

18 June 2018

UPDATED RESOURCE STATEMENT AND PIT MODELS FOR THE TENAS METALLURGICAL COAL PROJECT RESULT IN AN INCREASE IN COAL AND A SIGNIFICANT IMPROVEMENT IN STRIP RATIO

HIGHLIGHTS

- The geological model for the Tenas Metallurgical Coal Project (**Tenas Project**) has been updated in preparation for the Tenas Project feasibility study.
- An updated resource statement has been completed increasing the coal resources of the three targeted coal seams of the Tenas Project by 20 percent.
- With a new fault-based geological model for the Tenas deposit, the coal seams have been uplifted in some blocks, thereby reducing the volumes of waste rock significantly.
- The combined effect of more coal and less waste rock, has seen a significant improvement in the predicted strip ratio.

Allegiance Coal Limited (**Allegiance** or the **Company**) is pleased to provide an updated resource statement for the targeted coal seams for the Tenas Project feasibility study and to highlight the significant improvement in the strip ratio of waste rock to coal.

Updated Coal Resource Statement for the Tenas Deposit

In 2017, Allegiance completed two pre-feasibility studies the results of which were announced on 3 July 2017 and 11 September 2017, respectively (**2017 PF Studies**). In the first of those two studies, Allegiance declared a coal resource across all three coal deposits of 148.1Mt:

Coal Resource Deposits	Measured Mt	Indicated Mt	Inferred Mt	Total Mt
Tenas	58.8	-	-	58.8
Goathorn	59.5	9.2	0.2	68.9
Telkwa North	15.7	3.7	1.0	20.4
Total	134.0	12.9	1.2	148.1

In respect of the Tenas deposit, the resource statement included all of its 13 coal seams and of that 58.8Mt, 30.9Mt was comprised of three of the 13 seams (the remaining seams are relatively thin and high ash):

Tenas Coal Resource	Measured Mt	Indicated Mt	Inferred Mt	Total Mt
C seam	5.0	-	-	5.0
1U seam	3.3	-	-	3.3
1 seam	22.6	-	-	22.6
Total	30.9	-	-	30.9

These three coal seams were the only coal seams converted into 29.1Mt of ROM coal reserves in the 2017 PF Studies, which after washing was further converted into 21Mt of saleable coal reserves. As is evident, nearly all of the raw coal in those three seams was converted into ROM coal reserves. Therefore, in the updated coal resource statement for the Tenas deposit, all other coal seams were ignored.

The updated coal resource for the Tenas deposit is 36.5Mt, as summarized below:

Tenas Coal Resource	Measured Mt	Indicated Mt	Inferred Mt	Total Mt
C seam	4.5	1.5	-	6.0
1U seam	4.5	1.6	-	6.1
1 seam	18.1	6.3	-	24.3
Total	27.1	9.4	-	36.5

Whilst there has been a decrease in the overall resource for the Tenas deposit, more importantly, there has been a 20 percent increase in resources identified for the three targeted coal seams thereby increasing the potential recoverable coal reserves. A portion of the Tenas deposit, approximately 25 percent, has fallen into the indicated category as a consequence of the fault-based geological model. This will have little or no impact on the Tenas Project feasibility study.

The updated JORC Code 2012 coal resource statement across all three coal deposits is as follows:

Coal Resource Deposits	Measured Mt	Indicated Mt	Inferred Mt	Total Mt
Tenas	27.1	9.4	-	36.5
Goathorn	59.5	9.2	0.2	68.9
Telkwa North	15.7	3.7	1.0	20.4
Total	102.3	22.3	1.2	125.8

Strip Ratio Analysis of the Tenas Deposit

In the second of the 2017 PF Studies (**Small Mine PFS**), SRK (Canada) Inc. (**SRK**) modelled a 19 year mine life focused solely on the Tenas deposit:

- Recovering 4.5Mt of saleable coal (from a total of 21Mt of saleable coal reserves);
- At a rate of 250k tonnes per annum; and
- At a strip ratio of 1.9:1 BCM/ROMt.

