct structural and geological mapping, establish a structural framework for the Kargasha and Kokkia regions and identify implications for ongoing coal exploration. A second campaign was undertaken by Celsius Coal to continue the Kokkia mapping, focussing on coal outcrops and basement positioning. The programs collected extensive dip/direction data to assist modelling, mapped faults and folds, refined formation boundaries and generally enhanced the structural understating over tenement areas.</li> </ul>

Criteria	JORC Code explanation	Commentary
<b>Further work</b>	<ul style="list-style-type: none"> <li>• <i>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</i></li> <li>• <i>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</i></li> </ul>	<ul style="list-style-type: none"> <li>• The rugged topography and significant drill depths throughout much of the project areas, combined with general data sparsity and considerable reliance on historical data sets with problematic core recoveries and sometimes unclear procedures; presents a challenging environment for geological evaluation. This is reflected by some level of uncertainty with respect to correlation, fault delineation and coal quality assessment, consistent with the Inferred Resource Category.</li> <li>• To advance the geological understanding and improve resource status, further data enhancements are essential. Key geological issues to be addressed at Kargasha and Kokkia include: improved seam correlation, refinement of the structural fabric including resolution of major faults and/or structural corridors, collection of additional coal quality inputs (with respect to both regional distribution and the parameters tested). These issues would be largely addressed by a reduction in the drill hole spacing, continuing use of high resolution borehole geophysics and ongoing core testing, including sampling from larger diameter cores. Furthermore, as the drill hole data set expands, the reliance on historical SV series exploration (burdened by the uncertainties associated with the procedures applied, problematic recoveries and limited geophysical resolution) will be progressively diminished.</li> <li>• Additional drilling in the north-eastern sector and Kargasha where drilling is very limited/absent and in the eastern portion of Kokkia (beyond the current drilling limit) is also warranted for improved confidence and resource extension, respectively.</li> <li>• The base of weathering is poorly defined with interpretation limited to 2012 -2013 Celsius Coal drilling. It also appears to vary significantly with inferred depths ranging from ~7m to ~45m. Specific investigation, together with the evaluation of scree characteristics/thickness and their relationship to topography is required.</li> <li>• Resolution of the discrepancy between survey data recently acquired in WSG84 and data converted from alternate systems is necessary.</li> </ul>



## APPENDIX A: Section 3 Estimation and Reporting of Mineral Resources

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

Criteria	JORC Code explanation	Commentary
<b>Database integrity</b>	<ul style="list-style-type: none"> <li>Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.</li> <li>Data validation procedures used.</li> </ul>	<ul style="list-style-type: none"> <li>A specific program was undertaken by Celsius Coal from November 2012 to January 2013 to capture the paper based lithological data for Soviet era drill holes (SV001 to SV060). The graphic logs forming the "raw" data source for this process utilised drilled depths (i.e. downhole measurements), however additional data including "true" thickness, calculated from drilled thickness and bedding angle, were also available. In reconstructing the log, Celsius Coal initially recovered drilled depths of all coal boundaries from graphic logs, so that they are identical to the drilled depths/drilled thickness in the Soviet logs. However, outside the coal zone the thickness of individual non-coal intervals was recalculated from true thickness tabulations and corresponding dip.</li> <li>Coal quality data from the Soviet drilling was reported on a drill depth basis for SV001 – SV025. For these drill holes, analysis is generally only available over the coal seam (i.e. does not cover roof, parting, or floor material). The process used to integrate analytical information with the depth corrected lithological records was as follows: (i) apply the seam interpretations in the respective data set to establish a general link between files; (ii) review the depths and interpreted thicknesses in the lithology and coal quality files; (iii) where a single coal lithology interval and a single sample exist for the seam (typical of sampling in SV001 - SV025) and thicknesses are approximately equivalent, merge the respective data; (iv) where multiple, contiguous coal samples exist and the cumulative thickness is similar to the lithological interpreted interval, then integrate the respective data. Analytical data for SV026 - SV060 was provided on a depth corrected basis and was simply merged with the corresponding lithological interval.</li> <li>The Soviet geophysical logging identified highly resistive zones including coal within drill holes. Soviet geologists used the geophysical logs to apportion core loss and interpret coal thickness. However, the data was judged insufficient by Celsius Coal for a quantitative seam boundary definition, consistent with the 40% (ad) ash cut-off. Seam boundaries were therefore adjusted to rely exclusively on core, resulting in the occasional reduction of anomalously thick (geophysically based) Soviet seam interpretations. In zones of low core recovery the Soviet boundary interpretations were retained.</li> <li>A second geological data capture program, was undertaken by Celsius Coal over November 2012 – January 2013 to recover information from adits and inclines. Raw data took the form of detailed cross sectional representations, typically at 1:100</li> </ul>

