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Companies Announcement Office  
Via Electronic Lodgement

## LANCE PROJECTS JORC COMPLIANT RESOURCE UPDATE

Peninsula Energy Limited (**Peninsula or Company**) is pleased to provide its annual updated JORC Compliant (2012) resource statement at its Lance in-situ recovery (**ISR**) Uranium Projects, Wyoming USA (**Lance Projects**).

The updated JORC Compliant (2012) resource is:

**Table 1: Lance Projects Resource Estimate as at 31 December 2017**

Resource Classification	Tonnes Ore (M)	U <sub>3</sub> O <sub>8</sub> kg (M)	U <sub>3</sub> O <sub>8</sub> lbs (M)	Grade (ppm U <sub>3</sub> O <sub>8</sub> )
Measured	3.7	1.8	3.9	489
Indicated	9.1	5.4	11.9	466
Inferred	36.1	17.3	38.1	470
<b>Total</b>	<b>48.9</b>	<b>24.5</b>	<b>53.9</b>	<b>473</b>

The resource has been calculated by applying a combined constraint of a grade thickness product (GT) of 0.2 contour and 200ppm U<sub>3</sub>O<sub>8</sub>. These cut offs are considered to be appropriate for both calculating and reporting of ISR resources at the Lance Projects.

The previous JORC Compliant (2012) resource was as per Table 2 below:

**Table 2: Lance Projects Resource Estimate as at 30 June 2017**

Resource Classification	Tonnes Ore (M)	U <sub>3</sub> O <sub>8</sub> kg (M)	U <sub>3</sub> O <sub>8</sub> lbs (M)	Grade (ppm U <sub>3</sub> O <sub>8</sub> )
Measured	3.7	2.0	4.3	489
Indicated	10.0	5.8	12.7	466
Inferred	37.0	16.6	36.5	470
<b>Total</b>	<b>50.7</b>	<b>24.4</b>	<b>53.5</b>	<b>473</b>

The slight increase in the current JORC resource estimate relates primarily to an increase in inferred resources identified within the Ross area at the Lance Projects, partially offset by mining depletion and a decrease in measured and indicated resources due to close spaced drilling identifying a localised narrowing of the roll fronts in selected areas within Ross. Additional drilling data obtained from the development of Mine Unit 2 has also allowed re-interpretation and calculation work to be completed during the period using the GT Contour method.

The resource is classified into three separate production areas:

1. Ross Permit Area (**Ross**);
2. Kendrick Expansion Area (**Kendrick**); and
3. Barber Expansion Area (**Barber**), as shown below and in Figure 1.

The drilling density in these three primary production areas, together with the presence of demonstrated confined aquifers, which are a requirement for successful ISR mining, and

positive historic ISR testwork support the classification of a portion of the resource as measured and indicated.

Previous geological modelling of the extensive downhole geophysical data has accurately defined the impermeable shales and mudstones that form the confining seals to the mineralised aquifers.

The resource estimate is based on a database containing over 4,500 historic drill holes together with over 3,000 drill holes completed by Peninsula between 2008 and 31 December 2017.

**Table 3: Lance Projects Resource Estimate by Production Area**

Ross Permit Area	Grade (ppm U <sub>3</sub> O <sub>8</sub> )	U <sub>3</sub> O <sub>8</sub> lbs	Average Thickness (ft)	Average GT
Measured	480	1,739,676	10	0.48
Indicated	490	2,634,601	9.8	0.48
Inferred	424	1,692,765	9.9	0.42
<b>Total</b>		<b>6,067,042</b>		
Kendrick Expansion Area	Grade (ppm U <sub>3</sub> O <sub>8</sub> )	U <sub>3</sub> O <sub>8</sub> lbs	Average Thickness (ft)	Average GT
Measured	506	1,410,769	9.3	0.47
Indicated	496	6,860,498	9.4	0.47
Inferred	472	7,659,018	10.0	0.47
<b>Total</b>		<b>15,930,285</b>		
Barber Expansion Area	Grade (ppm U <sub>3</sub> O <sub>8</sub> )	U <sub>3</sub> O <sub>8</sub> lbs	Average Thickness (ft)	Average GT
Measured	461	710,294	9.5	0.44
Indicated	400	2,415,045	9.8	0.39
Inferred	452	28,734,096	9.7	0.44
<b>Total</b>		<b>31,859,435</b>		
Total	Grade (ppm U <sub>3</sub> O <sub>8</sub> )	U <sub>3</sub> O <sub>8</sub> lbs	Average Thickness (ft)	Average GT
Measured	489	3,860,739	9.9	0.46
Indicated	466	11,910,144	9.9	0.47
Inferred	463	38,085,879	9.5	0.42
<b>Total</b>		<b>53,856,762</b>		

The Company's Mineral Resource estimation procedures are well established and are subject to annual review internally and externally undertaken by suitably competent and qualified professionals. Peninsula reports its Mineral Resources in accordance with the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (the JORC Code) 2012 edition'.

Attached to this ASX announcement in Appendix 1 are the JORC Table 1, Sections 1, 2 and 3, which are extracted from the updated JORC Mineral Resource report for Lance Projects.