As part of the first phase of mine planning for the Tenas Project feasibility study, SRK updated the pit optimisation model for the Tenas deposit (**Pit Models**) based on the new geological model. The effect of an increase in coal resources and a decrease in waste rock, illustrated by the Pit Models, is quite profound.

For example, based on the new Pit Models, if Allegiance were to mine to the same strip ratio of 1.9:1 BCM/ROMt applied in the Small Mine PFS, Allegiance would recover 9.3Mt of saleable coal, more than double the amount of coal recoverable in the Small Mine PFS.

In addition, the two tables that follow compare selected pit shells used in assessing the production plans for the 2017 PF Studies, and selected pit shells of similar coal volumes, derived from the new Pit Models.

The new Pit Models highlight the material decrease in waste rock to recover approximately the same amount of coal, and in turn, the significant reduction in strip ratios at the comparable levels of production. Comparing previous pit shell 24 to new pit shell 19, the strip ratio is almost halved.

Pre-feasibility Study: selected comparative pit shells			
Pit shell number	Waste Rock per BCM	Raw Coal per tonne	Strip ratio BCM/ROMt
17	26,954,722	8,658,000	3.11:1
21	51,459,512	12,620,575	4.08:1
24	110,115,444	20,297,735	5.43:1
33	174,288,371	27,770,460	6.28:1
64	221,520,121	31,584,336	7.01:1

Feasibility Study: selected comparative pit shells			
Pit shell number	Waste Rock per BCM	Raw Coal per tonne	Strip ratio BCM/ROMt
2	11,372,213	8,651,206	1.31:1
9	20,496,234	11,736,387	1.75:1
19	56,676,843	20,055,707	2.83:1
29	102,084,965	27,678,534	3.69:1
37	142,595,896	33,028,879	4.32:1

Removal of waste rock material is typically the largest cost, by a significant margin, of open pit mining.

It follows therefore, the potential improvement that this may have on reducing operating costs in the Tenas Project feasibility study, compared to the already very low operating costs achieved in the 2017 PF Studies, is significant.

This gives the Board great encouragement and confidence in its ability to improve the project economics of the Tenas Project in the current feasibility study.

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About Allegiance Coal

Allegiance Coal is a publicly listed (ASX:AHQ) Australian company advancing a metallurgical coal mine into production in British Columbia, Canada. The Telkwa metallurgical coal project (**Project**) includes three pit areas comprising 125.8Mt of JORC compliant coal resource of which 102.3Mt is in the Measured Category; 22.3Mt is in the Indicated Category; and 1.2Mt is in the Inferred Category. In 2017 the Company completed a pre-feasibility study declaring 42.5Mt of saleable coal reserves, and positioning the Project in the lowest five percentile of the global seaborne metallurgical coal cost curve. The Company is now undertaking a full feasibility study of the Tenas Pit (**Tenas Project**) which represents 21Mt of those saleable coal reserves and is advancing the Tenas Project towards permitting and production.



Coal Reserves

The coal reserves referred to in this announcement (unless otherwise stated in this announcement) were first reported in the Company's release of its Staged Production PFS results on 3 July 2017 (**3 July Announcement**). The Company confirms that it is not aware of any new information or data that materially affects the information included in the 3 July Announcement and that all material assumptions and technical parameters underpinning the estimates in the 3 July Announcement continue to apply and have not materially changed.

Competent Person Statement

The information in this ASX Announcement that relates to Mineral Resources and Reserves is based on information reviewed and compiled by Mr Dan Farmer, a registered professional engineer with the Association of Professional Engineers and Geoscientists of British Columbia. Mr Farmer is engaged by the Company on a full-time basis and has sufficient experience which is relevant to the style of mineralisation and the type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the JORC Code (2012 Edition of the "Australian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves"). Mr Farmer, as competent person for this announcement, has consented to the inclusion of the information in the form and context in which it appears herein.

