

ATRUM COAL INCREASES GROUNDHOG NORTH RESOURCE

HIGHLIGHTS

- Additional Coal Resource Estimate of 407Mt (259Mt Indicated; 147Mt Inferred) in a new potential mining domain at East of Skeena within Groundhog North
- New coal quality testing data confirms high grade anthracite and ultra-high grade anthracite throughout deposit

Atrum Coal NL (“**Atrum**” or the “**Company**”) (ASX: ATU) is pleased to announce an updated in-situ coal Resource Statement for the Company’s flagship Groundhog Anthracite Project, located in British Columbia, Canada (“**Groundhog**”).

The updated Resource defines an additional JORC (2012) Coal Resource Estimate of 407Mt (260Mt Indicated; 147Mt Inferred) at Groundhog North. These are substantial additional new Coal Resources within Groundhog North to those previously declared by the Company in respect of the **Groundhog North Underground Mine** (refer ASX announcement 14 October 2014 in which Atrum announced an increase in JORC Anthracite Resources at Groundhog North (PFS area) from 305Mt to 609Mt “100% Increase in JORC Resources at Groundhog North”).

Executive Chairman, James Chisholm commented:

“We have completed a JORC Coal Resource Estimate for an additional area at Groundhog North. We are encouraged by the contiguous nature of the deposit with shallow main target seams widespread throughout the region.

“The anthracite is similar in nature to that of other areas of Groundhog North, being high grade and ultra-high grade anthracite, and we are now using this information to complete a study focussing on lower cost entry to mining at Groundhog.”

Regional Drilling

In late 2014, the Company undertook broad exploration at Groundhog (refer ASX announcement 16 October 2014 “Regional Drilling Success Supports Atrum Multi-Mine Strategy”). Since the



Registered Office
Level 19, 1 O’Connell St, Sydney,
NSW, 2000
T +61 2 8249 1884
E info@atrumcoal.com
www.atrumcoal.com

Board of Directors
Executive Chairman
Non-Executive Director
Non-Executive Director
Company Secretary

J. Chisholm
S. Boulton
C. Vorias
T. Renard

Key Projects

Groundhog	Ownership: 100%
Peace River	Ownership: 100%
Naskeena	Ownership: 100%
Bowron River	Ownership: 100%

completion of this exploration the new data procured has been included in the Company's geological models, and Gordon Geotechniques Pty Ltd ("**Gordon Geotechniques**") has recently completed a JORC Code 2012 compliant Coal Resource Statement for the area termed East of Skeena at Groundhog North located within Groundhog North. The multi-mine vision of Atrum for Groundhog North is termed the Groundhog North Mining Complex ("**Complex**") which includes the PFS area and the East of Skeena resource area.

Exploration at Groundhog North has been continually conducted by Atrum since 2012, with the focus on:

- Surface mapping of outcrops;
- Fully cored drilling using HQ and PQ sized holes to depths of 500m; and
- Bulk sampling via trenches

More than 27,000m of drilling in 154 boreholes has now been carried out at Groundhog North by Atrum.

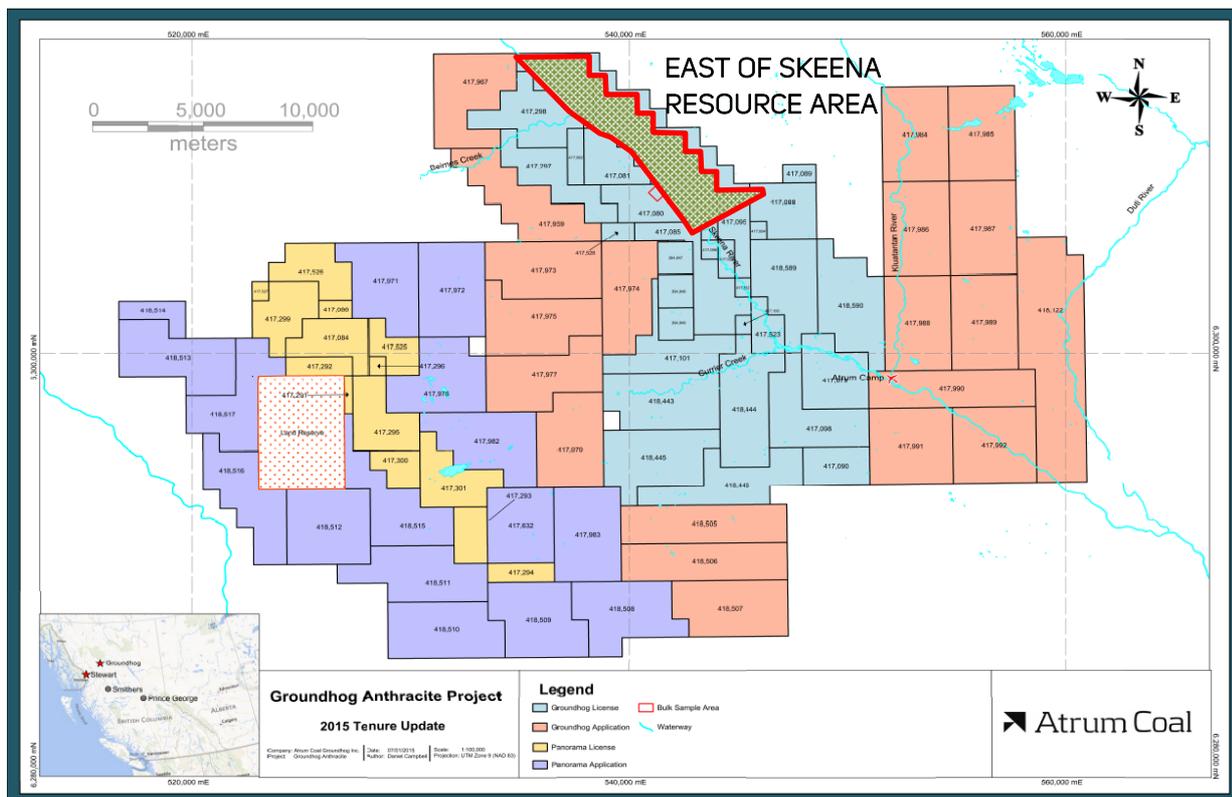


Figure 1. Location of the East of Skeena Resource Area.

Coal Resource Upgrade

Coal Resources identified during the 2014 exploration programme have been included in the broader Groundhog Anthracite Project geological models. Gordon Geotechniques completed a new JORC 2012 compliant Coal Resource Statement in August 2015 for the new mining domain within Groundhog North.

The following considerations and parameters have been used in the JORC Coal Resource estimation:

- 200m offset from the Skeena River
- For surface mining at depths <100m, a 0.4m minimum mining thickness
- For underground mining at depths >100m, a minimum mining thickness of 1m
- For both surface and underground mining, a maximum 0.3m stone parting
- Measured resource extrapolated 500m from points of observation
- Indicated resource extrapolated 1,000m from points of observation
- Inferred resource extrapolated 2,000m from points of observation

Table 1 illustrates the depth cut-off of Coal Resources in the new domain as at 13 August 2015.

Table 1: New Mining Domain Resource Summary

JORC Resource Breakdown by Depth (Mt) – current 13 August 2015				
	Measured (Mt)	Indicated (Mt)	Inferred (Mt)	Total (Mt)
<100m	0	64.9	24.9	89.8
>100m	0	194.82	122.49	317.31
Total	0	259.72	147.39	407.11

The supporting information below is required under ASX Listing Rule 5.8 to be included in the market announcement reporting estimates of Coal Resources. It has been extracted from the appended JORC Table 1.