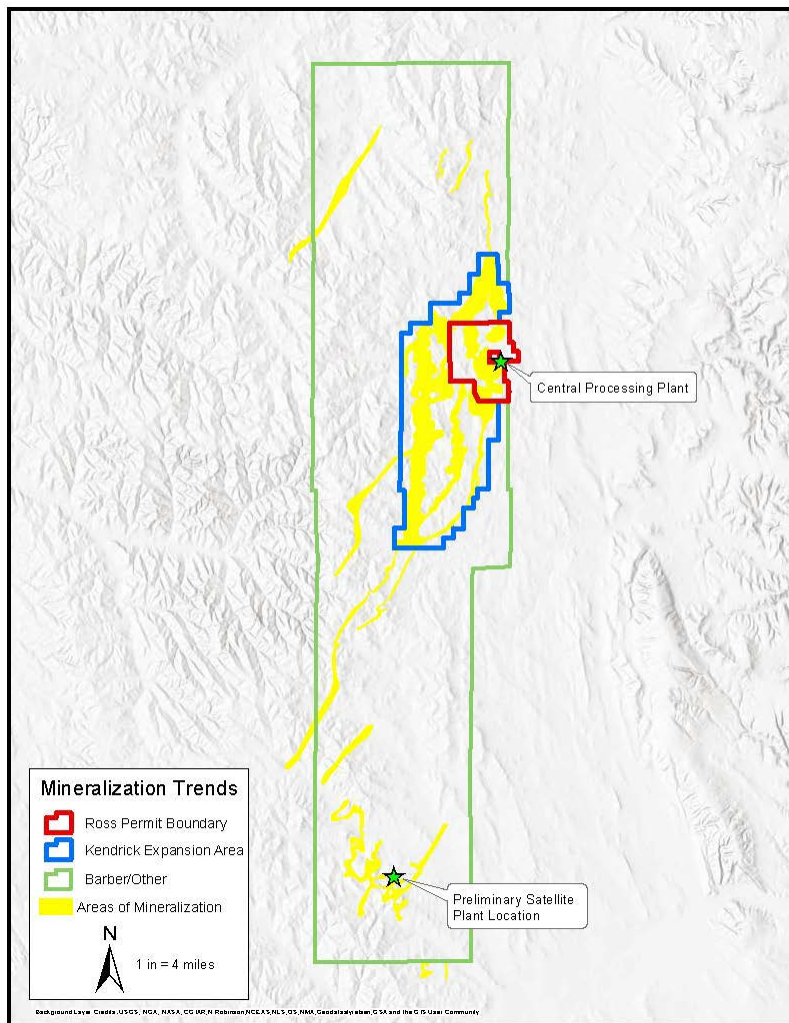


Figure 1: Lance Projects, Wyoming USA

Yours Sincerely,

**Wayne Heili**  
**Managing Director/CEO**

For further information, please contact our office on +61 8 9380 9920 during normal business hours.

**Competent Person Statement**

The information in this announcement that relates to Exploration Results, Mineral Resources or Ore Reserves and Metallurgical Results at Peninsula’s Lance Projects is based on information compiled by Mr. Jim Guilinger. Mr. Guilinger is a Member of a Recognised Overseas Professional Organisation included in a list promulgated by the ASX (Member of Mining and Metallurgy Society of America and SME Registered Member of the Society of Mining, Metallurgy and Exploration Inc). Mr. Guilinger is Principal of independent consultants World Industrial Minerals. Mr. Guilinger has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which they are undertaking as a Competent Person as defined in the 2012 Edition of the ‘Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves’. Mr. Guilinger consents to the inclusion in the announcement of the matters based on his information in the form and context in which it appears.

## APPENDIX 1 – JORC CODE, 2012 EDITION TABLE 1

The table below is a description of the assessment and reporting criteria used in the Lance Project Mineral estimation that reflects those presented in Table 1 of *The Australasian Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves* (The JORC Code, 2012).

### Information that is material to the understanding of the estimate as required under ASX Listing Rule 5.8.2

#### Section 1: Sampling Techniques and Data

Samples used in the resource estimation were obtained using Prompt Fission Neutron (PFN) radiometric or gamma logging equipment. The primary method of grade determination was through a truck-mounted Prompt Fission Neutron (PFN) probe with continuous measurements for uranium ( $U_3O_8$ ) taken at 0.05 or 0.10 m intervals and composited to 45cm (1.5ft). Downhole radiometric data from 4,554 historic holes was also recovered and digitised and subjected to rigorous QAQC using a database of over 2,500 additional holes drilled since 2009. Disequilibrium factors were calculated from comparative PFN/chemical assays with gamma and applied only to the gamma derived data.