APPENDIX - JORC TABLE 1

Section 1 Sampling Techniques and Data

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul style="list-style-type: none"> Nature and quality of sampling (e.g., cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc.). These examples should not be taken as limiting the broad meaning of sampling. Include reference to measures taken to ensure sample representativeness and the appropriate calibration of any measurement tools or systems used. Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30g 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. 	<ul style="list-style-type: none"> All boreholes, where conditions permitted, were geophysically logged with some or all of the following tools: deviation, gamma, density, caliper, neutron, dip. Geophysical logging operators routinely calibrated their tools between programs. Core holes were sampled, where core recovery permitted, as whole core collected for coal quality analysis and rock geochemistry. The results from the geophysical logging were used to determine the lithology of the strata in the hole. The cored intervals are compared to the geophysical log in order to determine sample intervals and core loss. Samples from these programs were sent to the Crowsnest Resources Limited (CNRL) company laboratory and to Loring Laboratories in Calgary. A bulk sampling test pit was also excavated with a 219 tonne sample collected from 7 seams. The samples from this test pit were tested by Birtley Laboratory in Calgary. A further coal quality drilling program was conducted in 2018 that consisted of four PQ core holes and a bulk sample comprised of 14, 6 inch core holes. The PQ holes were tested at the Birtley Laboratory in Calgary, AB while the 6 inch holes were tested by the SGS Laboratory in Delta, BC.
Drilling techniques	<ul style="list-style-type: none"> Drill type (e.g., core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc.) and details (e.g., core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc.). 	<ul style="list-style-type: none"> A variety of drilling techniques were utilized on this project including mainly core, air rotary or a combination of both. From 1979 to 1989 the drilling was done for CNRL using top-head drive Ingersoll Rand (IR) rotary rigs and Longyear 38 diamond core rigs. Core diameter was 1 7/8" NQ core plus some 6" diameter cores. From 1992 to 1998 the drilling was done for Manalta using top-head drive Failing 1250 and IR rotary rigs and an Acker diamond core rig. Core diameter was 1 7/8" NQ core. Sampling of coal was done by the diamond core rig. Rotary coring to obtain 10 cm (4") diameter core was also used. Core was not orientated. A drilling program was completed in 2018 consisting of PQ diamond core holes which were logged plus a bulk sample obtained from 6 inch air rotary hoes.
Drill sample recovery	<ul style="list-style-type: none"> Method of recording and assessing core and chip sample recoveries and results assessed. Measures taken to maximise sample recovery and ensure representative nature of the samples. Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material. 	<ul style="list-style-type: none"> The cored intervals were compared to the geophysical log in order to determine sample intervals and core loss. The drilling contractor was responsible for ensuring that core recovery was maximized. Due to the nature of the deposit, core quality was generally not affected by coal recovery. Core recovery records were reported on the written core description sheets for each core hole. The average recovery from 1992 to 1998 was typically in the 80% to 100% range and was typically better than that achieved during the CNRL tenure period Core recovery for the 2018 program was between 80 and 100% for the PQ core holes and 95 to 100% for the 6 inch core holes
Logging	<ul style="list-style-type: none"> Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies. Whether logging is qualitative or quantitative in 	<ul style="list-style-type: none"> All core was logged using similar logging criteria included lithology, weathering, core quality/hardness and observation of structural features. The logging with respect to the down hole logs is quantitative and core photographs are available in some instances. All boreholes, where conditions permitted, were geophysically

