

# **The Wiluna Uranium Project, Western Australia: Bringing a new project to the market**

23-27 June 2014

URAM 2014 - IAEA

**Australia's  
Leading  
Development  
Stage Uranium  
Company**



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## Toro Energy:

**A Pure Play Uranium Company  
Positioning for the Market Recovery**



# Toro Snapshot



## STRUCTURE



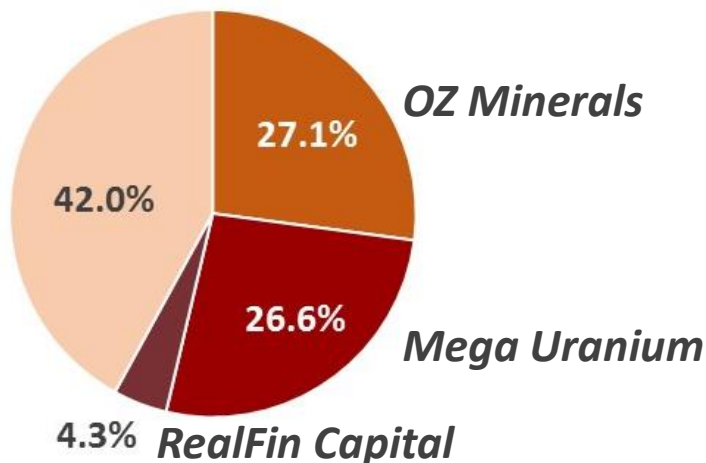
**Board & Management**  
**Extensive Uranium**  
**Experience**