#### Section 2 Reporting of Exploration Results

All PFN grades were determined by PFN and reported as  $U_3O_8$ . PFN grade determinations assume no disequilibrium effects as PFN directly measures fission  $U_{235}$  isotope. No grade cutting was applied as the grades are derived from continuous downhole measurements of a large volume of rock around the access drillhole. Reported grade intervals were calculated using a 200ppm lower cut-off, 2ft minimum true thickness and maximum internal dilution of 1.5ft. GT calculated thus:  $grade (ppm) * thickness(ft) / 10,000$

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

Uranium mineralisation occurs preferentially in the sand units of the Fox Hills or lower Lance Formations, which were deposited under more reducing conditions. Within the sandstone, uranium distribution is controlled by basin-ward migration of chemical fronts that represent the interface between reduced and oxidized sandstone. The primary uranium-bearing minerals are uraninite, uranophane or coffinite representing tetravalent and hexavalent forms in the reduced zone with  $H_2S$  and organic carbon acting as the reducing agent to precipitate uranium. The bulk density of each sample was determined by Core Labs Inc, Denver using the Archimedes' mercury immersion method. Bulk densities were measured on samples after oven drying. Tonnes have been estimated on a dry basis. Minimum GT cut off of 0.2 using 200ppm lower cut off, 2ft minimum true thickness and maximum internal dilution of 1.5ft. Approximately 36% of the total resource is based on PFN logging data. The remaining resource

is based on gamma-based data that has been corrected for disequilibrium using the disequilibrium database and are therefore considered to be an accurate measure of in situ grade.

## Section 1: Sampling Techniques and Data

The table below is a description of the assessment and reporting criteria used in the Lance Project Mineral estimation that reflects those presented in Table 1 of *The Australasian Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves* (The JORC Code, 2012).

Criteria	JORC Code explanation	Commentary
<i>Sampling techniques</i>	<ul style="list-style-type: none"> <li><i>Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.</i></li> <li><i>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</i></li> <li><i>Aspects of the determination of mineralisation that are Material to the Public Report.</i></li> <li><i>In cases where ‘industry standard’ work has been done this would be relatively simple (eg ‘reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay’). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.</i></li> </ul>	<ul style="list-style-type: none"> <li>No physical samples were used for the resource estimation.</li> <li>Samples used in the resource estimation were obtained using Prompt Fission Neutron (PFN) radiometric or gamma logging equipment.</li> <li>The primary method of grade determination was through a truck-mounted Prompt Fission Neutron (PFN) probe with continuous measurements for uranium (U3O8) taken at 0.05 or 0.10 m intervals and composited to 45cm (1.5ft). Gamma data is also collected during the normal course of logging in order to identify the intervals that require PFN logging. Spontaneous potential (SP) and resistivity data is also collected.</li> <li>PFN measurements on post-2009 drilling (+2,800 holes) - continuous downhole sampling/measurements. Industry-standard logging techniques utilized by independent contractors with proper QAQC/calibration protocols</li> <li>Chemical assays were only used to check for correlation with PFN and gamma probe grades. Disequilibrium effects are not relevant to PFN results. Industry standard QAQC measures such as certified reference material, blanks and repeat assays were used. The samples were split to around 0.25 to 0.5 kg per sample and sent to an ISO-accredited laboratory in Casper, Wyoming (Scientific Services cc) for U3O8 and trace element analysis by XRF and ICP techniques. 2012-2013 Samples assayed by Mineral Lab and Hazen Labs, Golden, Co.</li> <li>Full core was split using a rock saw and half-core samples were taken at 45 cm intervals. Core recovery was recorded into the database.</li> <li>Core sampling and assay: accurate measurement of drill pipe for accurate depth correlation; geologists remove core from core barrel, photograph core, split core into sections where it is labeled and vacuum packed in ensure core integrity during transportation to laboratories. Where appropriate, core is split or sawn vertically and 1/2 of the core is saved for future validation and/or analysis.</li> </ul>

Criteria	JORC Code explanation	Commentary
		<ul style="list-style-type: none"> <li>Digitized gamma data from 4,700 historic holes with rigorous QAQC checks/comparisons of database composites against original GT-calculations and re-logging comparisons of PFN'd historic holes.</li> </ul>
<i>Drilling techniques</i>	<ul style="list-style-type: none"> <li>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).</li> </ul>	<ul style="list-style-type: none"> <li>Rotary Mud</li> <li>Core Drilling- HQ triple tube recovery</li> </ul>
<i>Drill sample recovery</i>	<ul style="list-style-type: none"> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>Core recoveries were monitored and were generally good (&gt;95%).</li> <li>Mud rotary recoveries were not routinely monitored, but are considered immaterial to the resource estimation process as no physical samples were used for the resource estimation.</li> <li>Rotary Mud: geologists (1) manage the drill site to minimize disturbance and ensure safety protocols are enforced, (2) visually interpret cuttings for lithology, alteration, mineralization, (3) calculate lag between stratigraphic &amp; electric log signatures, (4) mark &amp; label drill holes, &amp; (5) confirm that drill holes are surveyed</li> <li>Rotary Mud: comparison of collected downhole rotary cuttings collected as 5 ft composite samples with electric log signature to verify completeness of collected samples; adjustment of mud viscosity and type and quantitative of drilling polymers to ensure adequate cutting recovery</li> <li>Core Drilling: same protocol as for rotary mud holes; proper mud mixture to maximize core recovery</li> </ul>
<i>Logging</i>	<ul style="list-style-type: none"> <li>Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	<ul style="list-style-type: none"> <li>Selected open historic holes were logged using a PFN probe.</li> <li>All Peninsula, mud rotary and core holes were logged lithologically using a coded logging system for rock type, grain size, colour, alteration and any other relevant observations.</li> <li>Chip samples from rotary drilling: correlation of collected downhole rotary cuttings with electric log signature to verify stratigraphic and lithographic accuracy &amp; adequate downhole representation of collected samples; drill cuttings are collected as 5 ft composite samples</li> <li>Mostly downhole electric information comprising Spontaneous Potential (SP) and Resistivity were used to develop geological cross sections and 3D geological models.</li> </ul>