Criteria	JORC Code explanation	Commentary
	<p>nature. Core photography.</p> <ul style="list-style-type: none"> The total length and percentage of the relevant intersections logged. 	<p>logged with some or all of the following tools: deviation, gamma, density, caliper, neutron, dip.</p> <ul style="list-style-type: none"> Geophysical logging operators routinely calibrated their tools between programs. The geophysical logs were used to determine the lithological intervals in rotary holes where no core was retrieved. In general, coal was determined by its low response on the density tool (~<1.8 g/cc). Once determined if the interval was coal or not, a lithotype for rock intervals was determined by observing the gamma log response, which had the lowest response in clean sandstones with little clay content and the highest response in shales due to the high clay content, which contained K that emits radiation. All holes in 2018 were logged geophysically and dipmeter was run on holes. The 6 inch core holes were only logged geologically.
Sub-sampling techniques and sample preparation	<ul style="list-style-type: none"> If core, whether cut or sawn and whether quarter, half or all core taken. If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry. For all sample types, the nature, quality and appropriateness of the sample preparation technique. Quality control procedures adopted for all sub-sampling stages to maximise representativeness of samples. Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling. Whether sample sizes are appropriate to the grain size of the material being sampled. 	<ul style="list-style-type: none"> All samples taken were of whole core. Of the few rotary sampled holes, none of the analytical data were used in the resource estimate. Quality control was provided via referencing the geophysical log. The analytical results were checked for reasonableness against the gamma and density results. There should be a direct relationship between density and ash content. Whole core material of each seam or ply, either as single samples or a series of samples by depth increments, were sent to the laboratory for analysis. All coal core samples were bagged on site before being transported to Loring and Birtley Laboratories in Calgary for coal quality test work.
Quality of assay data and laboratory tests	<ul style="list-style-type: none"> The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total. For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc. 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. 	<ul style="list-style-type: none"> Loring , SGS, and Birtley Laboratories are ISO 9001 certified, adhere to ASTM preparation and testing specifications and have quality control processes in place.
Verification of sampling and assaying	<ul style="list-style-type: none"> The verification of significant intersections by either independent or alternative company personnel. The use of twinned holes. Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols. Discuss any adjustment to assay data. 	<ul style="list-style-type: none"> The verification in terms of coal quality was by comparison of analytical results with the geophysical log. The sampling and analytical results were overseen and reviewed by qualified geologists. Anomalous thick intersections in the dataset were checked to ensure correctness. Twining of holes is generally not required except in the absence of a geophysical log. In general all core logs and intervals were recorded using handwritten logs, some of which were transcribed into spreadsheets or other software. Data prior to 1992 have paper geophysical logs, however all hole drilled from 1992 – 1998 have log asci (.las) files in digital format. All of the data has been stored in an MSAccess database. 2018 data was compared to historical information and the geophysical logs to validate the results obtained
Location of data points	<ul style="list-style-type: none"> Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, 	<ul style="list-style-type: none"> All drillholes have been surveyed using total station survey equipment. Extensive documentation of survey traverses is

Criteria	JORC Code explanation	Commentary
	<p>mine workings and other locations used in Mineral Resource estimation.</p> <ul style="list-style-type: none"> • Specification of the grid system used. • Quality and adequacy of topographic control. 	<p>available as part of the record.</p> <ul style="list-style-type: none"> • All data points used in the resource estimate were surveyed in NAD27. These were converted to NAD83 for the purposes of this study and future work. • Topographic contours at 2 m intervals provide appropriate topographic control. • 2018 drill holes were surveyed using GPS with RTK corrections resulting in accuracies of +/- 5 cm
Data spacing and distribution	<ul style="list-style-type: none"> • Data spacing for reporting of Exploration Results. • Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied. • Whether sample compositing has been applied 	<ul style="list-style-type: none"> • Average drillhole spacing for Tenas is 110 m, 125 m for Goathorn and 135 m for Telkwa North. The average core hole spacing (with quality data) is 237 m in Tenas, 173 m in Goathorn, and 157 m in Telkwa North. • The resource classification is based on an assessment of the geological (seam thickness) and coal quality continuity. This has then been summarised using the distance from nearest acceptable data point (drillhole) for coal seam thickness identification and an assessment of the confidence in coal seam continuity / correlation. The drillhole spacing and continuities are considered appropriate to define Measured, Indicated and Inferred Resources on the following basis: <ul style="list-style-type: none"> ○ Measured = within 75 m of drillhole utilized in the model (that is, holes identified as appropriate for use in the current resource estimate); ○ Indicated = within 75 m to 150 m of drillhole; ○ Inferred = within 150 m to 300 m of drillhole.
Orientation of data in relation to geological structure	<ul style="list-style-type: none"> • Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type. • If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material. 	<ul style="list-style-type: none"> • Drilling was oriented on cross sections at 25 m spacing oriented perpendicular to local trend. • Drilling was vertical and coal seams dip at between 0 and 65 degrees. Seam thickness intercepts are corrected to true from apparent thickness using the locally interpreted seam dip.
Sample security	<ul style="list-style-type: none"> • The measures taken to ensure sample security. 	<ul style="list-style-type: none"> • No known special sample security measures were applied at the time of sample submission to the laboratories,
Audits or reviews	<ul style="list-style-type: none"> • The results of any audits or reviews of sampling techniques and data. 	<ul style="list-style-type: none"> • extensive checks and comparisons between data has been undertaken to verify and validate data for this resource estimate

