ASX ANNOUNCEMENT (ASX:PEN)

13 May 2024

Companies Announcement Office
Via Electronic Lodgement

MINERAL RESOURCE INCREASES 19.6% WITHIN CURRENT LANCE LIFE OF MINE PLAN AREA

KEY POINTS

- Updated Mineral Resource Estimate expands the Company's flagship Lance Projects to 58.0 million pounds U_3O_8
- Lance continues to provide Peninsula with significant exploration and development growth upside
- The Mineral Resource Estimate within the Life-of-Mine study areas (Ross and Kendrick) has increased by 19.6% to 26.2 million pounds U_3O_8
- 50% increase of Inferred Mineral Resources contained within the Kendrick Production Area
- 6.4% increase in Mineral Resources contained within the soon to re-start Ross Production Area
- Additional drilling programs are planned in CY2024 to facilitate further potential resource upgrades

Peninsula Energy Limited and its wholly owned subsidiary Strata Energy Inc. (together "**Peninsula"** or the "**Company"**) (**ASX:PEN, OTCQB:PENMF**) are pleased to announce the updated Mineral Resource Estimate ("**MRE"**) of 58.0 million pounds ("**Mlbs**") U_3O_8 (see Table 1) for the Company's flagship Lance Projects ("**Lance**") located in Wyoming, USA. Wyoming is a leading US uranium mining jurisdiction. The MRE assumes mining by In-situ Recovery ("**ISR"**) methods.

The Lance MRE was updated based on the results of 2023 drilling within the Ross and Kendrick Areas of the Project. The total Lance MRE was increased by 7.8% from 53.8 Mlbs to 58.0 Mlbs. The areas included in the Life-of-Mine economic study (Ross and Kendrick) presented an increased MRE of 19.6%.

Peninsula Managing Director and Chief Executive Officer Wayne Heili said:

"We are very excited to share this resource update. Our 2023 drilling programs generated positive results in terms of increasing resources within the near-term production areas at Ross and within the mid-term development areas at Kendrick.

This resource growth comes at an opportune time with the United States government continuing to take meaningful action to reinvigorate its domestic uranium production and nuclear fuel cycle capacity, whilst the Company continues preparing for the resumption of commercial production at our US-based Lance Projects."

The updated Lance JORC Compliant (2012) resource is presented in Table 1 below:

Table 1: Lance Projects Resource Estimate as at 31 December 2023

Resource Classification	Tonnes Ore (Mtonnes)	U_3O_8 Tonnage (Ktonnes)	U_3O_8 (Mlbs)	Grade (% U_3O_8)
Measured	3.3	1.7	3.8	0.051
Indicated	11.0	5.6	12.4	0.051
Inferred	38.3	18.9	41.7	0.049
Total	**52.6**	**26.3**	**58.0**	**0.050**

The resource estimate has been calculated by applying a combined constraint of a grade thickness product (GT) of 0.2 contour and 200ppm U_3O_8. These cut-offs are considered 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 31 December 2022

Resource Classification	Tonnes Ore (Mtonnes)	U_3O_8 Tonnage (Ktonnes)	U_3O_8 (Mlbs)	Grade (% U_3O_8)
Measured	3.5	1.7	3.8	0.049
Indicated	11.3	5.5	12.2	0.049
Inferred	36.2	17.1	37.8	0.047
Total	**51.0**	**24.4**	**53.8**	**0.048**

The Lance Project is subdivided into three separate project areas as shown below in Figure 1. The three project areas are known as;

1. The Ross Production Area (**Ross**)
2. The Kendrick Production Area (**Kendrick**); and
3. The Barber Resource Area (**Barber**)

The Lance MRE is based on a database containing over 4,500 historic drill holes together with over 4,350 drill holes completed by Peninsula between 2008 and 31 December 2023.

The increase in the current JORC Code compliant MRE relates primarily to an increase in resources identified within Kendrick following a 66-hole drilling program in 2023 that was focused within a portion of Kendrick that was previously identified with wide-spaced drilling. The Inferred Resources within Kendrick were increased by 50% from 7.6 Mlbs to 11.5 Mlbs U_3O_8.

At Ross, delineation and development drilling for Mine Unit 3 has allowed re-interpretation and calculation work to be completed, resulting in a 6.4% increase in the Ross mineral resource estimate. The estimated resources within Ross increased from 6.0 to 6.4 Mlbs U_3O_8.

The Barber Resource Area mineral estimate was unchanged as no drilling occurred within the boundaries of Barber during the period.

The Company is planning additional delineation and development drilling programmes at both the Ross and Kendrick areas during the current calendar year (CY2024) that will inform the preparation and publication of future updates to the JORC Code compliant MRE of the Lance Projects.

The Lance Projects MRE subclassified by project area is presented in Table 3.

Table 3: Lance Projects Resource Estimate by Area

Resource Classification	Tonnage (Mtonnes)	Average Grade (%U_3O_8)	U_3O_8 Metal (KTonnes)	U_3O_8 Metal (Mlbs)
Ross				
Measured	1.5	0.051	0.8	1.7
Indicated	3.1	0.046	1.4	3.1
Inferred	1.5	0.045	0.7	1.5
Total	**6.1**	**0.047**	**2.9**	**6.4**
Kendrick				
Measured	1.2	0.054	0.6	1.4
Indicated	5.4	0.058	3.1	6.9
Inferred	10.2	0.051	5.2	11.5
Total	**16.8**	**0.053**	**9.0**	**19.8**
Barber				
Measured	0.7	0.048	0.3	0.7
Indicated	2.5	0.043	1.1	2.4
Inferred	26.6	0.049	13.0	28.7
Total	**29.8**	**0.048**	**14.5**	**31.9**
Total Lance Projects				
Measured	3.3	0.051	1.7	3.8
Indicated	11.0	0.051	5.6	12.4
Inferred	38.3	0.049	18.9	41.7
Total	**52.6**	**0.050**	**26.3**	**58.0**

(1) Due to rounding, total values may not appear to equal the sum of the individual values.
(2) Based on grade cut-off of 0.02% U_3O_8 and a grade x thickness (GT) cut-off of 0.2 GT.
(3) Average grades are calculated as weighted averages.
(4) Resources are reported as of December 31, 2023.
(5) The point of reference for mineral resources is in-situ at the Project.
(6) Mineral resources that are not mineral reserves do not have demonstrated economic viability.