Criteria	JORC Code explanation	Commentary
<i>Sub-sampling techniques and sample preparation</i>	<ul style="list-style-type: none"> <li>• <i>If core, whether cut or sawn and whether quarter, half or all core taken.</i></li> <li>• <i>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</i></li> <li>• <i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i></li> <li>• <i>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</i></li> <li>• <i>Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.</i></li> <li>• <i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Core sampling &amp; assaying: recovered core is vacuum sealed in the field in order to maintain core integrity &amp; moistures, and to prevent oxidation prior to laboratory processing; core is split or sawn (half core), with 1/2 of the core submitted to a qualified laboratory for quantitative grade analysis and rock property determinations; sample intervals are dried &amp; pulverized prior to obtaining quantitative measurements; independent laboratories run internal QA/QC tests on core samples by inserting blanks and standards; Strata Energy incorporates stringent QA/QC protocols, including utilizing secondary &amp; referee laboratories for grade and rock property confirmation</li> <li>• Full core was split using a rock saw and half-core samples were taken at 45 cm intervals. 45cm (1.5ft) corresponds with the typical compositing intervals used in the downhole logging techniques.</li> </ul>
<i>Quality of assay data and laboratory tests</i>	<ul style="list-style-type: none"> <li>• <i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i></li> <li>• <i>For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</i></li> <li>• <i>Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.</i></li> </ul>	<ul style="list-style-type: none"> <li>• PFN measurements on post-2009 drilling (1,854 holes) - continuous downhole sampling/measurement</li> <li>• Industry-standard logging techniques utilised by independent contractors with proper QA/QC &amp; calibration protocols; PFN logging tool is calibrated on a monthly basis at a calibration pit site in Casper, WY;</li> <li>• Duplicate PFN runs, including the use of a secondary PFN tool, for confirmation</li> <li>• The overall quality of QAQC is considered adequate to ensure the validity of the data used for resource estimation purposes.</li> <li>• Chemical assays were only used to check for correlation with PFN and gamma probe grades. Industry standard QAQC measures such as certified reference material, blanks and repeat assays were used. The samples were split to around 0.25 to 0.5 kg per sample and sent to an ISO-accredited laboratory in Casper, Wyoming (Scientific Services cc) for U3O8 and trace element analysis by XRF and ICP techniques. 2012-2013 Samples assayed by Mineral Lab and HazenLabs, Golden, Co.</li> </ul>
<i>Verification of sampling and assaying</i>	<ul style="list-style-type: none"> <li>• <i>The verification of significant intersections by either independent or alternative company personnel.</i></li> <li>• <i>The use of twinned holes.</i></li> <li>• <i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i></li> <li>• <i>Discuss any adjustment to assay data.</i></li> </ul>	<ul style="list-style-type: none"> <li>• No physical samples were used for the resource estimation.</li> <li>• Physical samples and assays were used only for QAQC checks on the PFN and gamma data and to assess possible disequilibrium effects.</li> <li>• Twinning of rotary drill holes: 21 rotary drill holes were offset and drilled in order to confirm ore intersections and associated grade</li> <li>• Systematic relogging of historic holes with PFN probe show good correlation between historic GT calculations and new PFN intervals.</li> </ul>

Criteria	JORC Code explanation	Commentary
		<ul style="list-style-type: none"> <li>• Disequilibrium factors were applied to historic gamma data and were calculated using the PFN database comprising over 830 determinations and categorized by area and lithological horizon.</li> <li>• Specific disequilibrium factors have been applied to the relevant parts of the resource based on comparative studies between PFN and gamma data. Disequilibrium factors were applied only to the intervals for gamma-only data was available.</li> <li>• All electronic data stored in a SQL database</li> </ul>
<i>Location of data points</i>	<ul style="list-style-type: none"> <li>• <i>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.</i></li> <li>• <i>Specification of the grid system used.</i></li> <li>• <i>Quality and adequacy of topographic control.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Drillhole surveying drill holes (rotary and core) surveyed by an independent party utilizing a Trimble RTK (Real-Time Kinematic) Resource Grade receiver and associated software, resulting in sub-centimeter horizontal accuracy and 2 cm vertical accuracy, as well as Strata personnel.</li> <li>• UTM NAD27 grid system</li> <li>• Modern LIDAR data and US topographic data used</li> </ul>
<i>Data spacing and distribution</i>	<ul style="list-style-type: none"> <li>• <i>Data spacing for reporting of Exploration Results.</i></li> <li>• <i>Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</i></li> <li>• <i>Whether sample compositing has been applied.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Spatial distribution of exploration drill holes varies from 6m to 200m</li> <li>• Classification dependant on hole spacing</li> <li>• Number of drillholes used in resource estimate is &gt;7,000</li> <li>• Data spacing and distribution adequately reflects geological and grade continuity relative to classification.</li> <li>• GT grade summary derived using 200ppm cut off over minimum width of 2ft</li> </ul>
<i>Orientation of data in relation to geological structure</i>	<ul style="list-style-type: none"> <li>• <i>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</i></li> <li>• <i>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.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Number of drillholes used in resource estimate is &gt;7,000</li> <li>• Drillhole patterns are designed in a manner which allows for the best determination of ore body width, areal geometry, and average &amp; peak ore grade along the strike of the ore body. No sampling bias is believed to have been introduced via spatial distribution of exploration drill holes.</li> <li>• The dip of the mineralisation for the entire deposit varies from -1° to -2°. Local grade continuity follows various chemical fronts. All drilling intersects local grade continuity with 85° to 90° angles.</li> <li>• No biases are expected from the drilling direction.</li> </ul>
<i>Sample security</i>	<ul style="list-style-type: none"> <li>• <i>The measures taken to ensure sample security.</i></li> </ul>	<ul style="list-style-type: none"> <li>• All data used to prepare the Mineral Resource were either PFN or radiometric gamma log data.</li> </ul>



