

Peninsula Minerals_{of}

1st October 2008

Companies Announcement Office
Via Electronic Lodgement

HIGH GRADE URANIUM INTERSECTED AT LANCE

Highlights

- **Drilling commences at Lance with all holes intersecting uranium mineralisation**
- **Interval of 7ft @ 1,490ppm U₃O₈ returned from hole RMR0006**
- **Best grade of 1ft @ 4,800ppm U₃O₈ within the above interval**
- **New detailed geological information complements historic data**

Summary

The planned rotary mud and core drilling program commenced on 12th September 2008 at the Ross Project Area (**Ross**) of the Lance projects in Wyoming, USA (**Lance Projects**). To date eight holes have been completed at Ross with all holes drilled intersecting uranium mineralisation. Hole RMR0006 intersected two high grade intervals, with the upper zone grading 7' @ 1,490ppm U₃O₈ from 533.75'-540.75' (the "J" sand) and the lower zone 10' @ 1,313ppm U₃O₈ (the "K" sand). The J sand interval included the highest grade intersected to date of 1' @ 4,800ppm U₃O₈. All U₃O₈ grades above 100ppm are listed in Table 1.

Drilling Program

The current rotary mud and core drilling program (**Drilling Program**) at Ross is designed to confirm the historic uranium mineralisation and provide a framework for detailed geological interpretation and correlation of the mineralised sands. The Drilling Program will also produce core samples that will be used for detailed petrophysical testing to update the key parameters required for a successful ISR operation defined in the original testing. Some mineralised core intervals will also be submitted for metallurgical testing to measure the leachability of the uranium mineralisation. This new data will complement the existing historic hydrological and metallurgical data.

The Drilling Program consists of 51 holes planned for 11,348m (37,230ft). Holes are being drilled to a nominal 222m (730 ft) to test the project for up to five stacked mineralised sands that are interpreted to be present within the project area. Only two of these sands have been adequately tested by the historic drilling in this area with many holes finishing above the deeper mineralised sands. The Drilling Program commenced on 12 September 2008 and to date 1,612m (5,290 ft) has been drilled from the 8 completed holes.

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Significantly, the geology encountered in the completed holes is comparable with the historical drilling results, and logging of the holes with gamma and PFN confirm the historic mineralised intervals. Core intervals have been drilled in two holes to allow comparison of PFN grade with chemical assays, and to provide material for petrophysical measurements and metallurgical testing. Additional core intervals are also planned.

Drilling Program Results

All holes drilled to date in the program have intersected uranium mineralisation. Hole RMR0006 intersected two high grade intervals, with the upper zone grading 7' @ 1,490ppm U₃O₈ from 533.75'-540.75' (the "J" sand) and the lower zone 10' @ 1,313ppm U₃O₈ (the "K" sand). The J sand interval included the highest grade intersected to date of 1' @ 4,800ppm U₃O₈. U₃O₈ grades above 100ppm are listed in Table 1 below.

Table 1: Drill Hole details and U₃O₈ grades above 100ppm

New Hole ID	Total Hole Depth ft	From ft	To ft	Thickness (ft) and PFN U3O8 grade ppm	PFN GT (ft%) (0.01% cut)
RMRD0001	720	568	585	17.5' @ 320	0.56
RMRD0002	500	454.57	456.75	2' @ 410	0.08
RMR0001	720	499.25	501.75	2.5' @ 250	0.06
		502.35	505.75	3.5' @ 440	0.15
		507.25	512.75	5.5' @ 310	0.17
RMR0002	730	446.25	447.75	1.5' @ 280	0.026
		545.5	548	3' @ 860	0.26
		554.5	562.5	8.5' @ 220	0.19
RMR0003	730	530	541	11' @ 460	0.51
RMR0004	660	500	513	13' @ 410	0.53
RMR0005	610	402.75	405.25	2.5' @ 820	0.21
		423.75	426.75	3' @ 700	0.21
		434.75	435.75	1' @ 130	0.01
RMR0006	620	533.75	540.75	7' @ 1,490	1.05
		549.75	553.25	3.5' @ 340	0.12
		557.75	559.75	1.5' @ 150	0.02
		570.75	580.75	10' @ 1,313	1.31
Total drilled	5290 ft	1,612m			

Hole RMR0002 intersected a previously unrecognised zone higher in the hole and almost 100' above the main mineralised zones. Whilst of low grade, the two distinct peaks in uranium grade are within this single sand unit and appear to represent the low grade limbs of a roll front. Additional drilling in this area will be required to locate the potentially high grade "nose" position which develops closer to the reduced/oxidized interface.

Of the eight holes drilled to date, four holes contain mineralised intervals that exceed the "rule of thumb" for economic ISR mineralisation in this setting (a grade thickness product of 0.3 ft % U₃O₈). The four holes containing lower grade intervals are also very encouraging as several intersections appear to be limb intersections as discussed above, which provide a vector to nearby high grade "nose" mineralisation.