Section 2 Reporting of Exploration Results

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	<ul style="list-style-type: none"> • 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. • The security of the tenure held at the time of reporting along with any known impediments to obtaining a license to operate in the area. 	<ul style="list-style-type: none"> • Coal tenure is held in the form of coal licenses (22 parcels for 5579 Ha) and freehold coal (5 parcels for 1301 Ha). The coal licenses are held by Telkwa Coal Limited and Bulkley Valley Coal Limited (BVCL). • The BVCL license ownership are under an agreement signed between CDC and BVCL and this agreement has been assigned to Telkwa Coal Limited.. • The tenure is secure and maintenance payments are all up to date. • The freehold areas are owned by Telkwa Coal Limited • The only known impediment to obtaining a license to operate will be negotiations with select private land holders in the area for development.
Exploration done by other parties	<ul style="list-style-type: none"> • Acknowledgment and appraisal of exploration by other parties. 	<ul style="list-style-type: none"> • In the period from 1979 to 1998 a total of 867 documented drillholes were completed on the Telkwa property by CNRL and Manalta. Of those, 525 were drilled using conventional rotary methods, while 310 were cored. In 47 of the drill-holes, 59 piezometers were selectively installed at various stratigraphic levels. 32 surficial bore-holes have also been completed to date on the property. In addition, there are reports of about 30 holes being drilled by Cyprus and Canex sporadically in the period from 1969 to 1978; this data has not

Criteria	JORC Code explanation	Commentary
		<ul style="list-style-type: none"> been compiled due to the poor quality of the records. Additionally, surface geophysics has been conducted periodically by both CNRL and Manalta with the intention of tracing coal seams on surface.
Geology	<ul style="list-style-type: none"> Deposit type, geological setting and style of mineralisation. 	<ul style="list-style-type: none"> These medium to high volatile bituminous coal deposits are part of the Red Rose formation of the Skeena Group. The Skeena Group sediments of the Telkwa Coalfield are an erosional remnant of Lower Cretaceous sedimentary rock which were initially deposited within a large deltaic complex along the southern flanks of the Bowser Basin. Throughout late Jurassic and early Cretaceous time the Bowser Basin was the focus of rapid sedimentation, subsidence and increased tectonic activity, which resulted in thick accumulations of coal-bearing sedimentary rock. The geology type classification for Canadian coal deposits is “complex”. Minimum open pit mineable thickness for complex coal deposits is 0.8 m. The main economic seams range from a minimum mineable thickness of 0.8 m to 9 m in thickness.
Drill hole Information	<ul style="list-style-type: none"> 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: <ul style="list-style-type: none"> Easting and Northing of the drill hole collar Elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar Dip and azimuth of the hole Down hole length and interception depth Hole length 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 this is the case. 	<ul style="list-style-type: none"> Modern exploration of the Telkwa Project started with Cyprus Anvil Mining in 1978 and since then over 800 exploration drillholes and 3 bulk samples have been carried out on the property. Other ancillary activities such as trenching, geological mapping and surface geophysics have also been carried out.
Data aggregation methods	<ul style="list-style-type: none"> In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated. 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. The assumptions used for any reporting of metal equivalent values should be clearly stated. 	<ul style="list-style-type: none"> All compositing was length based. Seams consist of minimum 2:1 coal to rock ratio with a maximum internal “parting” of 0.3 m for Texas complex and 0.5 m for Goathorn and Telkwa North complex. Seam composites were made from compositing of lithological intervals (Coal or Parting) honouring the seam code. Coal quality intervals are cross referenced with the seam composites
Relationship between mineralisation widths and intercept lengths	<ul style="list-style-type: none"> These relationships are particularly important in the reporting of Exploration Results. If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported. If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. ‘down hole length, true width not known’). 	<ul style="list-style-type: none"> Composited seam intervals were assigned a dip from a geological section and the true thickness of the intervals was established
Diagrams	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Diagrams have been developed for the project by Telkwa Coal Limited in accordance with JORC Code requirements. Diagrams include location maps, drillhole plots and geology cross-sections.
Balanced reporting	<ul style="list-style-type: none"> Where comprehensive reporting of all Exploration Results is not practicable, representative reporting 	<ul style="list-style-type: none"> Not applicable. While full details of all the exploration results have not been released, there are no significant or material