Criteria	JORC Code explanation	Commentary
<i>Audits or reviews</i>	<ul style="list-style-type: none"> <li><i>The results of any audits or reviews of sampling techniques and data.</i></li> </ul>	<ul style="list-style-type: none"> <li>Appropriate measures were taken to ensure sample security of the chemical samples used for QAQC purposes.</li> <li>Audits and reviews on sampling and assaying are not relevant as no physical samples or assays were used in the resource grade estimation.</li> <li>QA/QC audits of the PFN and historic gamma data have been carried at regular intervals by independent consultants to Peninsula.</li> <li>PFN data and data reduction to U3O8 was carried out automatically by GAA Wireline Inc. GAA Wireline Inc / Geoinstruments Logging established procedures for collection and processing of raw PFN data.</li> <li>Internal sampling protocols were developed &amp; compiled by independent consultants to Peninsula prior to initiating of the exploration drilling program; reviews and updates to the Sampling Protocols document were conducted by an independent outside party in 2010 &amp; again in 2012. Third party reviews of the sampling techniques/protocols did not reveal any inaccuracies or deficiencies with regard to methodology.</li> </ul>

## Section 2: Reporting of Exploration Results

Criteria	JORC Code explanation	Commentary
<i>Mineral tenement and land tenure status</i>	<ul style="list-style-type: none"> <li>Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.</li> <li>The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.</li> </ul>	<ul style="list-style-type: none"> <li>Surface ownership comprises primarily private lands with intermingled state and federal lands, the latter being managed by the United States Department of Interior Bureau of Land Management (BLM).</li> <li>As of December 2017 Peninsula has mineral rights and surface access rights over land holdings of 27,592 acres (111.7 km<sup>2</sup>) and 7,819 acres (31.6 km<sup>2</sup>) respectively.</li> <li>Mine development requires a number of permits depending on the type and extent of development, the most significant permits being the Permit to Mine issued by the WDEQ/LQD and the Source Materials Licence (SML) from the U.S. Nuclear Regulatory Commission (NRC) required for mineral processing of natural uranium.</li> <li>On 13 April 2011 approval was received from the Wyoming Department of Environmental Quality (WDEQ) for the construction and testing of Underground Injection Control (UIC) Class 1 wells at the site.</li> <li>WDEQ Permit to Mine granted – November 2012</li> <li>Deep disposal well permit granted March 2011</li> <li>Final SML granted in April 2014</li> <li>All permits are issued to Peninsula's wholly owned subsidiary, Strata Energy Inc.</li> <li>All permits for mining and processing have been received and the mine went into production in early December 2015.</li> </ul>
<i>Exploration done by other parties</i>	<ul style="list-style-type: none"> <li>Acknowledgment and appraisal of exploration by other parties.</li> </ul>	<ul style="list-style-type: none"> <li>1971 Nuclear Dynamics begins exploration drilling in the Lance Project Area</li> <li>1978 Nuclear Dynamics forms a Joint Venture with Bethlehem Steel (Nubeth Joint Venture) to develop the Project. Total of &gt;5,000 drillholes completed for 912,000m.</li> <li>1978 The Nubeth Joint Venture develops and briefly operates a pilot plant scale ISR in the south central portion of what will become the Ross Permit Area.</li> </ul>
<i>Geology</i>	<ul style="list-style-type: none"> <li>Deposit type, geological setting and style of mineralisation.</li> </ul>	<ul style="list-style-type: none"> <li>The Project is located on the eastern periphery of the Powder River Basin that comprises mostly Cretaceous –Tertiary sediments.</li> <li>Host sandstones dip at -1° to -2° towards the west and south west.</li> <li>Uranium deposits are epigenetic roll-front type</li> </ul>
<i>Drill hole Information</i>	<ul style="list-style-type: none"> <li>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"> <li>easting and northing of the drill hole collar</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>&gt;7,300 (drilling ongoing) number of holes drilled in the Lance Project area. All drill hole information stored at mine site.</li> </ul>

