



6 December 2010

Companies Announcement Office
Via Electronic Lodgement

COMPANY PRESENTATION

Please find attached a copy of the presentation that will be made by Peninsula Energy Limited's Executive Chairman Gus Simpson to a series of Australian investors this week.

A copy of the presentation can also be obtained from our website at: www.pel.net.au.

Yours sincerely

A handwritten signature in black ink, appearing to read "J Whyte", is positioned above the name of the signatory.

Jonathan Whyte
Company Secretary

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

INVESTOR UPDATE

SHAW STOCKBROKING URANIUM CONFERENCE

John Simpson (Gus)
Executive Chairman

6 December 2010

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Presentation does not relate to any securities which will be registered under the United States Securities Act of 1933 nor any securities which may be offered or sold in the United States or to a US person unless registered under the United States Securities Act of 1933 or in a transaction exempt from registration.

The Exploration and Target Potential described in this presentation is conceptual in nature, and there is insufficient information to establish whether further exploration will result in the determination of a Mineral Resource

Competent Person

The information in this presentation that relates to Exploration Results, Mineral Resources and 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'. Mr Gilman consents to the publication of this information in the form and context which it appears.

Note

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. Disequilibrium factors were calculated using the Peninsula PFN database 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. There is an average positive 11% factor applied. All eU_3O_8 results above are affected by issues pertaining to possible disequilibrium and uranium mobility.

Investment Highlights

- Emerging uranium producer listed on the (ASX:PEN) with established project pipeline
- 25.2mlbs JORC Compliant Resource and growing
- Exploration potential 185–295mlbs U_3O_8 between Wyoming and Karoo
- Planned production of 1.5mlbs U_3O_8 p.a. commencing 2012 from Wyoming and targeting production by 2016/2017 from Karoo
- Low CAPEX (Wyoming) - development expenditure US\$53M - Y1
- Robust profit projections due to U_3O_8 grades and low operating costs
- Board and executive team focused on production
- Strong supply / demand fundamentals for uranium

Corporate

	Share Price
Shares on issue	1,642m
Share price	\$0.061
Market capitalisation	\$100m
Cash balance	\$7m
Debt	\$0
Enterprise value	\$93m
Equity Facility	\$50m
Shareholding	
Directors & Associates	~ 10%
Top 20 shareholders	19.64%



Peer Comparison	Avg EV/Resource Multiple	Market Cap A\$
Uranium One Inc	\$5.72	\$3,143,793,868
Uranium Energy Corporation	\$23.20	\$439,255,275
Uranerz Energy Coproration	\$13.77	\$242,899,198
Urenergy Inc	\$5.41	\$232,727,340
Peninsula Energy Limited	\$3.34	\$100,149,670

Options on issue	Number	Strike	Expiry
Listed options [ASX:PENOA]	204,319,726	3c	30-Jun-12
Listed options [ASX:PENOC]	409,010,598	3c	30-Jun-12
Unlisted options	16,000,000	4c, 5c, 10c, 12.5c	18-Sep-12
Performance Shares	51,000,000	Class A, B, C	30-Jun-14

Uranium Assets

25.2mlbs JORC Compliant Resource U_3O_8
13 project areas with drill-defined mineralisation
95 – 145mlbs U_3O_8 Potential
Average project grades up to 1,250ppm eU_3O_8

*Lance,
Wyoming*

618 km² land holding
7 project areas
Exploration potential in
quality uranium provinces

*Karoo,
South Africa*

*WA,
Australia*

Established 8mlbs in-situ U_3O_8
3 project areas with drill-defined mineralisation
90 – 150mlbs U_3O_8 Potential
Average project grades up to 1,480ppm eU_3O_8

The exploration and target potential described in this presentation is conceptual in nature, and there is insufficient information to establish whether further exploration will result in the determination of a mineral resource

Business Plan

- Commences ISR production at Ross, Wyoming in 2012 building to 1.5mlbs U_3O_8 p.a. (Plant capacity 3mlbs p.a.)

Underpin balance sheet with profit from Wyoming

- Develop conventional mining and milling operation at Karoo by 2016 / 2017
- Continue to develop the mineral potential at:
 - Wyoming 95-145mlbs U_3O_8
 - Karoo 90-150mlbs U_3O_8
 - Expand Karoo operation
- Look at near production acquisition opportunities in areas of existing operation

Directors and Management

Board of Directors

- **Executive Chairman**
- **Technical Director**
- **Non Executive Director**
- **Non Executive Director**

Gus Simpson Strong leadership, corporate and project management skills
Dr Alan Marlow PhD in economic geology and uranium specialist
Malcolm James Strong corporate and project financing experience
Warwick Grigor Experienced Mining Analyst and corporate director

Management & Project Team

- **Chief Operating Officer**
- **General Manager – Project Development**
- **Financial Manager – DFS**
- **Project Manager – DFS**
- **Company Secretary**

Tony Simpson Mining Engineer 40+ yrs experience
Alf Gillman Highly experienced uranium geologist
Mel Campbell Experienced mining financial officer
Brad Brown Experienced Plant Construction Engineer
Jonathan Whyte CA and experienced Company Secretary

Wyoming Project Team

- **ISR Mining Expert**
- **Exploration Manager Wyoming**
- **Hydrological Engineers**
- **Mine Permitting Engineers**
- **ISR Process Design Engineers**

Al Berglund 35 yrs+ experienced ISR mining and extraction engineer
Jim Guilinger Highly experienced uranium geologist
Petrotek Engineering Corporation
WWC Engineering Experienced ISR permitting consulting engineers
Lyntek Inc Global leaders in ISR plant design & feasibility studies

Karoo Project Team

- **Exploration Manager**
- **Project Manager**
- **Project Geologist**
- **BEE Partner**

Henri Lombard Experienced exploration manager
John Simpson Open pit and underground mining consultant
Dr Barry Millstead Experienced sedimentologist
Mmakau Mining

Uranium – Compelling Logic

All Fired Up!

The energy density of various fuel sources.

Material	Energy Density (MJ/1 kg)
Solar*	0.2-1
Wood	10
Ethanol	26.8
Coal	32.5
Crude Oil	41.9
Diesel	45.8
Natural Gas	55.6
Natural Uranium	570000
Reactor-grade Uranium	3700000

*I had to fudge a bit with the solar measurement. Solar energy is usually measured in MJ per square meter. Thus, it's hard to state solar energy in terms of mass (kg) when the density of solar energy is usually measured per square meter. I figured that solar energy expressed in mass is 2-10% of what you get from burning wood.

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Uranium Demand

REGION	Reactor Units and Market Demand Forecasts Anticipated by Region							
	# of Reactor Units	U ₃ O ₈ Demand mlbs pa	# of Reactor Units	U ₃ O ₈ Demand mlbs pa	# of Reactor Units	U ₃ O ₈ Demand mlbs pa	# of Reactor Units	U ₃ O ₈ Demand mlbs pa
	2010		2015		2020		2030	
North America	124	52	126	54	133	59	144	60
Western Europe	130	54	127	55	131	58	123	52
Japan	55	23	56	24	58	26	53	22
Eastern Europe	68	29	76	33	86	38	105	44
Asia & Oceania (Excl Japan)	56	23	101	44	151	67	240	100
Africa & Middle East	2	1	3	1	11	5	23	10
South America	4	2	6	3	6	3	11	5
TOTALS	439	183.9	495	213.1	576	254.5	699	292.8

The number of countries utilising nuclear power

2010, 31

2020, 40

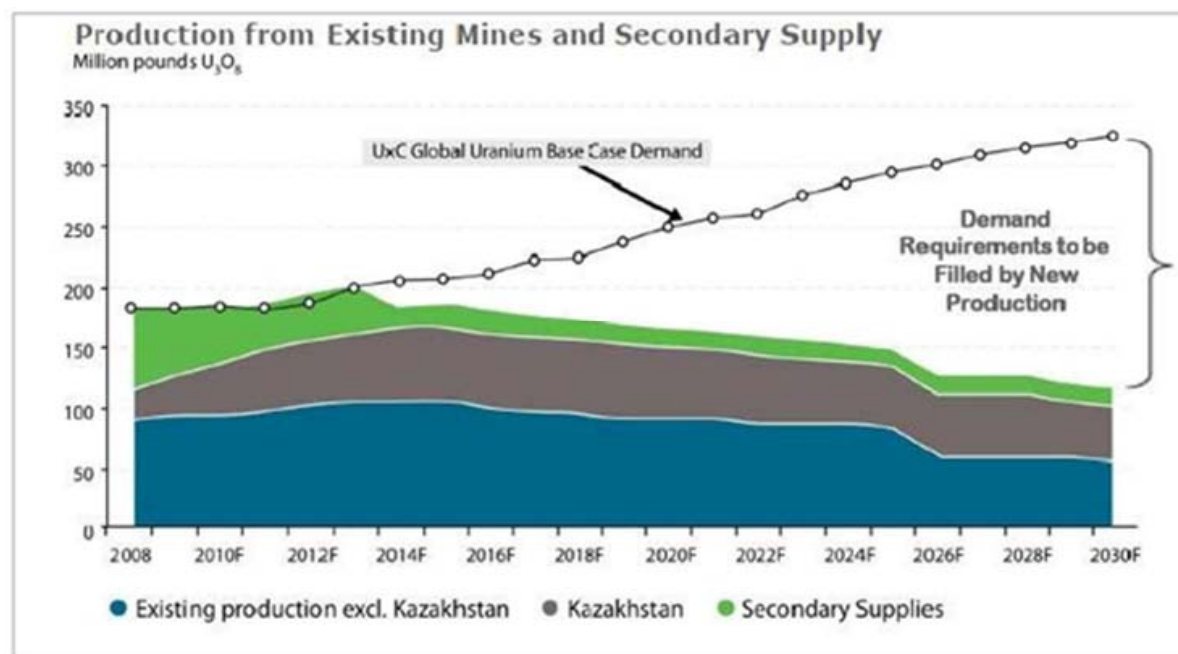
2030, 52

Uranium Supply

- Kazakhstan ISL U_3O_8 Production Increases:
2000, 5mlbs 2008, 18mlbs 2009, 36mlbs 2010, 42mlbs

