

Appendix 7

Timeline of Uranium Mining in Australia

Historic Projects

Mine	Year	Action
Radium Hill	1930's	Ore obtained from underground mine at Radium Hill to recover minute amounts of radium for medical purposes
	1954	U/g mine recommissioned and operated by SA Government to satisfy a cost-plus contract signed by the Commonwealth and SA Government with the UK-USA Combined Development Agency for delivery of Uranium over 7 years.
	1954-61	Mine operated with annual output of 970,000 t of 0.09-0.13% ore and the treatment plant operated from 1956 to 1962 presumably treating c.120,000 t of the 0.59-0.76% U concentrate to produce 850 t of uranium oxide
	1954-55	Mypongs mine nearby contributed about 1t of U ₃ O ₈ (Uranium oxide) to the above
Rum Jungle	1949	Deposit discovered by local prospector
	1952 March	Commonwealth Government provided funds to set up mine to provide uranium oxide cons to the UK-USA Combined Development Agency (CDA) under a contract which ran from 1953 to 1962 <ul style="list-style-type: none">The Commonwealth, through the Australian Atomic Energy Commission (AAEC), was responsible for the mine, though management of it was on a contract basis by Territory Enterprises P/L a subsidiary of Consolidated Zinc P/L set up for that purpose. In 1962 Consolidated Zinc merged with interests of Rio Tinto Co Ltd to form ConZinc Rio Tinto of Australia Ltd.
	1950-53	The White's orebody developed underground

1953	White's open cut mine commenced
1954	Treatment plant commenced
1957-58	Dyson's open cut mined
1958	White's open cut mined out at depth of over 100m
1958	Small amount of ore mined from Mt Burton open cut
1958	Tailings from Rum Jungle put into White's Pit
1960	Rum Jungle South Creek orebody discovered by Territory Enterprises (no sales contract)
1961	Commonwealth Government decided to proceed with development and deposit was mined from 1961 to 1963 to a depth of 67m. Ore stockpiled for treatment beyond the Jan1963 expiry of CDA contract. <ul style="list-style-type: none">• The product was to be offered on the open market or stockpiled at AAEC in Sydney until market improved in the 1970's. About 2000 t of yellowcake was therefore stockpiled by the time the mine closed in 1971
Up to 1962	AAEC purchased high grade ore from other deposits for treatment at Rum Jungle
1962	Treatment plant changed process from acid leach and ion exchange to solvent extraction and magnesia precipitation to treat Rum Jungle ore.
1971	Mine closed
1977	Attempts to clean up Rum Jungle (it had become one of Australia's most notorious pollution problems)
1983-88	Commonwealth funded project to rehabilitate mine (\$16.2m)

	1990-91	Work to improve Rum Jungle waste dumps (\$1.8m)
Mary Kathleen	1954	Deposit discovered by Prospectors
	1955	Mary Kathleen Uranium Ltd (MKU) formed with majority of shares held by Rio Tinto Co of Australia Ltd.
	1956	Sales contract with UK Atomic Energy Authority signed
	1956 end of	Mining commenced
	1958 June	Treatment plant commissioned
	1958-63	First phase of mining – treated 2.9m t of ore at average grade of 0.135 for a yield of 4082t (4500 short tons or 9 million pounds weight of U ₃ O ₈) of uranium concentrate
	1960	Electric radiometric ore sorting introduced to concentrate ore prior to crushing which resulted in a head grade increase of 0.17% to 0.24%.
	1963 Oct	Mine closed and plant put on care an maintenance <ul style="list-style-type: none"> • Improvements in treatment plant meant the contract was filled faster than the 9yrs originally envisaged • Ore reserves of 2.8 m t at 0.148% remained
	1970's early	New contracts with utilities in Japan, Germany and the USA were negotiated
	1974	Recommissioning began, Co made share issue to raise capital and Commonwealth Government underwrote it through the Australian Atomic Energy Commission (AAEC)
	1976	Mine and mill reopened. The plants ion exchange section replaced with a more effective solvent extraction process
	1982	Mine depleted and mine finally closed down after 4802 t of uranium oxide cons had been produced in 2 nd phase of mining
	1985	Rehabilitation of site completed at a cost of \$19 m

1986	Rehab work won award from Institute of Engineers Australia for environmental excellence
Late 1980's	MKU liquidated after Mary Kathleen leases relinquished

