Atrum Coal
COAL FOR STEEL

ASX Release

16 October 2014

ATRUM COAL – REGIONAL DRILLING SUCCESS SUPPORTS GROUNDHOG MULTI-MINE STRATEGY

HIGHLIGHTS

- Successful regional drill campaign completed on the east side of the rail-subgrade within 2km of Groundhog North (PFS Mine) and within 8km on the southern portion of the Groundhog Coalfield
- Significant anthracite intersections encountered in drilling at both locations described as 'Groundhog North-East' and 'Groundhog South'
- Eight regional drill holes averaged net anthracite thickness of 20m supporting Atrum's multi-mine vision for Groundhog with potential Mine II and Mine III target locations already identified
- If developed, Mine II and Mine III would enjoy significant CAPEX and OPEX savings due to shared infrastructure synergies with Groundhog North
- A multi-mine operation provides significant value to all stakeholders, including shareholders, local communities and First Nations members

Atrum Coal NL ("**Atrum**" or the "**Company**") (**ASX: ATU**) is pleased to announce that it has intersected significant net anthracite in this year's regional drilling program at the Company's flagship Groundhog Anthracite Project ("**Groundhog**"), located in British Columbia, Canada.

Executive Chairman, Mr James Chisholm commented:

"Regional drilling has confirmed significant anthracite on both the eastern side of the rail-subgrade and at the southern-most part of Groundhog anthracite field in previously untested areas. Initial results suggest comparable geology and anthracite quality to that of the Groundhog North area. Atrum has secured an enormous anthracite field capable of supporting multiple mines."

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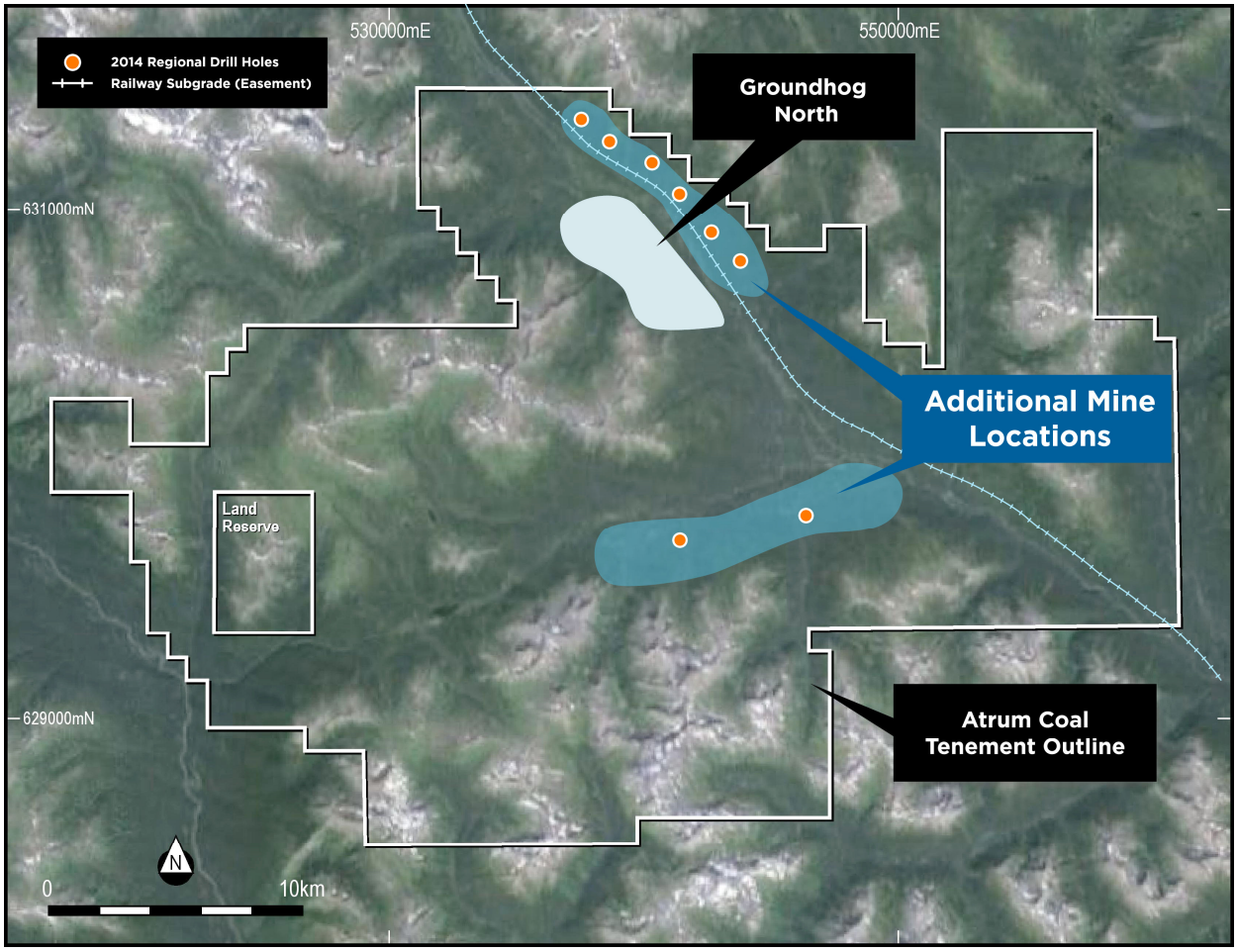
REGIONAL DRILLING SUCCESS AT GROUNDHOG