restrained spot price but all production has been purchased

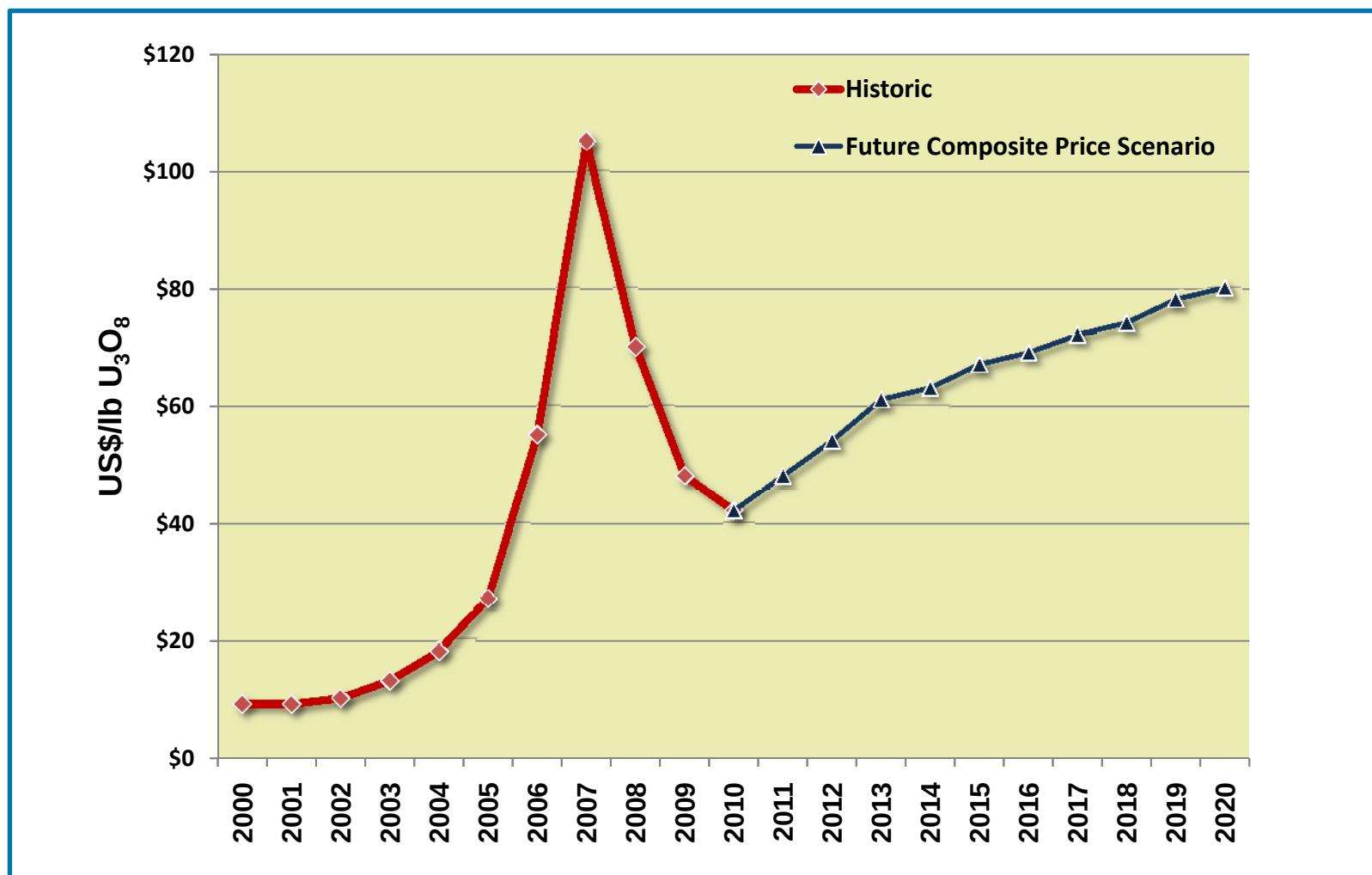
- Megatons to Megawatts program
 - Uranium recovery from nuclear weapons ends in 2013 24mlbs – **ENDS**



Future Uranium Supply Issues

- Further Kazak production expansion **UNLIKELY**
 - Cigar Lake development *delay due to mine flooding (October 2006 / August 2008); Production was to be 2007, now 2013/2014 at earliest* **UNLIKELY**
 - Olympic Dam expansion ~\$9-30Bn **DELAYED INDEFINITELY**
 - Midwest Mine (McClean Lake) expected start-up 2010 **SHELVED**
 - Rossing expansion **DELAYED**
 - Equinox Minerals *uranium recovery plant at Lumwana Project (Zambia) planned 2mlbs p.a. 2010* **DEFERRED**
- Increased and diversified ISR production ➡ **LIKELY**
 - Low grade bulk mining production ➡ **LIKELY**

Uranium Price Projections



Composite Price Projection, UxC Uranium Market Outlook Q1 2010

USA Uranium

AMERICA: SIGNIFICANT URANIUM RESOURCE OPPORTUNITY

- ❖ 104 nuclear reactors consume 55mm lbs of U₃O₈/year to generate 20% of US electricity grid
- ❖ Currently, the US produces approximately 4mm lbs of U₃O₈/year
- ❖ Down-blended Russian nuclear weapons have supplied the U₃O₈ fuel for the U.S. (HEU Agreement)
- ❖ HEU agreement expires 2013
- ❖ The U.S. holds 4th position globally for known recoverable resources of U₃O₈

Known Recoverable Resources of Uranium



Wyoming Uranium

Currently Licenced

Christensen-Irigaray

Sweetwater

Smith Ranch-Highland

Lance Project

In Permitting

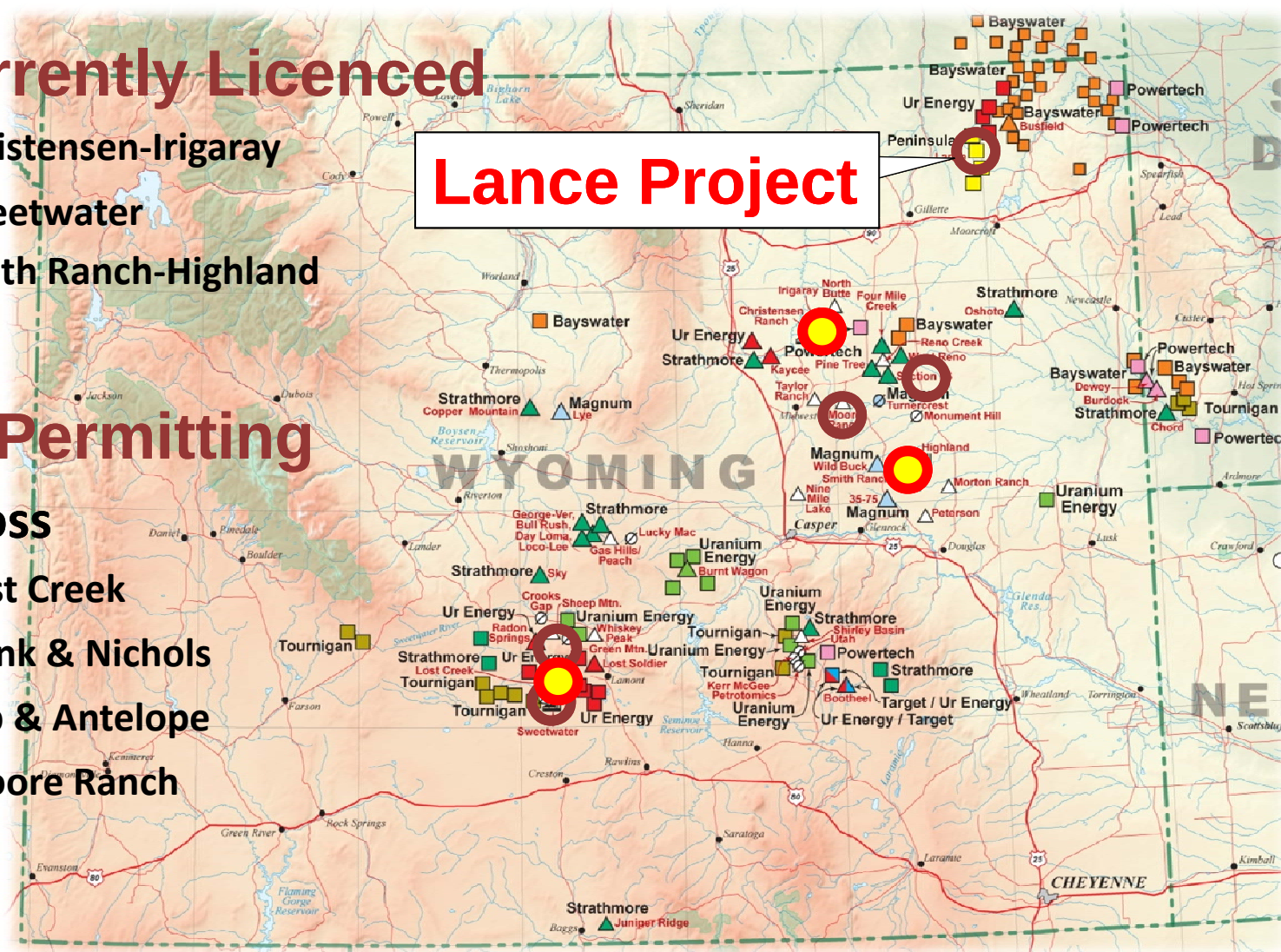
Ross

Lost Creek

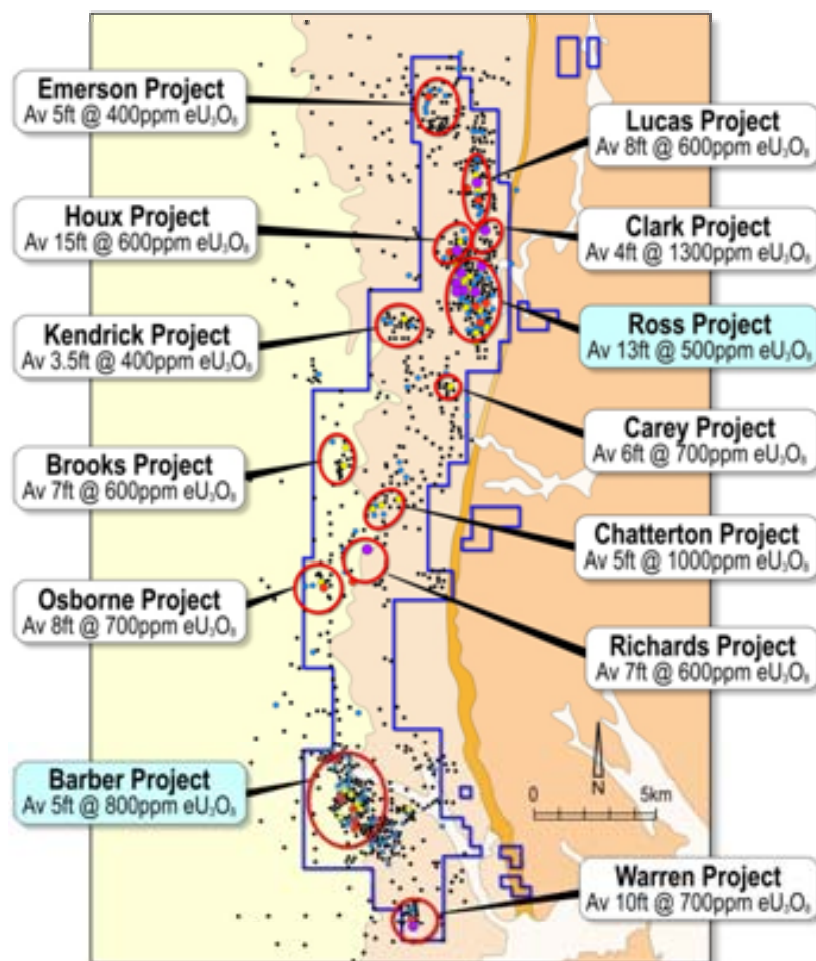
Hank & Nichols

Jab & Antelope

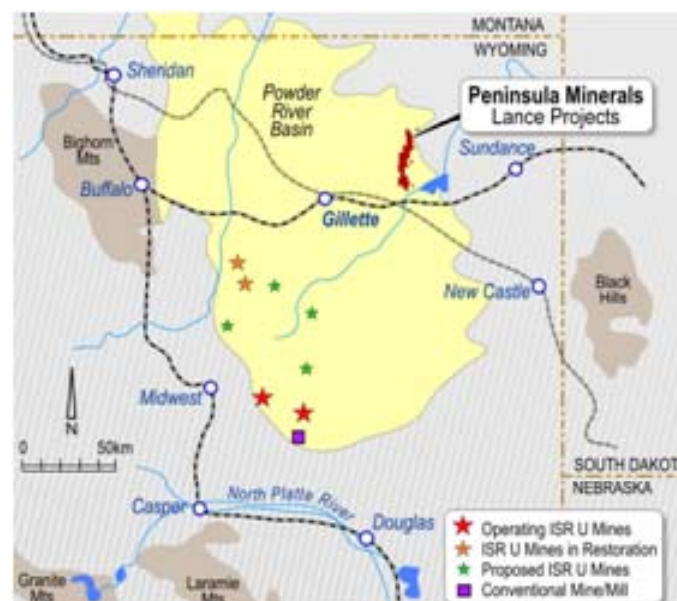
Moore Ranch



Lance Project – Mineral Potential



- Explored by Nubeth JV 1971-1984
 - 5,400 drill holes
 - Trial ISR for 8 months
- 22 roll fronts extend for a combined linear strike length of 190 miles (305 km)
- 13 project areas with drill defined mineralisation