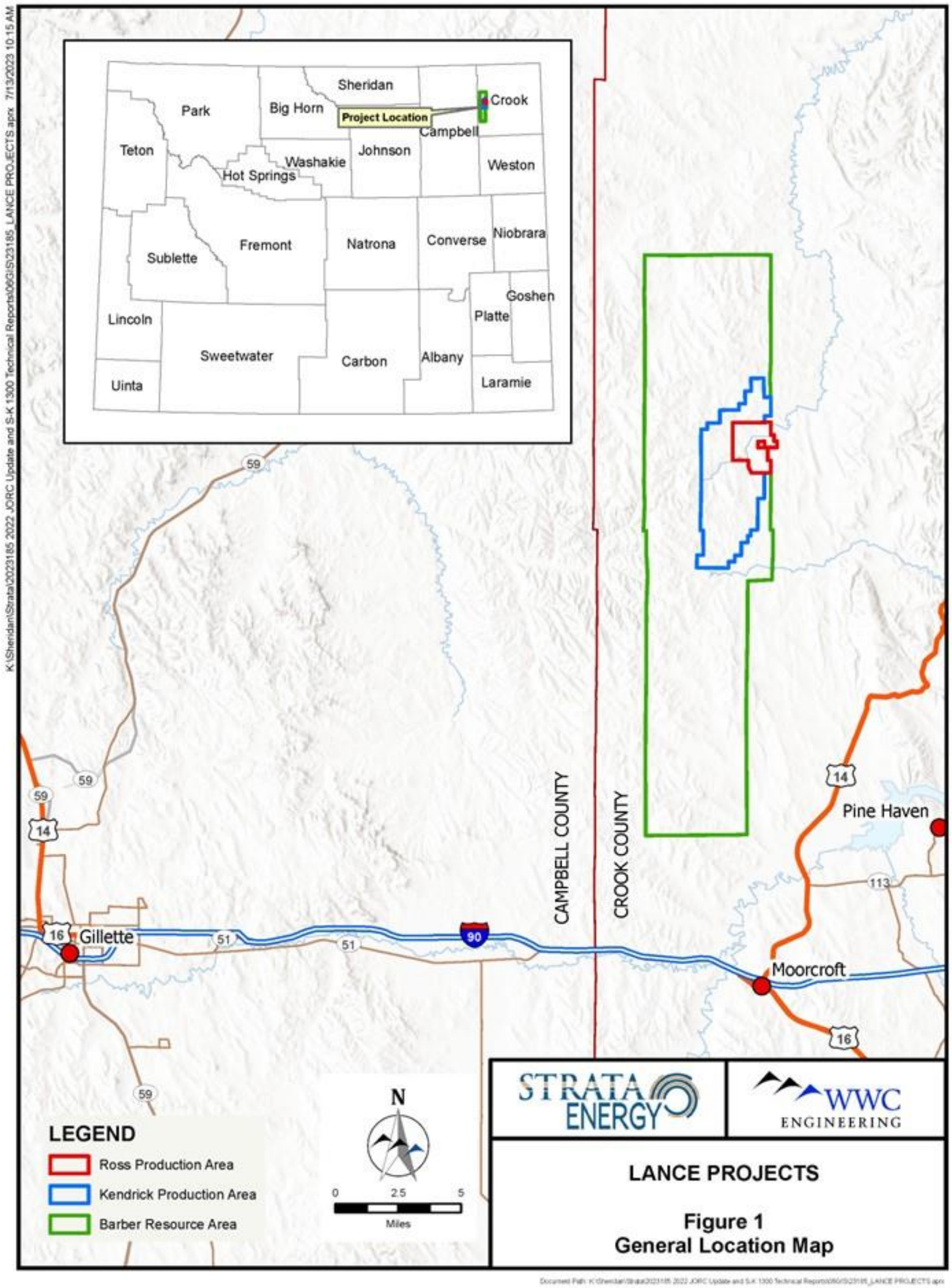


Figure 1: Peninsula's Lance Projects

Lance Project Background

The Lance Projects are located in Crook County, in northeastern Wyoming, approximately 31 miles east-northeast of the town of Gillette and extend over a strike length of 37 km to the north, and over a strike width of 8 km.

Within the Lance Projects area, there are several existing land uses including agricultural production consisting of both crop production and livestock grazing, oil production, recreation, communication and power lines, and a network of roads.

Peninsula holds mineral rights and surface access rights over a non-contiguous north-south distance of about 50km (Figure 1).

Peninsula has mineral rights over 34,068 acres (13,763 ha) and surface access rights over land holdings 8,426 acres (3,404 ha). The Lance Project consists of mineral rights covering the approximate areas shown in Figure 3.

Ross consists of approximately 1,681 acres with approximately 61 acres of wellfields currently installed and operational and an additional 180 acres of wellfields to be developed.

Kendrick encompasses approximately 7,838 acres total with approximately 720 acres of proposed wellfields.

Barber encompasses approximately 24,549 acres total. This resource area is not currently included in the Life of Mine Plan published in August 2023.

