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Companies Announcement Office
Via Electronic Lodgement

50.1MILLION POUND MAIDEN JORC CODE-COMPLIANT RESOURCE AT KAROO PROJECTS

Highlights

- **Initial JORC CODE-Compliant Resource totalling 50.1Mlbs at 1,040ppm eU_3O_8:**
    - **Indicated Resource of 15.7Mlbs eU_3O_8; and**
    - **Inferred Resource of 34.4Mlbs eU_3O_8**
- **Additional exploration target of 250-350Mlbs at the Karoo Projects**
- **DRA has commenced Scoping Study**
- **Bankable Feasibility Study is planned to commence Q3 2013**

Summary

Peninsula Energy Limited (Peninsula) is pleased to announce an initial JORC Code-compliant Mineral Resource estimate of 50.1Mlbs eU_3O_8 at the Karoo Projects in the Cape Provinces of South Africa (Figure 1). This estimate includes an indicated resource of 15.7Mlbs grading 1,020ppm eU_3O_8 above a cut off of 600ppm eU_3O_8.

The estimate is based on a historical database comprising 7,163 holes and an additional 1,245 holes probed or drilled by Peninsula since 2011, including 16 diamond holes and 730 reverse circulation holes.

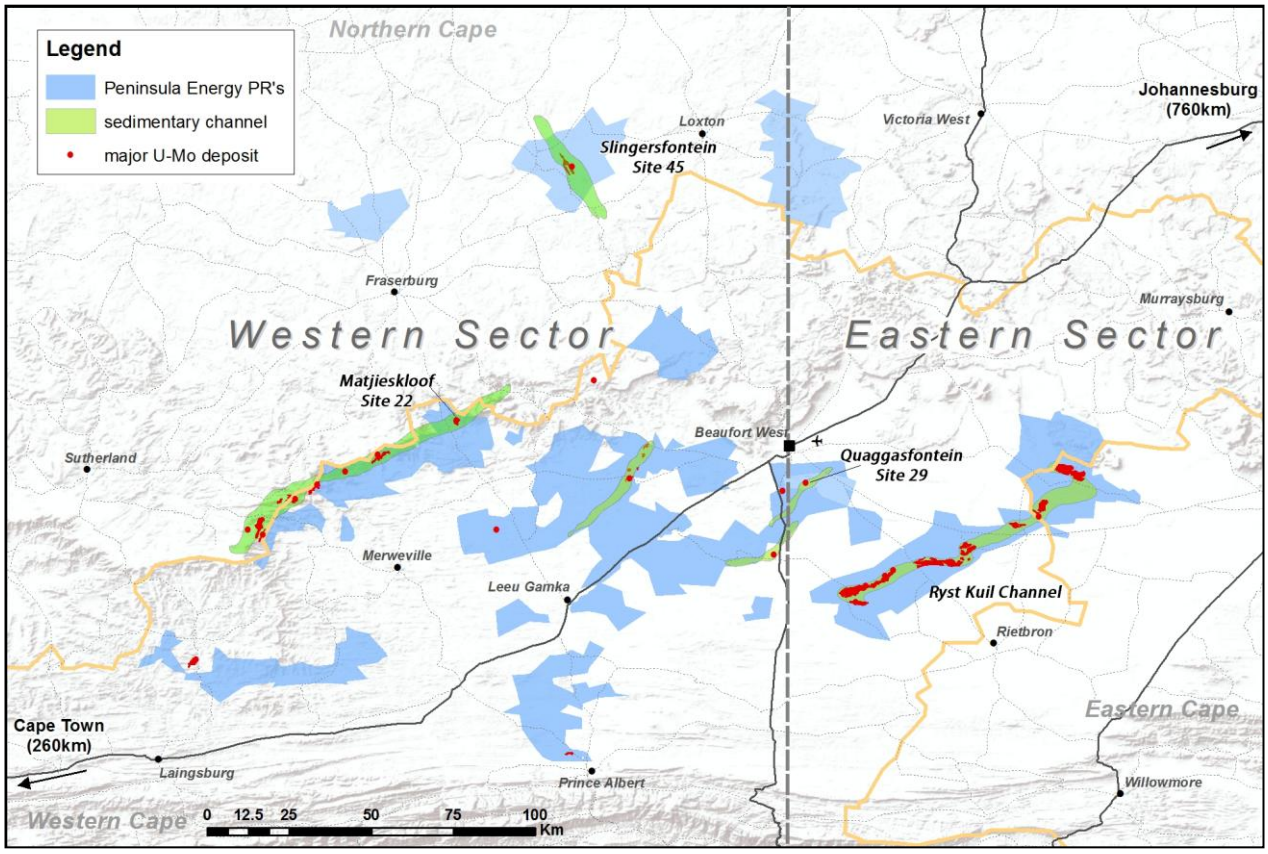
Executive Chairman Gus Simpson said "*The Board is excited about the Karoo Projects maiden resource and drilling is now underway to convert some of the other areas of historic mineralisation to JORC status. A scoping study has commenced and the Company intends to quickly progress the projects to feasibility.*"