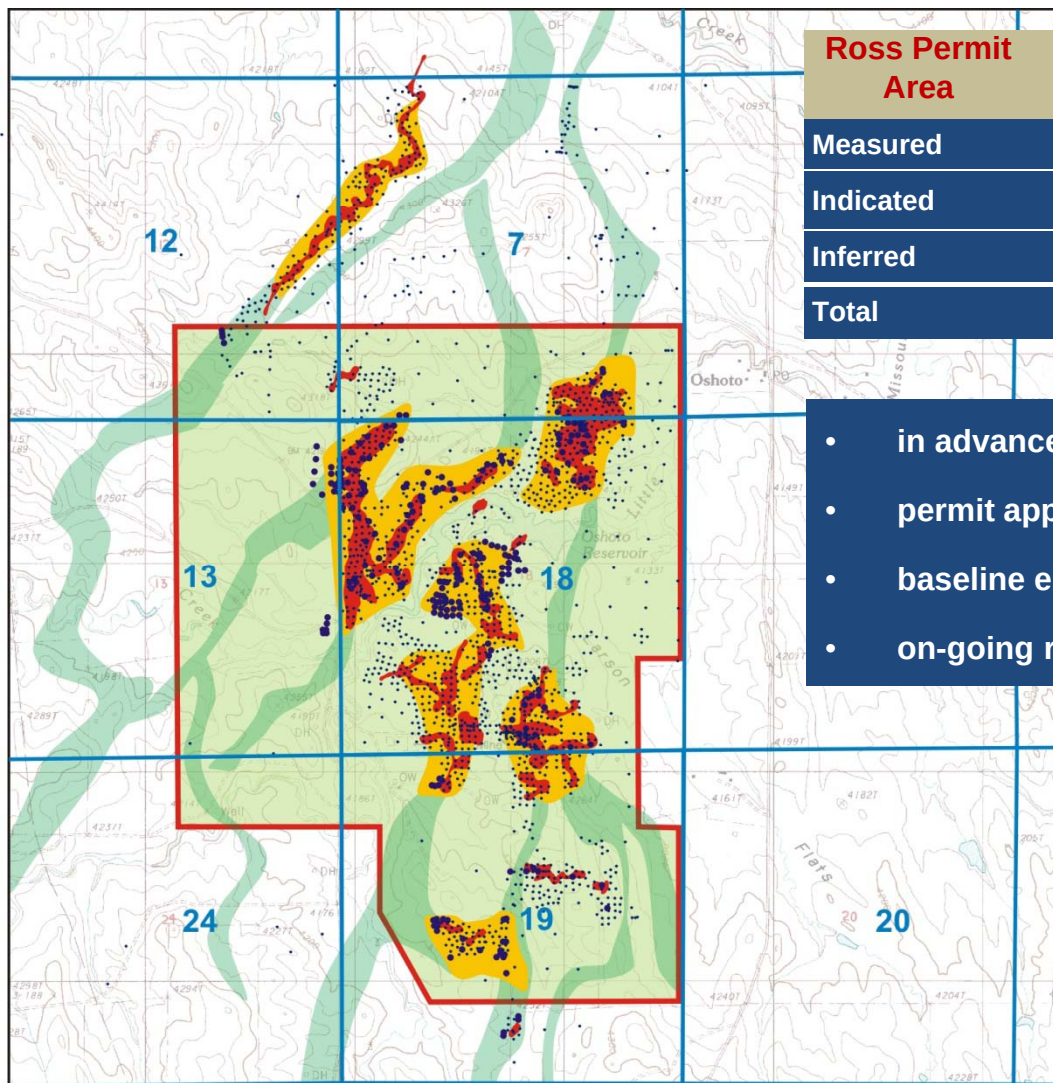
Lance Project – Exploration Potential & JORC Resource

Exploration Potential	Tonnes (M)		Grade (ppm U ₃ O ₈)		U ₃ O ₈ (mlbs)	
Range	From	To	From	To	From	To
Total	117.7	134.7	360	500	95	145

Resource Category	Tonnes (M)	Grade (ppm U ₃ O ₈)	U ₃ O ₈ (mlbs)	Thickness (ft)	GT
Measured*	3.6	465	3.6	8.9	0.41
Indicated*	6.0	421	5.6	9.0	0.38
Inferred*	17.1	422	16.0	8.5	0.35
Total*	26.7	429	25.2	8.7	0.37

•Resource defined by 0.2GT and 200ppm lower cut off
Includes JORC resource

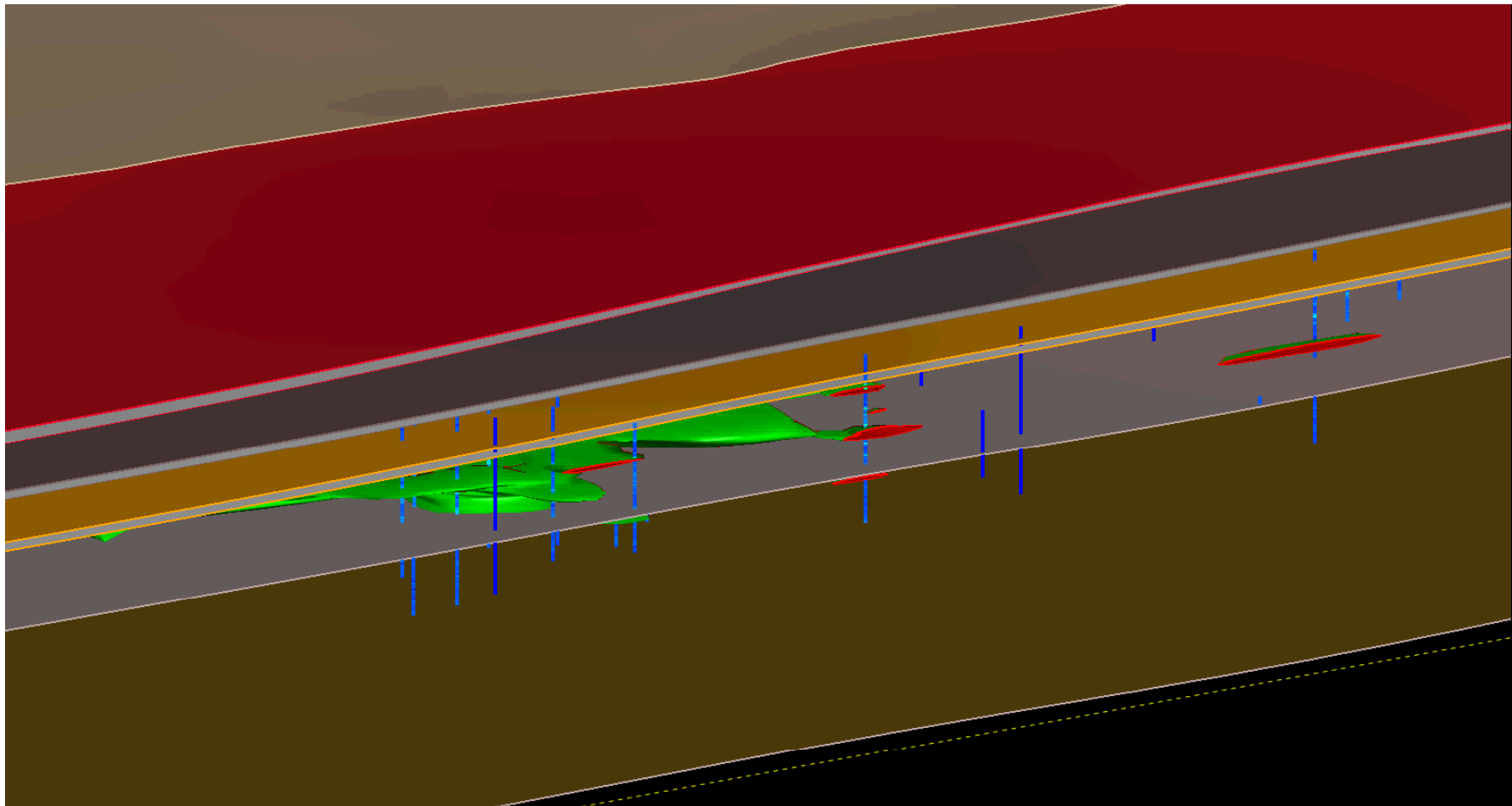
Ross Permit Area



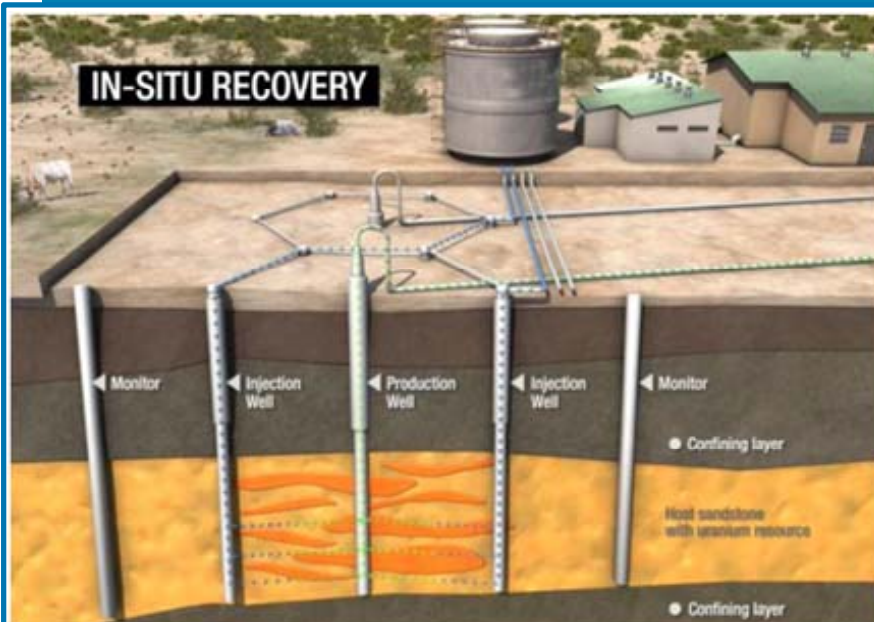
Ross Permit Area	Tonnes	Grade (ppm U ₃ O ₈)	U ₃ O ₈ (lbs)
Measured	1,980,618	503	2,195,283
Indicated	2,403,208	476	2,523,628
Inferred	688,141	477	724,107
Total	5,071,967	487	5,443,018