In addition to bulk sample and mine portal definition drilling at Groundhog North (PFS Mine) conducted during 2014, the Company completed a regional exploration program on newly granted coal licences at Groundhog. Drill hole locations were designed to expand the global anthracite resource and identify suitable locations for subsequent mine development.

A total of eight regional drill holes were completed and the average net anthracite thickness intersected was 20.5m. The drill holes were located outside the current resource envelope and the results suggest a material increase in JORC resources is possible.



Additional mine potential discovered at Groundhog

Initial results from six drill holes on the eastern side of the rail-subgrade at Groundhog North East, indicate a high grade anthracite deposit of similar size and quality to that at Groundhog North. This area has the potential to support a standalone mine (Mine II). The area is located adjacent to the rail-subgrade which connects to the rail head at Minaret. A rail upgrade would enable product to be railed direct to Prince George and then onto export terminals at Prince Rupert or Vancouver. Alternatively, product could be trucked to the port of Stewart.

Two drill holes located in the southern portion of Groundhog (immediately west of 2012 drill holes with large anthracite intersections) described as Groundhog South, also indicate potential for an additional mine development (Mine III).

Mine II and Mine III would benefit from surface infrastructure and mine processing facilities constructed as part of the development and operation of Groundhog North. Conceptually, additional mines could be constructed with lower CAPEX, and OPEX savings could be generated across all three sites.

The regional drilling results supports Atrum's geological thesis that the existing resource envelope continues in an east/west and north/south direction within its Groundhog anthracite field tenure.

Drill crew operating at Groundhog North East

Drilling at Groundhog

A WORLD CLASS MULTI MINE VISION

The executive team has worked diligently over the last three years, consolidating surrounding tenure, piece by piece. The Company is now in a strategic position where it owns 100% of what is believed to be all the entire shallow anthracite-bearing tenure in the Groundhog Coalfield, the largest known high grade and ultra-high grade anthracite deposit globally. Atrum has a long term vision to become the world's largest producer of high grade and ultra-high grade anthracite.

While the Company's primary focus is on near-term production at Groundhog North, to follow up on the success of the regional exploration program, it will revise the global JORC compliant resource for the Groundhog Coalfield in due course. The Company also intends on releasing details of its plan for the western portion of its Groundhog Coalfield tenure (Panorama Anthracite Project), where it aims to build on its multi-mine strategy.

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Competent Person Statement

Coal Resources

The coal resources documented in this report were estimated in accordance with the guidelines set out in the JORC Code, 2012. They are based on information compiled and reviewed by Mr Nick Gordon, who is a Member of the Australasian Institute of Mining and Metallurgy and is a full-time employee of Gordon Geotechniques Pty Ltd.

With more than 28 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 recently visited the Groundhog project area on 21st 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, coal quality and geotechnical information relevant to the Groundhog project area.

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.

Exploration Results

The information in this document that relates to Exploration Results is based on information compiled by Brad Van Den Bussche B.Sc P.Geo, who is a Member of a Recognised Overseas Professional Organisation (ROPO) included in a list promulgated by the ASX from time to time, being the Canadian Institute of Mining and Metallurgy. Mr Van Den Bussche has read and understands the requirements of the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code, 2012 Edition). Mr Van Den Bussche is a Competent Person as defined by the JORC Code, 2012 Edition, having five years' experience that is relevant to the style of mineralisation and type of deposit described in this document, and to the activity for which I am accepting responsibility.