Criteria	JORC Code explanation	Commentary
		<p>scale, showing seam boundaries, lithological banding and splitting, structural fabric/shearing and the location and nature of samples. Additional graphic logs were also included at specific localities along cross sections, showing the detailed lithological composition of seams. The location of adit entrances are shown of either 1:1,000 (survey) or 1:10,000 (geological) plans. Analytical data was reported as a graphic log of lithological components (i.e. defining sample extent and lithologies sampled) and a corresponding tabulation of coal quality test results.</p> <ul style="list-style-type: none"> <li>• The adit/incline entrance location XYZ, was deduced from either survey, or geological maps. Positions along the cross section were then defined (i.e. where information was to be extracted) and the corresponding XYZ calculated, using the surveyed dip and azimuth of the working and the distance (scaled along the section) from the entrance. Seam thicknesses were scaled from the cross section at the selected points. Information was extracted from workings at separations ranging from &lt;5m to ~50m (i.e. in larger excavations). Data was collated in spreadsheet format output files, including for each point of observation: XYZ co-ordinates, seam thickness, strata dip, distance from the adit entrance, adit/incline number and report number. A unique point identifier was also defined. The XYZ positions of coal quality data points were determined in an identical manner. The relevant analytical data was then matched and extracted using sample number (as defined on the cross sections and report tabulations). Spreadsheet format output files detailing: XYZ co-ordinates, seam thickness, distance from the adit entrance, sample identification, the portion of the seam sampled, analytical results, adit/incline number, report number and a unique point identifier were prepared. For structural data, positions were selected beyond the weathering zone and away from local structural anomalies, to ensure representative seam thickness.</li> <li>• Drill hole data from 2012 – 2013 Celsius Coal drilling was prepared in a series of spreadsheet files, for lithological, analytical, deviation and collar position. These represent a collation of the Celsius Coal geologists' interpretations and raw data provided by surveyors, geophysical loggers and laboratories, either concurrent with the exploration, or soon thereafter. Lithological and analytical data was output on a geophysically depth corrected basis.</li> <li>• Borehole derived geological data, including collar position, coal seam intersections, lithological information, coal quality and downhole deviation were uploaded into a Vulcan format, user definable ISIS database. Geological data sourced from adits and inclines, including: seam floor positions, thickness, analytical information and dip measurements were imported to parameter specific layers within a Vulcan design database. String and point data including topography, surface features, tenement boundaries and geological mapping were also uploaded to a Vulcan design database.</li> <li>• Data validation continued through the modelling phase, whereby scrutiny of the</li> </ul>