- in advanced permitting
- permit application to be submitted Dec 2010
- baseline environmental data acquisition complete
- on-going resource delineation drilling

Ross P.A. – Geology Fly Through



In-Situ Recovery – Process



Schematic ISR Field



Cameco's Smith Ranch operation

Process

- Groundwater combined with oxygen and bicarbonate and circulated through deposit via injection and recovery wells
- Oxygen enriched water moves through aquifer and dissolves in-situ uranium
- Uranium enriched solution is pumped to surface and precipitated as yellow cake

Advantages

- Low capital cost
- Lower operating cost
- Shorter construction and commissioning periods
- Reduced labor per unit produced
- Low environmental impacts
- Greatly reduced solid waste (no tails)

Worldwide ISR Mining Jurisdiction



Lance Projects – Development Model



- **25.2mlbs U₃O₈ JORC compliant resource**

Resource Category	Tonnes (M)	Grade (ppm U ₃ O ₈)	U ₃ O ₈ (mlbs)	Thickness (ft)	GT
Measured*	3.6	465	3.6	8.9	0.41
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Inferred*	17.1	422	16.0	8.5	0.35
Total*	26.7	429	25.2	8.7	0.37

- **To build a 1.5mlbs per year ISR operation inclusive of:**

- ion exchange facility
- centralised resin stripping , drying and packaging plant
- remote ion exchange facility at Barber

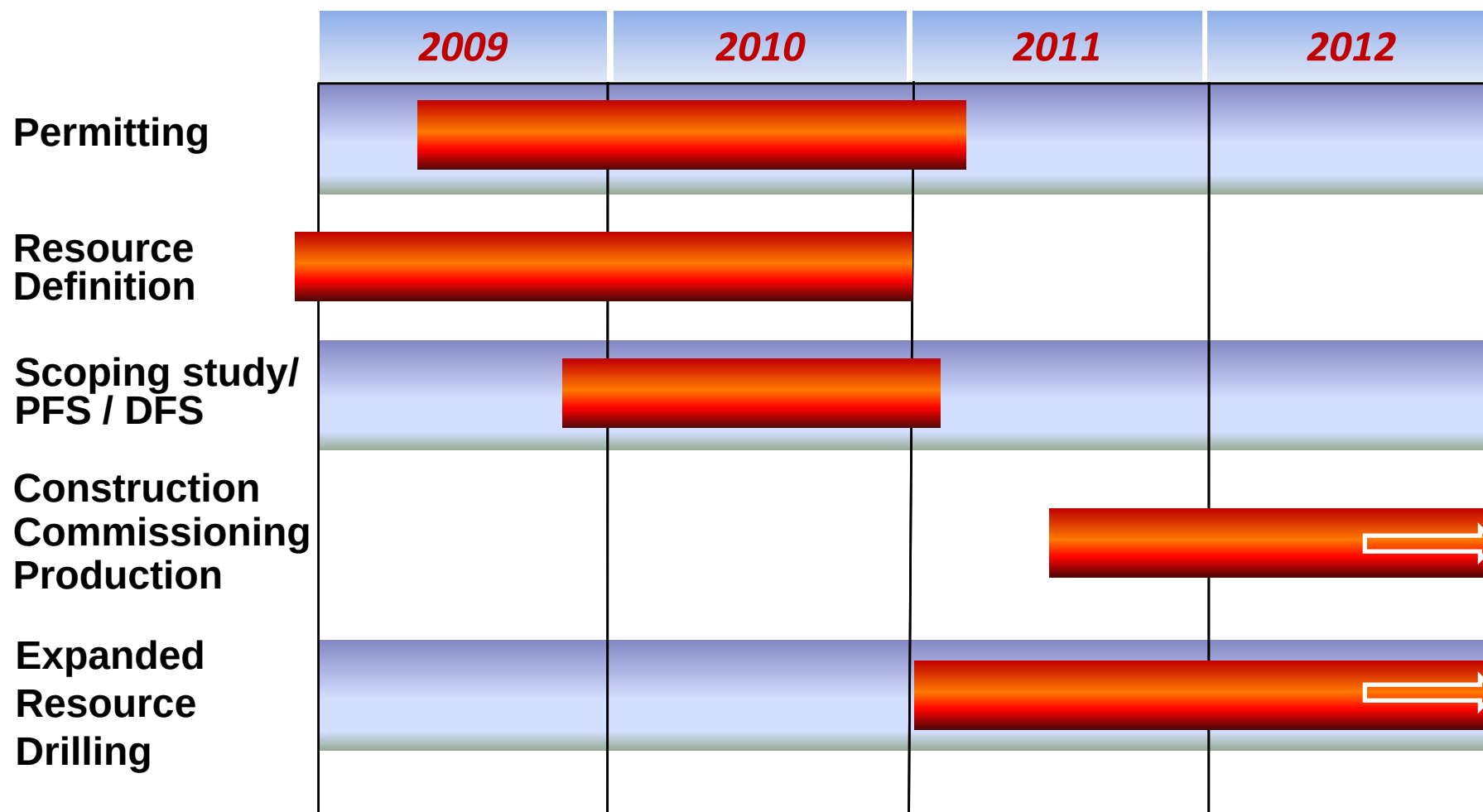
- **Commence production in 2012:**

- production expansion target of 3mlbs per year by 2017

- **Continue to delineate 95-145mlbs of uranium mineralisation through:**

- Exploration within the other 11 project areas
- Exploration in the areas between the 13 projects
- Acquisition of other projects

Lance Project Schedule



Lance – Pre-Feasibility Study

	US\$ per lb	US\$ / Year
Revenue	\$65-\$75	\$112 million
Operating cash cost (C1)	\$13.5	\$20 million
Royalties & Tax	\$7.9	\$12 million
Total Operating Cash Cost	\$21.4	\$32 million
Depreciation & Amort (average)	\$8.6	\$13 million
Total Production cost	\$30.0	\$45 million
Profit Before tax		\$67 million
Tax (average)		\$20 million
Net Profit after tax		\$47 million
NPV (10%) after tax		\$162 million
IRR		48%

ASSUMPTIONS

39% tax Interest rate 8%
Real discount rate 10% 60:40 Debt to Equity Ratio

- ISR mining with centralised plant
- 1.5mlbs p.a. U_3O_8
- Uranium grade 507ppm U_3O_8
- Estimated recovery 76%
- Project Cap Ex. \$53M initial & \$26M over Yr2 & Yr3
- Opex. \$13.5/lb
- Recovered resource 15mlbs U_3O_8
- US\$10.9M financing cost over 5 year loan life
- US\$26.7M decommissioning and restoration cost included in C1 costs

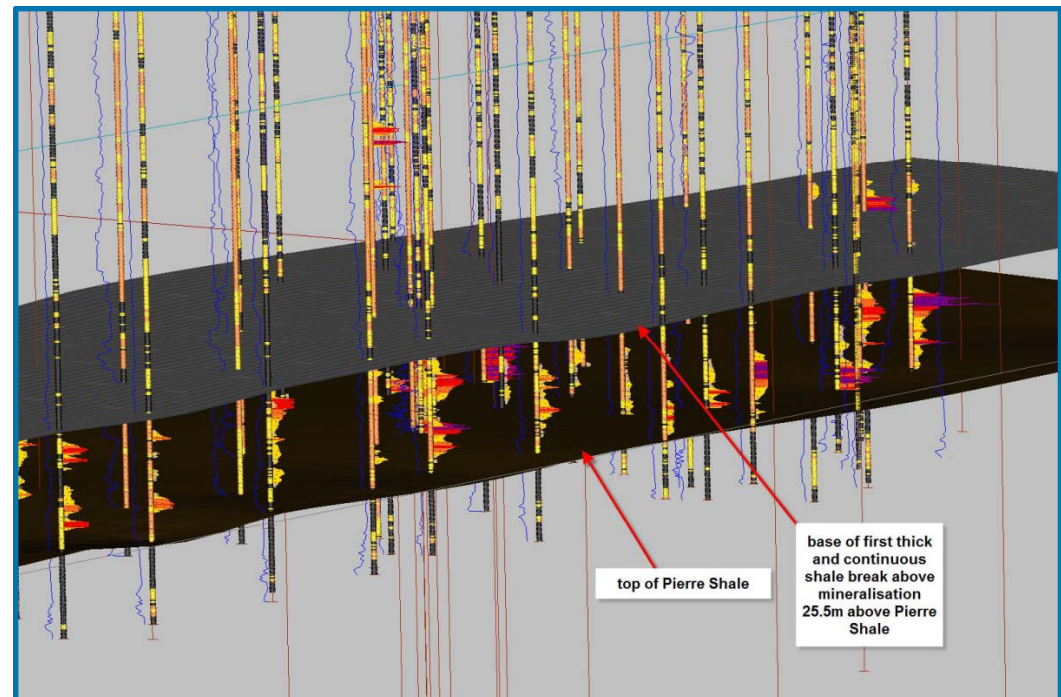
Project Status – D.F.S.

- Colorado-based global mining engineering consultants Lyntek Inc
- The DFS 80% complete and will be finished by January 2011, ahead of schedule
- Lyntek has delivered second iteration of plant design and completing the third round of metallurgical testing
- Process of optimisation continues producing more accurate designs for inclusion in the DFS

Project Status – Met. Testing

The agitation leach testing shows Ross uranium leaches very well at low concentrations of bicarbonate and oxidant in the lixiviant

- An average of all samples resulted in better than 80% leaching of uranium
- Testing of drill core displays high permeability and porosity
- Permeability averaging 2,400 millidarcies (mD)
- Porosity averaging 42%
- Results confirm the applicability of the ISR mining method
- The targeted aquifer is exempt and test work proves its suitability for ISR mining
- Water table at average 150ft (46m) depth



