Peninsula Minerals
Advanced Uranium Explorer on Three Continents
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The information in this presentation that relates to Exploration Results and Exploration Potential is based on information compiled by Mr Jim Guilinger. Mr Guilinger is President of consultancy World Industrial Minerals and is a Competent Person under the definition of the 2004 JORC Code. The Exploration Potential described above is conceptual in nature, and there is insufficient information to establish whether further exploration will result in the determination of a Mineral Resource. Mr Guilinger consents to the publication of this information in the form and context in which it appears.

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Mission Statement

- To be a 1.5m lb per year $\text{U}_3\text{O}_8$ producer from an In-Situ Recovery operation at the Lance Projects in Wyoming USA with production within 1 year of permitting

- Continue to add additional resources through exploration within our project areas
Management

Directors and Management
- Executive Chairman Gus Simpson
  - Strong leadership, corporate and project management skills
- Technical Director Dr. Alan Marlow
  - PhD in economic geology and uranium specialist (ex Gencor)
- Chief Operating Officer Andrew Ford
  - Highly experienced exploration geologist and project manager (ex Barrick Gold)
- Non Executive Director Malcolm James
  - Strong corporate and project financing experience (ex Anaconda)
- Non Executive Director Warwick Grigor
  - Experienced Mining Analyst and corporate director (ex County Nat West)
- Company Secretary Jonathan Whyte
  - Chartered Accountant and experienced company secretary (ex Barclays Capital plc)
- Project Manager Wyoming Jim Guilinger
  - Highly experienced Uranium geologist (ex Texaco)
- Engineering Consultant Doug Christopherson
  - Experienced Mining engineer with expertise in mine feasibility studies and mine design
- Chief Geologist Wyoming Bob Guilinger
  - Highly experienced Uranium geologist (ex Union Carbide)
- Mine Permitting Consultant Lee Patrick Gochnour
  - Very experienced at permitting new operations and environmental management
- Project Manager Karoo Peter Danchin
  - Experienced uranium explorer and project manager (ex Union Carbide)
- Operations Manager South Africa Douglas Goodall
  - Highly experienced African Explorer
Capital Structure  June 2008

- Existing shares  961 million
- Options  218 million
- Market Cap  A$34 million
- Cash  A$ 5.1 million
- Daily turnover  3-14 million
Research

- A recent research report\(^1\) rated Peninsula as having high quality projects and having been over-sold
- The research report\(^1\) rated Peninsula with a very low Price x Cash Generation Multiple highlighting the value of the stock.

\(^1\)Source: Far East Capital Uranium Sector Analysis 21 April 2008.
## Projects Summary

<table>
<thead>
<tr>
<th>Project</th>
<th>Area</th>
<th>Historic Exploration</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Lance projects - Wyoming USA</strong></td>
<td>11,381 acres (46 km²)</td>
<td>Data from 5,036 rotary and percussion holes.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>13 historic resources over 23 miles (37km) of strike consisting of vertically stacked roll front uranium mineralisation; PEN controls title over 7 of these.</td>
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<td>40,000 lb U₃O₈ per year Pilot Plant built in 1978 and ran for 10 months.</td>
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<td>Decision to proceed with full scale production plant abandoned due to Three Mile Island Incident.</td>
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<tr>
<td><strong>Karoo Projects: Eastern, Western and Northern Cape Province, South Africa</strong></td>
<td>Tenure covers 1,980km² (764 sq miles) from 6 Prospecting Rights known as Sites 5, 22, 29,37,45,49</td>
<td>Over 1,300 rotary and percussion holes drilled historically at four of the Sites. New high level radiometric anomalies identified at all six sites.</td>
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<tr>
<td></td>
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<td>Historic resources identified at 3 Sites.</td>
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<tr>
<td></td>
<td></td>
<td>U and Mo mineralisation identified at all Sites.</td>
</tr>
<tr>
<td><strong>South Australian and Western Australian Projects</strong></td>
<td>12 Projects covering 864km² (334 sq miles)</td>
<td>Early exploration in quality uranium provinces.</td>
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</tbody>
</table>
The Lance projects are situated in NE Wyoming, 31 miles (50 km) NE of Gillette.