Criteria	JORC Code explanation	Commentary
		data sets in an integrated manner was undertaken and resulted in the identification of assorted local anomalies. An iterative process of raw data review/verification, modification of the database where appropriate and remodelling was undertaken, resulting in progressively improving database integrity.
<b>Site visits</b>	<ul style="list-style-type: none"> <li>• <i>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</i></li> <li>• <i>If no site visits have been undertaken indicate why this is the case.</i></li> </ul>	<ul style="list-style-type: none"> <li>• A site visit was undertaken by Dr Springbett (Competent Person for this resource statement) during the 2013 drilling and field mapping program. Survey, drilling, logging and mapping operations were discussed/observed, in addition to the appraisal of several coal seam exposures. Recommendation for the 2013 mapping and drilling program were subsequently submitted to Celsius Coal.</li> </ul>
<b>Geological interpretation</b>	<ul style="list-style-type: none"> <li>• <i>Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.</i></li> <li>• <i>Nature of the data used and of any assumptions made.</i></li> <li>• <i>The effect, if any, of alternative interpretations on Mineral Resource estimation.</i></li> <li>• <i>The use of geology in guiding and controlling Mineral Resource estimation.</i></li> <li>• <i>The factors affecting continuity both of grade and geology.</i></li> </ul>	<ul style="list-style-type: none"> <li>• A structured deposit with moderate folding, significant faulting and thin/multi-seam coal developments, is interpreted for the area. Within this setting and based on currently available data, assorted geological uncertainties exist.</li> <li>• The availability of current industry standard borehole geophysics (from 2013 exploration) has assisted in the evaluation of coal characteristics and the degree of inherent seam variability. However, there is some inconsistency between the often quite rapidly changing seam characteristics displayed in adits/inclines cross sections (and potentially in twinned recent-historical drill holes) and the relatively more benign seam form deduced from the 2012-2013 geophysically logged borehole suite. Resolution of this issue is problematic in the generally thin seams typical of Kargasha and Kokkia and is clouded by the relatively coarse spacing of 2012 – 2013 drill sites. The precise extent of inherent seam variability is unlikely to have a material impact on total Inferred Resources, but could be very significant during mining operations.</li> <li>• Seam correlation will continue to improve as additional drill hole data is acquired. Any resultant changes are likely to be refinement of the current scheme and are not considered likely to effect the Total Inferred Resource.</li> <li>• Evidence of significant structuring in the Kargasha and Kokkia Project areas exists, with moderate to locally steep folding and some major faulting (up to ~200m displacement) interpreted. However, the faulting in particular is not well resolved and it is likely that with additional drilling, the frequency of fault detection (and possibly also the extent of dip variability, including angle and direction) will increase. Furthermore, the precise nature of fault characteristics is largely unknown. While some resource losses may be associated with major fault zones and more frequent faulting, these are considered unlikely to have an appreciable effect on total Inferred Resources. However, these features could have significant mine planning implications.</li> <li>• The limits of weathering and scree are currently inferred at 20m. This position determines the uppermost coal limit in each seam and has a direct effect on resources. In potentially open cut areas along the outcrop, raising or lowering of this</li> </ul>

Criteria	JORC Code explanation	Commentary
		level could result in locally significant increased/decreased shallow coal resources, respectively. Weathered coal is occasionally observed at outcrop, however depths of weathering and scree appear to vary significantly. This matter will only be resolved with further investigation.
<b>Dimensions</b>	<ul style="list-style-type: none"> <li><i>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.</i></li> </ul>	<ul style="list-style-type: none"> <li>The extent of coal seam occurrence in the Kargasha tenement is ~8.5km from the northern outcrop zone, to the southern outcrop/sedimentary limit of seam development (Figure 2.3). In an east west orientation, the seams are interpreted to occur over the full 7km tenement extent.</li> <li>Within the Kokkia tenement the coal bearing Tuyuk Formation has been mapped over a lateral, NW-SE strike extent of ~7.5km (Figure 2.3). Of this some ~5.5km has been included in the Inferred Resource, with the eastern portion of the tenement currently undrilled. Seams are interpreted to continue from outcrop to the southern tenement boundary (a zone of typically 0.5 to 1km). Significant faulting is inferred in the area and local repetition of the coal sequence is postulated. The dimensions of the repeated zone (located near the northern Kokkia tenement boundary) are unknown.</li> <li>The upper limit of the resource is defined by the base of weathering (set 20m below surface topography).</li> <li>No specific lower limit is applied with resources estimated to the lowest seam exceeding 0.5m in thickness, for which acceptable sampling points are available (Seam B).</li> </ul>
<b>Estimation and modelling techniques</b>	<ul style="list-style-type: none"> <li><i>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.</i></li> <li><i>The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.</i></li> <li><i>The assumptions made regarding recovery of by-products.</i></li> <li><i>Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).</i></li> </ul>	<ul style="list-style-type: none"> <li>A Harp (Horizon Adaptive Rectangular Prism) format, Vulcan block model of the contiguous Kargasha and Kokkia Project areas was developed over January - March 2014. The block model and all inputs were generated on a WSG84 grid system.</li> <li>Topographic contours at 10m contours and supplementary point data (fully covering tenement areas) was applied to generate a surface topography model.</li> <li>The base of weathering is inferred at a position 20m below the topographic surface. This is based on (i) the average depth inferred from the seven drill holes where weathered Tuyuk Formation sediments are encountered (21.8m); (ii) the historical Soviet average of a 50m lateral limit of oxidation (i.e. deduced from adit entrances) applied in conjunction with the average topographic gradient (~23°).</li> <li>Seam thickness and interburden thickness models are based on acceptable points of observation (i.e. cored drill hole intersections) supplemented with adit/incline measurements of seam thickness. The drill hole derived component used interpolated (Vulcan Fixdhd) mapfiles as modelling inputs. Where seams are absent (i.e. not developed or not detected) a zero value was applied for thickness modelling. At twin drill sites (i.e. Celsius Coal and historical SV) the latter was excluded from modelling. One additional SV hole, interpreted to be significantly faulted was also excluded from modelling.</li> <li>Seam structure modelling utilised the K1 Seam floor as designated reference</li> </ul>