Mr Van Den Bussche is Chief Technical Officer of Atrum Coal NL and has sufficient experience which is relevant to the style of mineralisation and type of deposit and mineralisation under consideration and to the activity which they are undertaking. Mr Van Den Bussche consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

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.

APPENDIX A: DRILL HOLE SUMMARY

Pursuant to ASX Listing Rule 5.7.2, the Company discloses all material drill holes that were referenced in this ASX announcement.

Drill Hole ID	Northing	Easting	Elevation	Total Depth	Dip	Azimuth	From	To	Net Anthracite Intersection	Core Diameter
DHGH-14-27	6313346.573	537509.457	1123.786	392.87	-90	0	0	392.87	28.08	HQ
DHGH-14-29	6312530.274	538651.795	1124.309	377.63	-90	0	0	377.63	29.35	HQ
DHGH-14-31	6311706.574	540287.69	1134.914	347.46	-90	0	0	347.46	22.27	HQ
DHGH-14-33	6310405.697	541216.176	1065.288	358.31	-90	0	0	358.31	24.91	HQ
DHGH-14-35	6308626.866	542357.273	1033.331	319.41	-90	0	0	319.41	14.57	HQ
DHGH-14-37	6307780.341	543794.895	1078.991	352.85	-90	0	0	352.85	13.28	HQ
DHGH-14-39	6297736.07	546347.21	1050	368.5	-90	0	0	368.5	18.88	HQ
DHGH-14-40	6307783.89	541023.11	1060	306.91	-90	0	0	306.91	11.95	HQ

TABLE 1 - SAMPLING TECHNIQUES AND DATA

Criteria	JORC Code explanation	Commentary
Sampling techniques	• *Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.* • *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 (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.*	• For the Atrum Coal 2014 exploration program 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 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	• *Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).*	• 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 using a PQ size core barrel producing an 83.1 mm core diameter.
Drill sample recovery	• *Method of recording and assessing core and chip sample recoveries and results assessed.* • *Measures taken to maximise sample recovery and ensure representative nature of the samples.* • *Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.*	• 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. • 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.
Logging	• *Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.* • *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.* • *The total length and percentage of the relevant intersections logged.*	• All core was geologically logged, marked and photographed before sampling. Geological and geotechnical features were identified and logged. • All 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
Sub-sampling techniques and sample preparation	• *If core, whether cut or sawn and whether quarter, half or all core taken.* • *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.* • *For all sample types, the nature, quality and appropriateness of the sample preparation technique.* • *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.*	• 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.

Criteria	JORC Code explanation	Commentary
	• *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.*	
Quality of assay data and laboratory tests	• *The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.* • *For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, 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.*	• Loring Laboratories and ALS Laboratories comply with the Canadian and International Standards for coal quality testing and are certified. • Geophysical tools were calibrated by the logging company Century Wireline Services. • The density measurement is calibrated to precise standards and where possible validated in a calibration hole.
Verification of sampling and assaying	• *The verification of significant intersections by either independent or alternative company personnel.* • *The use of twinned holes.* • *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.* • *Discuss any adjustment to assay data.*	• 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	• *Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.* • *Specification of the grid system used.* • *Quality and adequacy of topographic control.*	• Professional Survey of the coal quality boreholes for the Atrum Coal exploration program was completed by DMT Geosciences.
Data spacing and distribution	• *Data spacing for reporting of Exploration Results.* • *Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.* • *Whether sample compositing has been applied.*	• Data spacing sufficient to establish the degree of geological and grade continuity for inclusion as Inferred, Indicated and Measured Resource estimation procedures were employed. • Multiple samples were obtained for some seams within the Groundhog Project area. 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	• *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.*	• A combination of vertical and inclined drill holes were completed from the same drill pad to ensure that a suitable understanding of the geological structure and orientation of the geology was captured.
Sample security	• *The measures taken to ensure sample security.*	• Sample Security was ensured under a chain of custody between Atrum Coal personnel on site and Loring and ALS laboratories.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• Sampling was undertaken by Atrum Coal personnel. Loring and ALS undertook internal audits and checks in line with the Canadian and International standards

TABLE 2 - REPORTING OF EXPLORATION RESULTS

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	• *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.*	• 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	• *Acknowledgment and appraisal of exploration by other parties.*	• Exploration drilling within and in close proximity to the Groundhog project has been reviewed and evaluated for data purposes
Geology	• *Deposit type, geological setting and style of mineralisation.*	• The Groundhog Project lies within the Bowser Basin. • 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 northwest-southeast 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 northwest-southeast 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	• *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:*
	  ○ *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.*
		• All drill holes have been modelled from vertical, although hole deviation (from vertical) has been recorded for all drill holes.