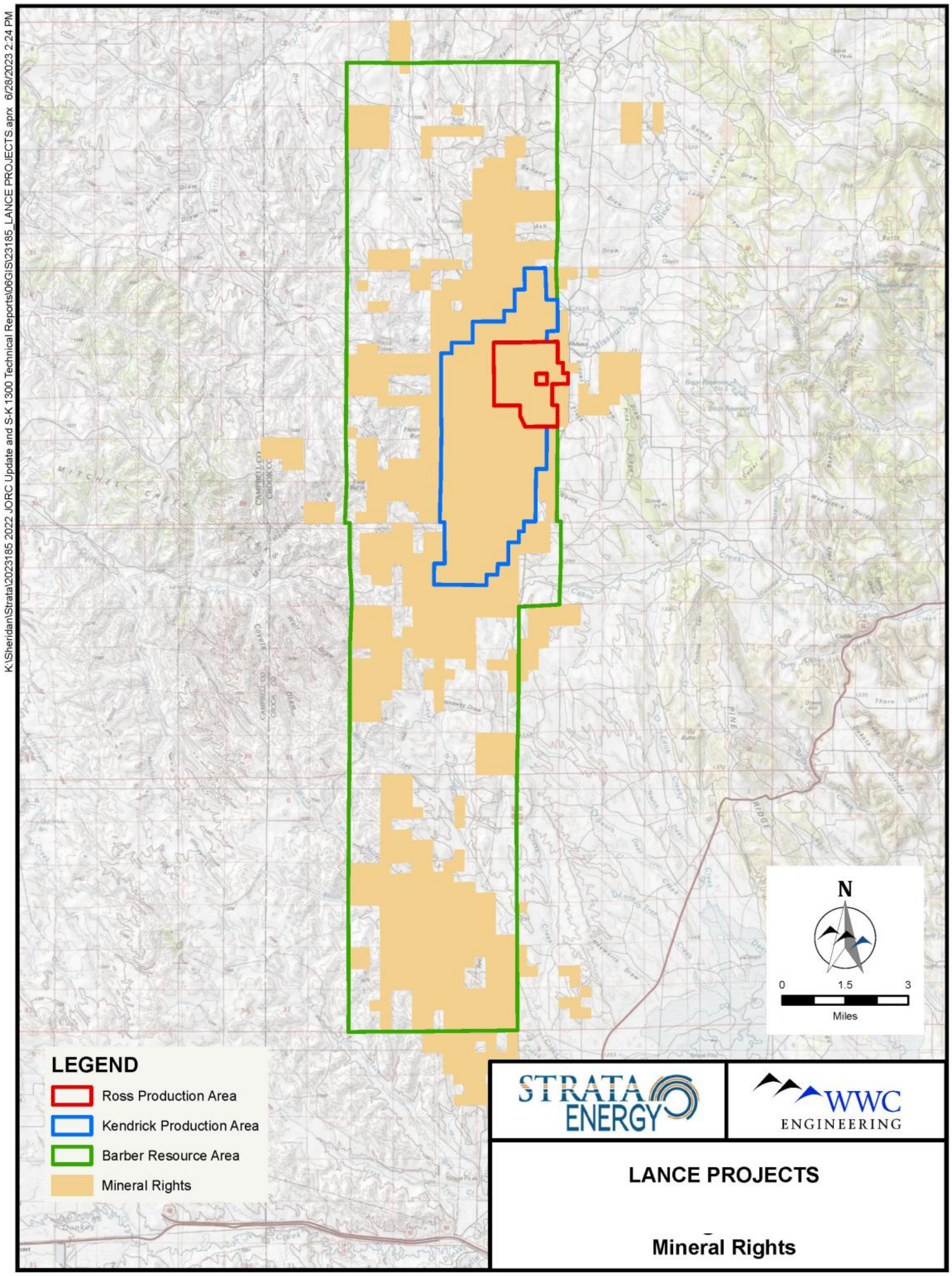


Figure 2: Mineral rights map for Peninsula's Lance Projects

Lance Mineral Resource Estimate

The MRE update for Lance was prepared by Mr. Benjamin Schiffer in accordance with the JORC Code.

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. The MRE for Lance was prepared in accordance with the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code) by Mr. Benjamin Schiffer, who qualifies as a competent person under the JORC (2012) Code. Mr. Schiffer is employed by independent consultant Western Water Consultants, Inc. d/b/a WWC Engineering.

An available exploration data set was evaluated using modern roll-front mapping techniques and Grade-Thickness (GT) outline resource calculation methodology.

Uranium grades were determined by a combination of downhole gamma geophysical measurements and chemical assay verification on core samples. Mr. Schiffer has verified historical drilling data and records within Lance and consents to the inclusion in this release of the matters based on this information in the form and context in which it appears.

The MRE assumes mining by ISR methods and is reported at a cut-off grade above a 0.02 % eU_3O_8 and a minimum grade-thickness ("**GT**") of 0.2.

Attached to this ASX announcement in **APPENDIX 1** is JORC Code, 2012 Edition, Table 1, Sections 1, 2 and 3, which are extracted from the updated JORC Mineral Resource report for Lance Projects. The table is a complete description of the assessment and reporting criteria used in this update to the Lance MRE that reflects those presented in Table 1 of the JORC Code.

Figure 3 (below) depicts the interpreted uranium mineralization trends along with the drill hole locations used to establish the mineral trends and resource estimate.

Resource Classification

The MRE has been classified in accordance with the JORC Code (2012). A range of criteria has been considered in determining this classification including data quality and drill hole spacing.

The drilling density across Ross, Kendrick, and Barber, together with the presence of demonstrated confined aquifers, which are a requirement for successful ISR mining, and historic alkaline-based ISR operations support the classification of a portion of the MRE as Measured and Indicated.