Project Status – Permitting

Mine Permitting Proceeding to schedule

Petrotek Engineering Corporation

- completed DDW feasibility study
- Applications lodged

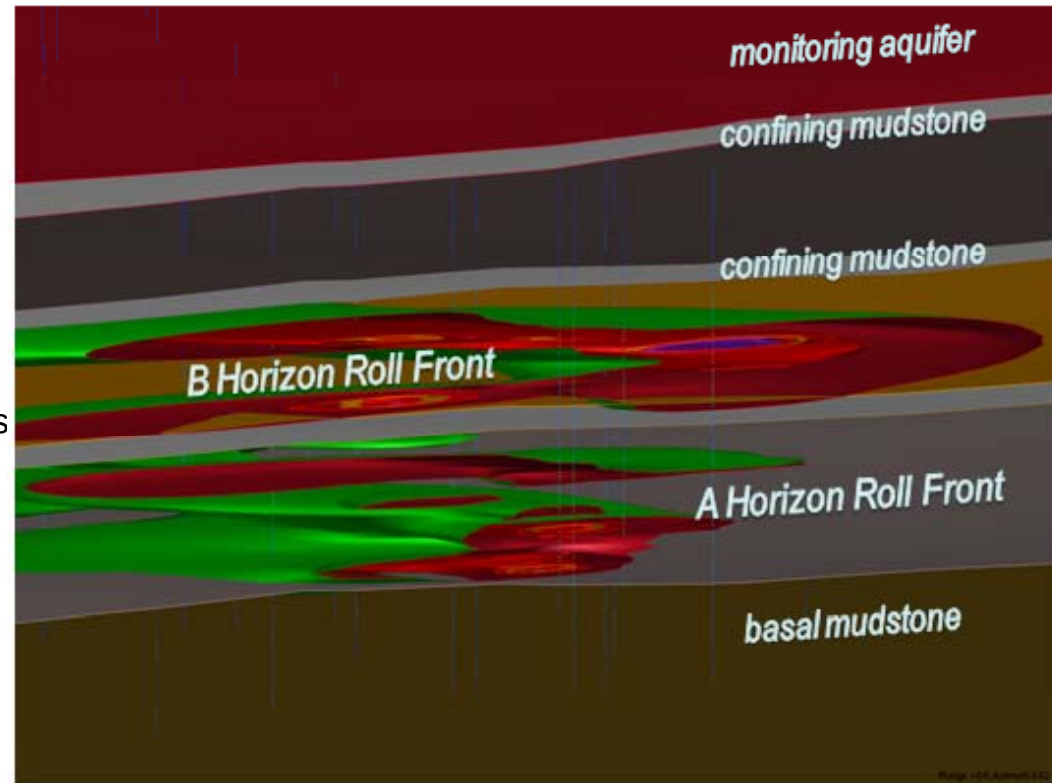
Baseline Aquifer Characterisation

- 24 aquifer monitoring bores completed
- hydrological pressurization and pumping tests

Weather Station

- site-specific weather data acquisition over 12 months
- weather study completed

Baseline archaeological, flora, fauna and ground studies completed



WWC Engineering Services & Pen fast tracking the review and issue period for the required permits by:

- Implementing continuous process of review and discussion with all stakeholders including ranchers, local action groups and all regulatory authorities
- Lodgement of composite application with all regulatory agencies
- Quarterly meetings with the NRC, EPA, WDEQ and BLM to discuss the progress of application
- Review comments on document and consider all recommendations

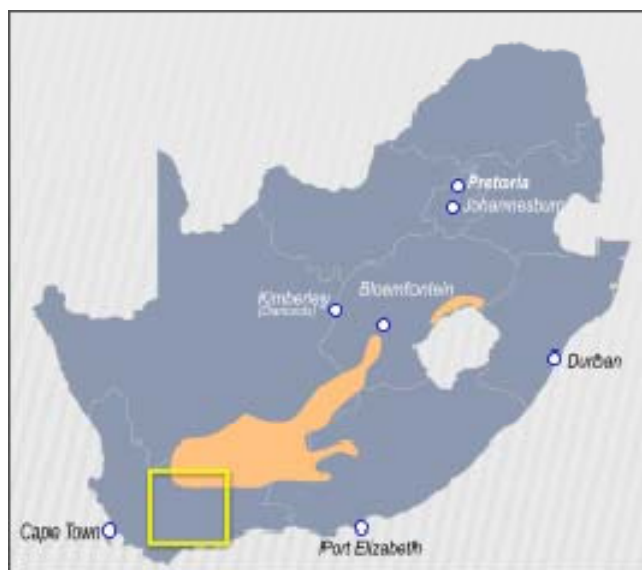
Project Status – Funding

- Appointed Rockbury to coordinate the project funding process – Gerard Holden – past MD Barclays Global
- Debt – discussions with banking groups underway
 - likely to involve ~60% debt
- Equity – potential involvement of strategic investor – discussions underway

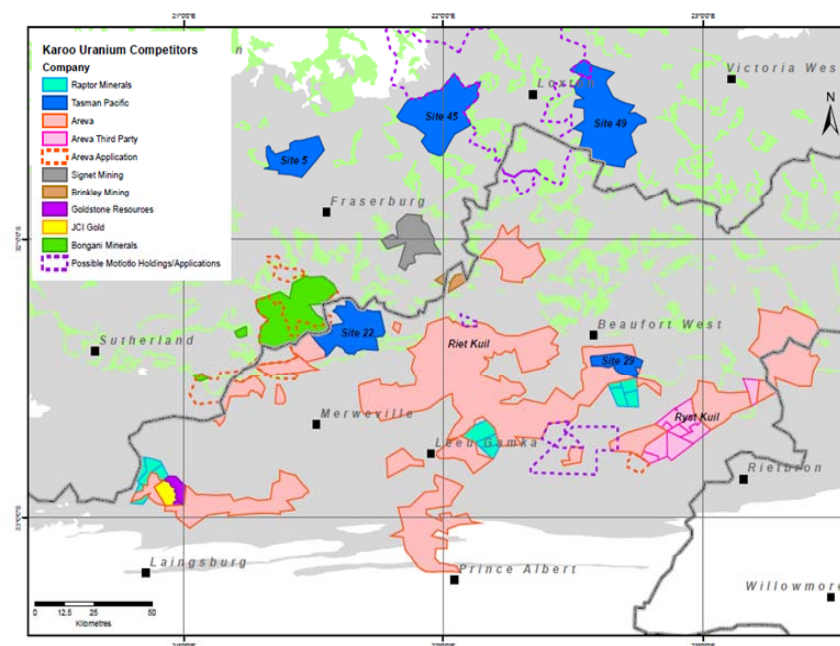
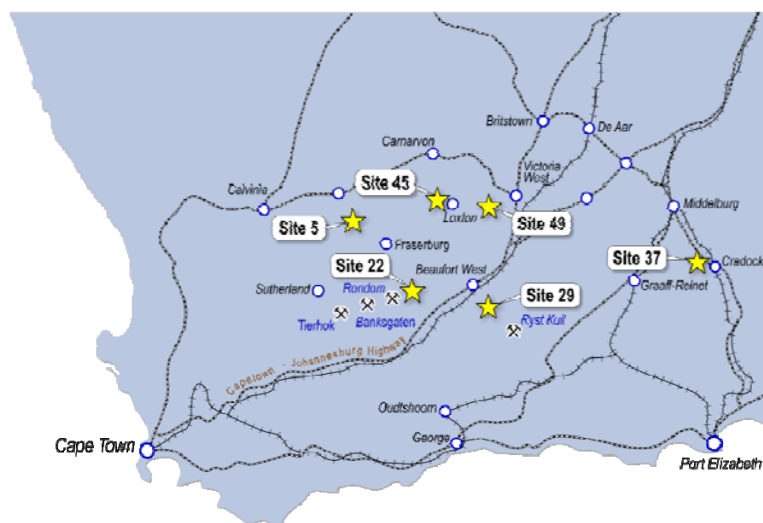
Project Status – Uranium Sales

- Discussions ongoing with utilities, brokers, and trading houses
- Company assessing various EOI from these groups
- Company has responded to RFP's from three US power utilities and is currently negotiating terms

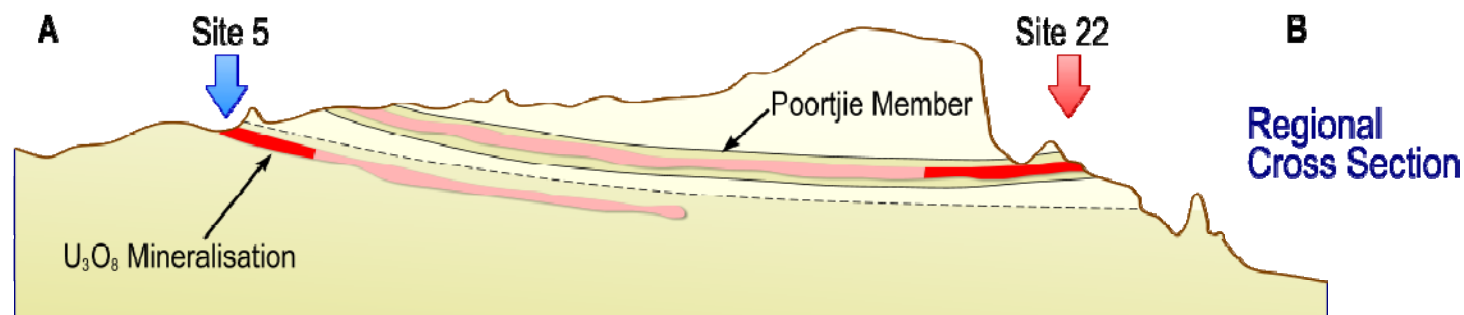
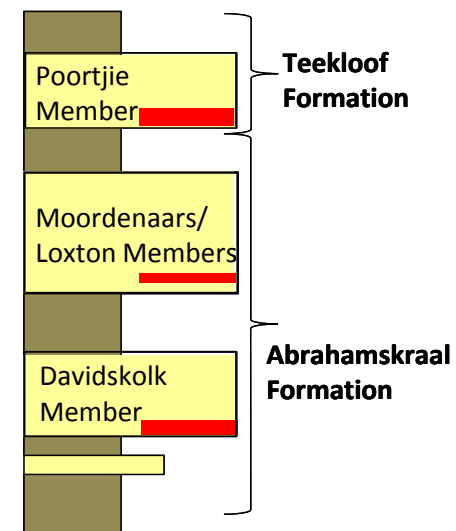
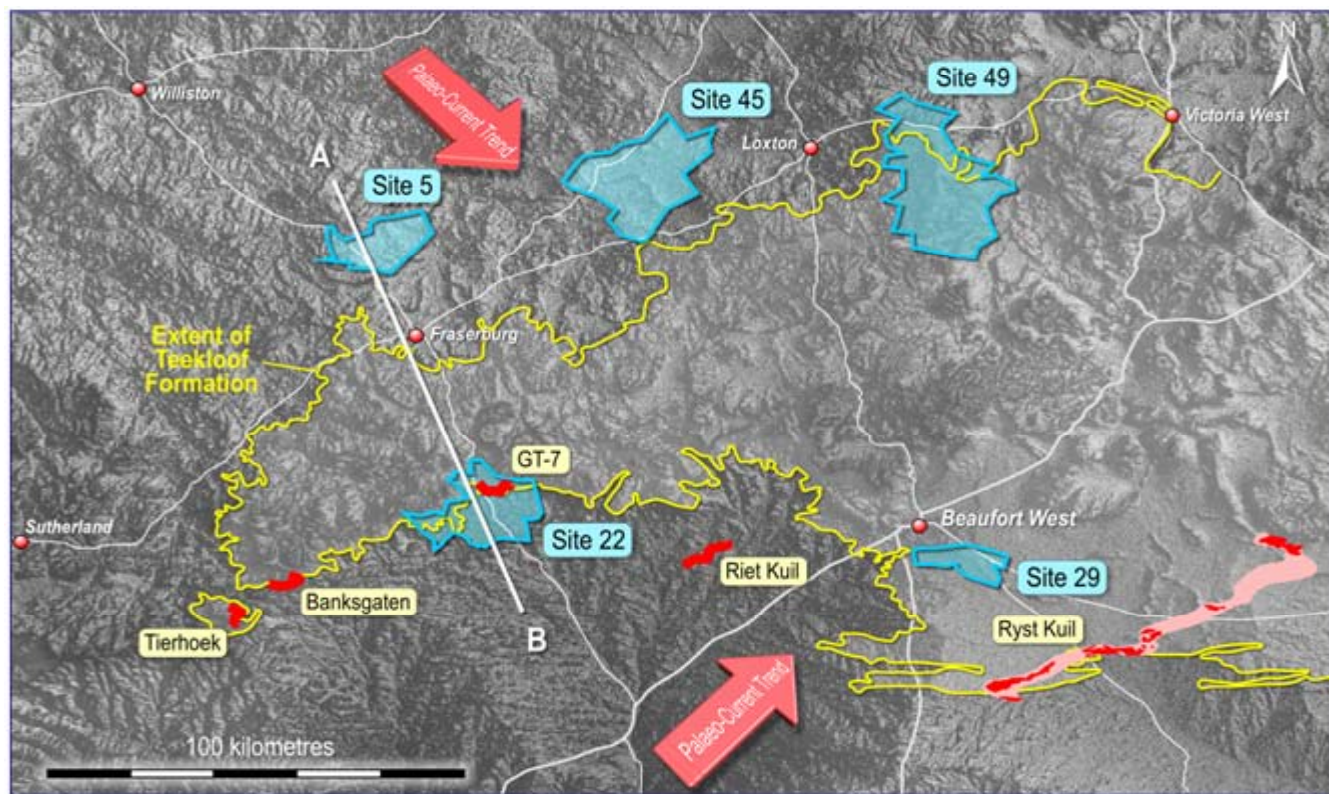
Karoo Projects – South Africa