Narbarlek

1959	Queensland Mines Ltd formed as uranium exploration company.
1970 May	Deposit discovered (small high grade deposit just inside Arnhem Land) <ul style="list-style-type: none">• Agreement reached with Northern Land Council (NLC) and other indigenous groups to enable development
1979	Queensland Mines opened N. Orebody mined out in just over 4 months of dry season and 600,000t with average grade of 2% ore stockpiled for treatment from 1980
1981-88	A total of 10,858 t of U ₃ O ₈ produced @ 1500t/y and sold to Japan, Finland and France
Post 1983	Narbarlek remained 1 of 3 mines approved under ALP 3 mines policy
1994	Part of plant sold after decontamination to very stringent standards - chemically and radiologically. Rehabilitation commenced
1995	Rehabilitation work completed at end of year
1998	Vegetation becoming well established with little erosion. <ul style="list-style-type: none">• Monitoring and research continues

South Alligator Mines	1953	First of a group of deposits/mines discovered <ul style="list-style-type: none">• 2 companies involved in area – United Uranium NL (UUNL) and South Alligator Uranium NL (SAU NL) – each with its own treatment plant drawing on ore from different mines
	1956-57	UUNL negotiated contract with US Atomic Energy Commission to supply 200t of pitchblende ore, and concentrates from El Sharana mine. Plant commenced production in October
	1957	SAU NL continued underground exploration at Rockhole prospect and discovered Coronation Hill orebody
	1958	SAU NL commenced construction of small treatment plant at Rockhole Creek
	1958	The two Co's (UUNL and SAUNL) contracted with UK Atomic Energy Authority for supply of uranium oxide from the South Alligator mines. <ul style="list-style-type: none">• UUNL then purchased North Hercules gold plant at Moline (65kms away) and converted it for acid leaching and solvent extraction of uranium oxide with magnesia precipitation
	1959 May	Moline plant commissioned
	1959 Sept	Rockhole Creek plant commissioned
	1962 June	Rockhole Creek plant reopened (for 3 months) to produce 24 t of U ₃ O ₈ for sale on open market.
	1962 end	Rockhole Creek plant sold and partly dismantled
	1963	UU NL treated 15,000 t of 0.69%U ₃ O ₈ of ore at Moline
	1964	Coronation Hill mine ended
	1964-65	Moline plant converted to extract Au from tailings and finished in Oct '65.

Current Projects

Jabiluka

Year	Action
1971	Jabiluka 1 uranium deposit discovered by Pancontinental Mining Ltd
1973	Further Drilling located larger Jabiluka 2 orebody (1km to east)
1977	Fox Inquiry presented its second and final report. The report found that the 'hazards of mining and milling uranium, if those activities are properly regulated and controlled, are not such as to justify a decision not to develop Australian uranium mines.' Pancontinental completed an Environmental Impact Statement for an underground mine and milling facilities at Jabiluka
1979 August	Environmental Impact Statement approved
1979 September	Release of the Agreed Working Arrangements on Procedures for Co-ordinating the Regulation of the Environmental Aspects of Uranium Mining in the Alligator Rivers Region.
1982	By end of year all necessary mining and environmental approvals had been obtained for underground mining of Jabiluka 2 orebody and Co cleared to seek sales contracts. Significant marketing progress was made and firm commitments obtained for supply of 15,600 t of uranium oxide over 10yrs. However in 1983 ALP Government came to power and withdrew approval and development ceased.
1982 July	Pancontinental reached an agreement with the Northern Land Council on mining at Jabiluka
1982 August	Mineral Lease MLN1 granted by Northern Territory for 42yrs following agreement with Northern Land Council (NLC) representing the traditional landowners
1983	ALP Government came to power and introduced "3 Mines" policy ending Jabiluka 2 work
1987	Pancontinental bought the 35% equity in project then held by Texaco.

1991 August	Energy Resources Australia Ltd (ERA) purchased lease from Pancontinental for A\$125 m NLC assigns Aboriginal agreement to ERA
1993	ERA undertook feasibility study (incl 12,000m drilling) ERA published proved and probable reserves of 19.5m t at average grade of 0.46% U ₃ O ₈ containing 90,400 tons of uranium oxide. ERA reduced projects footprint from 820 to 80 hectares
1995 September	Release of the Revised Working Arrangements for Co-ordinating the Regulation of the Environmental Aspects of Uranium Mining in the Alligator Rivers Region Memorandum of understanding (MOU) signed regarding the supervision and regulation of Environmental Aspects of Uranium Mining in the Alligator Rivers Region
1996 May	Senate Select Committee established on uranium mining and milling
1996 October	Draft Jabiluka EIS presented to Commonwealth and Territory Governments
1997 May	Senate Select Committee on uranium mining and milling released report
1997 June	EIS for the Ranger Mill Alternative (RMA) forwarded to Northern Territory and Commonwealth Ministers
1997 August	Commonwealth Minister for the Environment makes recommendations to the Minister for Resources and Energy on the RMA EIS
1997 October	EIS for mining Jabiluka 2 orebody and milling the ore at Ranger (Ranger Mill Alternative) approved subject to environmental conditions
1998 May	NLC approved development of underground mine thereby completing the Aboriginal approvals process under 1982 Agreement. <ul style="list-style-type: none">• ERA continues to negotiate with the traditional owners regarding the location of the mill.• Mine development is on standby with environmental maintenance and planning
1998 June	Jabiluka Mill Alternative (JMA) Public Environment Report (PER) submitted to Commonwealth Minister for the Environment Northern Territory Minister for Resource Development approves development of the Jabiluka mine
1998 August	Minister for Environment report ed to Minister for Resources and Energy on JMA PER