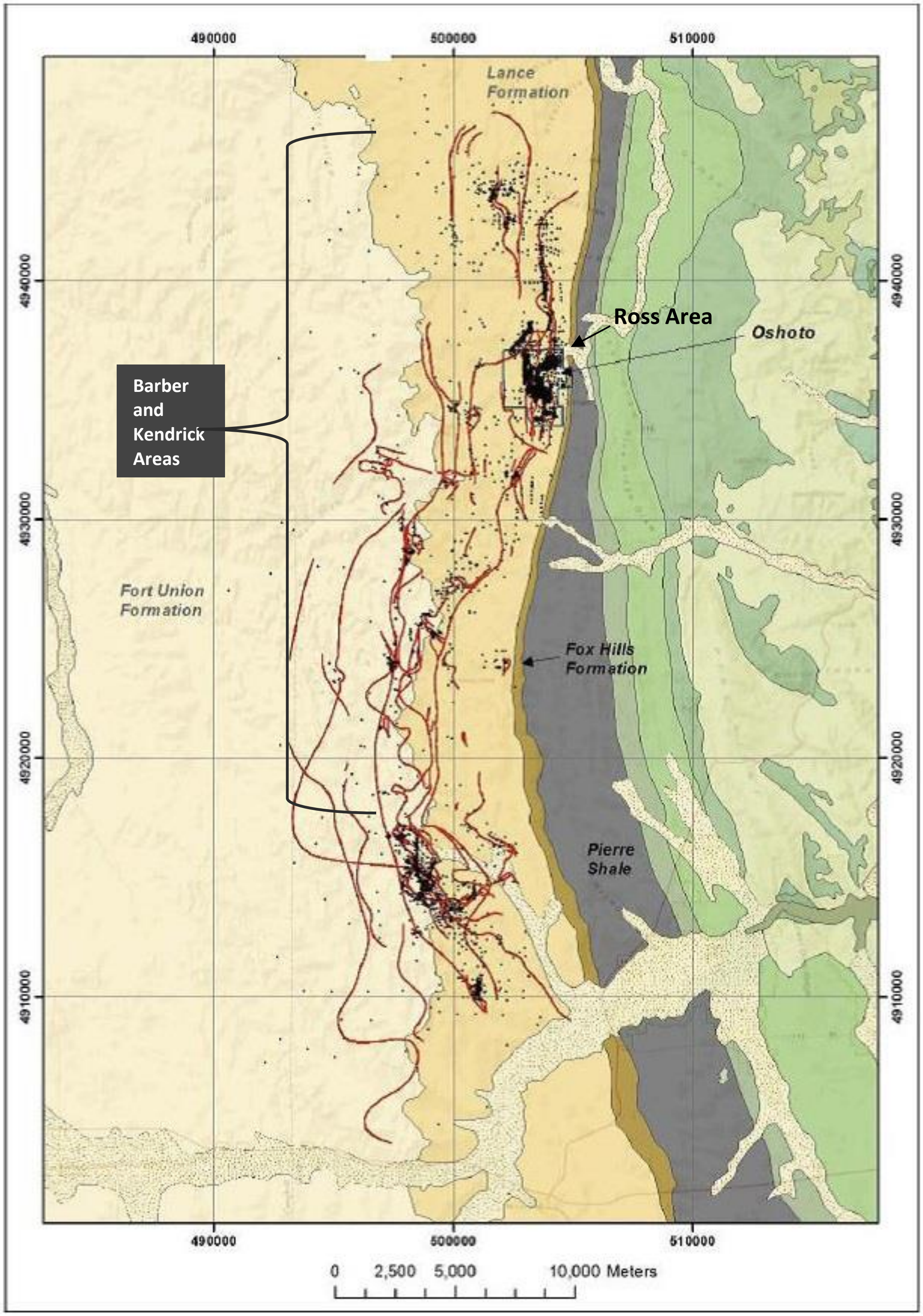


Figure 3: Lance Project Uranium Trend Map with drill hole locations

INFORMATION REQUIRED BY LISTING RULE 5.8.1

Geology and Geological Interpretation

The deposits are epigenetic uranium roll-fronts. The Lance Project is located on the eastern periphery of the Powder River structural basin and on the western margin of the Black Hills Uplift. Geologic strata in the vicinity of the Lance Project comprise Cretaceous marine and marginal marine fluvial sediments belonging successively to the Pierre Shale Formation, Fox Hills Formation and Lance Formation within the Lance Project. Mineralization primarily occurs within the upper Fox Hills sandstone, although in localized areas there is some mineralization within the overlying Lower Lance sandstone. All the formations of interest (Lance, Fox Hills, Pierre) outcrop immediately east of the Lance Project at the Black Hills Monocline. The monoclinal feature caused a steepening of the dip (85°to 90°) to the east of the Lance Project, which resulted in the formations outcropping more abruptly than the 1° to 2° regional dip to the west.

Roll front deposits result from oxidizing groundwater migrating down gradient through regionally reduced sediments. Subsequent geochemical cells, produced by migrating groundwater, formed deposits through a dynamic process of oxidation, dissolution, transportation, reduction, and precipitation of uranium. The geologic alteration type, depth, and thickness of sand units were used to guide and control mineral resource mapping, which resulted in the mineral resource estimate. Confidence in continuity of grade and geology is based on drill hole spacing.

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. Figure 4 is a West to East geologic cross section across the Lance area that depicts geophysical logs and continuity of the underlying uranium host formations.

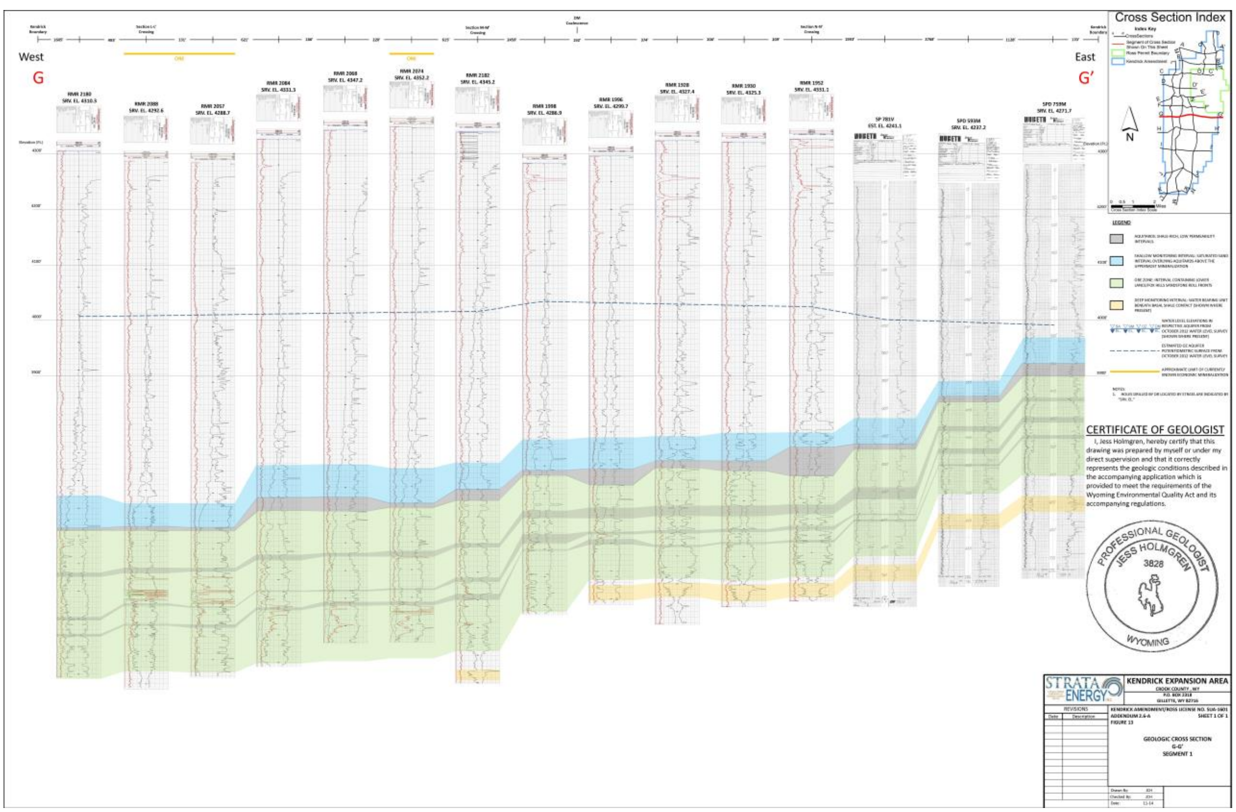
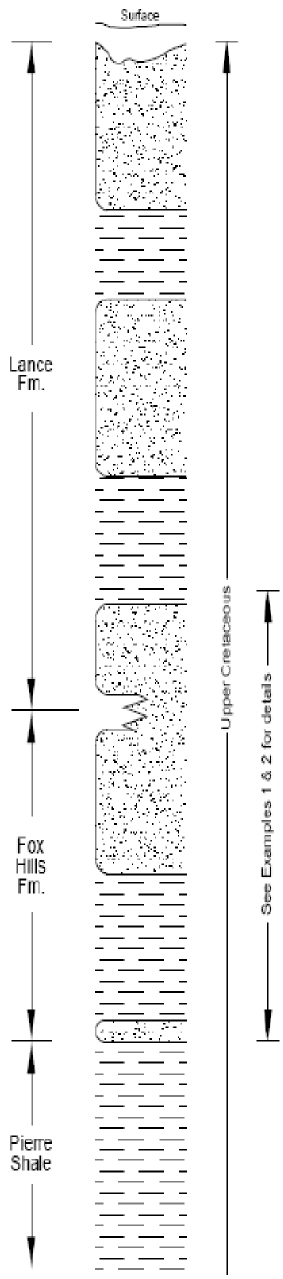