- 6 project areas covering 1,986 km² in the Karoo basin
- The Karoo is one of the main areas of focus for uranium exploration in RSA
- Significant associated molybdenum mineralisation



Karoo – Regional Geology



Karoo Projects – Mineral Discovery

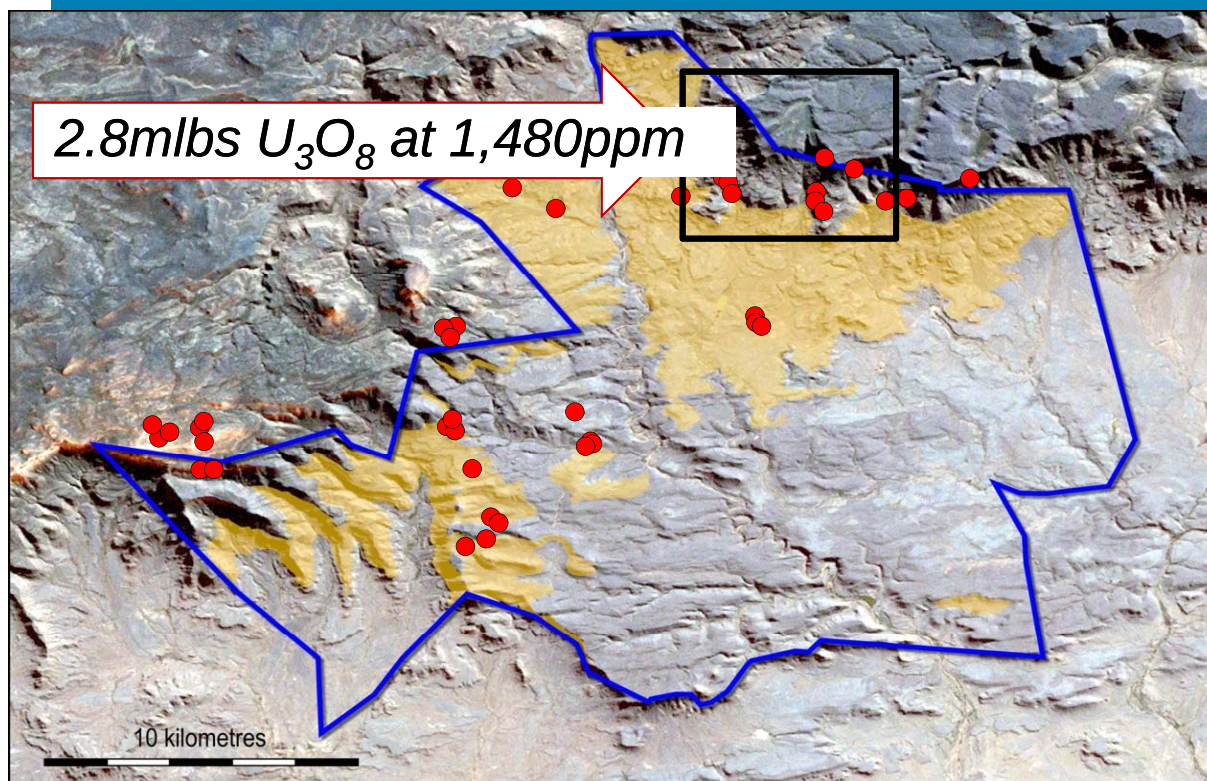
- 1970's JCI and Union Carbide drilled 1,300 drill holes delineated three mineral deposits on three of the of the projects
- 2008 Radiometric and magnetic survey over 6 sites - 392 uranium occurrences
- 2008 Underlying geology and topography interpreted for areas of high uranium values and large aerial extent of uraniferous rock
- 2009 392 occurrences reduced to 36 high priority for direct geological study
- 2009 The combination of the geological investigations, assay results and historical drilling reduced 36 to the 10 most prospective sites
- 2010 December drilling to commence expand known mineralisation to 30mlbs U_3O_8
Time frame 18 - 20 months
- 2012 Mining Right applications for Sites 22 and 29 to be submitted by December
- 2013 Complete BFS

Karoo Projects – Exploration Potential and Historic Mineralisation

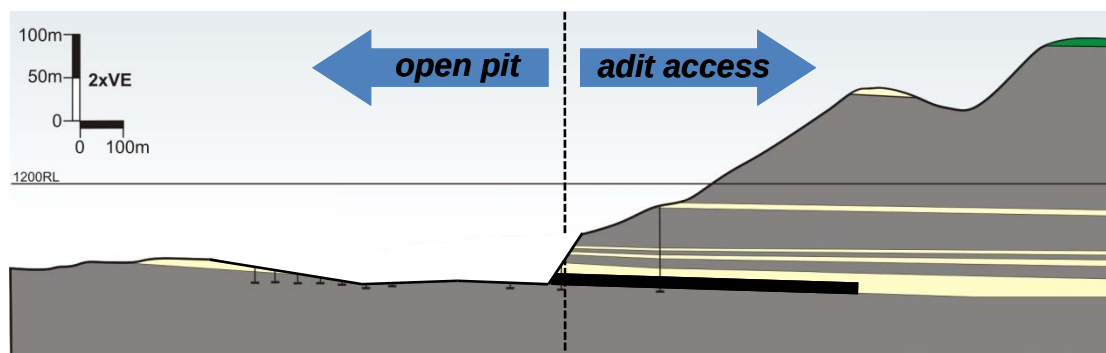
Exploration Potential	Tonnes (M)		Grade (ppm U ₃ O ₈)		U ₃ O ₈ (mlbs)	
	From	To	From	To	From	To
Total	36.0	60.0	1,200	1,400	90	150

Historic Mineralisation	Tonnes	Grade (ppm U ₃ O ₈)	U ₃ O ₈ (mlbs)
Site 22	860,000	1,480	2.8
Site 45	2,786,000	700	4.3
Site 29	246,000	1,107	0.6
Total	3,892,000	1,015	7.7

Site 22 Uranium Potential

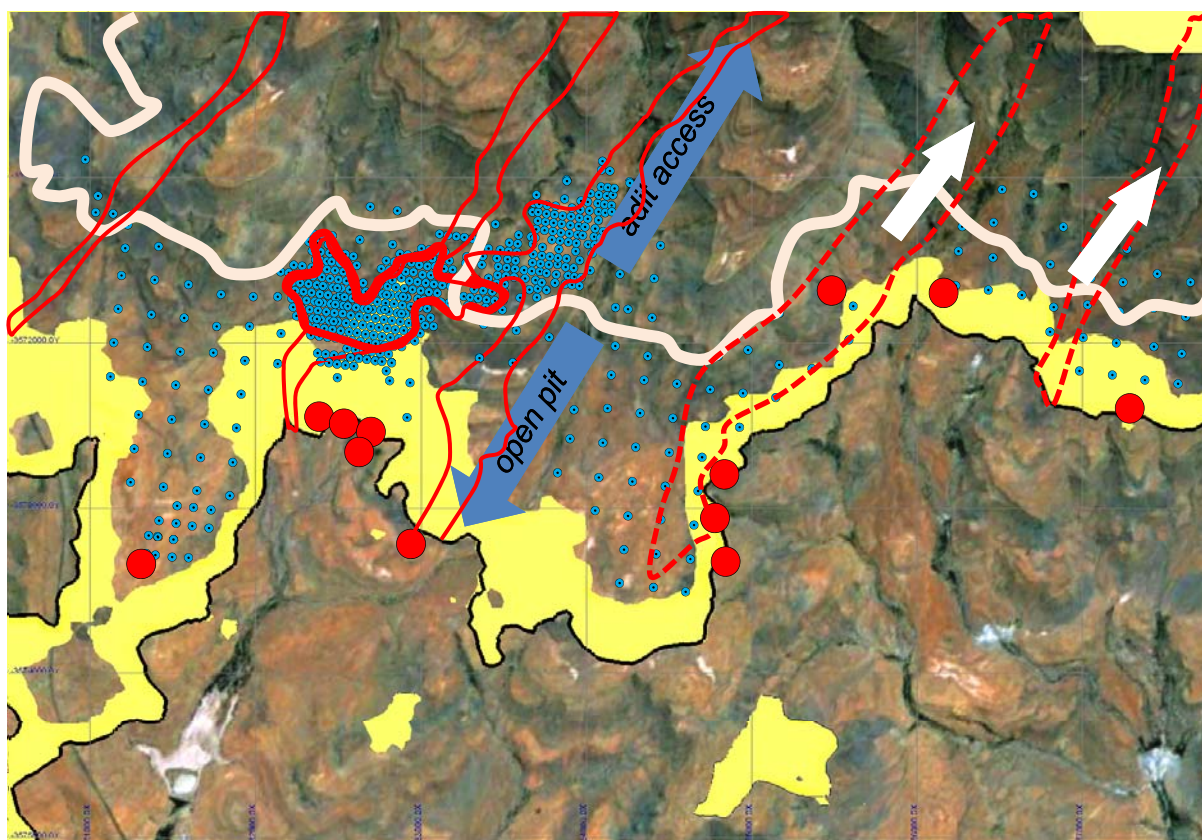


- 23 kilometers of prospective strike
- 120 km² of prospective Poortjie Sandstone
- 707 percussion holes drilled by JCI
- GT7 2.8mlbs drill-defined U_3O_8
- Amenable to open-pit mining
- Numerous un-tested U_3O_8 occurrences