	Public Environmental Report (PER) on the alternative of milling ore at Jabiluka approved conditional upon all tailings being emplaced underground.
1998 September	Work on portal and decline commenced
1999 April	Senate Inquiry into Jabiluka Uranium Mine Project referred to Senate ECITA Committee
1999 June	Report of ECITA Committee into Jabiluka Uranium Mine Project released
1999 October	NLC advises that it will not consider the trucking of ore from Jabiluka to the Ranger mill for processing until at least January 2005
2000	Intensive drilling led to a revision of the overall resource <ul style="list-style-type: none">• Proved and probable ore reserves stand at 13.8Mt ore @0.51%, containing 71,000 t U₃O₈• Overall measured and indicated resources are 88,000 t U₃O₈ in 0.57% material, and inferred resources a further 75,000 t in 0.48%. (figures based on 0,20% cut off grade)
2000 November	Agreement between the Commonwealth and Northern Territory Governments in relation to principles to be applied in the regulation of uranium mining in the Alligator Rivers Region
2001 February	Jabiluka Authorisation A98/2 re-issued
Present	Jabiluka is on long term environmental care and maintenance. Company will not proceed to mine without consent of traditional landowners

Ranger

Year	Action
1969	Orebody discovered by a Joint Venture of Peko Wallsend Operations Ltd (Peko) and The Electrolytic Zinc Company of Australia Ltd (EZ)
1974	Lodge Agreement set up Joint Venture between Peko, EZ and the Australian Atomic Energy Commission (AAEC)
1974 February	Ranger Environmental Impact Statement completed
1974 May	First approval/authorisation issued (for sand dredging) by Mining Registrar
1975	Ranger Uranium Environmental Inquiry (Fox Inquiry) established to review effects of uranium mining in the Alligator Rivers Region
1976	First Fox Inquiry Report
1977	Fox Inquiry presented its second and final report. The report found that the 'hazards of mining and milling uranium, if those activities are properly regulated and controlled, are not such as to justify a decision not to develop Australian uranium mines.'
1977 August	Ranger Environmental Impact Statement approved by the Fraser Government
1978	Following a wide ranging public inquiry (the Ranger Uranium Environmental Inquiry) and publication of its 2 reports (Fox Reports), agreement was reached between the Commonwealth Government and the Northern Land Council (NLC), acting on behalf of the traditional owners. <ul style="list-style-type: none"> • Terms of the Joint Venture were finalised and Ranger Uranium Mines Pty Ltd was appointed manager of project
1979 January	26 year Authority to mine at Ranger granted by the Commonwealth Government. Constructed began immediately
1979 May	First authorisation issued under the Uranium Mining (Environmental Control) Act
1979 August	Commonwealth Government announced intention to sell interest in project. Energy Resources Australia Ltd (ERA) was set up with 25% equity holding by overseas customers
1979 September	Release of the Agreed Working Arrangements on Procedures for Co-ordinating the Regulation of the Environmental Aspects of Uranium Mining in the Alligator Rivers Region.

1980	Energy Resources of Australia Ltd established. In establishing the company the AAEC interest was bought out for \$125 million (plus project costs) and Peko and EZ became major shareholders. Ranger Uranium Mines P/L became a subsidiary of ERA
1980	Mine commenced operation
1981 October	Full production at rate of 3300t/y of concentrates
1982 June	Ranger General Authorisation A82/3 issued. This consolidated other authorisations issued since the project began.
1987-1988	EZ's interest in project taken over by North Broken Hill Holdings Ltd and that Co merged with Peko. <ul style="list-style-type: none">• Consequently ERA became a 68% subsidiary of North Ltd. And this holding was taken over by Rio Tinto Ltd in 2000
1992-1995	Mining of Ranger #1 on a campaign basis
1995 September	Release of the Revised Working Arrangements for Co-ordinating the Regulation of the Environmental Aspects of Uranium Mining in the Alligator Rivers Region Memorandum of understanding (MOU) signed regarding the supervision and regulation of Environmental Aspects of Uranium Mining in the Alligator Rivers Region
1996 May	Senate Select Committee established on uranium mining and milling Final approval to develop Ranger #3 granted
1997 May	Senate Select Committee on uranium mining and milling released report
1997	Completion of mill capacity upgrade
1998	Cameco obtained 6.45% interest in the company by its acquisition of Uranerz
1999 June	Commonwealth Environmental Requirements re-issued for the operation of the Ranger mine
2000	Rio Tinto took over ERA & North Ltd
2000 January	ERA's Authority (Section 41) to operate Ranger under the Atomic Energy Act was renewed for 21 years (plus 5 years rehabilitation period)