Criteria	JORC Code explanation	Commentary
	<ul style="list-style-type: none"> <li>• <i>In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.</i></li> <li>• <i>Any assumptions behind modelling of selective mining units.</i></li> <li>• <i>Any assumptions about correlation between variables.</i></li> <li>• <i>Description of how the geological interpretation was used to control the resource estimates.</i></li> <li>• <i>Discussion of basis for using or not using grade cutting or capping.</i></li> <li>• <i>The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.</i></li> </ul>	<p>surface (in line with its higher data frequency and greater regional continuity, relative to other seams). Data inputs to the reference surface included: drill holes intersections, adits/inclines floor measurements and strata dips to control structure (particularly where extensive field mapping was available at northern Kargasha and Kokkia), the mapped Tuyuk Formation floor boundary (adjusted to the K1 Seam level) and interpreted faults. Inferred control points were locally required beyond drilling limits to extend the K1 Seam floor model to tenement boundaries. Other seam structure surfaces were derived by addition/subtraction of coal and interburden thickness models, commencing at the K1 Seam floor.</p> <ul style="list-style-type: none"> <li>• Analytical data from drill holes, weighted by length and density (i.e. where multiple sample exist over a seam) were applied to derive seam quality values for the modelled parameters: total moisture (% ad), ash (% ad), volatile matter (% ad) and total sulphur (% db). These together with full seam samples from adits/inclines were used as data inputs for coal quality modelling. <i>In situ</i> density models were developed from a relationship to ash (% ad) on a seam specific basis. Where low core recoveries and incomplete sampling were identified in drill holes (based on &lt;75% of the seam recovery and analysed) or core recovery over the seam was unknown, the corresponding analytical data was excluded from modelling. This resulted in a significant number of data exclusions, typically ~half of the available Soviet era drill holes [<i>Note: The 75% recovery + analysis limit was applied specifically for coal quality modelling and is unrelated to the assignment of acceptable points of observation and definition of resource estimation limits</i>]. No specific exclusions were applied to adit/incline sourced coal quality data, providing the full seam interval was sampled and analysed. However, elevated moistures (i.e. exceeding 2.5% ad) typically from shallow adits in the northeast of Kargasha and the Kokkia area) were considered to reflect weathering modification and were excluded from modelling. The corresponding ash, volatile matter and sulphur data appeared generally consistent with surrounding drill holes, and/or deeper adits and was retained.</li> <li>• Structural models were generated using a triangulation methodology on a 20m x 20m grid mesh. A second order regional trend was applied to the K1 Seam floor reference surface. Thickness models were generated using a triangulation procedure and a 20m x 20m grid. All coal quality models were modelled using an inverse distance gridding technique at 20m x 20m nodes.</li> <li>• A Harp format block model was constructed using the seam surfaces (converted to triangulations) and coal quality grids. Key criteria include: a cell size in X of 20m, a cell size in Y of 20m, sub-blocks in X and Y direction of 1 (i.e. no sub-blocking), axis aligned model (i.e. no rotation), co-ordinate range of 398800-411200 in X and 4535000-4547300 in Y, a Z tolerance of 2, minimum thickness of zero, upper modelling limit defined by surface topography and the lower limit defined by the</li> </ul>