Geology and geological interpretation

The Groundhog North Mining Complex lies within the Bowser Basin, which is the largest contiguous basin in the Canadian Cordillera, developed as a result of tectonic compression and uplift of the Coast Mountains during the Upper Jurassic.

The dominant structural feature is the NW/SE trending Biernes Synclinorium. It resulted from northeast-southwest compression during the first phase of deformation ("F1"). Thrusting related to the F1 deformation is more intense in the southern part of the Groundhog Coalfield than in the northern part.

The second, less intense, phase of deformation ("F2") resulted from NW/SE compression. The F2 deformation is superimposed on the broad, open type of F1 folding. The F2 imprint is visible in a series of plunge changes in the F1 folds in the order of up to 5°.

F2 thrusts are generally flat lying and related to the hanging wall of drag folds. Displacement tends to be along bedding surfaces. The F2 fold structures superimposed on the major F1 synclinorium vary in wave length from 100 m to 700 m and vary in amplitude up to 100 m.

The coal seams were interpreted using a combination of lithology, geophysical logs and quality distribution.

Criteria used for classification

The resource estimate for the eastern part of the Groundhog North Mining Complex has been made in accordance with the Joint Ore Reserves Committee (JORC) Code (2012), with due attention to the guidelines contained therein. The following definitions from the JORC Code (2012) relating to the classification of Mineral Resources are provided for information.

Geological Modelling

The Groundhog geological model contains twenty coal seams in this part of the coalfield from the Davis A Seam down to the Trail D Seam. Ten of these seams had limited drillhole intersections in the eastern part of the Complex and were not included in the resource estimate. Future exploration drilling may allow the resource estimate to be increased.

The resource estimate used the Kriging method within the SURFER13 software using a grid cell size of 10 m for modelling both the stratigraphic and coal quality data.

Estimation methodology

a) Kriging

Kriging is an estimation method that is adapted to the variogram model, the sample geometry and the volume or area of the region being estimated. It is often described as a best linear unbiased estimate. This means that of all the weighted averages, kriging will attain the lowest error variance for a given data geometry, variogram and search. An estimate of the error variance can be calculated for each block known as the kriging variance which is a measure of the confidence in an estimate.

The method is advantageous as it uses the geometry of the sample data, and allows a local assessment of the uncertainty of the estimate. However, kriging can have a smoothing effect on the estimate. Kriging variance is also useful for determining whether the addition of new data would materially change the resource estimate.

b) Constraints

Constraints applied to the model included:

1. 200 m offset from the Skeena River;
2. For surface mining at depths <100m, a 0.4m minimum mining thickness;
3. For underground mining at depths >100m, a minimum mining thickness of 1 m; and
4. For both surface and underground mining a maximum 0.3m stone parting.

c) Points of Observation

Drill holes, which were classified as valid Points of Observation (PoB) for determining resource status in this area, can be summarised as follows:

1. The entire seam was cored;
2. Core recovery as volumetric calculation for the seam was greater than 80%;
3. The holes were geophysically logged; and
4. Raw proximate analysis and relative density results were available (from boreholes on the western side of the Skeena River).

Based on the observed complexity of the local geology and the variability of the stratigraphic and anthracite quality data the maximum borehole distances were set for each of the resource categories:

1. The measured Coal Resource limit was set at a maximum of 1000 m between PoBs, with the proviso that the Measured Coal Resources could not be extrapolated more than 500 m beyond the limit of PoB data for any seam;
2. The Indicated Coal Resource limit was set at a maximum of 2000 m between PoBs, with the proviso that the Indicated Coal Resources could not be extrapolated more than 1000 m beyond the limit of PoB data for any seam;
3. The Inferred Coal Resource limit was set at a maximum of 4000 m between PoBs, with the proviso that the Inferred Coal Resources could not be extrapolated more than 2000 m beyond the limit of PoB data for any seam.

After defining the framework for the resource classification, the model was further investigated to find areas of lower confidence. It was established that a 200 m offset from the Skeena River was a limiting factor to the shape of the resource area. In those areas deeper than 100 m, only underground extraction was considered.

Locally thicker seam thickness values (where recovered and presumably related to geological faulting), were not included in the resource model.

The minimum 1m thickness constraint adopted by Atrum, for an underground operation, will require either an increased amount of stone to be recovered to make it operationally efficient or a USA/German/Japanese thin seam mining methodology be adopted using different equipment. This approach has been taken given the value of the anthracite product. Perhaps for a lower return thermal product, these mining practices would not be worthwhile.

In a potential surface mining operation, a minimum seam thickness of 0.4m has been applied. Experience at other operations in a multi-seam surface operation suggests that the removal of a thin seam is beneficial as it creates a bench which is subsequently utilised for drilling blast holes down to the lower seams.

For both surface and underground mining, a maximum parting thickness of 0.3m has been applied and the thickest mining section has been used in the resource estimate. Further studies are required to determine if a thicker parting can be washed and still provide a suitable product.

d) Relative Density

The estimation of seam tonnages with a high level of confidence requires accurate values of in-situ relative density (RDis) to convert volumes into tonnages. The estimation of RDis requires the in-situ moisture (Mis) of the seam to be determined.

RDis is best predicted by careful consideration of the in-situ moisture, Mis and then using the Preston and Sanders equation as follows:

$$RD_{is} = RD_{ad} \times (100 - M_{ad}) / (100 + RD_{ad} \times (M_{is} - M_{ad}) - M_{is})$$

Where RDad is the relative density determined on air-dry coal at the moisture level, Mad. To calculate the in-situ moisture (Mis) the method of Fletcher and Sanders (2003) has been used. Firstly, the equilibrium moisture (EM) is calculated from the air-dried moisture (Mad) using:

$$EM = 1.1971 \times M_{ad} + 1.625$$

The in-situ moisture can then be calculated using:

$$M_{is} = 1.117 \times EM + 0.317$$

An average in situ relative density of 1.65 tonnes/m³ calculated has been applied to the resource estimate for the eastern part of the Groundhog North Mining Complex. The application of this methodology reduces the resource estimate by approximately 2%.

Sampling and sub-sampling techniques

For the Atrum 2013 and 2014 exploration programs, all coal seams intersected were sampled. Coal plies were sampled discretely on the basis of lithological characteristics and quality. All non-coal material and partings were included with the lower coal ply and noted in the lithological description. Non-coal interburden was sampled separately.

The immediate roof and floor samples were submitted for geotechnical testing. All coal and roof and floor dilution samples (and indeed all core samples) were double bagged at site and marked with sample number, date, hole and project. These were retained on site until geophysical corrections confirmed representative core recovery of the seam and samples. The qualified samples were then transported to the laboratory via courier.

Anthracite quality samples from the Atrum Coal Drilling program were sent to Loring Laboratories and ALS Laboratories in Calgary and Vancouver, respectively.

All coal quality samples were prepared and analysed using Canadian and International Standard testing methodologies.

Drilling techniques, core recoveries and geological logging

The majority of holes in the Groundhog North Mining Complex are vertical but some inclined holes were drilled in 2013 and 2014.

All anthracite quality holes were cored (partially or fully) using a HQ size core barrel producing a 63.3 mm core diameter. Large diameter drill holes for bulk material extraction were cored in 2013 using a PQ size core barrel producing an 83.1 mm core diameter.

An assessment of core recovery was completed by comparing the recovered thickness measured during geological logging and by the driller, to geophysical picked thicknesses from the geophysical logs.

Core recoveries were typically greater than 90% in both the HQ and PQ holes. Only recoveries >80% were used for resource estimation.