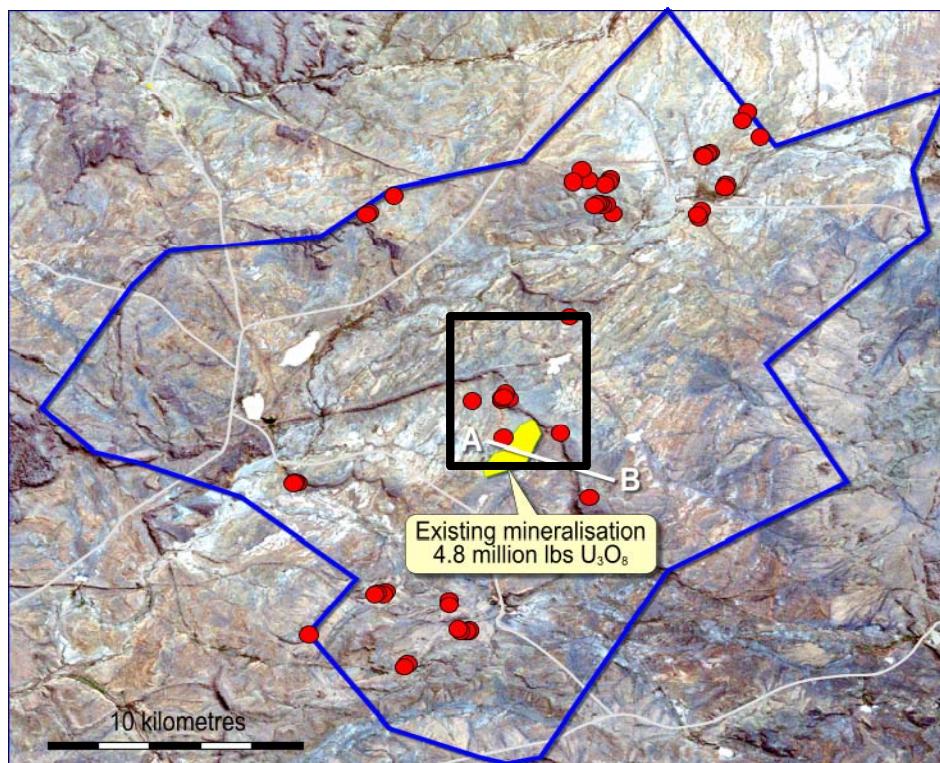
Cross Section

Site 22 Uranium Potential

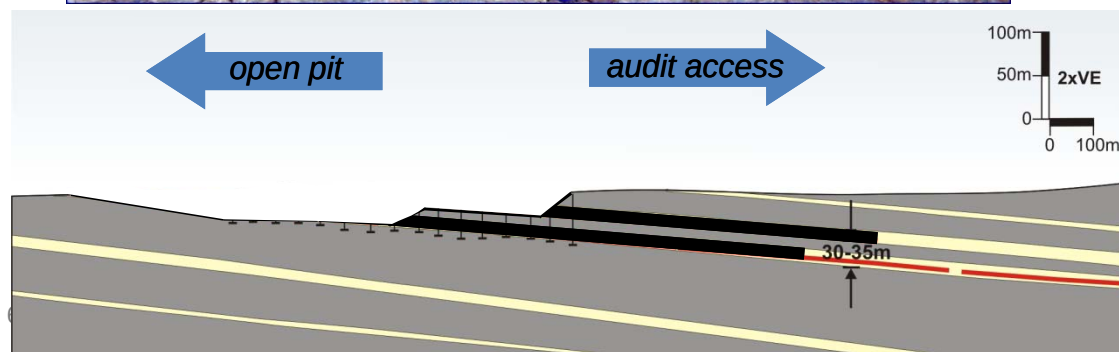


- Historic JCI drilling
- Extent of host Poortjie Formation
- Drill-defined 2.8mlbs U_3O_8 at 1,480 ppm
- multiple stacked uranium-bearing channels
- full topography
- radiometric anomalies
- mining limits
- mineralised channels
- >15mlbs U_3O_8 potential

Site 45 Uranium Potential

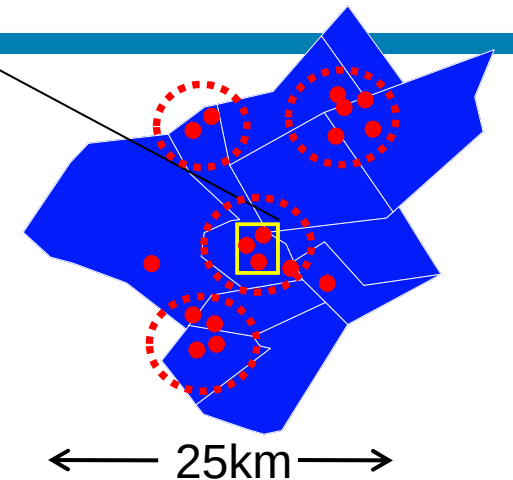
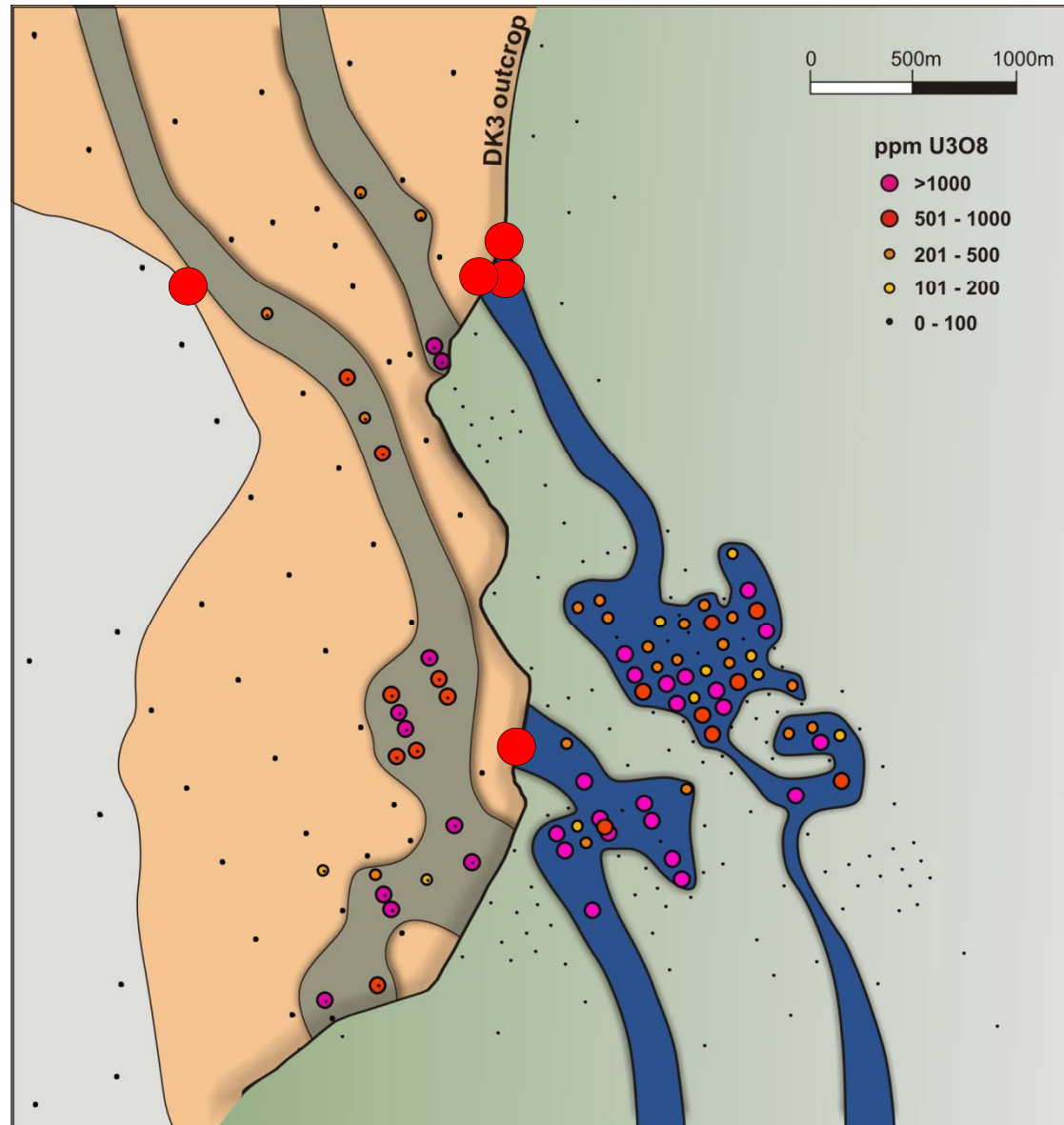


- Prospective Davidskolk Member
- 432 holes Drilled by JCI
- Drill-defined mineralisation amenable to open-pit mining 4.8mlbs U_3O_8
- Numerous un-tested uranium occurrences
- Potential for >15mlbs U_3O_8



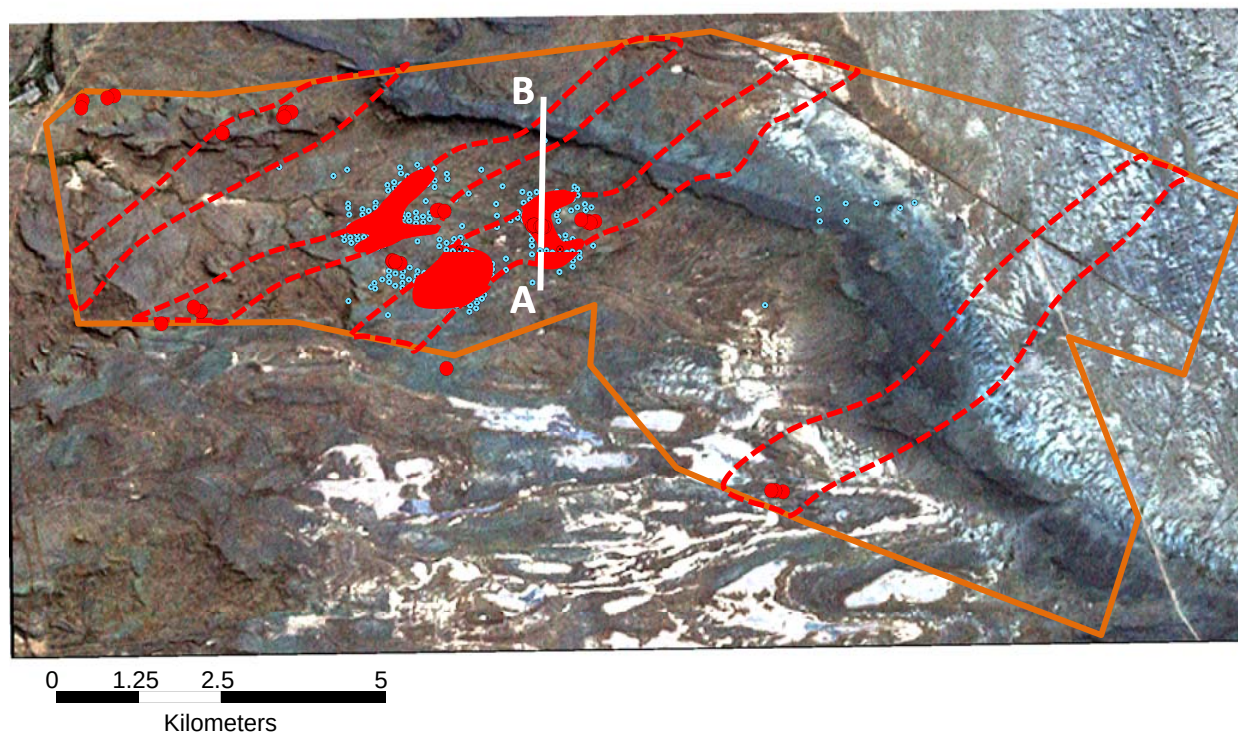
Cross Section

Site 45 Uranium Potential

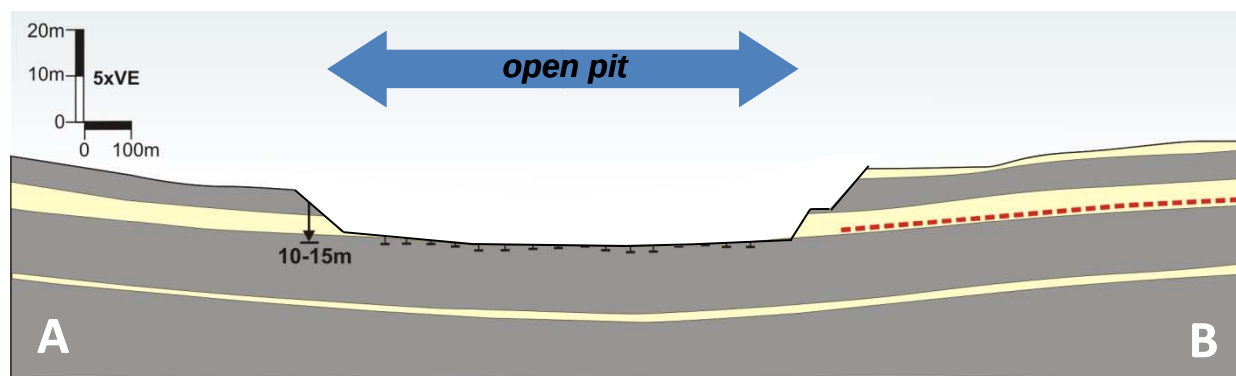


- DK2 basal sandstone drill intersections
- DK2 resource channel
- DK3 upper sandstone drill intersections
- DK3 resource channel
- anomalous surface samples
- potential 15mlbs U₃O₈