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	of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	issues not summarised in this Table 1.
Other substantive exploration data	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> Bulk samples have contributed considerably to the understanding of the quality characteristics of the Telkwa coals and have been extracted from each of the three main resource areas. On each, a complete suite of coal quality analyses was performed, including testing on a variety of simulated preparation plant products. In 1983, a 219 tonne bulk sample was collected from 7 major seams within the Goathorn East (Pit 3) area. In 1989, a bulk sample was extracted from the Bowser (Telkwa North – East Pit) area via a large-diameter coring program. And, in 1996, an 80 tonne bulk sample was collected from the three mineable seams in Tenas area. Total sulphur and three forms of sulphur (organic, inorganic, and sulphate) have been estimated for the various seams so as to determine the potential for water treatment.
Future work	<ul style="list-style-type: none"> The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions, or large-scale step-out drilling). 	<ul style="list-style-type: none"> Any additional work will involve drilling mainly in support of acid rock drainage, structural understanding, and geotechnical evaluations. Some 2d seismic programs may also happen to aid with fault locations and overburden depths.

Section 3 Estimation and Reporting of Mineral Resources

Criteria	JORC Code explanation	Commentary
Database integrity	<ul style="list-style-type: none"> Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes. Data validation procedures used. 	<ul style="list-style-type: none"> By overlaying the geophysical log density data on the lithological intervals, the coal intercepts were assigned a density value which was then checked for reasonableness (i.e. density from geophysics should be between 1.3 and 1.8 g/cc). Downhole geophysical data was used to validate and verify seam intercepts and to assist with seam correlation and stratigraphy. Other data validation included visual inspection of every seam intersection on cross section to allow for proper seam correlations and to look for anomalies in the stratigraphic interval. For Data capture and current database storage MS Access is utilized, along with cataloguing and electronic filing of all pertinent data stored on the SRK server.
Site visits	<ul style="list-style-type: none"> Comment on any site visits undertaken by the Competent Person and the outcome of those visits. 	<ul style="list-style-type: none"> A site visit was conducted on April 11, 2017 by: <ul style="list-style-type: none"> Ron Parent – Resource Competent Person (TCL) Bob McCarthy – Reserve Competent Person (SRK) Ed Saunders – Geotech (SRK) David Maarse – Water Lead (SRK) Karl Haase – Processing (Sedgman) The visit consisted of an aerial tour via helicopter and a ground tour on accessible roads. The core storage facility was observed as well as several outcrops. Ron Parent also spent five weeks on site supervising the 2018 exploration program.
Geological interpretation	<ul style="list-style-type: none"> Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit. Nature of the data used and of any assumptions made. The effect, if any, of alternative interpretations on Mineral Resource estimation. The use of geology in guiding and controlling Mineral Resource estimation. The factors affecting continuity both of grade and geology. 	<ul style="list-style-type: none"> There is a high level of confidence in the geological interpretation, especially in areas of the resource that have been included in the reserves. Stratigraphic sequence is well understood and correlations are relatively straightforward: the current interpretation has modified the seam nomenclature in places. Structure and faulting are commonly shallow dipping with predominantly normal faulting up to 100m displacement. Local thrust faulting is observed in the Goathorn area. Limits of the deposits need to be better defined; since some of the sub-crop or structurally controlled boundaries have not been fully defined.

