



18th February 2011

Companies Announcement Office
Via Electronic Lodgement

HIGH GRADE URANIUM CONFIRMED IN THE KAROO

Highlights:

- **Re-Logging of historic Union Carbide holes confirms intervals of thick, high grade uranium mineralisation at Site 29**
- **A total of 20 significant intersections (>0.15 grade x thickness ft% eU₃O₈) achieved to date**
- **Best intercepts include:**
 - **7.0 feet @ 1,522ppm eU₃O₈**
 - **6.2 feet @ 1,506ppm eU₃O₈**
- **Reverse Circulation Drilling commences on Site 29 to assess molybdenum mineralisation**
- **Site preparation has commenced on Site 22 prior to re-logging and drilling program**

Peninsula Energy Limited (Peninsula) is pleased to announce the first results from the recently commenced exploration and resource delineation program at Project Site 29 at the Karoo Uranium Projects in South Africa.

The initial program comprises the re-logging of historic drillholes using a downhole gamma probe in order to validate the resources (non JORC compliant) that were defined by previous exploration in the 1970's. In addition, a reverse circulation drilling programme will assess the associated concentrations of molybdenum and also provide both QAQC (Quality Assurance & Quality Control) and disequilibrium information on the downhole logging program. Peninsula also has a dedicated diamond coring rig on site to clear blocked holes.

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Site 29

To date a total of 152 historic holes have been re-logged at Site 29, which is located 15km south of the provincial capital, Beaufort West. This represents approximately 50% of the original 310 holes drilled by Union Carbide who calculated the presence of approximately 600,000lbs eU₃O₈ grading >1,000ppm eU₃O₈.

Of the 152 holes that have been re-logged to date, 82 have returned uranium mineralization with 20 exceeding a grade thickness product of 0.15%ft eU₃O₈. Three holes returned multiple mineralized intersections.

TABLE 1: Karoo Site 29 Results– January-February (based on grade thickness > 0.15 ft%*)

Project	Hole-ID	From (m)	To (m)	Interval (m)	Interval (ft)	Grade (ppm eU ₃ O ₈)	Grade Thickness ft% eU ₃ O ₈
Site 29	QFN0002	20.6	21.6	1.1	3.4	777	0.27
Site 29	QFN0005	21.6	23.9	2.3	7.5	633	0.48
Site 29	QFN0007	23.1	24.5	1.4	4.6	412	0.19
Site 29	QFN0013	23.0	23.7	0.7	2.3	1517	0.35
Site 29	QFN0034	11.1	13.2	2.1	6.9	1522	1.05
Site 29	QFN0037	8.4	9.5	1.1	3.6	493	0.18
Site 29	QFN0037	10.5	12.0	1.5	4.8	479	0.23
Site 29	QFN0049	13.6	15.0	1.4	4.4	643	0.28
Site 29	QFN0060	18.8	19.9	1.1	3.6	792	0.29
Site 29	QFN0060	20.3	21.0	0.8	2.5	1766	0.43
Site 29	QFN008	24.3	26.4	2.1	6.9	563	0.39
Site 29	QFN0109	6.1	7.2	1.2	3.8	791	0.30
Site 29	QFN0110	6.0	7.7	1.8	5.7	541	0.31
Site 29	QFN0120	7.7	8.4	0.6	2.1	1164	0.25
Site 29	QFN0127	3.4	3.9	0.5	1.6	1007	0.17
Site 29	QFN027	9.6	11.2	1.7	5.4	865	0.47
Site 29	QFN027	12.4	14.3	1.9	6.2	1506	0.94
Site 29	QFN030	13.0	14.5	1.5	4.9	734	0.36
Site 29	QFN052	9.4	9.9	0.5	1.6	1193	0.20
Site 29	QFN056	6.4	7.9	1.5	4.8	530	0.25
Site 29	QFN058	18.1	19.5	1.4	4.4	837	0.37
Site 29	QFN065	11.2	11.9	0.8	2.5	683	0.17
Site 29	QFN073	10.0	10.9	0.9	2.8	536	0.15

* Reported using a grade cut off of 200ppm eU₃O₈

In addition to the re-logging program on Site 29, Peninsula has completed 19 reverse circulation (RC) holes. These holes are designed to provide samples for uranium and molybdenum geochemical analysis. Historic reports suggest a high ratio of molybdenum to uranium within this area of the Karoo.