Volumetric analysis of samples was conducted on the Atrum Coal exploration program. The analysis was based on sample mass received versus expected sample mass derived from sample length by core diameter by apparent Relative Density. If sample mass was below 95% a separate exercise interrogating the linear recovery via photos and logs was undertaken to decide whether the sample could be included and not bias the results.

All core was geologically logged, marked and photographed before sampling. Geological and geotechnical features were identified and logged.

All 2012, 2013 and 2014 drill holes were geophysically logged with a minimum density, calliper, gamma and verticality unless operational difficulties prevented full or partial logging of the drill hole. The calibration of the geophysical tools was conducted by the Canadian geophysical logging company, Century Wireline Services.

Acoustic scanner logging to detect joints, cleats and borehole breakout has also been run supplemented with sonic velocity for strength estimation.

Sample analysis method

Loring Laboratories and ALS Laboratories were used to test the anthracite samples, and both comply with Canadian and International Standards for sample preparation and sub sampling. Slake durability and UCS/Modulus/Poisson Ratio geotechnical tests were also carried out, but at Golders laboratory in Burnaby, British Columbia on samples from the 2013 program.

Large wash samples were pre-treated and dry sized before sample splitting and analysis. Proximate analysis was completed on a portion of the original sample. The raw analysis procedure kept ½ of the sample as reserve.

The in-situ relative density for resource estimation was estimated using the methods of Preston and Sanders (1993) and Fletcher and Sanders (2003).

Coal Quality Modelling

The evaluation of coal quality in the Groundhog North Mining Complex has been based primarily on the analytical results of core samples obtained during the 2012, 2013 and 2014 drilling programs. This analysis has provided an indication of the raw and clean coal quality characteristics of the main seams in the area. Coal quality results from trenches were not included due to their oxidised nature. It is assumed that these trends and characteristics continue to the eastern side of the Skeena River, where only limited coal quality information is available.

Raw quality data from the Groundhog North Mining Complex is as follows: ash content of raw anthracite typically varies between 20% and 60% (air-dried), with volatile content between 5-9% (air-dried); raw moisture is typically <3% and averages 1.6%; similarly, the raw sulphur is <3% and averages 1.3%.

Composited product anthracite quality data were compiled, and summarised: results show it is possible to clean the raw anthracite to less than 10% ash product with a calorific value around 7100-7500 MJ/kg and sulphur less than 0.6%.

Mining method and parameters and other modifying factors considered to date

Atrum is currently undertaking engineering studies and mine planning analysis. Extraction methods being considered include miniwall/continuous miner underground extraction, surface mining and highwall mining methods.

Groundhog North Mining Complex

More than 27,000m of drilling in 154 boreholes has now been carried out at Groundhog North, and results of the regional drilling underpin the geological understanding, and ensuing mine planning, supporting the planned Groundhog North Mining Complex.

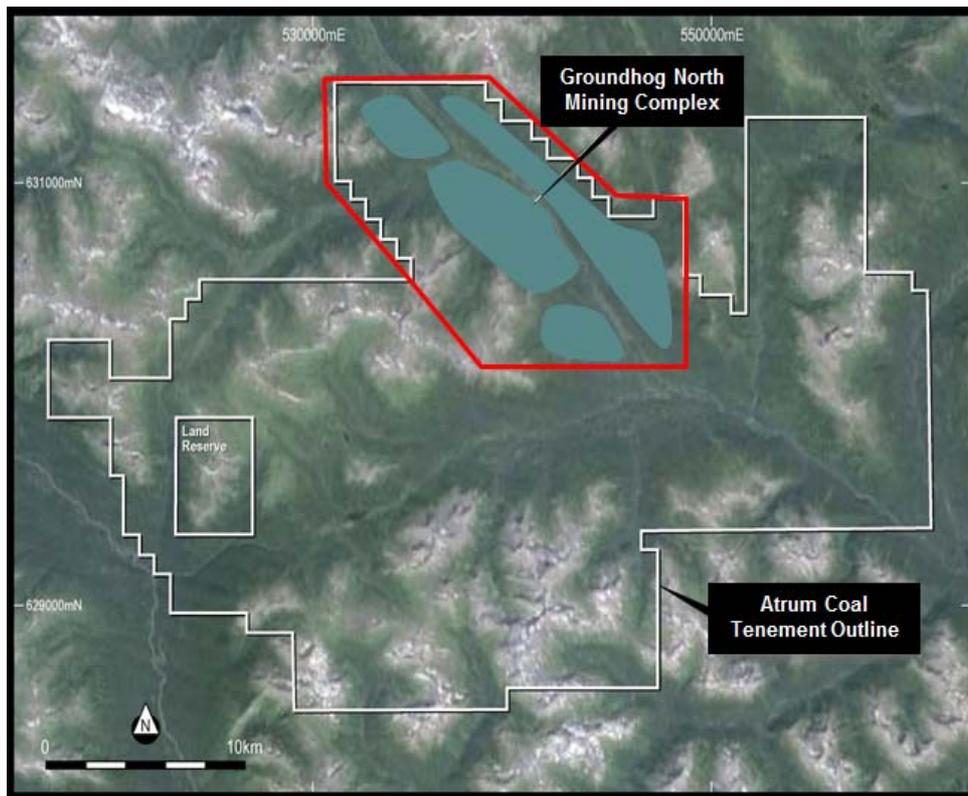


Figure 3. Proposed Groundhog North Mining Complex

Scoping Study

A Scoping Study is being conducted to assess the mining viability of the new resources in the Complex. Results from this Scoping Study will be released in the near future, and the Company is planning additional cored drilling and trenching to upgrade the confidence level of the Scoping Study to Pre-Feasibility level.

The Scoping Study referred to in this announcement is based on lower confidence technical and preliminary economic assessments that are not the level of pre-feasibility or feasibility studies. The results and outcomes of this study are not technically sufficient to support Ore Reserves (JORC 2012) or to provide assurance of an economic development case at this stage, or to provide certainty that the conclusions of the Scoping Study will be realised.

Engagement with Aboriginal Groups

The Groundhog North Complex Mine is located within the asserted traditional territories of the Gitksan House Geel and of the Tahltan Nation. The Company has been and intends to continue engaging in, respectful and transparent communication with all relevant Aboriginal groups as development of the proposed Groundhog North Mining Complex and associated potential access routes continues.

COMPETENT PERSON STATEMENT

The information in this announcement that relates to Coal Resources were estimated in accordance with the guidelines set out in the JORC Code 2012 and are based on and fairly represents information and supporting documentation compiled and reviewed by Mr Nick Gordon, a Competent Person who is a full-time employee of Gordon Geotechniques Pty Ltd, who is a Member of the Australasian Institute of Mining and Metallurgy (CP Geotechnical: AusIMM Membership No. 229724) and a Registered Professional Engineer in Queensland (RPEQ).

With more than 29 years of experience in open cut and underground coal mining, Mr Gordon has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration to qualify him as a Competent Person as defined in the JORC Code 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves."

Neither Mr Gordon nor Gordon Geotechniques Pty Ltd have any material interest or entitlement, direct or indirect, in the securities of Atrum or any companies associated with Atrum. Fees for the preparation of this report are on a time and materials basis.

Mr Gordon first visited the Groundhog project area in March 2014 whilst exploration personnel were preparing for the next drilling program. Two days were also spent with Atrum geological personnel in Victoria, British Columbia evaluating the geological, anthracite quality and geotechnical information relevant to the Groundhog project area.

Follow up visits to British Columbia were carried out in September and November 2014.

Mr Gordon consents to the inclusion in the report of the matters based on the information, in the form and context in which it appears.