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Criteria	JORC Code explanation	Commentary
	<ul style="list-style-type: none"> <li>○ elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> <li>○ dip and azimuth of the hole</li> <li>○ down hole length and interception depth</li> <li>○ hole length.</li> <li>● 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.</li> </ul>	
<i>Data aggregation methods</i>	<ul style="list-style-type: none"> <li>● In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.</li> <li>● Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</li> <li>● The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	<ul style="list-style-type: none"> <li>• All grades were determined by PFN and reported as U<sup>3</sup>O<sup>8</sup>.</li> <li>• Grade determinations assume no disequilibrium effects as PFN directly measures fission U<sup>235</sup> isotope.</li> <li>• No grade cutting was applied as the grades are derived from continuous downhole measurements of a large volume of rock around the access drillhole.</li> <li>• Reported grade intervals were calculated using a 200ppm lower cutoff, 2ft minimum true thickness and maximum internal dilution of 1.5ft</li> <li>• GT calculated thus: grade (ppm)*thickness(ft)/10,000</li> </ul>
<i>Relationship between mineralisation widths and intercept lengths</i>	<ul style="list-style-type: none"> <li>● These relationships are particularly important in the reporting of Exploration Results.</li> <li>● If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> <li>● If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').</li> </ul>	<ul style="list-style-type: none"> <li>• Mineralisation true widths vary from 0.2m to &gt;2m. PFN sampling measurements are continuous over these intervals and recorded in 0.1m downhole increments.</li> <li>• Mineralisation is horizontal within a tolerance of +/-2 degrees. All drillholes are vertical thus the intercepts as shown are effectively a measurement of true width.</li> </ul>
<i>Diagrams</i>	<ul style="list-style-type: none"> <li>● Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.</li> </ul>	<ul style="list-style-type: none"> <li>• Large size and number of plans preclude inclusion</li> </ul>

Criteria	JORC Code explanation	Commentary
<i>Balanced reporting</i>	<ul style="list-style-type: none"> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>All reporting of exploration results is considered to be accurate and comprehensive</li> </ul>
<i>Other substantive exploration data</i>	<ul style="list-style-type: none"> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>Large size and number of plans preclude inclusion</li> </ul>
<i>Further work</i>	<ul style="list-style-type: none"> <li>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	<ul style="list-style-type: none"> <li>Further infill and extensional drilling programs are planned</li> <li>More specific information is considered to be commercially sensitive and thus is not revealed.</li> </ul>

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

Criteria	JORC Code explanation	Commentary
<i>Database integrity</i>	<ul style="list-style-type: none"> <li>Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.</li> <li>Data validation procedures used.</li> </ul>	<ul style="list-style-type: none"> <li>The independent competent person performed a visual validation by reviewing drillholes on section and by subjecting drillhole data to data auditing processes.</li> <li>The independent database management consultant, Maxwells, subjected the drillhole data to regular data auditing processes in Datashed (e.g. checks for sample overlaps etc.) Now all data is managed at the minesite by Peninsula personnel.</li> </ul>
<i>Site visits</i>	<ul style="list-style-type: none"> <li>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</li> <li>If no site visits have been undertaken indicate why this is the case.</li> </ul>	<ul style="list-style-type: none"> <li>The independent competent person has been involved with the project since its inception and has carried out regular site visits (up to 6 per year).</li> <li>The independent competent person established and monitored various sampling procedures and is satisfied that they have been complied with.</li> </ul>
<i>Geological interpretation</i>	<ul style="list-style-type: none"> <li>Confidence in (or conversely, the uncertainty of ) the geological interpretation of the mineral deposit.</li> <li>Nature of the data used and of any assumptions made.</li> <li>The effect, if any, of alternative interpretations on Mineral Resource estimation.</li> <li>The use of geology in guiding and controlling Mineral Resource estimation.</li> <li>The factors affecting continuity both of grade and geology.</li> </ul>	<ul style="list-style-type: none"> <li>The sandstones that make up the various formations of the Lance uranium deposits were all deposited in a fluvial-marine environment as channel sand or overbank deposits. They are characterised by fining-upward sequences comprising thick, laterally persistent, tabular, sheet-like sandstones.</li> <li>Uranium mineralisation occurs preferentially in the sand units of the Fox Hills or lower Lance Formations, which were deposited under more reducing conditions. Within the sandstone, uranium distribution is controlled by basinward migration of chemical fronts that represent the interface between reduced and oxidized sandstone. The primary uranium-bearing minerals are uraninite, uranophane or coffinite representing tetravalent and hexavalent forms in the reduced zone with H<sub>2</sub>S and organic carbon acting as the reducing agent to precipitate uranium.</li> <li>Vanadium and, to a much lesser degree, selenium and arsenic are the main associated elements.</li> <li>Geological interpretations of the individual roll fronts were carried out in plan-view using the red-ox information as the principle guide to the positioning of the roll front positions and lateral and longitudinal dimensions.</li> </ul>
<i>Dimensions</i>	<ul style="list-style-type: none"> <li>The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below</li> </ul>	<ul style="list-style-type: none"> <li>In plan-view, the deposits range from several hundred metres long to over</li> </ul>