**\$9.3M Cash on hand**  
**\$5M RealFin option**

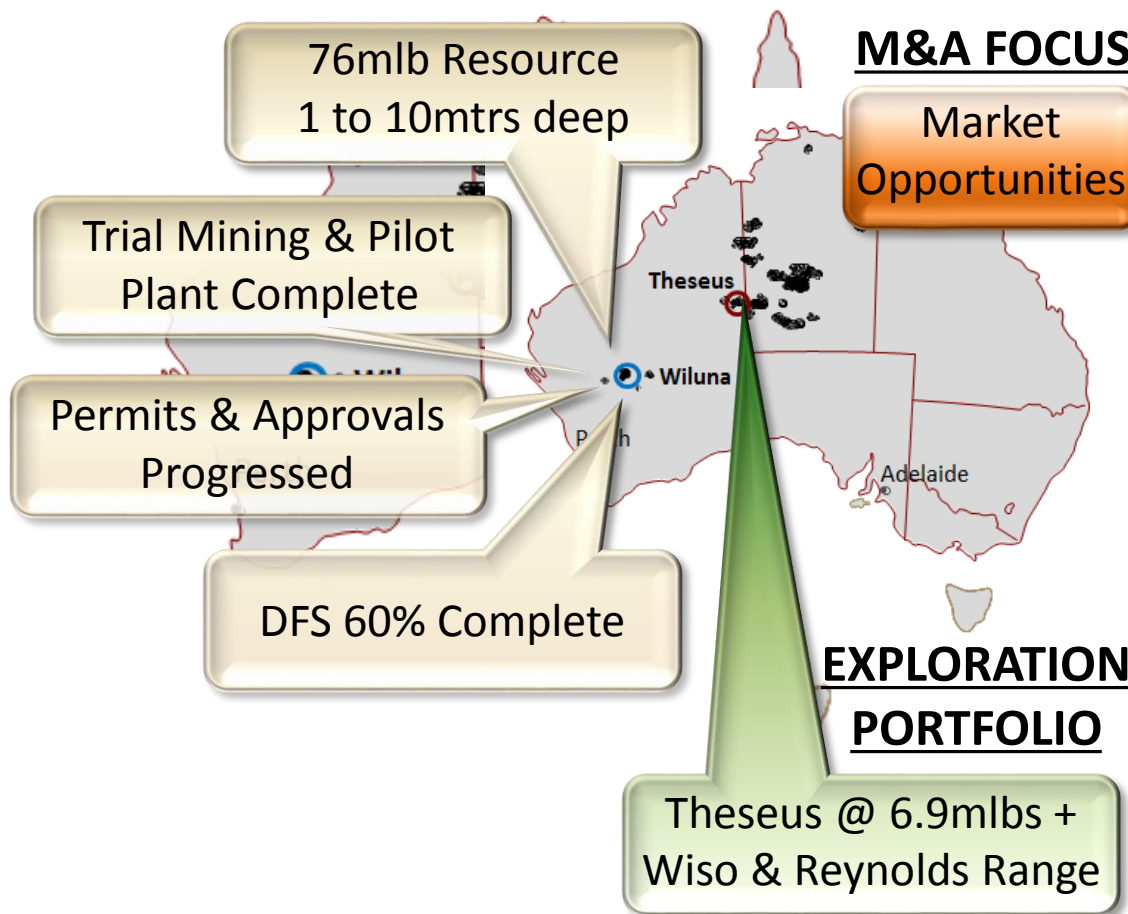


**Market Capitalisation**  
**AUD \$95M**



## GROWTH ASSETS & STRATEGY

### WILUNA URANIUM PROJECT

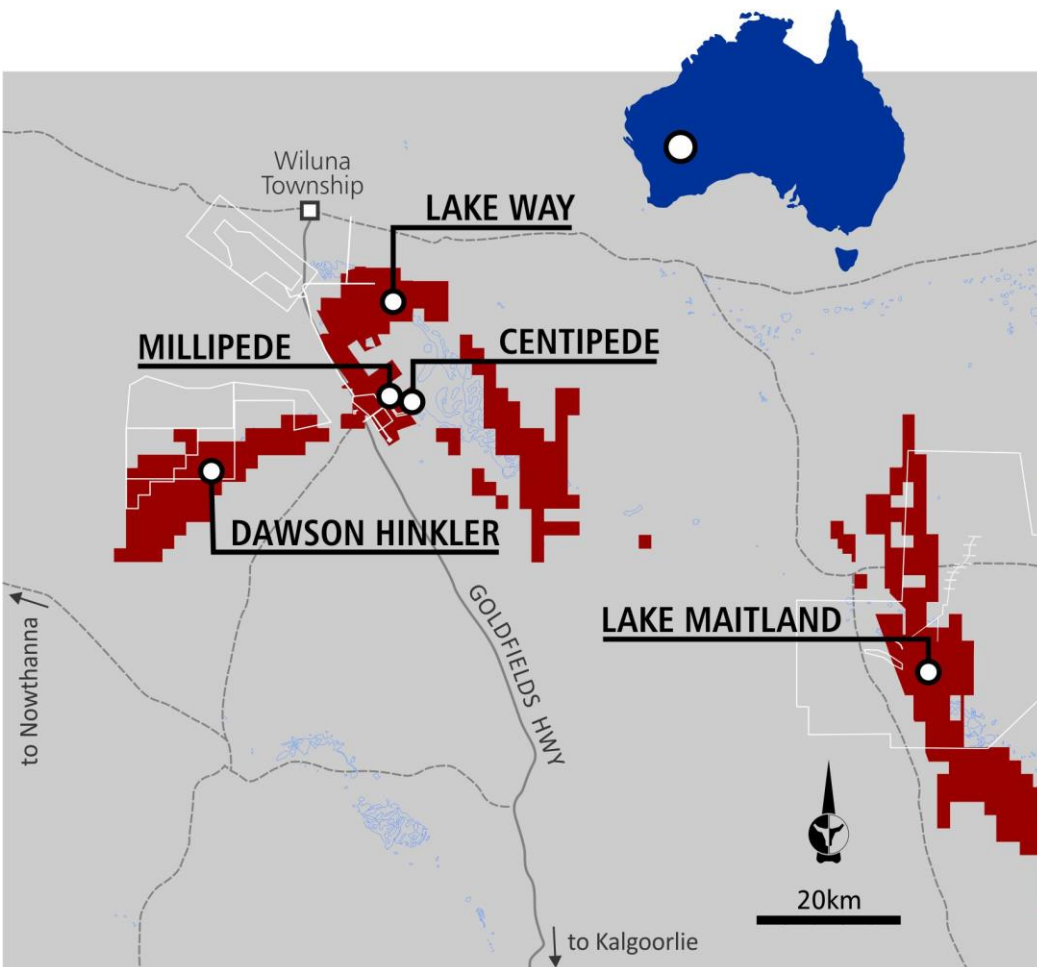




# Wiluna Uranium Project: an environmental