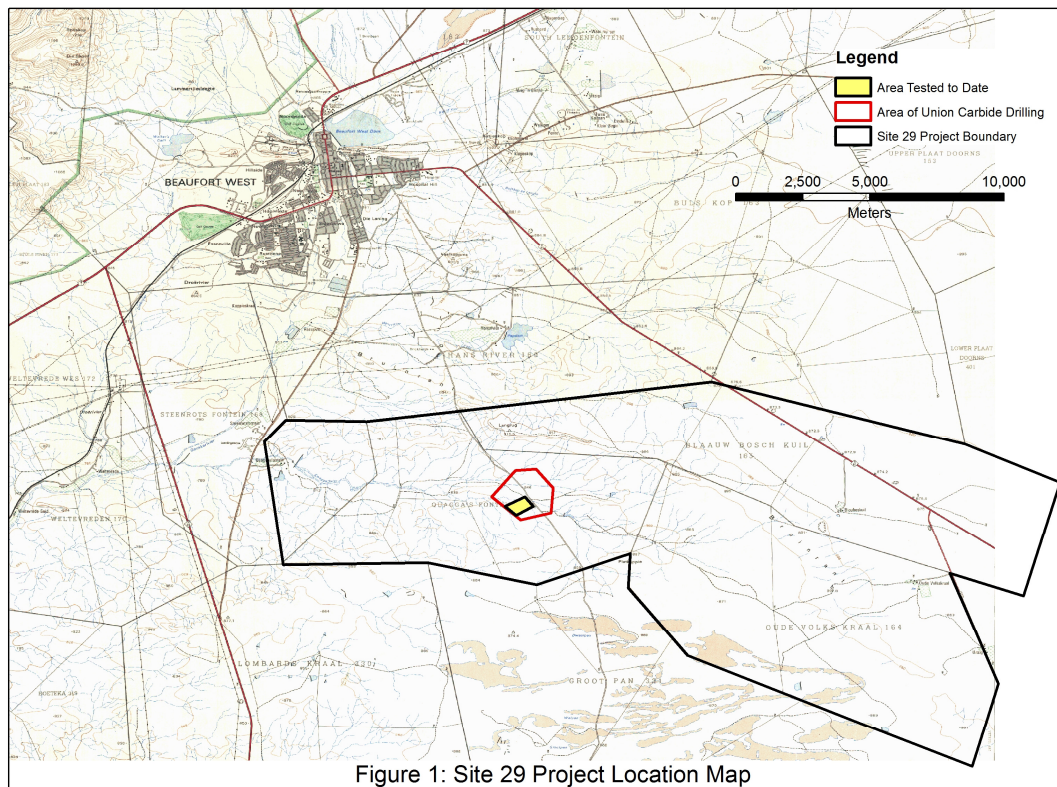
The assay results from the current drilling program will be compared with the historic results and also used to provide QAQC on Peninsula's new downhole gamma probe data. Although the effect of disequilibrium is not considered to be an issue in the Karoo due to the age of the deposits (Permo-Triassic ~250 million years in age) it will be assessed by comparing the geochemical assay results against the downhole gamma logging results.

In the southern-most portion of the historic drilling area the results received to date confirm strong high-grade mineralization in channels averaging 1.2m thick (at 200ppm eU_3O_8 cut off). This average thickness is consistent with the historic interpretations and is also consistent with the typical mineralized thicknesses in the Karoo.