Mineralisation is hosted by roll fronts within the Lance and Fox Hills Sandstones of Cretaceous age.
World Uranium Demand to Grow Rapidly

The world is well on the way to consuming as much energy in the next 25 years as it has consumed throughout modern history.

If carbon emissions are to be reduced to 2005 levels then:

- Between 24 and 32 new 100MW nuclear reactors will need to be built each year between 2010 and 2050*.
- This equates to between 960 and 1280 new reactors in addition to the 448 reactors in operation*.
- Uranium demand will increase from 77,000 t.p.a. to between 243,000 and 300,000 t.p.a.; this is the equivalent to the production from 15 Olympic Dam sized mines*.
- This will put significant pressure on resource definition and project development.

* Source: International Energy Agency "Desired energy Mix Scenarios for 2050" June 6 2008
USA Energy Requirements

- US energy Consumption continues to rise
- Current Reliance on Coal to provide majority of Electricity
- Increasing pressure to reduce greenhouse emissions whilst reducing reliance on foreign energy sources
- George W Bush recently referred to nuclear power as ". . . the best solution to make sure we have economic growth and at the same time make sure we are being good stewards of the environment."

Source: energy Information Administration
Wyoming Mining Environment

- Stable, mining-friendly state with a sparse population of 0.5 Million
- Significant state revenue is from oil, coal, methane and uranium production
- The mining industry is a significant employer of people in Wyoming
- Continuous uranium production since 1951
- Wyoming production is approximately 3 million lbs of $U_3O_8$ in 2007 and all production from ISR operations
- US annual consumption of 50 million lb $U_3O_8$ per/year
- 74% of US uranium demand is met by imports whilst the Federal Government desires increased self reliance

30m thick coal seam, Rio Tinto-Peabody Antelope Mine, Gillette Wyoming
Site Infrastructure

- Gillette, 31 miles (50km) to the SW is a major mining service centre
- The region is serviced by well maintained sealed roads and the project is traversed by well maintained unsealed roads
- Activities in the project area include minimal stock raising, low level oil production and gas/methane production
- Topography is gently undulating hills covered by grasses and sagebrush

Oil production wells, Lance Project
Lance Project History

- Uranium mineralisation first identified by Mr Al Stoick in late 1960’s
- In 1970 Mr Stoick initiated a JV between Bethlehem Steel, Nuclear Dynamics and later Pacific Power and Hydro (NuBeth JV).
- 5,036 holes for more than 3.5 million ft (912,000m) were drilled between 1970 and 1978
- The NuBeth JV defined significant uranium mineralisation in 13 different locations over a strike length of 23 miles (37km)
- In 1978 a ISR pilot plant was constructed and operated for a period of ten months
- The Pilot Plant was designed to produce 40,000lb U₃O₈/year utilising a benign leachate of sodium bicarbonate
After 10 months of successful operation a proposal to commence full scale production was prepared for presentation to the JV members however on the 28 March 1979 the Three Mile Island incident occurred. The pilot plant was shut down shortly after this and thoroughly rehabilitated. All environmental bonds were reimbursed by 1984. The project lay dormant until 2005 when Mr Stoick brought the project data to parties associated with Peninsula Minerals. Peninsula identified the potential of the project and recognised that the task of acquiring additional title was achievable. Mr Stoick is employed by Peninsula continuing a 40+ year involvement with the project.
Classic roll front geology in a sandstone aquifer

- $\text{U}_3\text{O}_8$ mineralisation occurs at the interface between oxidized and reduced rocks
- In plan the roll fronts are linear but sinuous in nature

Source: Wyoming Mining Association
Lance Geology

- Lance Projects Area with PEN holdings covers 23 miles (37km) N-S, 5 miles (8km) E-W
- Main hosts to U mineralisation are the Lance Fm and Fox Hills Sandstone
- Stacked mineralised sandstones are contained between semi permeable shale layers
Historic Drilling

- Total of 5,036 holes drilled by NuBeth JV in 1970’s
- Total of 5,036 holes drilled by NuBeth JV in 1970’s
- Widespread Uranium mineralisation identified from 13 project areas hosted by multiple roll fronts
Between 1 and 8 mineralised sands are present in any one prospect area. All mineralisation is shallower than 525 ft (160m) below surface, (average 395 ft (120m)).