Criteria	JORC Code explanation	Commentary
		<p>basement contact. Coal quality was populated by effectively placing values from grid nodes of each modelled parameter, into the vertically aligned blocks and corresponding seams (i.e. no further manipulation of grid inputs was undertaken). The 20m by 20m block size at Kargasha represents ~2% of the "typical" drill hole spacing.</p> <ul style="list-style-type: none"> <li>The scree and weathering contact was introduced into the block model using the base of weathering surface triangulation and a tri blocking methodology. Post processing inside the block model included: generation of cover depth and tenement definition.</li> <li>Assorted model validation activities were undertaken including: (i) detailed comparison of drill hole measurements (thickness, coal quality) against mapfile, grid and block model values at selected drill sites; (ii) assessment of seam thickness models and investigation of anomalous drill hole/adit values; (iii) cross sectional comparison of the block model (in particular; seam boundaries, Tuyuk Formation boundaries and basement) against drill hole intersections and mapping; (iv) statistical assessment of block model thicknesses/coal quality and (v) comparison of borehole collars against the topographic model. In addition, comparisons were undertaken between mapping sourced dip measurements vs. model structure.</li> <li>Resources were estimated using Vulcan V8.2 software and in particular the advanced block model reserves module. Polygons were generated to precisely limit the region of inferred resource estimation and together with geological limits including: a minimum 0.5m seam thickness, the base of weathering and overburden depth (all defined within the block model) provided the necessary areal cut-off definition/classification. Resources were estimated on a seam basis in line with cover depth increments, seam thickness increments and resource block, with reporting of average seam thickness and raw coal quality (i.e. ash (% ad), moisture (% ad), volatile matter (% ad), <i>in situ</i> density and total sulphur (% db)). Resources were also estimated within the zone of extrapolation (i.e. beyond the last point of observation) at Kokkia.</li> <li>Specific validation activities associated with the resources outlined in this statement include: evaluation of individual resource polygons by alternate estimation techniques within Vulcan and coarse checks of selected resource polygons using qualitatively estimated area, thickness and density values. The current resource estimate represents an increase of ~40Mt over the March 2013 estimation. The increase is primarily a reflection of increased regional drill hole coverage from the 2013 exploration program.</li> <li>Resource estimation was completed on 19 March 2013, using a block model prepared on 17 March 2014.</li> </ul>
<b>Moisture</b>	<ul style="list-style-type: none"> <li>Whether the tonnages are estimated on a dry basis or with natural moisture, and the</li> </ul>	<ul style="list-style-type: none"> <li>Resources are estimated on an <i>in situ</i> moisture basis (i.e. the density is derived to reflect <i>in situ</i> moisture conditions). However, the modelled and reported moisture</li> </ul>

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	<i>method of determination of the moisture content.</i>	<p>basis of coal quality parameters associated with the resource estimates varies. Specifically, ash, moisture and volatile matter are reported on an air dried basis (% ad), while total sulphur is reported on a dry basis (% db).</p> <ul style="list-style-type: none"> <li>The methodology of <i>in situ</i> moisture determination is outlined in Appendix C.</li> </ul>
<b>Cut-off parameters</b>	<ul style="list-style-type: none"> <li><i>The basis of the adopted cut-off grade(s) or quality parameters applied.</i></li> </ul>	<ul style="list-style-type: none"> <li>An ash content limit of 40% (ad) was applied for coal/non-coal boundary definition. No resource exclusions were made in line with coal quality (other than ash content).</li> <li>In instances where seams of &lt;0.5m thick (i.e. below the resource cut off thickness) show ash contents exceeding 40% ash (% ad) reflecting lateral facies change and quality deterioration, the analytical data is on occasions utilised for coal quality model control purposes.</li> </ul>
<b>Mining factors or assumptions</b>	<ul style="list-style-type: none"> <li><i>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.</i></li> </ul>	<ul style="list-style-type: none"> <li>Coals of the Kargasha and Kokkia areas have been considered as potentially underground mining resources.</li> <li>The 0.5m coal thickness limit (i.e. for each seam) was applied for definition of resource extents.</li> <li>In all seams other than K1, the 0.5m seam thickness is defined by drilling. A southern 0.5m seam thickness limit was inferred for K1 Seam, based on a combination of drill hole intersections and deductions from regional mapping.</li> <li>No overburden limit has been applied for resource estimation. Over the project area overburden to the uppermost seam ranges from 0 to ~950m and averages approximately ~400m. The average overburden to K1 Seam is ~470m.</li> <li>Coal above the inferred base of weathering is excluded from resource estimates. A depth of 20m below topography was allowed for scree and weathering.</li> <li>No specific resource adjustments have been made for faults.</li> <li>Further discussion of mining factors and assumptions is included in Appendix D, including the source of advice in developing mining factor assumptions.</li> </ul>
<b>Metallurgical factors or assumptions</b>	<ul style="list-style-type: none"> <li><i>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.</i></li> </ul>	<ul style="list-style-type: none"> <li>The analytical program for 2013 cores including two PQ cores included assorted detailed testing including: Free Swell Index (FSI), washability, Sapozhnikov Test, G Caking Index Test, Arnu Dilatometer Test, drop shatter testing, small scale coke oven and Coke Strength after Reaction (CSR). Following assessment of this data coal characteristic with the Kargasha and Kokkia will be further defined.</li> <li>At present ash content (40% ad) is the only coal quality cut-off applied.</li> </ul>
<b>Environmental</b>	<ul style="list-style-type: none"> <li><i>Assumptions made regarding possible waste</i></li> </ul>	<ul style="list-style-type: none"> <li>Environmental and archaeological studies have not been undertaken.</li> </ul>