Criteria	JORC Code explanation	Commentary
		<ul style="list-style-type: none"> No alternative interpretations are considered as the current interpretation is well supported by available data. The geological model is a thickness model, whose data is composited from drillhole seam intersections and confirmed by geophysical log intercepts. The coal quality parameters do not affect the quantity of coal, but the recovery and generation of a suitable product.
Dimensions	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> The Tenas deposit is approximately 3 km north-south by 2 km east-west, reaching a maximum depth of 400 m for the lowermost 1Le Seam. Goathorn East is 5 km by 2 km reaching a maximum depth of 650 m for lowermost 1 Seam. Goathorn West is 1.5 km by 800 m reaching a maximum depth of 300 m lowermost 1 Seam. Telkwa North is 1.6 km by 3.6 km reaching a maximum depth of 300 m for the lowermost 2 Seam.
Estimation and modelling techniques	<ul style="list-style-type: none"> The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used. The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data. The assumptions made regarding recovery of by-products. Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation). In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed Any assumptions behind modelling of selective mining units. 	<ul style="list-style-type: none"> Coal quality and seam thickness parameters were estimated using inverse distance squared within the seam wireframes which control the distribution of interpolated values in 3D The model is of the coal seams only and the interburden has been modelled by default but to sufficient detail to assist with waste rock characterisation and waste rock management. The current resource estimate is comparable with previous resource estimates completed in 1989, 1997, and 2015 Sulphur (total, organic, inorganic, and sulphate) have been interpolated in the model where data was available The model block size ranges from 5 to 25 m along strike (Tenas and Telkwa North are rotated), 5 to 10 m down dip and 5 m in height. Average drillhole spacing for Tenas is 110 m, 125 m for Goathorn and 135 m for Telkwa North. The average core hole spacing (with quality data) is 237 m in Tenas, 157 m in Telkwa North and 173 m in Goathorn.
Estimation and modelling techniques (continued)	<ul style="list-style-type: none"> Any assumptions about correlation between variables. Description of how the geological interpretation was used to control the resource estimates. Discussion of basis for using or not using grade cutting or capping. The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available. 	<ul style="list-style-type: none"> A key assumption utilized in the resource estimate was the relationship between ash content on an air dried basis and bulk density used for conversion of volume to tonnes using the formula $1.2713 + 0.0092 * \text{ash\% (adb)}$, which was developed from the relationship between ash and bulk density presented in GSC Paper 88-21. The geological interpretation is based on the “stacking” of seam bottoms along 25 m spaced cross sections from the lowermost seam upward. The main validation method used was a comparison between wireframe solids volume and volume generated from the 3D block model after coding. The model accurately represents the drilled seam true thicknesses to +/- 0.1 m at a given XY location. The elevations may vary up to 3 m at any drillhole intercept. This is due to the sectional nature of the modelling process, projecting all seam intersections a maximum of 12.5 m to the nearest cross section.
Moisture	<ul style="list-style-type: none"> Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content. 	<ul style="list-style-type: none"> The tonnages are estimated on an air-dried basis, while the moisture content measurements are available within the coal quality testing results.
Cut-off parameters	<ul style="list-style-type: none"> The basis of the adopted cut-off grade(s) or quality parameters applied. 	<ul style="list-style-type: none"> All coal quality parameters modelled were on an air-dried basis. To assist in developing the coal reserves, coal yields were