Figure 4: Cross Section G-G' Across the Lance Project Area



PERMIT AREA LITHOLOGY	DEPTH	THICKNESS
	----- Thickness in feet (meters) -----	
Alluvium		
Sandstone (fluvial)	0'-200' (0-60m)	150'-250' (45-76m)
Mudstone-Claystone	150'-300' (45-90m)	>130' (>40m)
Sandstone (fluvial)	275'-450' (85-135m)	150'-250' (45-76m)
Mudstone-Claystone (aquitard)	475'-525' (145-160m)	>30' (>10m)
Secondary uranium mineralization Sandstone (fluvial above marine) Primary uranium mineralization	525'-625' (160-190m)	150'-250' (45-76m)
Claystone (marine above basal sandstone)	550'-700' (170-210m)	80'-100' (24-30m)
Claystone (marine)	>700' (>210m)	800'-1000' (244-305m)

Figure 5: Lance Project Geologic Setting – Stratigraphic Section

Sampling and Sub Sampling Techniques

Drilling and geophysical logging was performed by various previous operators beginning in the 1970s. Peninsula acquired the Lance Project and historical drilling data in the late 2000s and began operations at the Lance Project drilling 4,350 holes for exploration, delineation, and production purposes. The resource estimate was prepared using data collected by downhole radiometric gamma logging, prompt fission neutron (PFN) logging, core analysis, and laboratory testing and assay. Lithology was recorded for each drill hole from surface to total depth. Intercept, grade and thickness are determined through interpretation of the downhole log data. A database of digitized intercept, grade, and thickness, along with lithologic data from > 8,800 drill holes were used to map the mineralisation. The exploration drilling programs were based on a grid system, which evenly sampled large areas and avoided introducing sample bias.

Drilling Techniques

Drilling performed by Peninsula and previous operators used the mud rotary method. Core was collected with a HQ triple tube core barrel at 58 drill holes which collected HQ sized core samples.

Criteria used for Classification

The MRE has been classified in accordance with the JORC Code (2012). A range of criteria has been considered in determining this classification including data quality and drill hole spacing. Criteria for the mineral classification are as follows:

- Measured Resource: Within the interpreted 0.2 GT contour and 15 m radius from drill hole.
- Indicated Resource: Within the interpreted 0.2 GT contour and 120 m radius from drill hole and excluding the measured resource component.
- Inferred Resource: Within the interpreted 0.2 GT contour and variable radius excluding the measured and indicated resource components.

Sample Analysis Method

Assay was by downhole PFN logging which emits neutrons into the formation and measures the induced epithermal and thermal neutrons emitted back from the formation. The ratio of epithermal to thermal neutrons is then used to calculate the grade of U_3O_8 directly without impacts from disequilibrium. Downhole radiometric gamma logging, which measures natural gamma counts is used in conjunction with calibration and disequilibrium data to calculate eU_3O_8.

Estimation Methodology

The reported mineral resources for the Lance Project have been estimated utilizing computer-based polygonal methodology completed in 2011 and the GT contour method. The GT contour method is well accepted within the uranium ISR industry and is suited to guide detailed mine planning and estimates of recoverable mineral resources found in the Lance Project. The basis of the GT contour method is the GT (grade x mineralized thickness) values, which are determined for each drill hole using radiometric log results and a suitable GT cutoff below which the GT value is considered to be zero. The GT values are then plotted on a drill hole map, and GT contours are drawn accordingly using roll-front data derived from cuttings and the nature of the gamma anomalies. The resources are calculated from the area within the GT contour boundaries, considering the disequilibrium factors and the ore zone density.

For the polygonal methodology, grade composites using a 0.02% eU3O8 grade and 0.2 GT lower cutoff were derived and imported in 3D modelling software. Each grade composite was then extracted to obtain the centroid position of each composite. Every composite was then analyzed in 3D and manually classified according to area and vertical horizon. Using Surpac, a Voronoi tessellation algorithm was then applied to the respective data from each area and horizon to create a series of polygons, each of which were attributed with thickness, volume, tonnage, and grade. The extent of the polygons was limited either by adjacent polygons (half-distance) or by a geologically interpreted outline based on the 0.2 GT contour. The 0.2 GT contours were generated manually for each area and horizon.

There have been an additional 1,771 close-spaced holes drilled since December 2012. Because of the additional detailed drilling, mine personnel have refined and updated interpretations of the roll fronts. The polygonal resource calculation method was not used in this estimation. Resources in the mine units were derived using the GT contour method. Resources were calculated by first dividing lengths of the roll fronts into the measured, indicated and inferred categories based on 15 m hole spacing or less for measured resources and 120 m spacing for indicated resources, while inferred resources lengths are variable and constrained within interpreted 0.2 GT contour.

GT values from drill holes with a 0.2 GT or better were averaged within the measured categories to determine their average grade. This same average value was extrapolated into adjacent indicated and inferred lengths.

Cut-off Grade

The mineral resource estimate assumes mining by ISR methods and is reported at a cut-off grade above a 0.02% (200 ppm) eU_3O_8 and a minimum GT of 0.20. The cut-off parameters are typical of ISR uranium industry standards within the Wyoming ISR uranium industry.