approvals case study

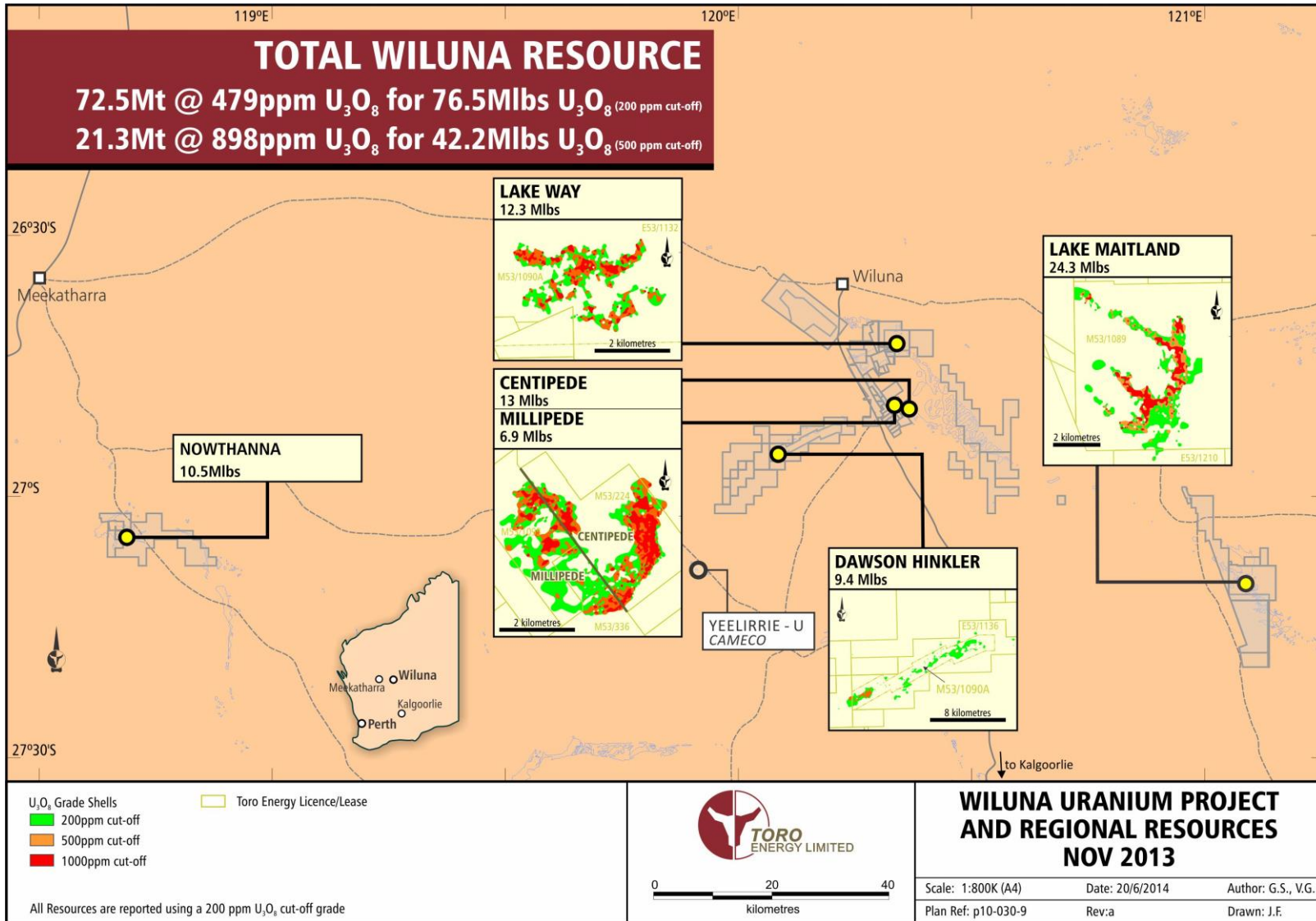


# Project Overview





# Six Regional Deposits





# Wiluna – Aligned with Market Recovery



Toro's flagship asset, the Wiluna project, has a development timeline well positioned for the anticipated uranium market recovery.