As previously announced, Ross has an exploration target size of 6.35-9.52 million short tons at 0.05-0.07% eU₃O₈ for 8-12 million pounds of U₃O₈¹ within a global exploration target size for the Lance District of 39-60 million short tons at 0.05-0.07% eU₃O₈ for between 50-76 million pounds of U₃O₈¹.

Drilling Program Methodology

Rotary mud drilling is being used because it causes minimal disturbance of the sometimes weakly consolidated sands and shale horizons, and the creation of mud coating the walls of the hole helps keep the hole open for sufficient time to complete logging with down-hole probes.

With rotary mud drilling there is a lag of sample material coming to the surface and mixing across sample intervals can occur. Consequently, chemical analyses of sample cuttings will not be undertaken for grade determination as they are not representative of specific sample intervals.

All holes are being logged by gamma, spontaneous potential (**SP**) and resistivity, with a prompt fission neutron tool (**PFN**) run through the mineralised sands. The SP and Resistivity logs will be used to help interpret geology in parallel with drill cutting logging. Whilst the gamma tool measures decay products from uranium U²³⁸, it is not a direct measurement of uranium abundance and can be affected by disequilibrium effects (the uranium abundance can be over or under estimated if the system is not in equilibrium). In comparison, the PFN directly stimulates the uranium molecules and is not biased by the presence or absence of daughter products. The PFN tool used in the drilling was calibrated on the 8th of August 2008 and the results are very close to what is expected by chemical assay. The gamma, PFN and chemical assays will be directly compared by using drill core obtained in this program.

The new geological information obtained from recording the lithology of the drill cuttings, interpreting the down hole logs and viewing undisturbed mineralised zones in drill core is providing vital geological information on the project. This includes detailed stratigraphy and recognition of marker horizons, the nature of the required impermeable seal horizons above and below mineralised sands, the nature of the host sand units and the controls on uranium grade. Much of this information was not preserved in the historical data and the improvement in technology of the new logging tools gives much greater detail and resolution. The new, high quality geological and geophysical information being generated will be vital in chasing the high grade "nose" positions of the roll front deposits.

This information will be integrated into a detailed geological model of all of the mineralised sand units and their confining impermeable shale and siltstone layers. The core sections from selected holes will be submitted to CoreLabs in Denver, Colorado for detailed petrophysical testing which will determine permeability, porosity, mineralogy, and specific gravity parameters.

Conclusion

The correlation and validation of the historic drilling by the current drilling results to date at Ross gives Peninsula great confidence as to the veracity of the historic database and the reliability of the historic results at the other 12 project areas comprising the Lance Projects. This follows the recent completion of an independent review of the historic hydrological, metallurgical, process and production data at Ross which confirmed the suitability of the aquifer at Ross to support an economic ISR operation.

The phase one Drilling Program has added a new level of understanding of the uranium mineralisation at Ross and will be followed up in 2009 with a larger scale drilling program to add to this understanding, progress production planning in addition to facilitating preparation of a JORC compliant resource.

Corporate

Issue of Options to Key Management Personnel

Peninsula also wishes to advise that in accordance with the Company's annual review of Board performance and remuneration, it proposes to issue the following unlisted options to Directors and Senior Management, subject to the required shareholder approval at the Annual General Meeting of the Company to be held on November 17, 2008.

Proposed Issue of Options to Directors

Name	Options	Exercise Price	Expiry Date
John Simpson	7,000,000	\$0.03	30 June 2012
Alan Marlow	5,000,000	\$0.03	30 June 2012
Malcolm James	3,000,000	\$0.03	30 June 2012
Warwick Grigor	3,000,000	\$0.03	30 June 2012

Proposed Issue of Options to Key Management Personnel

The Company also wishes to advise that pursuant to Peninsula's Incentive Share Option Scheme approved by shareholders on 30 November 2006, the Board has resolved to issue the following unlisted options:

Name	Options	Exercise Price	Expiry Date
Andrew Ford	5,000,000	\$0.03	30 June 2012
Jonathan Whyte	3,000,000	\$0.03	30 June 2012

Given the deterioration in worldwide financial markets the primary purpose of the issue of options to Directors and Key Management is to provide a realistic, market-linked incentive component to the remuneration package of the Directors and Key Management, while also preserving the Company's cash reserves.

Yours Sincerely



John (Gus) Simpson
Chairman

For further information, please contact our office on (08)9420 9333 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 Jim Gullinger, Principal of independent consultants World Industrial Minerals who 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'. Mr Gullinger consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

¹Please note that the potential quantity and grade of the Exploration Targets in this presentation are conceptual in nature, that there has been insufficient exploration to define a Mineral Resource and that it is uncertain if further exploration will result in the determination of a Mineral Resource.