Mining and Metallurgical Methods and Parameters and other Modifying Factors

The MRE assumes mining by modern ISR techniques to recover uranium from the identified mineral trends. To be amenable to ISR methods, the identified uranium mineralization must occur within saturated zones laying below the static water table and permeability and transmissivity of the host deposit must allow for adequate flow of lixiviant. The prior operational activities and available hydrology testing data from across the project suggests that appropriate hydrogeologic conditions are present to support ISR as a mining method. Roll-front uranium deposits have been successfully recovered through ISR in this geologic setting.

As demonstrated by metallurgical testing, previous alkaline based production and subsequent low-pH field trials, the deposit is metallurgically amenable to alkaline and low-pH ISR.

No other material modifying factors have been considered to date in the preparation of the Mineral Resource Estimate.

Competent Persons Statement

The information in this announcement that specifically relates to Exploration Results and Mineral Resources at the Lance Project is based on information compiled by Mr Benjamin Schiffer. Mr Schiffer is a Registered Professional Member of the Society of Mining, Metallurgy and Exploration (Member ID #04170811). Mr Schiffer is a professional geologist employed by independent consultant WWC Engineering, which provides services to the Company on a contractual basis. Mr Schiffer has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is 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. Schiffer consents to the inclusion in the announcement of the matters based on his information in the form and context in which it appears. Mr. Shiffer doesn't hold securities in the Company.
This release has been approved by Peninsula's Board of Directors.

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About Peninsula Energy Limited

Peninsula Energy Limited (ASX:PEN) is one of the only ASX-listed uranium companies providing US production and direct market exposure. Its' 100% owned Lance Projects in Wyoming is due to re-commence production in December 2024 following a central processing plant capacity expansion construction project.

Lance is one of the largest, independent near-term uranium development projects in the US. With a track record of meeting delivery requirements since 2016, Peninsula has 10 years of sales contracts in place with major utilities in both the US and Europe. Once back in production, Lance will establish Peninsula as a fully independent end-to-end producer of yellowcake, well-placed to become a key supplier of uranium and play an important role in a clean energy future.

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APPENDIX 1

JORC Code, 2012 Edition – Table 1 Sections 1, 2 & 3

Section 1: Sampling Techniques and Data

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

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

Criteria	JORC Code Explanation	Commentary
Sampling techniques	• *Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.* • *Include reference to measures taken to ensure sample representativity and the appropriate calibration of any measurement tools or systems used.* • *Aspects of the determination of mineralisation that are Material to the Public Report.* *In cases where 'industry standard' work has been done this would be relatively simple (e.g. 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information.*	• No physical samples were used for the resource estimation. • Samples used in the resource estimation were obtained using Prompt Fission Neutron (PFN) or radiometric gamma downhole logging equipment. • Grade determination is 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 45 cm (1.5 ft), or a truck mounted downhole Radiometric Gamma probe. Measurements made by the logging tools are used to calculate equivalent U3O8 of the in-situ mineral. Spontaneous potential (SP) and resistivity data are also collected with downhole tools. • Downhole PFN logs were conducted on over 2,800 drillholes during 2009-2013. Industry-standard logging techniques were utilized by independent contractors with proper QA/QC and calibration protocols. • 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 QA/QC 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. Samples collected in 2012-2013 were assayed by Mineral Lab and Hazen Labs, Golden, Co. • Full core from 58 core holes was split and half-core samples were taken at 45 cm intervals. Core recovery was recorded into the database. • Core sampling methodology included measurement of drill pipe for accurate depth correlation, defined core sample collection protocol, including photographing and splitting core; and labeling and vacuum packing of samples to ensure core integrity during transportation to laboratories. Where appropriate, core is split vertically and 1/2 of the core is saved for future validation and/or analysis. • Gamma data from over 4,500 historic holes were digitized. The original GT calculations were checked against database entries. • Selected historical drill holes that were still open were logged using PFN tools. PFN grades were compared with historical grades, which validated historical results.

Criteria	JORC Code Explanation	Commentary
		• A database of digitized intercept, grade and thickness, along with lithologic data from >8,800 drill holes was used to map the mineralization. • The consistency of adjacent drill hole samples across the mineralized horizons confirms sample representativity. Very closely-spaced ("twinned") holes provide additional confirmation.

Criteria	JORC Code Explanation	Commentary
Drilling techniques	• *Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).*	• Drilling methods include mud rotary and HQ triple tube core.
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.*	• Core recoveries were monitored and were generally good (>88%). Mud rotary recoveries were not routinely monitored. • Sample recoveries are not material to the resource estimate since the resource estimate is based on downhole logging of the in-situ mineral resources. • For mud rotary drilling geologists (1) visually interpret cuttings for lithology, alteration, mineralization, (2) calculate lag between stratigraphic & electric log signatures, (3) mark & label drill holes, & (4) confirm that drill holes are surveyed. • For mud rotary drilling, composite downhole rotary cuttings collected every five feet are compared with electric log signature to verify completeness of collected samples. Mud viscosity and type and quantity of drilling polymers are adjusted to ensure adequate cutting recovery. • For core drilling, geologists visually interpret core samples for lithology, alteration and mineralization, and compare maximize core recovery. • The core assay data indicate good correlation with downhole logging across a range of grades, indicating it is unlikely that significant sample bias existed.
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 Peninsula mud rotary and core holes were logged lithologically using a coded logging system for rock type, grain size, color, alteration and any other relevant observations. • The logging detail is appropriate to support mineral resource estimation. • Geological logging is quantitative in nature. • A total of 5,848,484 feet have been drilled at the Project. The available logs are typically for the entire drill hole depth.

Criteria	JORC Code Explanation	Commentary
Sub-sampling techniques and sample preparation	• *If core, whether cut or sawn and whether quarter, half or all cores 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 representativity of samples.* • *Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.* • *Whether sample sizes are appropriate to the grain size of the material being sampled.*	• Recovered core is vacuum sealed in the field in order to maintain core integrity & 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 & pulverized prior to obtaining quantitative measurements. Independent laboratories run internal QA/QC tests on core samples by inserting blanks and standards. Peninsula incorporates stringent QA/QC protocols, including utilizing secondary & referee laboratories for grade and rock property confirmation. • Full core was split and half-core samples were taken at 45 cm intervals. 45 cm (1.5 ft) corresponds with the typical compositing intervals used in the downhole logging techniques. Because the estimate is based on PFN and radiometric gamma logging of in-situ mineral resources, sub-sampling techniques and sample preparation are not material to the resource estimate.
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 (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.*	Assay was by downhole PFN and radiometric gamma logging. Industry standard logging techniques were used by independent contractors with proper QA/QC and calibration protocols. • The PFN log assay technique is considered total because it is a direct measure of in-situ uranium. PFN tools were calibrated monthly at a US Department. Duplicate PFN runs, including the use of a secondary PFN tool, are used for confirmation. • The Radiometric gamma log assay technique is considered partial because it measures decay products of uranium, which may not accurately reflect uranium content if radiometric disequilibrium is present. • Chemical assays were only used to check for correlation with PFN and gamma probe grades. Industry standard QA/QC measures such as certified reference material, blanks and repeat assays were used. • A comparison of PFN logging, radiometric gamma logging and core assay data indicates generally good correlation between grades. The overall quality of QA/QC is considered adequate to ensure the validity of the data used for resource estimation purposes.