## *Internal*



### **Technical Confidence:**

- Resource
- Mining
- Processing
- DFS



- Environmental Approval
- Mining Leases
- Traditional Owner Agreements

*Technically Feasible*

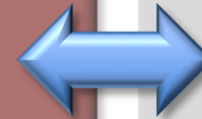
*Required Permissions*

## *External*



**Timing:**  
Supportive price environment approaching.

*Optimal Timing*





# Technical De-Risking

## Trial mining confirmed selective mining process



- Vermeer continuous miner cutting 25cm bench
- GPS/gamma logger for pit floor grade mapping
- Groundwater control systems



- ✓ *Ability to map and select higher grade confirmed*
- ✓ *Continuous miner confirmed efficient method*
- ✓ *In pit tailings deposition and full rehabilitation*
- ✓ *Groundwater control through water barriers*

## Pilot plant confirms Toro's proposed process



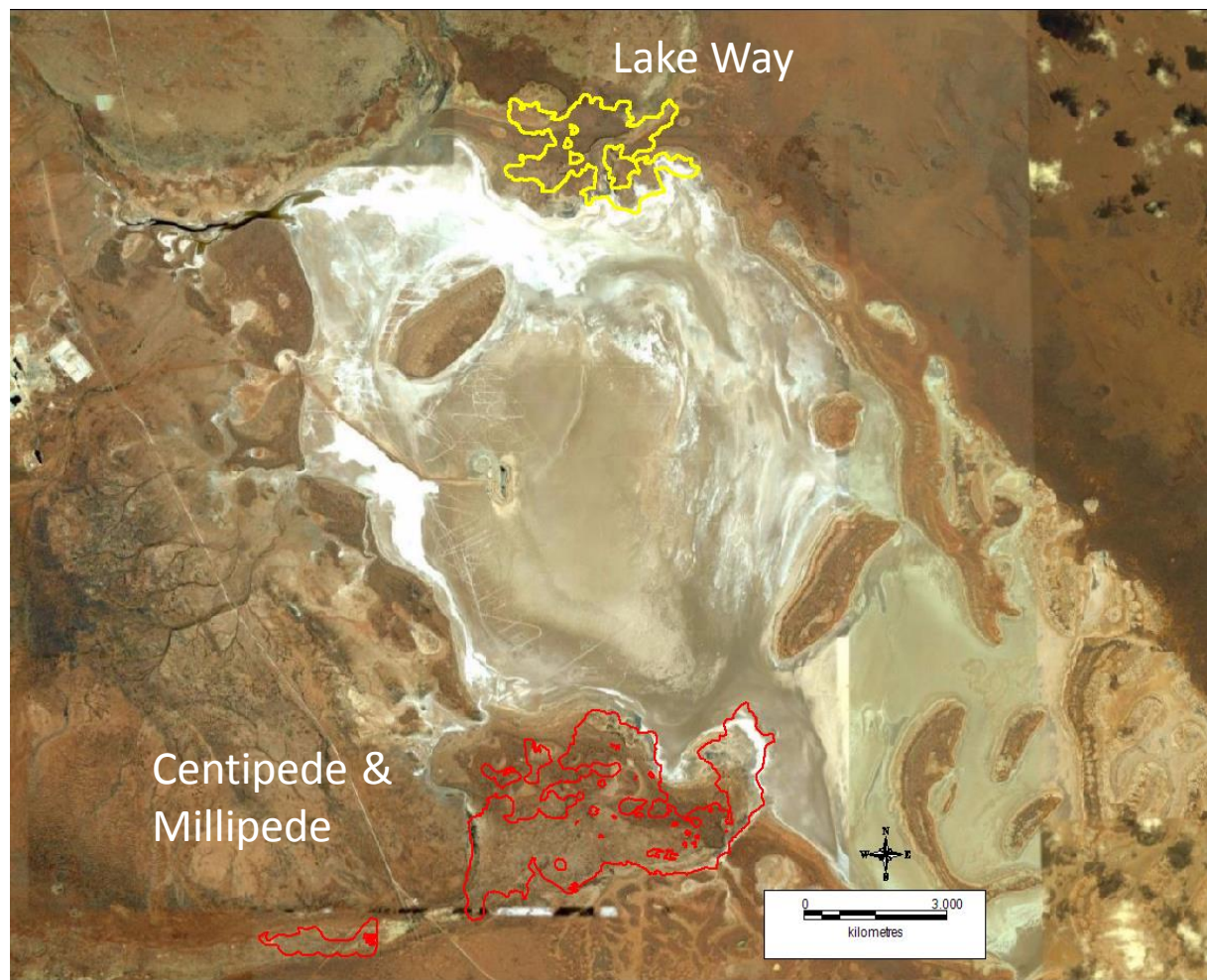
- Fully integrated continuous hydrometallurgical circuit
- Utilised 15 tonne sample from trial mining
- 40 tonne of site groundwater used in process
- Calcrete and clay dominant processes tested