Previous exploration conducted by Esso Minerals Africa (Esso), JCI and Union Carbide at the Karoo Projects in the 1970s included 1.6 million metres of drilling together with trial open-cut and trial decline mining programs. Based on the results of these programs, the previous explorers estimated approximately 99Mlbs U_3O_8 and 61Mlbs molybdenum (Mo).

Peninsula has focussed on bringing approximately half of this total, for which drilling data is available, to a standard suitable for reporting under the Joint Ore Reserves Committee (JORC Code 2012) guidelines. The remainder, comprising up to 48Mlbs U_3O_8 in historical estimates, for

which drilling data is not available, will be targeted in on-going exploration with the objective of converting as much as possible to JORC Code-compliant resources.

Figure 1: Karoo Projects Location Map



Karoo Projects – JORC Code-Compliant Resource Estimate

The initial resource estimate, as shown in Table 1, is based on a database comprising 7,163 drill holes together with 1,245 additional holes probed or drilled by Peninsula since 2011, including 16 diamond holes and 730 reverse circulation holes.

Table 1: JORC Code-Compliant Mineral Resource Estimate, Karoo Projects: eU3O8

Classification	eU_3O_8 (ppm) cut-off	Tonnes (millions)	eU_3O_8 (ppm)	eU_3O_8 (million lbs)
Indicated	600	6.9	1,020	15.7
Inferred	600	14.8	1,050	34.4
Total	**600**	**21.7**	**1,040**	**50.1**

An ordinary kriged grade estimate was undertaken by independent consultants Optiro Pty Ltd. Mineral Resources have been classified on the basis of confidence in geological and grade data using the drilling density, geological model, modelled grade continuity and conditional bias measures (kriging efficiency). Indicated Mineral Resources have been defined generally in areas of 50m by 50m drill spacing.

Inferred Mineral Resources have been defined in areas of 100 by 100 metre up to 400 by 400 metre drill spacing. A bulk density of 2.67 t/m^3, (based on 1,425 representative determinations), was applied to derive the resource tonnage.

The historic and current drilling is distributed over two main areas – the Western and Eastern Sectors (Figure 1) - and includes results for more than 4,000 mineralised intervals. Drill-spacing varies from 100m by 100m to 25m by 25m with the majority of indicated resources drilled at an average spacing of 50m by 50m.The Eastern Sector covers the majority of the reported resources including the Ryst Kuil Channel and Quaggasfontein. The Western Sector encompasses the Maitjieskloof and Slingersfontein resources, together with the majority of the exploration targets. Total resources by Sector are detailed in Table 2.

Table 2: Detailed Classified JORC Code-Compliant Mineral Estimate, Karoo Projects: eU3O8

Classification	Sector	eU_3O_8 (ppm) CUT-OFF	Tonnes (millions)	eU_3O_8 (ppm)	eU_3O_8 (million lbs)
Indicated	Eastern	600	6.0	980	13.0
	Western	600	0.9	1,250	2.7
Inferred	Eastern	600	11.2	1,060	26.4
	Western	600	3.6	1,030	8.0
Total	**Total**	**600**	**21.7**	**1,040**	**50.1**

Note: Totals may not sum exactly due to rounding

As part of the data validation program, Peninsula has completed a detailed QAQC study comprising the confirmation of drillhole locations and verification of historic down-hole radiometric logging procedures and results. In addition, Peninsula has probed 1,245 holes, including 16 diamond holes and 730 reverse circulation holes drilled since 2011.