Site 29 Uranium Potential



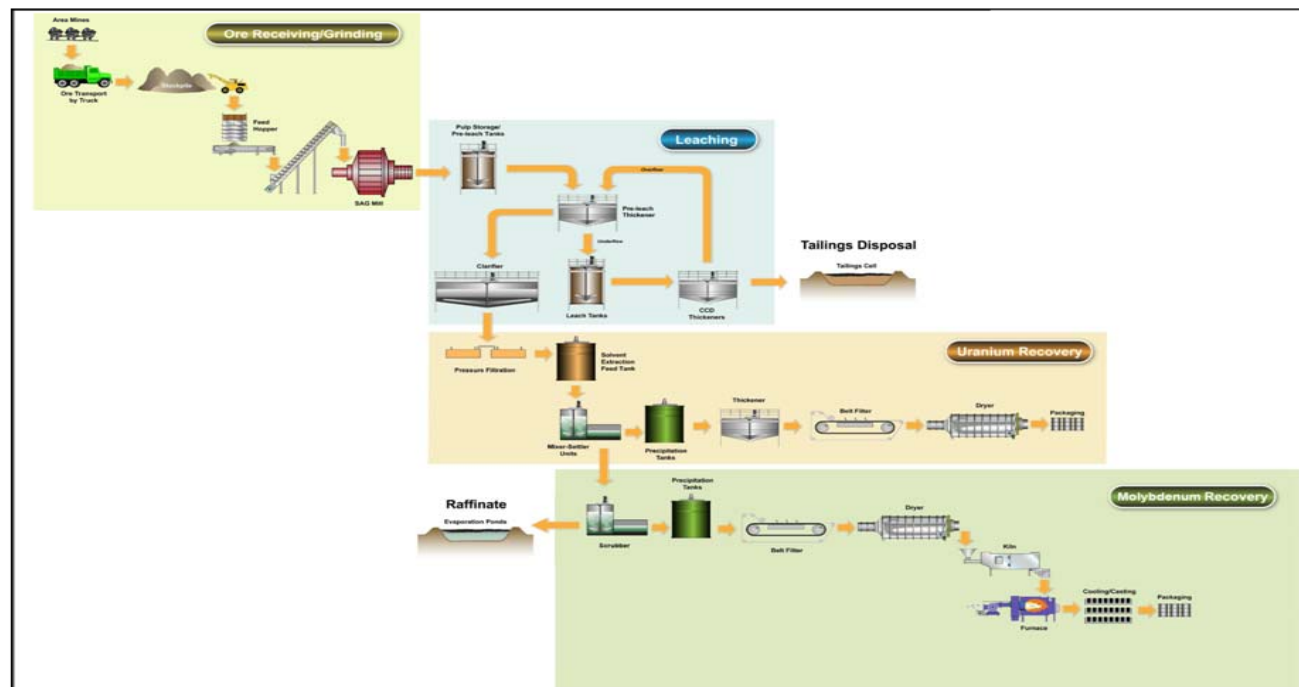
- 108km² of Prospective Poortjie Sandstone
- 308 holes drilled by Union Carbide
- Drill-defined 600,000 lbs U₃O₈ at 1,107 ppm
- Numerous un-tested uranium occurrences
- Multiple untested channel systems
- Mineralisation amenable to open pit mining



Cross Section

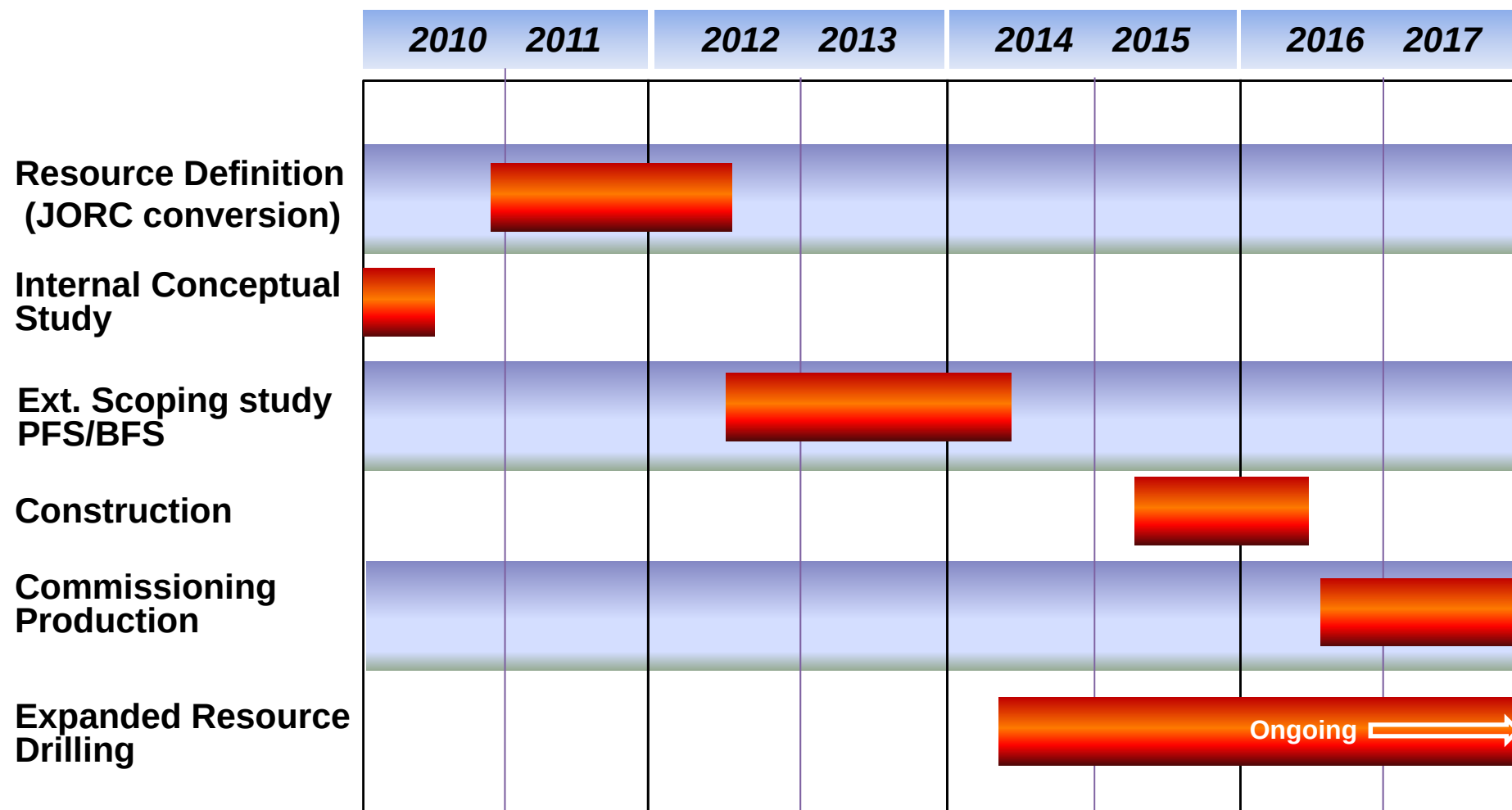
Karoo Projects – Development Model

- Multiple open-pits; with central processing facility at Beaufort West
- Conventional mining & milling operation
- All sites within road-hauling distance



- Planning production in 2016/2017
- Continue to delineate > 120mlbs of uranium mineralisation

Karoo Projects – Project Schedule



Karoo Projects – Conceptual Study

	US\$ per lb	US\$ / Year	
Revenue	\$65-75	\$191 million	• Assume 30mlb U ₃ O ₈ and 3mlbs p.a. production
Capex Amortisation	\$3.4	\$11.6 million	• Open-pit mining with conventional milling
Financing cost	\$1.0	\$3.3 million	• Central processing facility at Beaufort West near Site 29
Operating Costs	\$28.5	\$76.1 million	• Drill defined mineralisation at Sites 22, 29 & 45 average 700 - 1400ppm U ₃ O ₈
Royalty (3%)	\$2.0	\$5.1 million	• Estimated recovery 90%
Total Costs	\$34.9	\$96 million	• Estimated capital cost US\$197 million
Molybdenum Credit	\$5.2	\$15 million	
Depreciation		\$14 million	
Gross Margin		\$110 million	
Tax		\$29 million	
Net		\$81 million	
NPV		\$211 million	
Assumptions			
30% tax, Interest Rate 8%, Real Discount Rate 10%, 60:40 Debt to Equity Ratio			

Figures are indicative only and developed for internal project evaluation purposes

Karoo Targeted Milestones

- Dec 2010: Commence resource development drilling program
- June 2011: JORC compliant resource
- Dec 2012: JORC compliant resource of ~30mlbs
- June 2014: Complete Definitive Feasibility Study
- July 2016: Commencement of production

Wyoming Targeted Milestones

-
- April 2010: Initial JORC compliant resource at Lance ✓
 - May 2010: Pre-feasibility study completed ✓
 - July 2010: Revised JORC compliant resource ✓
 - Dec 2010: 2nd revised JORC compliant resource
 - Dec 2010: Submit final licence applications
 - Jan 2011: Uranium sales contract
 - Feb 2011: Definitive Feasibility Study completed
 - Feb 2011: Decision to mine
 - Mar 2011: Strategic Partner
 - April 2011: Project Funding
 - June 2011: 3rd revised JORC compliant resource
 - Aug 2011: Project Construction
 - Sept 2011: 4th revised JORC compliant resource
 - Mar 2012: Yellowcake production commence at the Ross Project

Emerging Uranium Producer

Wyoming ISR (100% Pen)

25.2mlbs JORC Compliant Resource U_3O_8

95 – 145mlbs U_3O_8 Potential

Karoo Sandstones (74%)

90 – 150mlbs U_3O_8 Potential