- ✓ *Economic processing and recovery proven (~86%)*
- ✓ *Saline water used for processing*
- ✓ *Sample uranium to be sent to uranium converters*
- ✓ *Savings from coarser grind & lower leach temperature*



# Robust Project Economics



Parameter	January 2014 Economics
Processing Plant	1.3mtpa
Head grade	880ppm
Recovery	Ramping to 86%
C1 Cash Cost	USD \$29-31/lb
Capital Cost	AUD \$315m
Product (per annum)	1000t U <sub>3</sub> O <sub>8</sub> (2.1mlb)
Mining Duration	20+ years



# Wiluna – a Low Impact Project



- No discharge to surface waters
- No listed species of significance
- Re-use of all mine dewatering
- In-pit tailings storage
- CoGen power – heat and off gas recovery into processing facility
- No standing landforms post-mining
- Culturally sensitive areas excluded from mining





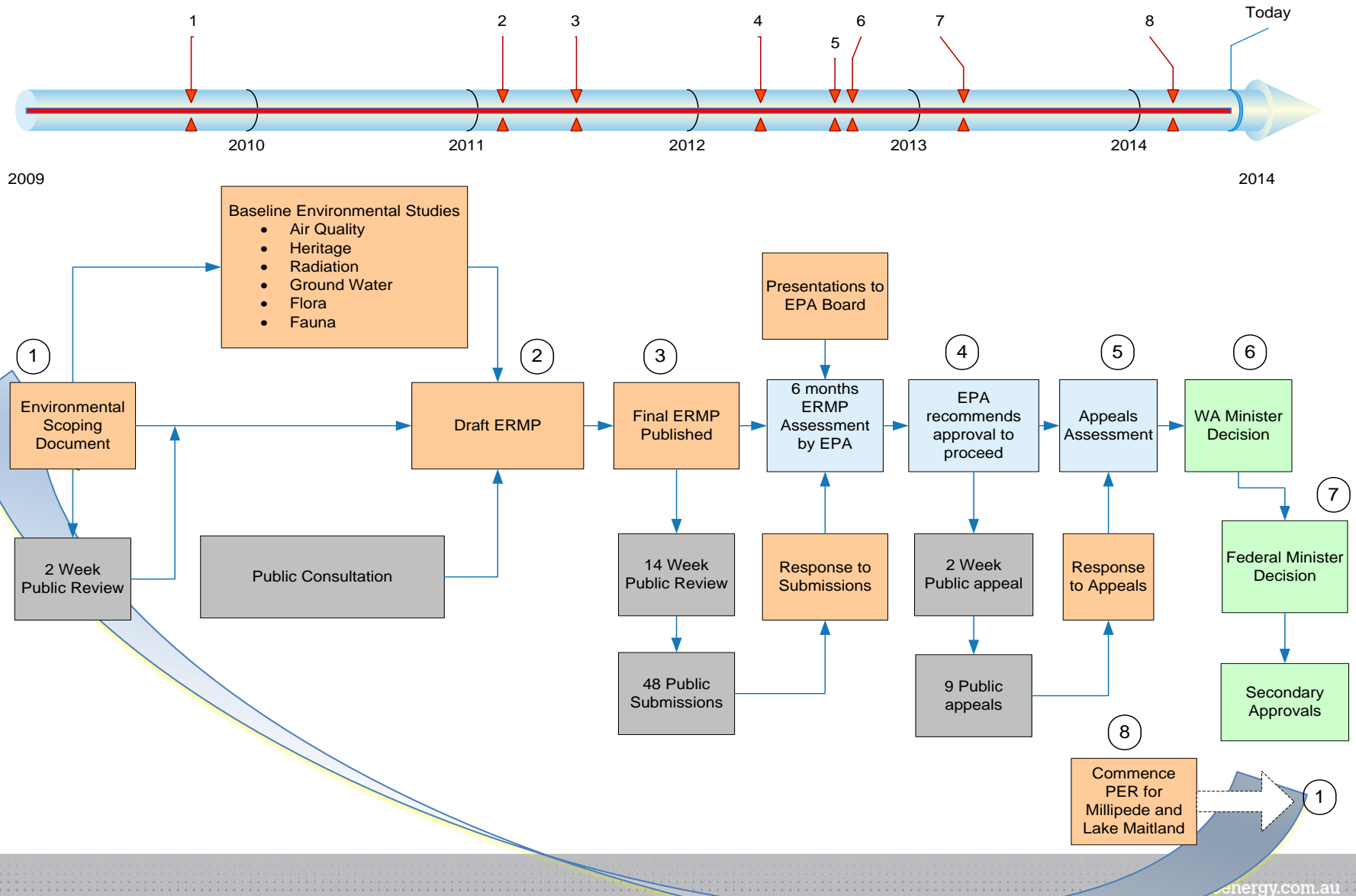
# Major Approval & Permitting Requirements