Criteria	JORC Code Explanation	Commentary
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.*	• No physical samples were used for the resource estimation. • Physical samples and assays were used only for QA/QC checks on the PFN and gamma data and to assess possible disequilibrium effects. • 21 rotary drill holes were offset and drilled ("twinned") to confirm ore intersections and associated grade. • Systematic relogging of historic holes with PFN probe shows good correlation between historic GT calculations and new PFN intervals. • Radiometric gamma assay data was adjusted for disequilibrium. Disequilibrium factors were applied to historic gamma data and post 2014 drilling logged using radiometric gamma techniques and were calculated using the PFN database comprising over 527 ore intercepts from 830 drill holes and categorized by area and lithological horizon. • 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 which gamma-only data was available. • Laboratory assay of core samples was also used to verify PFN and radiometric gamma logging results. • All electronic data stored in a SQL database.
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.*	• Pre-2014 drill holes (rotary and core) were 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 Peninsula personnel. • The UTM NAD27 grid system was used for all drill hole locations • Topographic data incudes modern LIDAR survey data and USGS topographic data • After 2014, drillholes were surveyed by Peninsula personnel using Trimble or Geneq, Inc. equipment. • Quality and adequacy of topographic control are good.
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.*	• Spatial distribution of exploration drill holes varies from 6 m to 200 m • Data spacing and distribution are sufficient to establish the geological and grade continuity appropriate for the mineral resource classification. • Sample compositing has not been applied.
Orientation of data in relation to	• *Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit*	• Drillhole patterns are designed in a manner which allows for the best determination of ore body width, areal geometry, and average & 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.

Criteria	JORC Code Explanation	Commentary
geological structure	*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.*	• The dip of the mineralization 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. • No biases are expected from the drilling direction.
Sample security	• *The measures taken to ensure sample security.*	• All data used to prepare the Mineral Resource were either PFN or radiometric gamma log data, so no physical sample security measures apply. • Appropriate measures were taken to ensure sample security of the chemical samples used for QAQC purposes. • Electronic data including geophysical logs are stored on secure company servers which are backed up on a portable hard drive. Additionally, physical copies of geophysical logs and maps are stored at the Company's facility in Oshoto, WY.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• Audits and reviews on sampling and assaying are not relevant as no physical samples or assays were used in the resource grade estimation. • PFN data and data reduction to U_3O_8 was carried out automatically by GAA Wireline Inc. GAA Wireline Inc/GeoInstruments Logging established procedures for collection and processing of raw PFN data. • Internal sampling protocols were developed & 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 and again in 2012. Third party reviews of the sampling techniques/protocols did not reveal any inaccuracies or deficiencies regarding sampling techniques. • QA/QC audits of the PFN and historic radiometric gamma log data have been carried out at regular intervals by independent consultants to Peninsula, and the data quality has been found to be good.

Section 2: Reporting of Exploration Results

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

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.*	• As of December 2023, Peninsula has mineral rights and surface access rights over land holdings of 38,545 acres (15,599 has) and 4,910 acres (1,987 has) respectively. • 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). • There are no known impediments to obtaining a license to operate in the area.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• In 1971, Nuclear Dynamics began exploration drilling in the Lance Project Area • In 1978, Nuclear Dynamics formed a Joint Venture with Bethlehem Steel (Nubeth Joint Venture) to develop the Project. A total of >4,700 drillholes (912,000 m) were drilled. • In 1978, the Nubeth Joint Venture developed and briefly operated a pilot plant scale ISR in the south-central portion of what became the Ross Permit Area. • The area has been extensively studied and explored, and this work is well-documented.
Geology	• *Deposit type, geological setting and style of mineralisation.*	• The Project is located on the eastern periphery of the Powder River Basin that comprises mostly Cretaceous – Tertiary sediments. The uranium deposits are hosted in the sandstones of the Lance and Fox Hills formations. • Host sandstones dip at -1° to -2° towards the west and southwest. • Uranium deposits are of the epigenetic roll-front type

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*
		• Drill hole information includes the location, elevation, total depth, and the depth, thickness and grade of intercepts. Drill holes were near-vertical and small deviations did not materially affect the mineral resource estimate. Drill hole depths were up to 250 m, intercept depths ranged from 0 to 245 m, and intercept thicknesses range from 0.15 to 15 m. The average intercept thickness is approximately 1 m.
		• Data from over 8,900 drill holes, including both mineralised and barren holes, is available for the Project.

Criteria	JORC Code Explanation	Commentary
Drill hole Information (cont.)	○ *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.*	• Tabulated data is not provided here because the detailed information is confidential and proprietary, as is the specific methodology of roll-front interpretation used to prepare the mineral resource estimate. The Competent Person has full access to the data and has independently verified the data quality and completeness. The exclusion of the tabulated data does not detract from the understanding of the report, because the information necessary to understand the quality of the data, completeness of the dataset and potential limitations are provided in summarized form herein.
Data aggregation methods	• *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.* • *Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.* • *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	• A grade cutoff of 200 ppm eU3O8 and grade-thickness (GT) cutoff of 0.2%-ft were used. • As is standard for uranium roll-front deposits, multiple intercepts within the same mineral horizon were summed. • The grade and thickness of the individual intercepts vary, but there are no exceptionally high-grade intercepts and very few intercepts are more than 5 m thick. • Aggregation does not combine intercepts of exceptionally different grades and thicknesses. • All grades determined by PFN are reported as U_3O_8. Grades determined by radiometric gamma logging are reported eU3O8 (equivalent uranium). • Disequilibrium does not apply to PFN Grade determinations as PFN directly measures fission U^{235} isotope. • A disequilibrium factor of 1.13 was applied to radiometric gamma data. • 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 200 ppm lower cutoff, 2 ft minimum true thickness and maximum internal dilution of 1.5 ft • GT calculated thus: grade (ppm)*thickness(ft)/10,000.
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 (e.g. 'down hole length, true width not known').*	• In epigenetic roll-front uranium deposits, the mineralisation width is relatively narrow and is not correlated with the intercept length. • Mineralization true widths vary from 0.2 m to >2 m. PFN sampling measurements are continuous over these intervals and recorded in 0.1 m downhole increments. • Mineralization is horizontal within a tolerance of +/-2 degrees. All drillholes are vertical thus the intercepts as shown are effectively a measurement of true width. • Resources are estimated based on horizontal distance between drill holes (not the distance along the mineralization dip).