Peninsula is currently undertaking further drilling to obtain additional comparative QAQC data and samples for molybdenum determinations as part of a larger program of resource upgrade and expansion.

Karoo Landholding

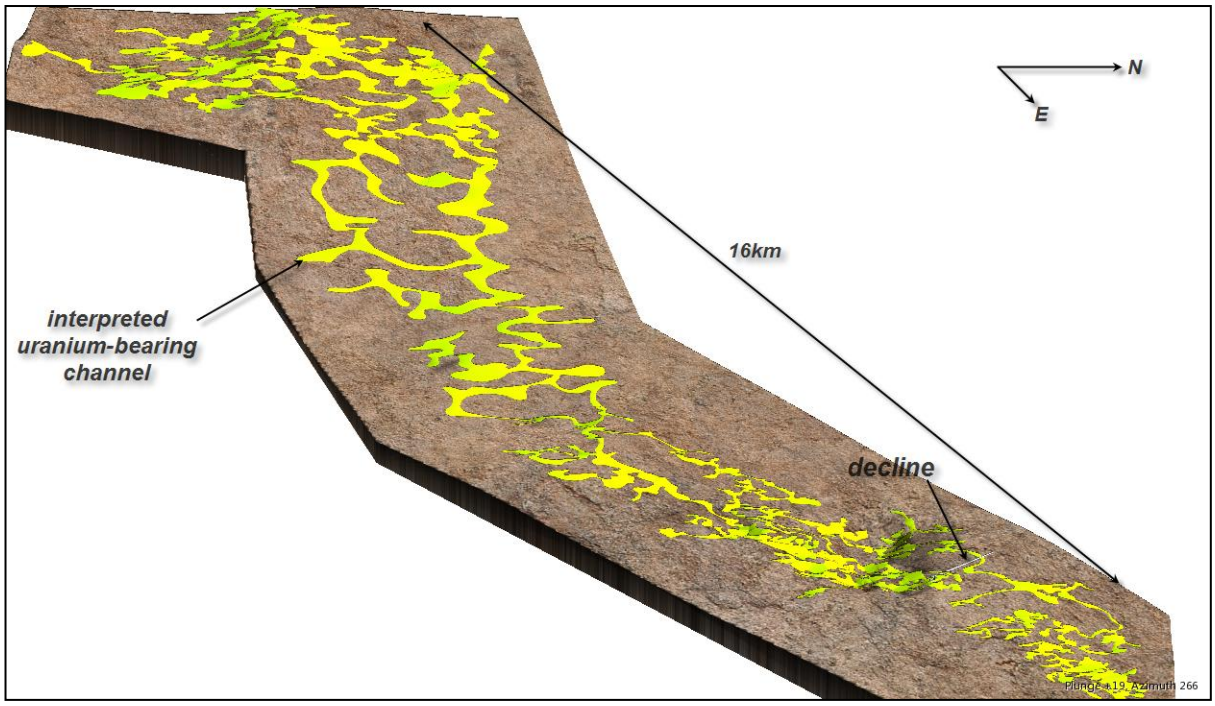
Peninsula has a 74% interest in a total of 42 prospecting rights (PR's) covering 7,800 km^2 of the main uranium-molybdenum bearing sandstone channels in the Karoo Basin (Figure 1). Completion of the acquisition of some of these prospecting rights is subject to conditions precedent as detailed in the previous Karoo announcement. The residual 26% interest remains with the BEE partners as required by South African law.

In the Eastern Sector, Peninsula has freehold ownership over an area of 322 km^2 which covers a significant proportion of the reported resource and allows unlimited surface access. Additional surface access rights have also been contracted on a further 153km^2 until 2021. This area is largely contiguous with the freehold land.

Near-Term Growth Potential

The Karoo formations which host the uranium and molybdenum mineralisation comprise alternating units of Permian sandstone and mudstone, with the mineralisation being largely restricted to the sandstone units. Uranium mineralisation forms within channel systems that, in the case of the Eastern Sector are developed up to 2.5km in width and up to 70km long (Figure 2). Within the channel system, uranium and molybdenum mineralisation is localised within smaller-scale sedimentary features in the order of 1-2m in thickness and up to several hundred metres in length.