For further information contact:

James Chisholm

Executive Chairman
M +61 419 256 690
james@atrumcoal.com

Theo Renard

Company Secretary
M +61 430 205 889
trenard@atrumcoal.com

Nathan Ryan

Investor Relations
M +61 420 582 887
nathan@atrumcoal.com

Forward Looking Statements

This release includes forward looking statements. Often, but not always, forward looking statements can generally be identified by the use of forward looking words such as “may”, “will”, “expect”, “intend”, “plan”, “estimate”, “anticipate”, “continue”, and “guidance”, or other similar words and may include, without limitation statements regarding plans, strategies and objectives of management, anticipated production or construction commencement dates and expected costs or production outputs. Forward looking statements in this release include, but are not limited to, the capital and operating cost estimates and economic analyses from the Study.

Forward looking statements inherently involve known and unknown risks, uncertainties and other factors that may cause the company’s actual results, performance and achievements to differ materially from any future results, performance or achievements. Relevant factors may include, but are not limited to, changes in commodity prices, foreign exchange fluctuations and general economic conditions, increased costs and demand for production inputs, the speculative nature of exploration and project development, including the risks of obtaining necessary licences and permits and diminishing quantities or grades of resources or reserves, political and social risks, changes to the regulatory framework within which the company operates or may in the future operate, environmental conditions including extreme weather conditions, recruitment and retention of personnel, industrial relations issues and litigation.

Forward looking statements are based on the company and its management’s good faith assumptions relating to the financial, market, regulatory and other relevant environments that will exist and affect the company’s business and operations in the future. The company does not give any assurance that the assumptions on which forward looking statements are based will prove to be correct, or that the company’s business or operations will not be affected in any material manner by these or other factors not foreseen or foreseeable by the company or management or beyond the company’s control.

Although the company attempts to identify factors that would cause actual actions, events or results to differ materially from those disclosed in forward looking statements, there may be other factors that could cause actual results, performance, achievements or events not to be anticipated, estimated or intended, and many events are beyond the reasonable control of the company. Accordingly, readers are cautioned not to place undue reliance on forward looking statements.

Forward looking statements in this release are given as at the date of issue only. Subject to any continuing obligations under applicable law or any relevant stock exchange listing rules, in providing this information the company does not undertake any obligation to publicly update or revise any of the forward looking statements or to advise of any change in events, conditions or circumstances on which any such statement is based.

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 representivity and the appropriate calibration of any measurement tools or systems used. Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (e.g. 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information. 	<ul style="list-style-type: none"> For the Atrium Coal 2013 and 2014 exploration programs, all coal seams intersected were sampled. Coal plies were sampled discretely on the basis of lithological characteristics and quality. All non-coal material and partings were included with the lower coal ply and noted in the lithological description. Non-coal interburden was sampled separately. The immediate roof and floor samples were submitted for geotechnical testing. All coal and roof and floor dilution samples were double bagged at site and marked with sample number, date, hole and project. These were retained on site until geophysical corrections confirmed representative core recovery of the seam and samples. The qualified samples were then transported to the laboratory via courier. Coal quality samples from the Atrium Coal Drilling program were sent to Loring Laboratories and ALS Laboratories in Calgary and Vancouver, respectively. All coal quality samples were prepared and analysed using Canadian and International Standard testing methodologies
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"> The majority of holes are vertical but some inclined holes were drilled in 2013 and 2014. All coal quality holes were cored (partially or fully) using a HQ size core barrel producing a 63.3 mm core diameter. Large diameter drill holes for bulk material extraction were cored in 2013 using a PQ size core barrel producing an 83.1 mm core diameter.
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 quality and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material. 	<ul style="list-style-type: none"> An assessment of core recovery was completed by comparing the recovered thickness measured during geological logging and by the driller, to geophysical picked thicknesses from the geophysical logs. Core recoveries were typically greater than 90% in both the HQ and PQ holes. Only recoveries >80% were used for resource estimation. Volumetric analysis of samples was conducted on the Atrium Coal exploration program. The analysis was based on sample mass received versus expected sample mass derived from sample length by core diameter by apparent Relative Density.

Criteria	JORC Code explanation	Commentary
		<ul style="list-style-type: none"> If sample mass was below 95% a separate exercise interrogating the linear recovery via photos and logs was undertaken to decide whether the sample could be included and not bias the results.
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 Coal Resource estimation, mining studies and metallurgical studies. Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography. The total length and percentage of the relevant intersections logged. 	<ul style="list-style-type: none"> All core was geologically logged, marked and photographed before sampling. Geological and geotechnical features were identified and logged. All 2012, 2013 and 2014 drill holes have been geophysical logged with a minimum density, calliper, gamma and verticality unless operational difficulties prevented full or partial logging of the drill hole. The calibration of the geophysical tools was conducted by the geophysical logging company. Century Wireline Services. Acoustic scanner logging to detect joints, cleats and borehole breakout has also been run supplemented with sonic velocity for strength estimation.
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 representivity of samples. Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling. Whether sample sizes are appropriate to the grain size of the material being sampled. 	<ul style="list-style-type: none"> All core samples were double bagged on site and transported to the Laboratory for testing. Loring Laboratories and ALS Laboratories comply with Canadian and International Standards for sample preparation and sub sampling. Large wash samples were pre-treated and dry sized and various sizes before sample splitting and analysis. Proximate analysis was completed on a portion of the original sample. Raw analysis procedure keeps ½ of the sample as reserve. The in-situ relative density for resource estimation was estimated using the methods of Preston and Sanders (1993) and Fletcher and Sanders (2003). Slake durability and UCS/Modulus/Poisson Ratio geotechnical tests were carried out at Golders laboratory in Burnaby, British Columbia on samples from the 2013 program.
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 (e.g. 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 Laboratories and ALS Laboratories comply with the Canadian and International Standards for coal quality testing and as such conduct the verifications for coal quality analysis outlined in the standards. Coal quality results were verified before inclusion into the geological model and resource estimate. No adjustments have been made to the coal quality data.

Criteria	JORC Code explanation	Commentary
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"> Loring Laboratories and ALS Laboratories comply with the Canadian and International Standards for coal quality testing and as such conduct the verifications for coal quality analysis outlined in the standards. Coal Quality results were verified by Xstract Mining Consultants Pty Ltd before inclusion into the geological model and resource estimate. No adjustments have been made to the Coal quality data.
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, mine workings and other locations used in Coal Resource estimation. Specification of the grid system used. Quality and adequacy of topographic control. 	<ul style="list-style-type: none"> Professional Survey of the coal quality boreholes for the Atrum Coal exploration program was completed by DMT Geosciences. The 2013 and 2014 drill holes were surveyed using GPS to <60 cm accuracy. The collar levels were also audited against the high LIDAR generated topographic surface contours.
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 quality continuity appropriate for the Coal Resource and Ore Reserve estimation procedure(s) and classifications applied. Whether sample compositing has been applied. 	<ul style="list-style-type: none"> Data spacing sufficient to establish the degree of geological and quality continuity for inclusion as Indicated and Inferred Resource estimation procedures were employed. Multiple samples were obtained for some seams within the Groundhog North Mining Complex. As such, where appropriate, sample compositing has been completed. Samples were weighted against sample thickness and in situ RD.
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"> A combination of vertical and inclined drill holes were completed during 2013 and 2014 from the same drill pad to ensure that a suitable understanding of the geological structure and orientation of the geology was captured.
Sample security	<ul style="list-style-type: none"> The measures taken to ensure sample security. 	<ul style="list-style-type: none"> Sample security was ensured under a chain of custody between Atrum Coal personnel on site and Loring and ALS 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"> Sampling was undertaken by Atrum Coal personnel. Loring and ALS undertook internal audits and checks in line with the Canadian and International standards. The geological and coal quality database has been reviewed by Gordon Geotechniques Pty Ltd.