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<b>factors or assumptions</b>	<p><i>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.</i></p>	<ul style="list-style-type: none"> <li>• Studies regarding the potential environmental impacts of mining have not been undertaken.</li> <li>• No environmental, or historical features that could preclude mining operations have been identified by Celsius Coal.</li> <li>• No known infrastructure constraints have been identified by Celsius Coal.</li> </ul>
<b>Bulk density</b>	<ul style="list-style-type: none"> <li>• <i>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.</i></li> <li>• <i>The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.</i></li> <li>• <i>Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Raw coal quality from Celsius Coal 2012 - 2013 drill holes was used to develop a relationship between <i>in situ</i> density and ash content (% ad). The evaluation was undertaken by Dr David Hornsby, from Gallagher Consulting and is based on data available as at 31 January 2014 (see Appendix C).</li> <li>• <i>In situ</i> moisture levels of 2.3% to 3.0%, averaging 2.6%, were initially predicted using several empirical, multi-linear regression equations involving an assortment of analytical data including: moisture holding capacity, solids relative density (RD), ash, volatile matter, ultimate carbon, vitrinite reflectance and petrographic composition. The raw RD (ad), air dried moisture and ash (% ad) data were then used with the average <i>in situ</i> moisture prediction via the Preston Saunders formula to derive a relationship between ash (% ad) and <i>in situ</i> density. The relationship is as follows: <math>In\ situ\ density = 1 / (0.7871 - 0.00426 * ash\ (\% ad))</math>.</li> <li>• Derived <i>in situ</i> density was estimated on a seam specific basis from raw ash models and applied to resource estimation.</li> </ul>
<b>Classification</b>	<ul style="list-style-type: none"> <li>• <i>The basis for the classification of the Mineral Resources into varying confidence categories.</i></li> <li>• <i>Whether appropriate account has been taken of all relevant factors (ie relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).</i></li> <li>• <i>Whether the result appropriately reflects the Competent Person's view of the deposit.</i></li> </ul>	<ul style="list-style-type: none"> <li>• All resources at Kargasha and Kokkia are classified as Inferred. Criteria applied to define this included: drill hole density, adit location, the number of and spacing of coal quality points and significant reliance on historical geological data.</li> <li>• The confidence associated with resource estimates at Kargasha and Kokkia is consistent with the "Inferred Mineral Resource" category definition as outlined in the 2012 JORC code. In particular, estimates are based on limited geological evidence and sampling, which is sufficient to imply, but not verify geological and coal quality continuity.</li> <li>• Within each seam, acceptable points of observation from drill holes and adit/incline excavations were used to establish the limits of Inferred resources. A maximum interpolated interval of 4 km and maximum extrapolated extent of 2 km were</li> </ul>



Criteria	JORC Code explanation	Commentary
<b>Audits reviews</b>	<b>or</b> • <i>The results of any audits or reviews of Mineral Resource estimates.</i>	<p>applied.</p> <ul style="list-style-type: none"> <li>The resource evaluation process and key criteria used in the assessment were subject to a peer review process by Mr Charles Parbury, from McElroy Bryan Geological Services (MBGS). MBGS are a specialist coal geology consultancy based in Sydney, Australia.</li> </ul>
<b>Discussion relative accuracy/confidence</b>	<p><b>of</b> • <i>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.</i></p> <ul style="list-style-type: none"> <li><i>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.</i></li> <li><i>These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.</i></li> </ul>	<ul style="list-style-type: none"> <li>Based on existing distribution and nature of geological data in the Kargasha and Kokkia tenements, the information provides a level of confidence consistent with the Inferred Resource classification. There is every expectation that with additional investigation, such as outlined in the "Further Work" item of this table, that portions of the resource could be upgraded to Indicated Resources.</li> <li>There are no mine operations in the tenements and it is therefore not possible to apply production data to assist in the assessment of resource accuracy.</li> </ul>