Figure 2: Portion of Eastern Sector Channel Deposits



Previous exploration conducted by Esso Minerals Africa (Esso), JCI and Union Carbide at the Karoo Projects in the 1970's included 1.6 million metres of drilling together with trial open-cut and trial decline mining programs. Based on the results of these programs, the previous explorers estimated approximately 99Mlbs U_3O_8 and 61Mlbs Mo. Peninsula has focussed on bringing approximately half of this total, for which drilling data is available, to a standard suitable for reporting under the JORC Code 2012. The remainder, comprising a historic estimate of approximately 48Mlbs U_3O_8, for which drilling data is not available, will be targeted in on-going exploration with the objective of converting as much as possible to JORC Code-compliant resources. Although there is no guarantee that additional resources will be defined or that the ultimate Mineral Resource will match the historic estimate, Peninsula believes that, given the positive conversion of the available data to JORC Code-compliant resources to date, such a conversion rate can reasonably be achieved with on-going work.

Significant amounts of molybdenum are associated with the known uranium deposits. Currently, Peninsula does not have sufficient data with which to estimate a molybdenum resource. However, historic information and studies suggest a ratio of 1:0.6 U_3O_8/Mo. This amount of molybdenum potentially associated with U_3O_8 is materially and commercially significant.

Exploration Target

The Karoo Projects cover a significant proportion of the Karoo Basin Permian sandstones, which are believed to represent an Exploration Target of between 250 and 350Mlbs U_3O_8. This Exploration Target, as shown in Table 2, is based on the total cumulative prospective strike length of about 200km that occurs within the PR's, together with the reported U_3O_8lbs/km along the modelled sections of the Eastern Sector channel sandstones. Further drilling will be required in order to define a resource estimated in accordance with the JORC Code and there is no guarantee that a resource will be defined.

Table 2: Karoo Projects Total Exploration Target

Exploration Areas	Tonnes (M)		Grade (ppmU_3O_8)		eU_3O_8 (Mlbs)	
Range	From	To	From	To	From	To
Total	126	133	900	1200	250	350

Scoping Study

Consultants DRA International (Cape Town) have been engaged to undertake an initial scoping study. Given the significant amounts of historic mining and metallurgical data, Peninsula anticipates that this will accelerate the scoping study process.

Conclusions

Historically, many of the known Karoo deposits were evaluated in isolation. With consolidation the various deposits offer several potential large-scale development options, including simultaneous open pit, adit-access and decline-access mining operations feeding through a single central processing plant.

Following additional sampling and metallurgical test work, molybdenum will also be included in future mining and recovery optimisations.

The large combined area of prospecting rights cover the most prospective sedimentary channels of the Karoo Basin and hence provides potential to increase the total resource inventory beyond the known resources.

Yours sincerely

John (Gus) Simpson
Executive Chairman

For further information, please contact our office on (08) 9380 9920 during normal business hours.

Competent Person

The information in the report which relates to Mineral Resources is based upon information compiled by Ian Glacken, who is a Fellow of the Australasian Institute of Mining and Metallurgy. Ian Glacken is an employee of Optiro Pty Ltd and 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 to qualify as a Competent Person as defined in the 2012 edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Ian Glacken consents to the inclusion in the report of a summary based upon his information in the form and context in which it appears.

The information in this report which relates to Geology and Exploration Targets is based on information compiled by Mr George van der Walt. Mr van der Walt is a member of a Recognised Overseas Professional Organisation included in a list promulgated by the ASX (The South African Council of Natural Scientific Professions, Geological Society of South Africa). Mr van der Walt is a Director of Geo-Consult International (Pty) Ltd. Mr van der Walt have 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 Competent Persons as defined in the 2012 edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr van der Walt consents to the inclusion in the report of a summary based upon his information in the form and context in which it appears.

Quality Assurance & Quality Control (QAQC)

Calibration of GeoVista gamma probes used by Peninsula was performed at the Pelindaba nuclear facility near Hartebeespoort by Geotron Systems (Pty) Ltd, a geophysical consultancy based in Potchefstroom, South Africa with relevant competence in the collection and reporting of down hole radiometric data.