Historic Drilling

- 20 mineralised sand units identified
- Between 1 and 8 mineralised sands are present in any one prospect area
- All mineralisation is shallower than 525 ft (160m) below surface, (average 395 ft (120m))
Historic Mineralisation

- Grades over 0.10% eU$_3$O$_8$ are widespread showing potential for higher grade zones along mineralised roll front systems.
- Average thickness 5-15 ft ideal for ISR recovery.

Geological Legend:
- Alluvium
- Fort Union Fm
- Lance Fm
- Fox Hills Fm
- Pierre Shale
- Greenhorn Fm
- Belle Fourche Shale
- Mowry Fm
- Newcastle Fm
- Skull Creek Shale

Best results:
- 53 ft @ 0.03% eU$_3$O$_8$
- 15 ft @ 0.22% eU$_3$O$_8$
- 13 ft @ 0.28% eU$_3$O$_8$
- 11 ft @ 0.09% eU$_3$O$_8$
- 7 ft @ 0.07% eU$_3$O$_8$
- 12 ft @ 0.16% eU$_3$O$_8$
- 4 ft @ 0.23% eU$_3$O$_8$
- 8 ft @ 0.25% eU$_3$O$_8$
- 11 ft @ 0.28% eU$_3$O$_8$
Historic Mineralisation

- All projects contain averaged mineralisation above realistic cut-off thresholds of 0.02% eU₃O₈ for an ISR operation.
- Average thickness 5-15 ft ideal for ISR recovery.
Global Exploration Target Size for all project areas and areas between and along strike is 39-60 million short tons @ 0.05-0.07% eU₃O₈ for 50-76 million lbs U₃O₈⁺¹
Initial Production Centre's

- Exploration target size at Ross for feasibility decision is 6.4-9.5 million short tons @ 0.05-0.07% eU₃O₈ for 8-12 million lb U₃O₈

- Barber exploration target size for feasibility decision is 2.6-3.9 short tons @ 0.07-0.09% eU₃O₈ for 4-6 million lb U₃O₈
Possible Treatment and Metallurgical Process

- Expected Grade 0.05-0.09% U₃O₈
- Estimated recoveries 70%
- Anticipated capital cost US$40 million plus US$8 million per year annual well-field capital
- Estimated operating costs US$15/lb U₃O₈ *
- Total costs US$28/lb
- Proposed process facility is an ISR resin strip plant central to 13 or more satellite well fields producing approx 1.5 million lb U₃O₈ per year

*averaged ISR cash cost RBC Capital
## Preliminary Scoping Study*

<table>
<thead>
<tr>
<th></th>
<th>US$ per lb</th>
<th>US$ /year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue</td>
<td>$65</td>
<td>$98 million</td>
</tr>
<tr>
<td>Capital Expenditure</td>
<td>$1.3</td>
<td>$2.0 million</td>
</tr>
<tr>
<td>Financing cost 10%</td>
<td>$2.7</td>
<td>$4 million</td>
</tr>
<tr>
<td>Operating Cost</td>
<td>$15</td>
<td>$23 million</td>
</tr>
<tr>
<td>Royalty 6%</td>
<td>$4</td>
<td>$6 million</td>
</tr>
<tr>
<td>Annual Well Field Capital</td>
<td>$5.3</td>
<td>$8 million</td>
</tr>
<tr>
<td><strong>Total Costs</strong></td>
<td><strong>$28.30</strong></td>
<td><strong>$43.0 million</strong></td>
</tr>
</tbody>
</table>