Wiluna Deposit	Government environmental approvals	Mining Leases Granted	Traditional Owner Agreement
CORE DEPOSITS	Centipede & plant	✓	2014
	Lake Way	Application	2014
	Millipede	Application	2014
	Lake Maitland	Application	2014
Dawson Hinkler	Post 2016	Application	Negotiations 2016
Nowthanna	Post 2016	Post 2016	Negotiations 2016



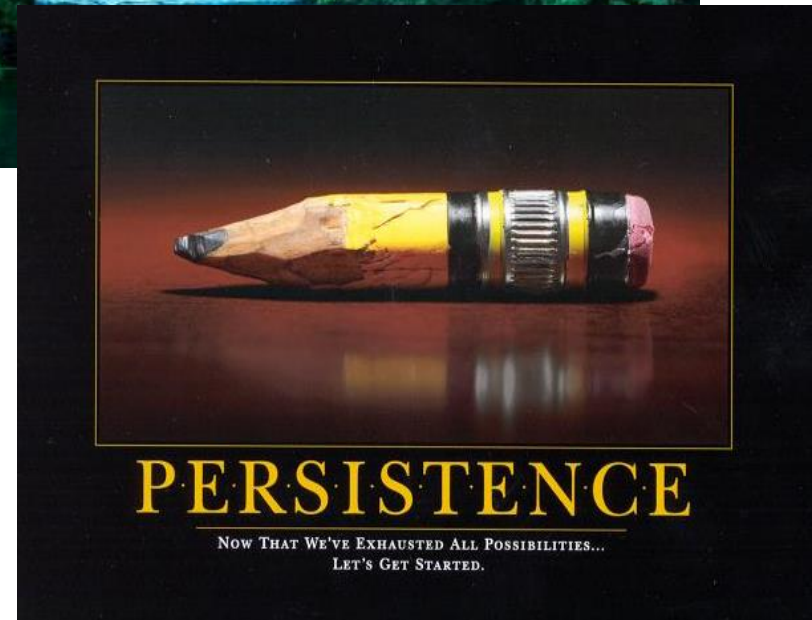
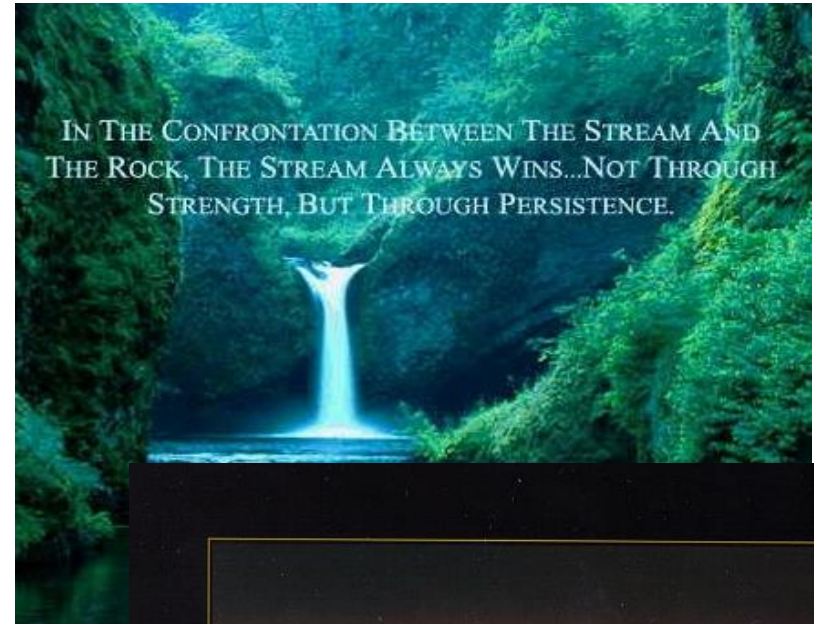
# 4 Year Approvals Process – the First “P”