At each project area a specific "control" hole was selected and logged daily to identify instrument error and drift for appropriate action if required. In addition, a representative number of drill holes have been re-logged for verification of results used in resource estimation. For chemical sample assay the samples were collected in accordance with international best practice and appropriate blanks, standards and repeat assays were included. Samples were sent to Scientific Services, an ISO-accredited laboratory in Cape Town, South Africa.

Disequilibrium

Studies carried out by Esso on a large number of samples indicated that from a practical standpoint there was no radiometric disequilibrium in the Ryst Kuil mineralisation that could materially affect historic calculations.

Studies of 234 core samples were carried out at the time by independently by several different commercial analysts in the United States.
A comprehensive study at the time was also carried out by the Geology Division of the South African Atomic Energy Board ("AEB"), on mineralised cores from the Ryst Kuil channel. Core material from all the holes sampled was analysed chemically by the delayed neutron counting ("FRITS") technique. Analyses were repeated on duplicate or triplicate aliquots for control purposes, and a precision better than 5% was obtained.
Core samples were radiometrically logged by the AEB with their own equipment. Calibration constants were carefully checked before and after the logging.
The calculated average eU3O8 / U3O8 value for all samples was 0.99 +/- 0.07, indicating a high degree of equilibrium.

Eventual Economic extraction

The Karoo JORC estimate is tabled as an undiluted resource at 600ppm eU3O8 cut off as reported from an ordinary kriged block model. The likely economics of this style of mineralisation will largely be determined by depth from surface which, in the case of the stated resources, varies from near-outcrop to an average depth of about 80m. Thus various mining methods, including conventional open-cut and decline-underground, may be utilised on the applicable portions of the resource. In these circumstances, different lower cut-off grades are applicable. At this stage of the project a reporting cut-off of 600ppm is considered applicable for decline underground. However, lower cut off's may be more appropriate for portions of the resource that may be amenable to open pit mining.

Total recoverable ore will eventually be likely determined by applying grade-thickness product criteria. It is likely that in the conversion from resources to reserves ore losses will arise from either lower local grades and/or minimum mining width criteria not being achieved.

JORC Table 1
Peninsula Resources Karoo Project

The table below is a description of the assessment and reporting criteria used in the Karoo 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). The Karoo Project Mineral Resource statement was prepared for the Western Sector and Eastern Sector deposits.

Criteria	Explanation
Sampling techniques and Data	
Sampling techniques	• The primary method of grade determination was through gamma logging for equivalent uranium (eU_3O_8) using a GeoVista natural gamma sonde. • Chemical assays were only used to check for correlation with gamma probe grades, disequilibrium and molybdenum concentrations and as such are not considered relevant to the resource estimation process. However, industry standard QAQC measures such as certified reference material, blanks and repeat assays were used. • Reverse circulation (RC) chips were collected at 1m intervals and in some cases over 0.5m intervals over the mineralised zone. The chips were collected into plastic sample bags from a cyclone to ensure maximum recovery. The samples were split using a standard riffler to around 0.25 to 0.5 kg per sample and sent to an ISO-accredited laboratory in Cape Town (Scientific Services cc) for U_3O_8 and Mo analysis by pressed-pellet XRF. • Full core was split using a rock saw and half-core samples were taken at 20 cm intervals. Core recovery was recorded into the database.
Drilling techniques	• Percussion • Reverse Circulation (130mm diameter) • Diamond coring – NQ diameter • No physical samples were used for the resource estimation. • 100% of samples used in the resource estimation were obtained using radiometric gamma logging equipment.
Drill sample recovery	• Core recoveries were monitored and were generally good (>95%). • RC recoveries were not routinely monitored, but are considered immaterial to the resource estimation process as no physical samples were used for the resource estimation.
Logging	• All open historic holes and redrilled holes were logged radiometrically using a natural gamma sonde. • All Peninsula, RC and core holes were logged lithologically using a coded logging system for rock type, grain size, colour, alteration and any other relevant observations.
Subsampling techniques and sample preparation	• Samples from diamond drilling were collected as sawn half-core or in some cases full-core. • A combination of cyclone and riffle splitter to produce 0.25-0.5 kg subsamples of RC chips was used. Wet intervals were sub-sampled with scoop or spear. Samples were oven-dried at the laboratory if necessary.
Quality of assay data and laboratory tests	• Calibration and control hole logging was done on a routine basis for gamma probe grades and a representative set of relogging has also been undertaken. • QC procedures employed in all recent drill programs (post 2005) included the insertion of certified reference standards (1:20), blank samples (1:20) and umpire laboratory check samples (1:20) to monitor the accuracy and precision of laboratory data. • The overall quality of QAQC is considered adequate to ensure the validity of the data used for resource estimation purposes.
Verification of sampling and assaying	• No physical samples were used for the resource estimation. • Physical samples and assays were used only for QAQC checks on the gamma data and to assess possible disequlibrium effects.
Location of data points	• All collar positions were located initially by hand-held GPS and later surveyed by a professional surveyor using DGPS equipment.