Data aggregation methods	• *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.* • *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.*	• 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.

Criteria	JORC Code explanation	Commentary
Relationship between mineralisation widths and intercept lengths	• *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 (eg 'down hole length, true width not known').*	• 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	• *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.*	• All appropriate diagrams are contained within the main body of the report
Balanced reporting	• *Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.*	• All available exploration data for the Groundhog Project area have been collated and reported.
Other substantive exploration data	• *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.*	• No further exploration data were gathered and or utilised.
Further work	• *The nature and scale of planned further work (eg 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 future drilling areas, provided this information is not commercially sensitive.*	• Further work consisting of additional drilling and seismic activity is being evaluated. The Company is currently planning an additional drilling program aimed at testing the continuity of the coal resources outside of the Groundhog North Mine area.

TABLE 3 - ESTIMATION AND REPORTING OF MINERAL RESOURCES

Criteria	JORC Code explanation	Commentary
Database integrity	• *Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.* • *Data validation procedures used.*	• The 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	• *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.*	• Gordon Geotechniques has undertaken several site visits to the Groundhog North Mine area. • 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 visit.
Geological interpretation	• *Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.* • *Nature of the data used and of any assumptions made.* • *The effect, if any, of alternative interpretations on Mineral Resource estimation.* • *The use of geology in guiding and controlling Mineral Resource estimation.* • *The factors affecting continuity both of grade and geology.*	• The Groundhog Project lies within the Bowser Basin. • 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 northwest-southeast 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 northwest-southeast 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.

Dimensions	• *The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.*	• For the Groundhog North area a reportable JORC resource has been determined for the points of observation with both quality and thickness data. For the purposes of this resource assessment, quality data has been applied to all 2014 drilling points of observation.
		• For the estimate of the coal resource in the Groundhog North area, the following constraints have been used:
		  • 100m offset from the Skeena River. Resources to the east of the Skeena are not included.
		  • 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.
		  • A maximum of 0.3m stone parting.
		  • A minimum 0.4m mining thickness for open cut mining at <300m depth.
		  • A minimum 1m mining thickness for underground mining at >300m depth. The 300m depth cut off for open cut mining equates to a strip ratio of 17 based on an average of 5.7m of cumulative coal per 100m.
		• The total coal resource for the Groundhog North area using these constraints is estimated to be 609.2Mt. This compares to 305.2Mt estimated in May 2014. The significant increase in coal resource is due to:
		  • Acquisition of the Anglo-Pacific licences to the west.
		  • Inclusion of seams 30, 35 and 90 based on both quality and thickness data
		  • Increasing the constraint for open cut mining from a depth of 100m (May 2014) to 300m, for a maximum strip ratio of 17.

Estimation and modelling techniques	• *The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.* • *The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.* • *The assumptions made regarding recovery of by-products.* • *Estimation of deleterious elements or other non-grade variables of economic significance (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.* • *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.*	• Import data into the 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 Property. • 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).

Moisture	• *Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.*	• 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.
Cut-off parameters	• *The basis of the adopted cut-off grade(s) or quality parameters applied.*	• The resource estimate was made using a minimum thickness of 0.4m (open cut) or 1m (underground).
Mining factors or assumptions	• *Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.*	• Atrum is currently undertaking engineering studies and mine planning analysis. Initial mine extraction method is shallow adit underground mining with mini-long wall extraction following initial bord and pilar early workings.
Metallurgical factors or assumptions	• *The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.*	• 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	• *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.*	• Additional work is required to be undertaken by Atrum.
Bulk density	• *Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.* • *The bulk density for bulk material must have been measured by methods 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.*	• 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/cm^3 was used.
Classification	• *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.*	• 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	• *The results of any audits or reviews of Mineral Resource estimates.*	• 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	• *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.*	• 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.