# Government Approvals – the Second “P”

- Assessed under a bilateral agreement:
  - EPA (lead agency)
  - DEC                      • SEWPAC
  - DoW                    • DRET
  - DMP                    • OSS
  - DIA                    • Geoscience Australia
  - DMR                    • ARPANSA
  - WA Radiological Council
  - Local Councils
- 4000 pages of documentation
- 4 opportunities for public consultation
- 6 meetings with EPA Board
- Approval NOT under bilateral process





# Key Environmental Requirements

Risk-based assessment on key environmental factors:

- Groundwater
- Tailings
- Mine Closure
- Flora and Fauna
- Surface water
- Radiation
- Cultural Heritage





# Ministerial Approvals: The Second “P”



10/10/12  
Government of Western Australia  
Department of the Premier and Cabinet

  
Hon. Bill Marmion MLA  
Minister for Environment  
MEDIA STATEMENT

## Environmental approval granted for Toro

- Environment Minister reaches agreement with decision making authorities
- Toro Energy Limited's proposed uranium mine given strict conditions

Environment Minister Bill Marmion today announced the granting of final environmental approval, subject to a number of strict conditions, for Toro Energy Limited's proposed uranium mine near Wiluna.

Mr Marmion said his decision followed three weeks' consultation with other decision-making authorities, including the Minister for Mines and Petroleum and the Minister for Indigenous Affairs.

"In reaching this agreement I took into account comments made by agencies, including the Department of Environment and Conservation, resulting in even tighter conditions," he said.

"The new conditions will strengthen protection of stygofauna and groundwater-dependent vegetation, including Tecticornia samphires, and better address surface water flows, dust management and rehabilitation."

"Toro will also be required to manage vegetation and more so in areas partially impacted by the mine."

"Importantly, I have today subject to strict security standards."

The Liberal-National Government is committed to ensuring that uranium mining in WA will be subject to strict security provisions and world's best practice safety and environmental standards."

Media release  
2 April 2013

Fact File  
Toro Energy Ltd  
concentrates on  
deposits, spent  
Media contact: Simone

visit  
subscribe to have news

## The Hon Tony Burke MP Minister for Sustainability, Environment, Water, Population and Communities

### Wiluna Uranium Project Approved

Federal environment minister Tony Burke has approved, with 36 strict conditions, the Wiluna uranium project in Western Australia.

Mr Burke said with the conditions in place he is satisfied that the Wiluna project can go ahead without unacceptable impacts on the environment both during mining operations and beyond the life of the mine.

"My decision comes after a rigorous environmental assessment," Mr Burke said.

"In considering the proposal I received expert advice from Geoscience Australia, the Australian Radiation Protection and Nuclear Safety Agency, and the Supervising Scientist."

"These expert agencies provided advice to ensure that the proposal meets world's best practice environmental standards for uranium mining, and that the risks to the environment, including from radiation and to groundwater and surface water, can be acceptably managed."