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 licence to operate in the area. 	<ul style="list-style-type: none"> Coal tenures relate to the Groundhog Anthracite project, which is 100% owned by Atrum Coal The project consists of 18 granted coal licences and 8 coal licence applications totalling 22,815 hectares Security of tenure is not compromised and there is no known impediments
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"> Exploration drilling within and in close proximity to the Groundhog project has been reviewed and evaluated for data purposes
Geology	<ul style="list-style-type: none"> Deposit type, geological setting and style of mineralisation. 	<ul style="list-style-type: none"> The Groundhog North Mining Complex lies within the Bowser Basin, which is the largest contiguous basin in the Canadian Cordillera, developed as a result of tectonic compression and uplift of the Coast Mountains during the Upper Jurassic. The dominant structural feature is the NW/SE trending Biernes Synclinorium. It resulted from northeast-southwest compression During the first phase of deformation ("F1"). Thrusting related to the F1 deformation is more intense in the southern part of the Groundhog Coalfield than in the northern part. The second, less intense, phase of deformation ("F2") resulted from NW/SE compression. The F2 deformation is superimposed on the broad, open type of F1 folding. The F2 imprint is visible in a series of plunge changes in the F1 folds in the order of up to 5°. F2 thrusts are generally flat lying and related to the hanging wall of drag folds. Displacement tends to be along bedding surfaces. The F2 fold structures superimposed on the major F1 synclinorium vary in wave length from 100 m to 700 m and vary in amplitude up to 100 m.
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. 	<ul style="list-style-type: none"> All drill holes have been modelled from vertical, although hole deviation (from vertical) has been recorded for all drill holes.

Criteria	JORC Code explanation	Commentary
	<ul style="list-style-type: none"> 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. 	
Data aggregation methods	<ul style="list-style-type: none"> In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum quality truncations (e.g. cutting of high grades) and cut-off qualities are usually Material and should be stated. Where aggregate intercepts incorporate short lengths of high quality results and longer lengths of low quality results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail. 	<ul style="list-style-type: none"> All seams where multiple coal quality samples were taken were given a composite coal quality value. This composite value was generated within the Minescape software and was weighted on thickness and in situ RD. In situ RD was only weighted against thickness.
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"> The inclusion of boreholes from neighbouring areas has given the model a reasonable amount of lateral continuity in all directions. Point of observation spacing has been extrapolated in a maximum of a 2,000 m radius from the drill hole. Seam thicknesses have been corrected to geophysics to ensure accuracy
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"> All appropriate diagrams are contained within the main body of the report
Balanced reporting	<ul style="list-style-type: none"> Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high qualities and/or widths should be practiced to avoid misleading reporting of Exploration Results. 	<ul style="list-style-type: none"> All available exploration data for the Groundhog Project area have been collated and reported.
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"> No further exploration data were gathered and or utilised.
Further 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). Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and 	<ul style="list-style-type: none"> Further work consisting of additional drilling and seismic survey is being evaluated. The Company is currently planning an additional drilling program aimed at testing the continuity of the coal resources in the eastern part

Criteria	JORC Code explanation	Commentary
	<i>future drilling areas, provided this information is not commercially sensitive.</i>	of the Groundhog North Mining Complex.

SECTION 3 - ESTIMATION AND REPORTING OF COAL 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 Coal Resource estimation purposes. Data validation procedures used. 	<ul style="list-style-type: none"> The resource estimates which form part of this report were based on drilling, trenching, and adit data collected, both recent and historical, mainly in the period from 1970 to 2014 by companies then active in the area now forming the Property, including Atrum Coal NL. Gordon Geotechniques completed a 100% validation of available current and historic work and created an independent database. The authors have reviewed the data for consistency and eliminated data that could not be constrained or confirmed in reports or government databases. The authors have concluded that work completed by the coal production and exploration companies was completed in a professional manner that was consistent with the data collection and reporting standards at that time. The historical reports used for this compilation included historic reserve and resource estimates that no longer meet NI 43-101 criteria. Current geological information utilised in the resource estimate include drilling and geophysical analysis as well as coal quality testing undertaken by Atrum Coal NL during the 2012, 2013 and 2014 exploration programs.
Site visits	<ul style="list-style-type: none"> Comment on any site visits undertaken by the Competent Person and the outcome of those visits. If no site visits have been undertaken indicate why this is the case. 	<ul style="list-style-type: none"> Gordon Geotechniques carried out two site visits to the Groundhog North mining complex in 2014. Several reviews were conducted of the field procedures and sampling practices, and they were deemed to be of an acceptable industry standard at the time of the visits.
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 Coal Resource estimation. The use of geology in guiding and controlling Coal Resource estimation. The factors affecting continuity both of quality and geology. 	<ul style="list-style-type: none"> The coal seams were interpreted using a combination of lithology, geophysical logs and quality distribution. Some bullseyes in the data may be associated with structural complexity which can only be resolved with closer spaced drilling.
Dimensions	<ul style="list-style-type: none"> The extent and variability of the Coal Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Coal Resource. 	<ul style="list-style-type: none"> For the area in the Groundhog North mining complex east of the Skeena River a reportable JORC resource has been determined for the points of observation with thickness data. It is assumed that the trends in the coal quality data continue to the eastern side of the Skeena River where only limited coal quality information is

Criteria	JORC Code explanation	Commentary
		<p>available</p> <ul style="list-style-type: none"> • For the estimate of the coal resource in this eastern area, the following constraints have been used: <ul style="list-style-type: none"> o 200m offset from the Skeena River. o Measured resource extrapolated 500m from points of observation. o Indicated resource extrapolated 1,000m from points of observation. o Inferred resource extrapolated 2,000m from points of observation. o A maximum of 0.3m stone parting. o A minimum 0.4m mining thickness for open cut mining at <100m depth. o A minimum 1m mining thickness for underground mining at >100m depth.
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 quality 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 Coal Resource estimate takes appropriate account of such data. • The assumptions made regarding recovery of by-products. • Estimation of deleterious elements or other non-quality variables of economic significance (e.g. sulphur for acid mine drainage characterisation). • In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed. • Any assumptions behind modelling of selective mining units. • Any assumptions about correlation between variables. • Description of how the geological interpretation was used to control the resource estimates. • Discussion of basis for using or not using quality 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"> • Import data into the Minesight mining software package. • Create fault surface triangulations using surface and subsurface fault traces as well as fault/drillhole intersections. • Correlate drill holes, trenches, adits and surface exposures on or directly adjacent to the Groundhog North Mining Complex. • Create final fault blocks by applying a Boolean Test to a blank fault block solid using the fault surface triangulations. • Grid the topography and base of weathering triangulation surfaces. • Create seam grids and triangulations in Model Stratigraphy using the FixDHD Mapfiles, topography grid, and base of weathering grid. Seam grids were cropped against the base of weathering grid to remove oxidized coal. • Create HARP (Horizon Adaptive Rectangular Prism) block models for each sub area using the parting and thickness grids as qualities. Blocks were 25 m x 25 m with a sub-blocking of 2 (x and y directions). • Create coal/parting fraction attributes for each seam in the HARP and populate it using the quality grids (coal thickness/aggregate seam thickness). • Classify block confidence using the distance of the block centroid to the nearest data point • Determine the cumulative stripping ratio for each block of coal within the model (total volume of waste/total tonnage of product). • Constrain resource estimation by the current expanded lease boundaries. • Constrain resource estimation to seam thickness greater than 0.4 m (open cut) or 1m (underground). • Volumes of the resource polygons determined were calculated using the SURFER13 software.