### Assumptions

- Grade 0.06
- $65/lb U₃O₈
- 30% tax
- 10% depreciation
- 1.5mm lb per yr.
- $40 million Capex
- $15 Opex/lb
- Resource 42 million lb U₃O₈

* Figures are indicative only to illustrate project potential based on published costs for similar ISR operations in the US in recent years. Figures assume continued growth in landholdings over life of project and exploration success at a similar rate to historic exploration.
Recent Activities

- Identification and correlation of mineralised roll fronts throughout project
- Aggressive land acquisition program commenced in November 2007 targeting an additional 16,175 acres (64km²) of prospective ground with historic mineralised drill intersections
## 2008-2009 Work Program

<table>
<thead>
<tr>
<th>Work Type</th>
<th>Timing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Confirm veracity of historic data</td>
<td>January - March 2008</td>
</tr>
<tr>
<td>Prepare internal resource estimate from historic Information for scoping purposes</td>
<td>February –April 2008</td>
</tr>
<tr>
<td>Continue Land Acquisition program</td>
<td>January – June 2008</td>
</tr>
<tr>
<td>Commence environmental permitting and baseline studies</td>
<td>May 2008–2010</td>
</tr>
<tr>
<td>Commencement of independent scoping study</td>
<td>July 2008</td>
</tr>
<tr>
<td>Drill – Twin historic holes, Extend mineralisation</td>
<td>October 2008</td>
</tr>
<tr>
<td>Prepare JORC compliant Resource</td>
<td>February 2009</td>
</tr>
<tr>
<td>Drill – resource extension</td>
<td>May – December 2009</td>
</tr>
</tbody>
</table>
Karoo Projects – South Africa

Peninsula Minerals 74%
Mmakau Mining (BEE Partner) 26%
CEO Bridgette Radebe (Chairperson SAMDA)
- Karoo Uranium Province is within the Permo-Triassic Karoo Basin

- U and Mo mineralisation has been identified in the sandstones of the Beaufort Group
South Africa – Strong Uranium Exploration History

- Uranium first discovered in 1970 by Union Carbide
- Significant Exploration during the 1970’s and 1980’s identified several U ore bodies within the Karoo Basin
- Exploration and development abandoned when U price collapsed in 1980’s (to less than $20 per lb $U_3O_8$)
South Africa Mining Environment

- County with a very long mining history
- Well defined system for environmental permitting and development approval
- Mining is the most important export earner for South Africa
- South Africa has an active uranium mining industry
- All uranium produced is sold to the SA Government who manage the on-sale giving a guaranteed market for producers
- Foreign companies must have Black Economic Empowerment partner; Peninsula’s BEE partner is Mmakau Mining which holds 26% of the Project. CEO Bridgette Radebe (Chairperson SAMDA)
- The Karoo is one of the main areas of focus for uranium exploration in RSA
Infrastructure

- Beaufort West, lying on the sealed highway between Cape Town and Johannesburg is approximately central to all the Sites and is a service centre for the region.

- The region is serviced by well maintained sealed and unsealed roads.

- Topography is a mixture of flat to gently undulating plateau (Sites 5, 29, 37, 45) with some major escarpments (Site 22, 45, 49) over the six prospecting rights covering 1,980km\(^2\).
Geology

- U (as uraninite and coffinite) and Mo (molybdenite) are hosted within multi-sequence sandstone units; U precipitates where oxidized groundwater comes in contact with reduced water from shale units or organic material within the sandstone.

- Tabular to ribbon style mineralised bodies deposited, usually 1-3m thick and shallowly dipping.

- In plan the uranium mineralisation forms pods of approximately 600m in length, 200m in width and 1 to 3m in thickness.
Karoo Projects Past Exploration

- Uranium exploration commenced in 1969, with major companies Union Carbide, Esso and JCI successfully discovering uranium resources up until 1982.

- Peninsula’s Sites 22, 29 and 45 contain three of these historic U/Mo resources.

- As part of the RSA government’s desire to locate strategic minerals, the SACG flew a 1km spaced radiometric survey in 1976. Numerous U anomalies were identified, many of these were outside of areas being explored by mining companies.