The mineralization confirmed to date averages 13.5m (44ft) in depth within a range of 4.5m (14.5ft) to 24.3m (79ft).

Exploration activity to date has been concentrated on a very small area within the Site 29 128km² project area. Further exploration drilling will determine the sub-surface extent of the host sandstone unit. This will be accomplished by drilling 200m-spaced stratigraphic holes on both east-west and north-south fences across the property. Figure 1 illustrates the very small area that has been drill-tested to date. The average depth of drilling in this area is 50 feet (15m). The entire project area is underlain by the Poortjie Member which forms the target host sandstone for uranium mineralisation in this part of the Karoo.

Also evident from this diagram is the location of the project in close proximity to the infrastructure base, including power, road and rail, at Beaufort West.



Site 22

At Site 22 earthworks have commenced to provide drill access to the historic GT7 (Maatjieskloof) drilling area where an estimated 4.8Mlbs at 1,520ppm eU_3O_8 was defined by JCI in the 1970's. Peninsula intends to clear, re-log and twin the historic holes in order to validate the reported mineralization.

Karoo Projects – Exploration Potential

Ten high ranking drill targets distributed across all six of the Company's Project Areas, have been prioritised from the 392 uranium occurrences generated by the helicopter-borne radiometric and magnetic surveys, site mapping, ground sampling and aerial extent studies of the project areas.

Further targets have been recently identified following the location and review of exploration reports compiled by Union Carbide of their uranium exploration programme conducted during the 1970s and early 1980s. Peninsula obtained these reports from the South African Nuclear Energy Corporation during the September quarter.

The preliminary geological studies have estimated a combined exploration potential in the Karoo of 30-60m tonnes @ 700 – 1,400ppm eU₃O₈ for 90 – 150m lbs eU₃O₈. Although the potential for mineralised channels to be stacked vertically has not been fully tested at any of the project areas, mapping has identified its presence at five of the six project areas. Importantly, the new downhole gamma probe data just acquired at Site 29 has confirmed multiple intersections in at least three holes logged to date.

The goal over the next 18 months is to delineate 30mlbs of eU₃O₈ (15-25m tonnes @ 700 – 1,400ppm eU₃O₈), within the historically drilled deposits, their extensions and the new exploration targets. The preliminary conceptual study has suggested that this quantity of uranium would likely support a development around a central processing facility near Site 29.

Yours sincerely



John (Gus) Simpson
Executive Chairman

For further information, please contact our office on +61(0)89380 9920 during normal business hours.

Competent Person

The information in this report that relates to Exploration Results, Mineral Resources or Ore Reserves is based on information compiled by Mr Alf Gillman. Mr Gillman is a Fellow of the Australian Institute of Mining and Metallurgy. Mr Gillman is General Manager Project Development and is a Competent Person under the definition of the 2004 JORC Code. Mr Gillman 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 2004 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'.

Please note that in accordance with Clause 18 of the JORC (2004) Code, the potential quantity and grade of the "Mineralised Potential" in this announcement must be considered conceptual in nature as there has been insufficient exploration to define a Mineral Resource and it is uncertain if further exploration will result in the determination of a Mineral Resource.

Where eU₃O₈ results are reported, it relates to values obtained from radiometrically logging boreholes. GeoVista and Geotron equipment was used and all the probes were calibrated at the IAEA accepted Pelindaba Calibration facility in South Africa with calibration certificates supplied by Geotron Systems (Pty) Ltd, a geophysical consultancy based in South Africa.

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All eU_3O_8 values reported may be affected by issues such as possible disequilibrium and uranium mobility which should be taken into account when interpreting the results, pending confirmatory chemical analyses. Disequilibrium Explanatory Statement: eU_3O_8 refers to the equivalent U_3O_8 grade. This is estimated from gross-gamma down hole measurements corrected for water and drilling mud in each hole. Geochemical analysis may show higher or lower amounts of actual U_3O_8 , the difference being referred to as disequilibrium.