Criteria	JORC Code explanation	Commentary
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 reported on an As Received Basis with natural moisture included. The moisture content is determined from the results of Proximate Analysis laboratory testing using the formulae of Fletcher and Sanders (2003).
Cut-off parameters	<ul style="list-style-type: none"> The basis of the adopted cut-off quality(s) or quality parameters applied. 	<ul style="list-style-type: none"> The cut-off parameters included: <ul style="list-style-type: none"> Tenement boundaries. <ul style="list-style-type: none"> 200 m offset from the Skeena River. For open cut mining at depths <100 m, a 0.4 m minimum mining thickness. For underground mining at depths >100 m, a minimum mining thickness of 1 m. For both open cut and underground mining a maximum 0.3 m stone parting thickness.
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 Coal 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"> Atrum is currently undertaking engineering studies and mine planning analysis. Extraction methods being considered include minewall/continuous miner underground extraction, open cut mining and highwall mining.
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 Coal 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"> Independent quality analysis had been completed for each of the resource areas. Sampling programs included HQ diameter core samples, adit channel samples, and adit bulk samples. Analytical and petrographic analyses were completed at A.S.T.M certified labs. Core intervals containing coal were sampled using project-defined procedures, processed as raw and clean core samples, and analysed.
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 	<ul style="list-style-type: none"> Additional work is required to be undertaken by Atrum.

Criteria	JORC Code explanation	Commentary
	<p>aspects have not been considered this should be reported with an explanation of the environmental assumptions made.</p>	
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. 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. 	<ul style="list-style-type: none"> A constant bulk density value was assumed across the property and was determined from the coal rank and average ash contents as defined in GSC 88-21. A bulk density of 1.65 g/cm³ was used. This in-situ relative density was estimated using the methods of Preston and Sanders (1993) and Fletcher and Sanders (2003).
Classification	<ul style="list-style-type: none"> The basis for the classification of the Coal Resources into varying confidence categories. Whether appropriate account has been taken of all relevant factors (ie relative confidence in tonnage/quality 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 estimate has been compiled according to the JORC 2012 guidelines applicable at the time and relevant to the Groundhog Project. The resource estimate has been categorised according to JORC Measured, Indicated and Inferred.
Audits or reviews	<ul style="list-style-type: none"> The results of any audits or reviews of Coal Resource estimates. 	<ul style="list-style-type: none"> An internal Company review of the Resource and the associated Technical Reports was undertaken prior to the public release of this information.
Discussion of relative accuracy/confidence	<ul style="list-style-type: none"> Where appropriate a statement of the relative accuracy and confidence level in the Coal 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 	<ul style="list-style-type: none"> The categories of the resource in accordance with the JORC 2012 guidelines were considered acceptable by the Qualified Person during the classification of the resources.

Criteria	JORC Code explanation	Commentary
	<i>estimate should be compared with production data, where available.</i>	

Drillhole information used in modelling:

Drill Hole ID	Date Started	Date Completed	Northing	Easting	Elevation	Total Depth	Dip	Azimuth	Inclination	Casing Depth
DHGH12-01	18/09/2012	21/09/2012	6302631.1	544429.6	1005.4	402.34	-90	0	V	10.54
DHGH12-02	22/09/2012	24/09/2012	6300633.4	545929.9	900.0	288.65	-90	0	V	10.36
DHGH12-03	23/09/2012	24/09/2012	6302449.2	544019.9	1054.9	282.55	-90	0	V	11.27
DHGH12-04	25/09/2012	27/09/2012	6309707.3	539352.7	1062.8	309.68	-90	0	V	6.09
DHGH12-05	25/09/2012	28/09/2012	6307374.9	540607.6	1154.0	333.76	-90	0	V	6.09
DHGH12-06	28/09/2012	30/09/2012	6309331.0	538983.6	1097.2	316.15	-90	0	V	3.04
DHGH12-07	29/09/2012	30/09/2012	6307678.5	54125.8	1109.9	288.65	-90	0	V	4.57
DHGH12-08	30/09/2012	2/10/2012	6309698.5	538166.6	1098.1	306.63	-90	0	V	5.18
DHGH12-09	1/10/2012	5/10/2012	6306293.7	541271.0	1178.4	398.07	-90	0	V	6.09
DHGH12-10	3/10/2012	5/10/2012	6310235.2	538480.1	1052.4	309.68	-90	0	V	5.79
DHGH12-11	4/10/2012	8/10/2012	6298679.5	547676.8	984.5	423.67	-90	0	V	9.14
DHGH12-12	6/10/2012	8/10/2012	6306912.2	541850.4	1091.2	306.32	-90	0	V	8.83
DHGH12-13	9/10/2012	10/10/2012	6298105.1	549550.0	1135.2	300	-90	0	V	6.09
DHGH12-14	9/10/2012	13/10/2012	6306432.8	546094.5	1197.3	395.33	-90	0	V	9.14
DHGH12-15	13/10/2012	14/10/2012	6299380.4	547444.5	915.0	340.46	-90	0	V	4.57
DHGH13-01	24/06/2013	27/06/2013	6311000.0	537600.1	1026.3	391.88	-90	0	V	3.87
DHGH13-02	24/06/2013	26/06/2013	6308159.2	541054.3	1074.1	189.07	-90	0	V	3.77
DHGH13-03	27/06/2013	29/06/2013	6307944.8	541493.1	1037.9	236.62	-90	0	V	4.88
DHGH13-04	28/06/2013	30/06/2013	6310630.0	538528.6	1017.6	333.87	-90	0	V	3.16
DHGH13-05	29/06/2013	29/06/2013	6307949.6	541497.3	1036.7	64.78	-60	53	I	4.12
DHGH13-06	30/06/2013	3/07/2013	6307322.0	541552.6	1087.8	380.6	-90	0	V	1.6
DHGH13-07	30/06/2013	4/07/2013	6309200.8	540118.5	1061.0	470.65	-90	0	V	6.37
DHGH13-08	3/07/2013	4/07/2013	6307324.8	541553.4	1087.2	89.93	-59.6	251.3	I	5
DHGH13-09	4/07/2013	6/07/2013	6306792.8	541376.5	1135.5	248.74	-90	0	V	6.68
DHGH13-10	4/07/2013	5/07/2013	6309200.0	540115.2	1061.3	59.74	-60.4	244	I	5.73
DHGH13-11	5/07/2013	8/07/2013	6308631.2	539625.8	1108.7	355.34	-90	0	V	n/a
DHGH13-12	6/07/2013	7/07/2013	6307252.8	542188.9	1015.8	101.86	-90	0	V	2.8
DHGH13-13	7/07/2013	8/07/2013	6306930.0	542571.0	974.5	64.62	-90	0	V	1.22
DHGH13-14	8/07/2013	9/07/2013	6306933.0	542573.0	973.1	58.67	-60.3	249.9	I	4.42
DHGH13-15	9/07/2013	10/07/2013	6308475.2	540681.1	1074.7	84.84	-90	0	V	4.07
DHGH13-16	9/07/2013	10/07/2013	6308635.2	539627.8	1108.8	81.56	-49.2	245.9	I	1.32
DHGH13-17	10/07/2013	10/07/2013	6308478.6	540683.1	1074.3	77.52	-50.5	243.9	I	4.8
DHGH13-18	10/07/2013	14/07/2013	6308128.0	538906.1	1199.0	439.84	-90	0	V	3.82
DHGH13-19	11/07/2013	11/07/2013	6308651.6	540859.0	1049.6	68.94	-90	0	V	4.75
DHGH13-20	11/07/2013	12/07/2013	6308655.8	540856.2	1049.7	98.47	-49.1	256.9	I	3.07
DHGH13-21	12/07/2013	13/07/2013	6308341.6	540468.6	1085.4	139	-90	0	V	6.9
DHGH13-22	13/07/2013	14/07/2013	6308015.2	540878.6	1095.0	124.06	-90	0	V	3.2
DHGH13-23	14/07/2013	15/07/2013	6308016.0	540878.0	1094.8	56.39	-71	245.8	I	2.75
DHGH13-24	14/07/2013	15/07/2013	6308128.0	538906.1	1199.0	56.14	-59.9	333.7	I	2.8
DHGH13-25	15/07/2013	16/07/2013	6307823.6	541315.5	1078.3	67.06	-90	0	V	3.75
DHGH13-26	15/07/2013	16/07/2013	6310167.2	537993.4	1062.2	102.12	-90	0	V	2.75
DHGH13-27	16/07/2013	17/07/2013	6307452.8	541701.1	1059.9	88	-90	0	V	1.77
DHGH13-28	17/07/2013	18/07/2013	6309840.0	538801.2	1076.3	65.29	-90	0	V	1.26
DHGH13-29	17/07/2013	19/07/2013	6307104.8	542014.9	1052.2	115.97	-90	0	V	2.9
DHGH13-30	18/07/2013	18/07/2013	6309844.0	538801.2	1076.2	14.33	-80	230	I	1.52
DHGH13-31	18/07/2013	19/07/2013	6310379.6	539023.1	1037.1	56.9	-90	0	V	1.42
DHGH13-32	19/07/2013	20/07/2013	6306760.0	542389.5	1036.5	103.83	-90	0	V	4.77
DHGH13-33	19/07/2013	20/07/2013	6310110.4	539762.3	1030.4	68.89	-90	0	V	2.75
DHGH13-34	21/07/2013	22/07/2013	6306573.6	542224.9	1068.8	136.91	-90	0	V	4.32
DHGH13-35	22/07/2013	23/07/2013	6306573.6	542224.9	1068.8	55.1	-69.4	237.2	I	4.47
DHGH13-36	23/07/2013	24/07/2013	6307238.4	541335.5	1111.3	83.29	-90	0	V	1.8
DHGH13-37	20/08/2013	22/08/2013	6306092.4	542096.6	1114.9	166.43	-90	0	V	4.27
DHGH13-38	23/08/2013	26/08/2013	6306344.4	540778.5	1211.4	218.15	-90	0	V	5.4
DHGH13-39	26/08/2013	30/08/2013	6307183.2	540138.8	1175.1	323.89	-90	0	V	4.86
DHGH13-40	30/08/2013	2/09/2013	6307948.0	539791.2	1114.5	208.48	-90	0	V	7.87
DHGH13-41	2/09/2013	6/09/2013	6308896.8	538727.6	1139.6	272.66	-90	0	V	n/a
DHGH13-42	7/09/2013	8/09/2013	6309775.2	537630.3	1102.5	78.33	-90	0	V	3.05
DHGH13-43	8/09/2013	9/09/2013	6310415.6	537560.5	1046.5	56.58	-90	0	V	4.65
PQ13-31-1	19/08/2013	19/08/2013	6310375.6	539022.1	1037.1	21.5	-90	0	V	0.8
PQ13-31-2	20/08/2013	21/08/2013	6310375.6	539022.1	1037.1	18	-82	220	I	n/a
PQ13-31-3	21/08/2013	22/08/2013	6310375.6	539022.1	1037.1	18	-90	0	V	n/a
PQ13-31-4	22/08/2013	22/08/2013	6310375.6	539022.1	1037.1	18	-90	0	V	n/a