Criteria	JORC Code explanation	Commentary
		<p>based on washability testing at a cut-point of 1.6 g/cc.</p> <ul style="list-style-type: none"> Clean coal objective of the process will be 8.5% with a target saleable product at the port at 10% moisture.
Mining factors or assumptions	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Minimum coal ply thickness = 0.8 m for Tenas and 0.8 m for Goathorn and Telkwa North. Maximum included parting thickness = 0.3 m for Tenas and 0.5 m for Goathorn and Telkwa North Minimum coal:rock ratio = 2:1 The resources are all considered potentially surface mineable, and restricted to a 20:1 BCM:in place coal tonne cut-off strip ratio depth. Despite there being previous underground mining on the property, no underground resources are considered at this time.
Metallurgical factors or assumptions	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Metallurgical amenability was simulated from testwork using industry standard models for coal beneficiation Ash content of dilution is assumed 80%, sizing of Ash as similar to sizing of coal and with a density of 2.5 g/cc.
Environmental factors or assumptions	<ul style="list-style-type: none"> Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made. 	<ul style="list-style-type: none"> Potential for ARD was studied extensively in the 1990s to support feasibility studies and environmental assessments The Property hosts both NAG and PAG seam interburden and overburden rock. Tenus, Goathorn and Telkwa North have been characterized to estimate NAG and PAG rock in each phase. The ratio of NP to MPA, NPR was used as the basis for classifying each interburden and the overburden zone as NAG or PAG. Much of the rock is NAG Methods used to estimate NP and MPA in the 1990s are different from those used currently and to varying degrees over-estimate both NP and MPA resulting in uncertainty in the threshold NPR used to delineate PAG and NAG strata. The ratio selected to define PAG rock is $NPR \leq 3.0$ which allows for the uncertainty in NP. A lower value may be suitable as understanding of the mineralogical characteristics of the rock improves. To assign estimated volumes to NAG or PAG, the samples within each phase and seam interburden / overburden were binned into three NPR groups, < 1.5, from 1.5 to 3.0, and > 3.0. If the < 3.0 NPR sample length was more than 40% of total sample length for a given interburden and phase then the rock was labelled as PAG. The intent of the mine plan was to schedule and maximize the opportunity for backfill PAG rock into the pits as early as possible and minimize amount of external storage of PAG rock There is no Tailings Management Facility. Both CCR and fines rejects will be co-emplaced with PAG rock A water treatment facility is planned for managing pH of PAG water Optimization of PAG management including blending PAG rock into NAG rock and /or submerging PAG should be investigated in future
Bulk density	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> The bulk density (BD) was assumed based on an empirical relationship with the air dried ash for high volatile bituminous coal. This empirical formula was extracted from Table 1 of Geological Survey of Canada Paper 88-21:

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	<ul style="list-style-type: none"> 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. Discuss assumptions for bulk density estimates used in the evaluation process of the different materials. 	$BD (adb) = 1.2713 + 0.0092 \times ASH (adb)$
Classification	<ul style="list-style-type: none"> The basis for the classification of the Mineral Resources into varying confidence categories. 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). Whether the result appropriately reflects the Competent Person's view of the deposit. 	<ul style="list-style-type: none"> The resource classification is based on an assessment of the geological (seam thickness) and coal quality continuity. This has then been summarised using the distance from nearest acceptable data point (drillhole) for coal seam thickness identification and an assessment of the confidence in coal seam continuity / correlation. The drillhole spacing and continuities are considered appropriate to define Measured, Indicated and Inferred Resources on the following basis: <ul style="list-style-type: none"> Measured = within 75 m of drillhole utilized in the model (that is holes identified as appropriate for use in the current resource estimate); Indicated = 75 m to 150 m of drillhole; Inferred = 150 m to 300 m of drillhole. The surface resources (those resources considered to have prospects to be open pit mineable) are restricted to within a 20:1 COSR bcm/tonne coal from surface, which is considered reasonable for coal of this type.
Audits or reviews.	<ul style="list-style-type: none"> The results of any audits or reviews of Mineral Resource estimates. 	<ul style="list-style-type: none"> Peer review by SRK personnel was carried out on the geological interpretation. No external audit or review of the resource estimate for this model was carried out. The resource estimates are similar to those from previous studies performed with the same data and any differences are not deemed to be material.
Discussion of relative accuracy/ confidence	<ul style="list-style-type: none"> Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate. The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available. 	<ul style="list-style-type: none"> The resources estimates are assumed to be within +/- 10 to 15% on a global basis (or over an assumed annual mining volume) and this accuracy is considered appropriate for the classification classes of Indicated and Measured Coal Resources, and appropriate to support at least a FS level of study and reserve assessment.