Criteria	JORC Code explanation	Commentary
	<p><i>surface to the upper and lower limits of the Mineral Resource.</i></p>	<p>9,000 metres long with widths of between 20 metres and 80 metres wide. The high grade cores of the roll fronts within the deposit range from about 2 metres to 10 metres wide and average 1.5m thick in section.</p> <ul style="list-style-type: none"> <li>Mineralisation occurs in several horizons with a total mineralized package of up to 60m in thickness.</li> <li>Towards the east (Ross area) the main mineralization is developed between 1080RL and 1140RL</li> <li>Mineralisation dips gradually to the west (Kendrick) where the main mineralisation is developed at between 1000RL and 1060RL.</li> </ul>
<p><i>Estimation and modelling techniques</i></p>	<ul style="list-style-type: none"> <li><i>The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.</i></li> <li><i>The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.</i></li> <li><i>The assumptions made regarding recovery of by-products.</i></li> <li><i>Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).</i></li> <li><i>In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.</i></li> <li><i>Any assumptions behind modelling of selective mining units.</i></li> <li><i>Any assumptions about correlation between variables.</i></li> <li><i>Description of how the geological interpretation was used to control the resource estimates.</i></li> <li><i>Discussion of basis for using or not using grade cutting or capping.</i></li> <li><i>The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.</i></li> </ul>	<ul style="list-style-type: none"> <li>Grade composites using a 200 ppm and 0.2 GT lower cutoff were derived and imported into 3-dimensional modeling software.</li> <li>The resource is reported as U3O8 based on the following criteria: <ul style="list-style-type: none"> <li>36% of the resource input data comprises PFN logging data</li> <li>The remaining gamma-based data has been corrected for disequilibrium using the disequilibrium database and are therefore considered to be an accurate measure of in situ grade.</li> </ul> </li> <li>Centroid positions were determined for each grade composite, and subsequently analyzed in 3D and classified according to area &amp; horizon.</li> <li>No grade cutting was applied as the grades are derived from continuous downhole measurements of a large volume of rock around the access drillhole.</li> <li>Resource estimation used two techniques: <ul style="list-style-type: none"> <li>Computer –based constrained polygonal</li> <li>Area/foot/pounds (GT calculation)</li> </ul> </li> <li>Voronoi polygons with thickness, volume, &amp; tonnage and grade were generated in Surpac with variable search radii reflecting measured, indicated, or inferred classifications.</li> <li>Extent of the polygons was limited by adjacent polygons or 0.2 GT contours.</li> <li>The constraining GT contours were manually interpreted and digitized and referenced using Surpac and Gemcom software.</li> <li>A comparison of the resulting constrained polygonal resource calculations with conventional GT contour methodology revealed a difference in resources of less than 3% with respect to contained uranium.</li> <li>Independent verification has been carried out various US and UK based consultants using various techniques. Their findings showed that there was no material difference between the resource numbers generated either Peninsula or themselves.</li> </ul>

Criteria	JORC Code explanation	Commentary
<i>Moisture</i>	<ul style="list-style-type: none"> <li>Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.</li> </ul>	<ul style="list-style-type: none"> <li>The bulk density of each sample was determined by Core Labs Inc, Denver using the Archimedes' mercury immersion method. Bulk densities were measured on samples after oven drying.</li> <li>Tonnes have been estimated on a dry basis.</li> </ul>
<i>Cut-off parameters</i>	<ul style="list-style-type: none"> <li>The basis of the adopted cut-off grade(s) or quality parameters applied.</li> </ul>	<ul style="list-style-type: none"> <li>Resources have been calculated and reported above a 200ppm U3O8 cut-off grade and 0.2GT.</li> </ul>
<i>Mining factors or assumptions</i>	<ul style="list-style-type: none"> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>No mining factors (i.e. dilution, ore loss, recoverable resources) have been applied.</li> <li>The resource is currently exploited by in situ recovery (ISR) mining methods using alkaline lixiviants.</li> <li>ISR involves the drilling of clusters of injection, recovery and monitoring wells to facilitate the recycling of oxygen enriched ground water through the mineralised sandstone to re solubilise and mobilize the uranium for pumping it to the surface processing plant for processing into yellow cake.</li> <li>When mineral content is presented as an amount per tonne it assumes that there is a cost per tonne to mine and process the ore to recover the mineral which has an absolute value.</li> <li>In ISR mining this is not the case; this recovery method has a cost structure associated with the drilling, casing and perforating of extraction, injection and monitoring well clusters. These, combined with the cost of reagents and processing into yellow cake are deducted from mineral revenues to determine gross margin.</li> <li>Subsequently it is the grade/thickness (0.20GT) quotient, not grade alone, that determine if a bounded mineral zone is to be mined. Once these costs are incurred, it is recovered pounds of mineral that determines the gross margin. Thus when an ISR feasibility study estimates mineral recovery costs it is as a cost per pound recovered.</li> </ul>
<i>Metallurgical factors or assumptions</i>	<ul style="list-style-type: none"> <li>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</li> </ul>	<ul style="list-style-type: none"> <li>The resource is developed in a confined aquifer.</li> <li>Porosity and permeability characteristics are suitable for ISR mining.</li> <li>Substantial metallurgical test work comprising column-leach and agitation-leach testing confirms that uranium is recoverable using low pH lixiviants.</li> </ul>