- To identify strategic Mo mineralisation, in the 1980’s the SACG completed a rock chip sampling program throughout the Karoo uranium province.

- Tasman used the results of this survey highlighting U and Mo mineralisation to locate the 6 Prospecting Right applications.

- Grades of over 1% $U_3O_8$ and 0.4% Mo were not uncommon in the SAGC sampling.

- In January 2007 Peninsula acquired 100% of Tasman Pacific.
In 1979-1981 JCI drilled 718 percussion holes and intersected U and Mo mineralisation.

A historic resource was produced.

The main mineralised trend extends for greater than 2 km and other areas of mineralisation were identified.
Site 22 Mo Mineralisation

- Mo is associated with U mineralisation, but is often slightly above and offset
- Intersections >1000ppm Mo are common
Karoo Current Exploration

- Detailed low level radiometric survey flown over all six prospecting Rights in January and February 2008

- New radiometric uranium anomalies have been identified at all six Prospecting Rights

- Potential to extend existing historic uranium resources has been identified at a minimum of two sites

- A field inspection will be conducted in the following three months to prioritise targets for drill testing

- Drill testing of the best targets planned for May 2009
Site 22 Radiometric Anomalies

- New Radiometric survey detects historic resource area with moderate anomaly
- Exploration target size at Site 22 is multiple bodies of 0.7-1.5 million tonnes @ 0.13-0.15% U₃O₈ for 2-3mbl U₃O₈¹
- Many new, stronger anomalies identified in areas with no previous Uranium anomalis
- New anomalies may reflect additional Uranium mineralisation

Existing GT-7 resource area (blue) with relatively subtle radiometric signature

Strong new uranium anomalies in areas with no historic drilling
Historic Union Carbide Resource

- Small historic Union Carbide resource at tail end of existing anomalous U trend
- Existing U anomalies extended
- Many new, stronger anomalies identified in areas with no previous Uranium anomalism
- New anomalies may reflect additional Uranium mineralisation

Existing U anomalies extended

New U radiometric anomalies forming distinct NW trend
## 2008 Karoo Work program

<table>
<thead>
<tr>
<th>Work Type</th>
<th>Timing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fly detailed (100m line spacing by 20m flight height) radiometric and magnetic survey</td>
<td>Complete</td>
</tr>
<tr>
<td>Review radiometric anomalies and prioritise for field testing</td>
<td>Complete</td>
</tr>
<tr>
<td>Commence ground follow-up of radiometric anomalies identified in new survey</td>
<td>July–August 2008</td>
</tr>
<tr>
<td>Modify Prospecting rights to allow for drill testing of targets</td>
<td>September 2008–March 2009</td>
</tr>
<tr>
<td>Drill – Test best radiometric anomalies (6,000m RC, 500m DD)</td>
<td>May–July 2009</td>
</tr>
<tr>
<td>Prepare JORC compliant Resources at best prospect</td>
<td>November 2009</td>
</tr>
</tbody>
</table>
Why Invest In Peninsula Minerals?

- First class management team
- High level of Uranium expertise
- Well funded treasury
- Undervalued relative to peers
- World class uranium projects in USA and South Africa
- Initiated development of the Lance Projects
- Extensive new radiometric uranium anomalies and historic mineralisation in South Africa
- Prospective tenements in Australia in known uranium provinces
- High potential to expand areas of known mineralisation and make new discoveries
Notes

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.

Disequilibrium Explanatory Statement: eU₃O₈ refers to the equivalent U₃O₈ grade. This is estimated from gross-gamma down hole measurements corrected for water and drilling mud in each hole. These results are provisional upon the application of calibration correction factors which are determined from geochemical analysis. Geochemical analysis may show higher or lower amounts of actual U₃O₈, the difference being referred to as disequilibrium. All eU₃O₈ results above are affected by issues pertaining to possible disequilibrium and uranium mobility which should be taken into account when interpreting those pending confirmatory chemical analyses.