Criteria	Explanation
	• Downhole deviation surveys were not routinely carried out in holes of less than 100m depth. Deeper holes were surveyed using a standard electromagnetic deviation tool.
Data spacing and distribution	Western Sector Deposits • Drilling spacing ranges from 300x300 metre pattern,100 x 100 metre to a 50 x 50 metre pattern • 100% of the drilling is sub-vertical or vertical. Eastern Sector Deposits • Drilling spacing ranges from 400 x 400 metre, 200 x 200 metre, 50 x 50 metre to 25 x 25 metre patterns. • 100% of the drilling is sub-vertical or vertical.
Orientation of data in relation to geological structure	Western Sector Deposits • The dip of the mineralisation for the entire deposit varies from 0° to -10°. Local grade continuity follows the dip of the mineralisation for the entire deposit. All drilling intersects local grade continuity with 80 to 90 degree angles. • No biases are expected from the drilling direction. Eastern Sector Deposits • The dip of the mineralisation for 100% of the deposit varies from 0° to -8°. Local grade continuity follows the dip of the mineralisation for the entire deposit. All drilling intersects local grade continuity with 90 degree angles. • No biases are expected from the drilling direction.
Sample security	• All data used to prepare the Mineral Resource were radiometric gamma log data. • Appropriate measures were taken to ensure sample security of the chemical samples used for QAQC purposes.
Audits and reviews of sampling and assaying	• Audits and reviews on sampling and assaying are not relevant as no physical samples or assays were used in the resource grade estimation. • Gamma data and data reduction to eU_3O_8 was carried out under the supervision of Geotron Systems (Pty) Ltd. Geotron established procedures for collection and processing of raw gamma data.
Estimation and reporting of Karoo Mineral Resources	
Database integrity	• Optiro performed a visual validation by reviewing drillholes on section and by subjecting drillhole data to data auditing processes in Datamine and Surpac (e.g. checks for sample overlaps etc.).
Site visits	• No site visit has been undertaken by Optiro. • Mr Van Der Walt has visited the various sites on numerous occasions (typically one visit per month) since 2010 in order to observe drilling, sampling and probing operations in order to ensure proper QAQC, sampling and probing protocols are maintained.
Geological interpretation	• The sandstones that make up the various formations of the Karoo uranium deposits were all deposited in a fluvial environment as channel sand or overbank deposits. They are characterised by fining-upward sequences comprising thick, laterally persistent, tabular, sheet-like sandstones as well as lenticular, generally thinner sandstones which taper rapidly. • Uranium mineralisation occurs preferentially in the basal sandy members of each cycle, which were deposited under more reducing conditions. Within the sandstone, uranium distribution correlates well with organic carbon although there may have been local migration into carbonate-rich solutions. Molybdenum and, to a much lesser degree, copper and arsenic are the main associated elements, with calcite as a common gangue mineral. • Mineralisation for all deposits was modelled in two zones; a high grade core within the Leapfrog™ wireframes encompassed by a low grade envelope.The low grade envelope was defined in plan view by a mineralisation boundary polygon which extended no more than 5 metres beyond the edge of the Leapfrog wireframes.The upper and lower extent of the low grade zone was defined by a triangulated surface, based on the upper and lower limits of mineralisation for all drillholes within each deposit.