Criteria	JORC Code explanation	Commentary
	<p><i>regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.</i></p>	<ul style="list-style-type: none"> <li>• During 2017 and the first half of 2018, Strata conducted 6 acid based agitation leach tests and 2 acid based column leach tests. The tests were primarily conducted at the Lance Projects site laboratory facility under the supervision of R and D Enterprises, Inc.</li> <li>• The 6 agitation leach tests resulted in average uranium recovery of greater than 90% of available uranium in less than 30 pore volumes at average head grades of 228ppm U3O8.</li> <li>• The first column leach test was successful in confirming low pH leach efficiencies with a peak head grade of 298ppm U3O8, average head grade of 80ppm U3O8 and uranium recovery of 65% during 10 mining phase pore volumes.</li> <li>• Results from the second column leach included uranium recovery of 80% after 13.5 pore volumes, increasing to over 90% uranium recovery during the extended leach phase of the test. Average head grade was 105ppm U3O8 with a peak head grade of 694ppm U3O8. Sulfuric acid consumption during this test equated to 56.9 pounds per pound of U3O8.</li> <li>• The tests were also successful in demonstrating that groundwater restoration is achievable using conventional methods.</li> <li>• None of the 6 agitation leach tests or 2 column leach tests resulted in precipitation of gypsum at levels that could impede the movement of fluid through the mining zone.</li> </ul>
<p><i>Environmental factors or assumptions</i></p>	<ul style="list-style-type: none"> <li>• <i>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.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Wyoming Department of Environmental Quality (WDEQ) permit for construction and testing of Underground Injection Control (UIC) Class 1 wells at the site approved April 2011</li> <li>• WDEQ Permit to Mine granted – November 2012</li> <li>• Deep disposal well permit granted March 2011</li> <li>• Final SML granted in April 2014</li> <li>• All necessary permits have been received. Mine went into production in December 2015.</li> <li>• April 2018 amendment application was submitted to regulators requesting use of low pH lixiviants.</li> </ul>
<p><i>Bulk density</i></p>	<ul style="list-style-type: none"> <li>• <i>Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.</i></li> </ul>	<ul style="list-style-type: none"> <li>• The bulk density of each sample was determined by Core Labs Inc, Denver and Weatherford Labs using the Archimedes' mercury immersion method. Bulk densities were measured on samples after oven drying.</li> <li>• Tonnes have been estimated on a dry basis.</li> </ul>

Criteria	JORC Code explanation	Commentary
	<ul style="list-style-type: none"> <li>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.</li> <li>Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.</li> </ul>	<ul style="list-style-type: none"> <li>An average bulk density was assigned for all the resource areas due to the consistency and continuity of the host sandstone.</li> </ul>
<i>Classification</i>	<ul style="list-style-type: none"> <li>The basis for the classification of the Mineral Resources into varying confidence categories.</li> <li>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).</li> <li>Whether the result appropriately reflects the Competent Person's view of the deposit.</li> </ul>	<ul style="list-style-type: none"> <li>Tonnes have been estimated on a dry basis.</li> <li>Mineral Resources have been classified on the basis of confidence in geological and grade continuity using the drilling density, geological model, and modelled grade continuity.</li> <li>The mineral resource is classified as either measured, indicated or inferred. The method of classification of the polygonal resource is based on the area of influence (AOI) of the resource polygons around each drillhole intersection located within the 0.2GT contour.</li> <li>Appropriate account has been taken of all relevant factors including reliability of the input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data</li> <li>The result appropriately reflect the Competent Person's view of the deposit.</li> </ul>
<i>Audits or reviews</i>	<ul style="list-style-type: none"> <li>The results of any audits or reviews of Mineral Resource estimates.</li> </ul>	<ul style="list-style-type: none"> <li>Appropriate account has been taken of all relevant factors including reliability of the input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data</li> <li>Two independent audits using two different estimation techniques have been carried out by US-based consultants.</li> <li>The specific findings are considered confidential. However, the differences between the two independent estimates and Peninsula's estimate are not considered to be material with differences in the order 3%.</li> </ul>
<i>Discussion of relative accuracy/confidence</i>	<ul style="list-style-type: none"> <li>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,</li> </ul>	<ul style="list-style-type: none"> <li>The Competent Person places a relative accuracy of +/-10% (and 90% confidence level) in the Mineral Resource estimate at the global level for the measured and indicated resources based on the estimation technique and data quality and distribution. Inferred Resources would have a lower level of confidence outside of this range.</li> <li>The view on relative accuracy is based on the outcomes of the independent audits carried out on the estimation methodology.</li> </ul>

Criteria	JORC Code explanation	Commentary
		<p><i>a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.</i></p> <ul style="list-style-type: none"><li><i>• The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.</i></li><li><i>• These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.</i></li></ul>