Drill Hole ID	Date Started	Date Completed	Northing	Easting	Elevation	Total Depth	Dip	Azimuth	Inclination	Casing Depth
PQ13-26-1	23/08/2013	24/08/2013	6310169.2	537995.4	1061.9	62	-90	0	V	n/a
PQ13-26-2	25/08/2013	26/08/2013	6310169.2	537995.4	1061.9	66.5	-81	128.8	I	4
PQ13-26-3	27/08/2013	29/08/2013	6310169.2	537995.4	1061.9	69	-90	0	V	n/a
PQ13-26-4	29/08/2013	30/08/2013	6310169.2	537995.4	1061.9	63.5	-82	220	I	n/a
PQ13-26-5	31/08/2013	1/09/2013	6310169.2	537995.4	1061.9	38	-90	0	V	n/a
PQ13-13-1	2/09/2013	2/09/2013	6306933.0	542574.0	972.8	42.5	-90	0	V	n/a
PQ13-13-2	2/09/2013	3/09/2013	6306933.0	542574.0	972.8	44	-82	220	I	n/a
PQ13-13-3	4/09/2013	5/09/2013	6306933.0	542574.0	972.8	43.5	-88	234.4	I	n/a
PQ13-13-4	6/09/2013	8/09/2013	6306933.0	542574.0	972.8	45	-90	0	V	n/a
PQ13-08-1	8/09/2013	10/09/2013	6307327.8	541555.4	1086.5	46.5	-90	0	V	n/a
PQ13-08-2	10/09/2013	11/09/2013	6307327.8	541555.4	1086.5	40.5	-85	220	I	n/a
PQ13-19-1	13/09/2013	14/09/2013	6308658.8	540853.2	1049.9	65.81	-90	0	V	4.1
PQ13-19-2	14/09/2013	15/09/2013	6308658.8	540853.2	1049.9	64.5	-82	220	I	n/a
PQ12-01-1	15/09/2013	15/09/2013	6302631.1	544429.6	1005.4	30	-90	0	V	n/a
PQ12-01-2	15/09/2013	16/09/2013	6302631.1	544429.6	1005.4	27	-82	220	I	n/a
PQ12-01-3	16/09/2013	16/09/2013	6302631.1	544429.6	1005.4	27	-90	0	V	n/a
PQ12-01-4	16/09/2013	17/09/2013	6302631.1	544429.6	1005.4	30	-85	220	I	n/a
DHGH-14-01A	3/04/2014	4/04/2014	6307993.4	541374.4	1046.1	51.21	-90	0	V	6.1
DHGH-14-01-B	4/04/2014	6/04/2014	6307993.4	541374.4	1046.1	101.5	-90	0	V	6.1
DHGH-14-02	7/04/2014	9/04/2014	6308029.7	541411.8	1042.0	110.64	-90	0	V	7.1
DHGH-14-03	9/04/2014	10/04/2014	6308065.4	541448.1	1032.9	104.54	-90	0	V	7.62
DHGH-14-04	11/04/2014	13/04/2014	6308107.1	541483.2	1021.1	109.73	-90	0	V	12.19
DHGH-14-05	13/04/2014	16/04/2014	6308134.1	541237.1	1059.7	120.6	-90	0	V	3.05
DHGH-14-06	16/04/2014	18/04/2014	6307961.4	541344.4	1052.2	116.18	-90	0	V	13.72
DHGH-14-07	3/06/2014	7/06/2014	6307924.5	541306.5	1068.7	289.25	-90	0	V	6.7
DHGH-14-08	3/06/2014	5/06/2014	6307887.5	541272.3	1075.1	108.9	-90	0	V	7.32
DHGH-14-09	5/06/2014	8/06/2014	6307777.9	541175.7	1092.0	289.25	-90	0	V	10.36
DHGH-14-10	7/06/2014	10/06/2014	6307815.7	541208.7	1087.7	286.21	-90	0	V	3.65
DHGH-14-11	9/06/2014	12/06/2014	6307704.1	541096.1	1106.1	270.96	-90	0	V	8.23
DHGH-14-12	11/06/2014	13/06/2014	6307740.3	541133.8	1098.9	164.29	-90	0	V	3.05
DHGH-14-13	13/06/2014	18/06/2014	6308074.8	541461.9	1029.5	374.6	-90	0	V	22.55
DHGH-14-14	13/06/2014	15/06/2014	6307939.0	541323.6	1063.0	152.09	-90	0	V	4.57
DHGH-14-15	16/06/2014	17/06/2014	6307939.0	541323.6	1063.0	51.21	-65.5	240.2	I	3.05
DHGH-14-16	17/06/2014	20/06/2014	6307903.9	541400.0	1055.8	224.94	-90	0	V	16.25
DHGH-14-17	18/06/2014	19/06/2014	6308074.8	541461.9	1029.5	51.21	-65	214	I	15.24
DHGH-14-18	21/06/2014	22/06/2014	6308049.4	541429.6	1037.5	103.63	-90	0	V	9.14
DHGH-14-19	22/06/2014	26/06/2014	6307871.1	541367.8	1062.2	295.05	-90	0	V	3.05
DHGH-14-20	22/06/2014	24/06/2014	6308049.4	541429.6	1037.5	51.21	-66	228.8	I	10.37
DHGH-14-21	24/06/2014	25/06/2014	6308008.1	541380.0	1045.1	109.42	-90	0	V	4.38
DHGH-14-22	25/06/2014	25/06/2014	6308008.1	541380.0	1045.1	60.66	-66.1	243	I	4.5
DHGH-14-23	26/06/2014	27/06/2014	6307968.3	541359.5	1048.7	126.19	-90	0	V	3.05
DHGH-14-24	27/06/2014	28/06/2014	6307833.2	541244.8	1083.3	127.02	-90	0	V	4.57
DHGH-14-25	28/06/2014	29/06/2014	6307968.3	541359.5	1048.7	81.88	-72.15	239.1	I	3.05
DHGH-14-26	14/07/2014	19/07/2014	6307852.5	541091.7	1095.3	304.5	-90	0	V	4.78
DHGH-14-27	14/07/2014	20/07/2014	6313346.6	537509.5	1123.8	392.89	-90	0	V	9.14
DHGH-14-28	19/07/2014	23/07/2014	6307994.9	541096.2	1079.3	326.82	-90	0	V	2.79
DHGH-14-29	21/07/2014	25/07/2014	6312530.3	538651.8	1124.3	377.63	-90	0	V	18.29
DHGH-14-30	23/07/2014	27/07/2014	6307988.8	541237.1	1068.7	289.24	-90	0	V	9.14
DHGH-14-31	25/07/2014	30/07/2014	6311706.6	540287.7	1134.9	353.12	-90	0	V	19.81
DHGH-14-32	27/07/2014	1/08/2014	6307854.3	540954.9	1102.8	359.63	-90	0	V	8.22
DHGH-14-33	30/07/2014	4/08/2014	6310405.7	541216.2	1065.3	358.58	-90	0	V	12.19
DHGH-14-34	1/08/2014	5/08/2014	6307639.1	541309.8	1091.1	283.16	-90	0	V	11.27
DHGH-14-35	4/08/2014	9/08/2014	6308626.9	542357.3	1033.3	322.57	-90	0	V	7.62
DHGH-14-36	5/08/2014	10/08/2014	6307779.4	541444.4	1063.8	221.89	-90	0	V	24.38
DHGH-14-37	9/08/2014	15/08/2014	6307780.3	543794.9	1079.0	350.21	-90	0	V	25.91
DHGH-14-38	10/08/2014	15/08/2014	6307814.0	541550.7	1041.2	286.51	-90	0	V	21.94
DHGH-14-39	16/08/2014	22/08/2014	6297736.1	546347.2	989.8	368.5	-90	0	V	34.13
DHGH-14-40	23/08/2014	27/08/2014	6307783.9	541023.1	1109.2	304.49	-90	0	V	8.23
DHGH-14-41	27/08/2014	30/08/2014	6309696.8	539350.5	1063.6	310.29	-90	0	V	6.1
MW14-06	12/10/2014	13/10/2014	6310246.7	539900.6	1005.5	54	-90	0	V	
MW14-05D	30/09/2014	5/10/2014	6309313.9	539012.5	1099.5	144	-90	0	V	
MW14-05S	8/10/2014	10/10/2014	6309325.8	538993.2	1097.9	100.9	-90	0	V	
MW14-04D	21/09/2014	24/09/2014	6308874.9	538724.2	1142.1	102.7	-90	0	V	
MW14-04S	27/09/2014	28/09/2014	6308890.0	538740.3	1140.0	76.5	-90	0	V	