Criteria	JORC Code Explanation	Commentary
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.*	Diagrams showing drill hole locations, the mapped mineral resource, and a geologic cross-section through the mineral resource are included. Further details are confidential and proprietary.
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 reporting of exploration results is considered to be accurate and comprehensive. The methodology was applied consistently for all grades and lengths.
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 other exploration data that has been made available to the Competent Person is meaningful or material to the current report.
Further work	• *The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).* • *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*	Further infill, extensional, and production drilling programs are planned. The details of this program are confidential and commercially sensitive.

Section 3: Estimation and Reporting of Mineral Resources

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

Criteria	JORC Code Explanation	Commentary
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 independent competent person performed by subjecting drillhole data to data auditing processes. • 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 mine site by Peninsula personnel.
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.*	• 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). The site visits have verified the status of the Project.
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 confidence of the geological interpretation of the mineral deposit is high. • It is assumed that this deposit is consistent with similar Wyoming roll-front uranium deposits. This assumption is supported by the available data. • 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 characterized by fining-upward sequences comprising thick, laterally persistent, tabular, sheet-like sandstones. • Uranium mineralization 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, autunite, 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. • Vanadium and, to a much lesser degree, selenium and arsenic are the main associated elements. • Geological interpretations of the individual roll fronts were carried out in plan-view using the redox information as the principal guide to the positioning of the roll front positions and lateral and longitudinal dimensions.

Criteria	JORC Code Explanation	Commentary
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.*	• In plan-view, the deposits range from several hundred meters long to over 9,000 metres long with widths of between 10 metres and 80 metres wide. The high-grade cores of the roll fronts within the deposit range from about 2 metres to 10 meters wide and average 1.5 metres thick in section. • Mineralization occurs in several horizons with a total mineralized package of up to 60m in thickness.

Estimation and modelling techniques	• *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 (e.g. sulphur for acid mine drainage characterisation).*
	• *In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.*
	• *Any assumptions behind modelling of selective mining units.*
	• *Any 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
		• Grade composites using a 200 ppm and 0.2 GT (%-ft) lower cutoff were derived and imported into 3-dimensional modeling software.
		• The resource is reported as U_3O_8 based on the following criteria:
		  ○ 32% of the resource input data comprises PFN logging data
		  ○ 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.
		• Centroid positions were determined for each grade composite, and subsequently analyzed in 3D and classified according to area & horizon.
		• No grade cutting was applied as the grades are derived from continuous downhole measurements of a large volume of rock around the access drillhole.
		• Resource estimation used two techniques:
		  ○ Computer –based constrained polygonal.
		  ○ Area/foot/pounds (GT Outline calculations).
		• Voronoi polygons with thickness, volume, & tonnage and grade were generated in Surpac with variable search radii reflecting measured, indicated, or inferred classifications.
		• Extent of the polygons was limited by adjacent polygons or 0.2 GT (%-ft) contours.
		• The constraining GT contours were manually interpreted and digitized and referenced using Surpac and Gemcom software.
		• A comparison of the resulting constrained polygonal resource calculations with conventional GT Outline methodology revealed a difference in resources of less than 3% with respect to contained uranium.
		• Independent verification has been carried out by various US and UK based consultants using various techniques. Their findings showed that there was no material difference between the resource numbers generated by either Peninsula or themselves.
		• It is assumed that recovery of byproducts, deleterious elements or non-grade variables will not interfere with the ability to economically recover the mineral. This assumption is consistent with past production at the project.
		• The validation process is described in detail above.

Criteria	JORC Code Explanation	Commentary
Moisture	• *Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.*	• Ore tonnages are not directly applicable to ISR mining because the host rock remains in place while the mineral is extracted. However, the dry bulk density is used to calculate mineral resources. A value of 15.5 cubic feet per ton was used for the mineral resource estimate. • 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. • Tonnes have been estimated on a dry basis.
Cut-off parameters	• *The basis of the adopted cut-off grade(s) or quality parameters applied.*	• Resources have been calculated and reported above a 200 ppm U_3O_8 cut-off grade and 0.2 GT (%-ft). These cutoff grades have been widely used in in-situ uranium mineral resource estimates and have been proven to be effective in past mining at the project, with recovery percentages within an acceptable range.
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.* •	• No mining factors (i.e. dilution, ore loss, recoverable resources) have been applied. • The resource is permitted for in situ recovery (ISR) mining methods using alkaline or low pH lixiviants. Previous production and pilot-scale testing have demonstrated that these methods successfully recover uranium from this deposit.

Criteria	JORC Code Explanation	Commentary
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.*	Metallurgical test work, field test work, and previous production demonstrate the deposit is metallurgically amenable to ISR.
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.*	Waste generated is or will be disposed in accordance with local regulations and approved permits and licenses.

Criteria	JORC Code Explanation	Commentary
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.*	• 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. • Tonnes have been estimated on a dry basis. • An average bulk density of 15.5 cubic feet per ton was assigned for all the resource areas due to the consistency and continuity of the host sandstone.
Classification	• *The basis for the classification of the Mineral Resources into varying confidence categories.* • *Whether appropriate account has been taken of all relevant factors (i.e. 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.*	• 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. • 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 0.2 GT (%-ft) contour. • 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. • The results appropriately reflect the Competent Person's view of the deposit.
Audits or reviews	• *The results of any audits or reviews of Mineral Resource estimates.*	• Two independent audits using two different estimation techniques have been carried out by US-based consultants. • 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 of approximately 3%.

Criteria	JORC Code Explanation	Commentary
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 Competent Person places a relative accuracy of +/- 10% (and 90% confidence level) in the Mineral Resource estimate at the Project for the measured and indicated resources based on the estimation technique and data quality and distribution. Inferred Resources have a lower level of confidence outside of this range. • The view on relative accuracy is based on the outcomes of the independent audits carried out on the estimation methodology and on actual production data from the Ross Permit Area.