"I have also considered public comments made throughout the assessment process in making my decision."

"The 36 strict conditions I have put in place will guard against any negative impacts from radiation or to groundwater and surface water, and include precautions to ensure that once the mine is closed, the site is safe for humans and animals, and is non-polluting."

"The measures that the company will use to achieve these requirements must all be detailed in an extensive and thorough environmental management plan which I must be satisfied with and approve before substantial works on the project can begin."

"The plan must describe how compliance with conditions will be achieved, and what action will be taken if conservative thresholds are exceeded."

Mr Burke said the Australian and Western Australian governments had worked together to share expertise and ensure conditions provide a high level of environmental protection.

*"The Liberal-National Government is committed to ensuring that uranium mining in WA will be subject to strict security provisions and world's best practice safety and environmental standards."*

WA Government Minister Marmion; 10 October 2012

*"My decision comes after a rigorous environmental assessment."*

Australian Government Minister Burke; 2 April 2013



# Outcome – Eight Month Delay



## ➤ 8 EPA recommended conditions

- EPBC “stop the clock” triggered
- WA Appeals Committee

*EPA recommends approval for Toro’s Wiluna Uranium Project in WA to proceed.*

Paul Vogel, EPA Chair; 21 May 2012



## ➤ 11 WA Ministerial conditions

- EPBC “stop the clock” triggered

*“The Liberal-National Government is committed to ensuring that uranium mining in WA will be subject to strict security provisions and world’s best practice safety and environmental standards.”*

WA Government Minister Marmion; 10 October 2012



## ➤ 36 Commonwealth Ministerial conditions

- EPBC “stop the clock” triggered
- 3 extensions of time
- Further information required repeated assessment process

*“My decision comes after a rigorous environmental assessment.”*

Australian Government Minister Burke; 2 April 2013



## ➤ No Federal Court Appeals



10 June 2013



# Impact













- \$5M extra project holding costs over 8 months
  - Delay in approvals can cause project to “miss the market window”
- Increased uncertainty for strategic project partners and investors
  - Loss of confidence in Australian sovereign risk profile
  - Asian investment partners reduced project interests due to “high sovereign risk”
- Extra conditions and operating costs
  - Duplication of conditions
  - Duplication of management plans
  - Duplication of 60+ secondary approvals



# Community Consultation: The Third “P”



- Industry collaboration on regional consultation program since 2008
- Information days in Wiluna, Kalgoorlie, Menzies and Leonora for ERMP
- Wiluna Shire (Local Government) adopted policy of support for uranium mining
- Consultation with Emergency Services
- Consultation with SA and NT Governments
- Issues raised:
  - Road vs. Rail
  - WA port
  - Transport Management
  - Emergency Response

			
 <b>WILUNA URANIUM PROJECT</b>			
<b>ENVIRONMENTAL REVIEW AND MANAGEMENT PROGRAMME (ERMP)</b> EPA Assessment No 1819  DECEMBER 2011			
<b>RESPONSE TO SUBMISSIONS</b> Responses by Toro Energy to submissions made during the public exhibition phase of the ERMP			
			
			



# Traditional Owner Interests

- 4 years of consultation
- Independent consultants
- Site visits to other mines
- Wiluna population ~ 650 – more than half indigenous
- Short term employment during technical site works
- Key issues:
  - Cultural Heritage Management
  - Bush Tucker
  - Radiation & Environmental Monitoring
  - Environmental Management
  - Land Rehabilitation





# Lessons to Learn



- One-Stop Shop
  - Assessment bilateral agreement
  - Approvals bilateral agreement
- One set of outcomes based conditions
  - Based on science and risk assessment
  - No duplication with Commonwealth
  - Coordination of State agency requirements
- Clarification of “stop the clock” provisions
- State-based regulation of operations



## Wiluna:

One of the few projects able to provide new production from 2016 to take advantage of the predicted U market upswing.

### The 3Ps

#### ➤ **Process**

- Sound science is fundamental
- There are no short-cuts (but can be lots of delays)!

#### ➤ **Persistence**

- Tell your story over and over again
- Every roadblock can be overcome

#### ➤ **Patience**

- Start early
- Expect all stakeholders to take longer to accept the project



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