Drill Hole ID	Date Started	Date Completed	Northing	Easting	Elevation	Total Depth	Dip	Azimuth	Inclination	Casing Depth
MW14-02D	8/09/2014	10/09/2014	6308338.9	541776.4	986.9	31.7	-90	0	V	
MW14-01D	29/08/2014	3/09/2014	6308144.6	541243.6	1058.2	137.8	-90	0	V	
MW14-01S	6/09/2014	6/09/2014	6308151.3	541224.7	1057.9	58.5	-90	0	V	
MW14-03D	12/09/2014	16/09/2014	6307381.2	540589.8	1155.0	150.9	-90	0	V	
MW14-03S	17/09/2014	19/09/2014	6307389.8	540597.8	1154.7	96.9	-90	0	V	
DDH-70-01			6311435.0	537293.0	1020.0	178.31	-60	216	V	
DDH-70-02			6301754.0	542129.0	1280.0	172.82	-90	0	V	
DDH-70-03			6302324.0	543178.0	1141.3	179.22	-90	0	V	
DDH-70-04			6300819.0	543226.0	1120.0	153.92	-90	0	V	
DDH-70-05			6303775.0	547563.0	1141.5	176.78	-62	251	V	
DDH-70-06			6301120.0	545280.0	925.0	168.25	-90	0	V	
DDH-81-01			6302975.0	547783.0	1055.0	216.4	-90	0	V	
DDH-81-02			6302205.0	545393.0	929.4	148.56	-90	0	V	
DDH-81-03			6303738.0	543764.0	996.3	154.52	-90	0	V	
DDH-81-04			6306885.0	543733.0	1006.1	204.77	-90	0	V	
DDH-81-05			6308855.0	541453.0	986.4	159.4	-90	0	V	
DDH-81-06			6308295.0	540223.0	1081.4	133.19	-90	0	V	
WH-08-01			6303243.9	544151.0	992.6	224.65	-90	0	V	
WH-08-02			6302761.9	544821.2	965.4	258.7	-90	0	V	
WH-08-03			6302160.0	545276.9	932.1	215.2	-90	0	V	
WH-08-04			6302440.0	544039.0	1054.8	273.4	-90	0	V	
WH-08-05			6302027.1	544509.8	1000.2	303.88	-90	0	V	
WH-08-06			6301332.0	543601.0	1096.4	121.3	-90	0	V	
WH-08-07			6301160.0	544328.0	1007.0	215.18	-90	0	V	
WH-08-08			6301322.0	543551.0	1102.0	221.89	-90	0	V	
WH-08-09			6301736.0	544111.0	1051.9	279.8	-90	0	V	
WH-08-10			6302826.7	543371.3	1108.4	188.55	-90	0	V	
WH-08-11			6304038.0	543316.0	1050.4	279.81	-90	0	V	