Criteria	Explanation
Dimensions	Western Sector Deposits • In plan orientation, the deposits range from approximately 2000 metres long and 500 metres wide to is approximately 4000 metres long and 2700 metres wide. The high grade lenses within the deposit range from a few metres to over 100 metres wide and average 1m thick in section. The largest are as much as 150m-200m wide and up to 5-8m thick. • Mineralisation has vertical extents ranging between 1030-1075 mRL and 1175 and 1240 mRL. Eastern Sector Deposits • In plan orientation, the deposits range from approximately 1,000 metres long and 2,500 metres wide to 16,000m long and 900-3,000m wide. The high grade lenses within the deposit range from a few metres to tens of metres wide and up to 6 m thick (averaging 1-2 m thick) in section. • Mineralisation has vertical extents ranging between 665 and 1100 mRL.
Estimation and modelling techniques	• Drillhole sample data was flagged as high grade within the three dimensional Leapfrog wireframes. Sample data outside the Leapfrog wireframes but within the polygonal mineralisation boundaries and between the mineralisation surfaces were flagged as low grade. • Sample data was composited to a 0.2 metre downhole length using a best fit-compositing method. Residual samples (those composite intervals for which there was less than 50% of the composite length) were considered biased and hence were not included in the estimate. • An analysis of the grade distribution characteristics of the domain composites for each deposit was undertaken. In each case one of the following was identified: unacceptably high CVs, noticeable high grade inflection points on log-probability graphs and/or significant gaps on disintegration plots. Top cuts ranged from 3,000 to a maximum of 15,000ppm eU3O8**.** • Directional variograms were modelled using traditional variograms or a normal score transformation.In general the grade continuity was poor within each domain; some domains are very sparsely sampled and this has been reflected in the classification. • Kriging neighbourhood analysis was performed on a whole of domain basis in order to optimise the block size, search distances, sample numbers, and number of discretisation points. • A block model was constructed for each deposit using a 20mE by 20mN by 1mRL parent block size with sub-celling to 5mE by 5mN by 0.5mRL. • Estimation was carried out using ordinary kriging (OK) at the parent block scale. Three estimation passes were used for both the high grade and the low grade domains. In general, the first pass used the range of the variograms and a large number of samples; the second pass used the same range, but with a lower number of samples; the third pass used a larger range (up to twice the variogram range) and as few as two samples. A fourth pass was used to assign an average grade to blocks which were not estimated by the first three passes. • Summary declustered statistics for each domain were derived using an optimised cell declustering algorithm.These declustered statistics were used to validate the grade estimation process.
Moisture	• Tonnes have been estimated on a dry basis.
Cut-off parameters	• Indicated and Inferred Resources have been reported above a 600ppm eU3O8 cut-off grade.
Mining factors or assumptions	• No mining factors (i.e. dilution, ore loss, recoverable resources at selective mining block size) have been applied.
Metallurgical factors or assumptions	• No metallurgical assumptions have been built into the resources because there is no intent at this point in time to convert the Mineral Resource into a Mineral Reserve.
Environmental factors or assumptions	• No environmental assumptions have been built into the resources because there is no intent at this point in time to convert the Mineral Resource into a Mineral Reserve.
Bulk density	• The average of a total of 1,425 bulk density determinations were used to assigned an average bulk density for all the resource areas.
Classification criteria	• Mineral Resources have been classified on the basis of confidence in geological and grade continuity using the drilling density, geological model, modelled grade continuity

Criteria	Explanation
	and conditional bias measures (kriging efficiency). • Indicated Mineral Resources have been defined generally in areas of 50 by 50 m drill spacing. • Inferred Mineral Resources have been defined in areas of 100x100 metre up to 200x200 metre drill spacing for all deposits except the north eastern parts of the Eastern Sector .In this area Inferred Mineral Resources were defined for on the basis of the similarity of its mineralisation with other deposits, despite its average drill spacing of 400x400 metres.
Block Model verification	• For each deposit, the OK model was validated against the input drillhole composites for each domain. Comparisons were also carried out against the declustered drillhole samples for each domain and by northing, easting and elevation slices against the drillhole data.
Audits or reviews	• No independent review or audit of the resource was completed. • The resource estimate was visually reviewed on section by Optiro and Peninsula staff. • The estimated grades were validated against declustered average eU3O8 grades for each deposit. In addition, profile plots of estimated grade for northing, easting, and elevation were validated against composite grades for each deposit.
Discussion of relative accuracy/ confidence	• Optiro places a relative accuracy of +/- 20% (at a 90 % confidence level) in the Mineral Resource estimate at the global level for the 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.