2000 March	Ranger General Authorisation A82/3 re-issued
2000 November	Agreement between the Commonwealth and the Northern Territory Governments in relation to principles to be observed in the regulation of uranium mining in the Alligator Rivers Region
2003 February	Amendments to General Authorisation A82/3. This version is known as Authorisation 0108-01

Beverley

Year	Action
1969	Deposit discovered by OTP Group (Olimin NL, Transol NL, & Petrmin NL)
1982	Draft EIS produced, but plans to mine by ISL were abandoned 1983 owing to ALP's "Three Mine Policy" and South Australian Government declaration that approval would not be granted
1983	Plans to mine by ISL abandoned when SA Government refused to grant permission for development to proceed (ALP "3 mines" policy). SA Government made it clear that mining lease would not be approved.
1990	Formation of Heathgate Resources Pty Ltd Deposit sold to Heathgate Resources Pty Ltd (affiliate of General Atomics of USA)
1996	Heathgate began reassessing Beverley Project
1997 Nov	Permission granted by South Australian Government to conduct field leach trials
1998	Successful field leach trial with recoveries 3x what was expected, establishing the project as commercially viable
1998 June-August	Draft Environmental Impact Statement released for public comment
1998 October	Supplement Environmental Impact Statement released
1999 March	Environmental and other approvals given and mine construction subsequently followed
1999 April	Mining Lease No. 6036 granted by South Australian Government and mine construction commenced
1999 July	Final Report by Heathgate Resources to Department of Primary Industry and Resources (PIRSA) on the 1998 field leach trials
1999 Mid	Construction of ISL plant commenced
2001 January	Commercial production commenced

Honeymoon

Year	Action
1972	Deposit discovered
1970's	Plans to develop and extract uranium oxide by ISL. Draft and Final EIS's produced.
1981	Both South Australian and Commonwealth environmental approval obtained for production of 450t/yr. Field tests carried out and pilot plant (110 t/yr) built
1983	Project abandoned due to the ALP's "3 mines" policy
1997	Sedimentary Holdings NL reached an agreement with MIM Holdings Ltd to acquire the Honeymoon and two adjacent deposits next to its own East Kalkaroo deposits (purchase funded by Southern Cross Resources Inc of Toronto Canada)
1997 June	South Australian Minister for Mines and Energy directed that an EIS be prepared
1997 August	Commonwealth Minister for the Environment and Heritage determined that an EIS be undertaken jointly with South Australia taking the lead role
1997 October	Declaration of Environmental Factors (DEF) written re: permission to conduct trials. Was not made public until after April 1998 when permission was granted
1997 October- November	Draft EIS Guidelines released for Public Comment
1998	Field leach trials using refurbished plant resumed, and have confirmed viability
1998 August	Final EIS Guidelines released
1999 April	Agreement reached with Original Native Title claimants, the Kuyani
2000 June- August	EIS covering Honeymoon-East Kalkaroo deposits on 5 Mineral Claims released
2000 July	Public meetings held in Cockburn and Adelaide

2000 Nov	Response Supplement for Honeymoon Uranium Project EIS released, and conditional approval for granted
2001 Jan	Assessment Report on the EIS for the proposed Honeymoon Project released by Environment Australia (EA)
2001 February	Commonwealth Minister for the Environment and Heritage indicated that additional information was required Terms of reference for Additional Evaluation of Aquifer released by Commonwealth Minister
2001 July	Honeymoon Uranium Project, Further Characterisation of the Yarramba Palaeochannel Report released by SXR (summarising 3 technical reports commissioned by SXR) Environment Australia commissioned 3 expert assessments of the above reports, by the Australian Geological Survey Organisation (now Geoscience Australia), the Bureau of Rural Sciences and Dr Mark Pirlo.
2001 Nov	Addendum to the Assessment Report on EIS released by EA
2001 Nov 21	Federal Minister for the Environment and Heritage announced approval of EIS
2001 Nov 26	Federal Minister for Industry, Science and Resources issued an Export Licence for the export of natural uranium concentrates from Honeymoon
2001 Dec	State Mining Lease Approval
2002 Feb 7	A Native Title Agreement was concluded with the Adnyamathanha Native Title Claimants. Mining Lease 6091 was issued by Minister for Primary Industry and Resources of the SA Government

Major Commonwealth Inquiries and Reports relating to Uranium Mining.

- 1976 October First Fox Report – Ranger Uranium Environmental Inquiry - Whether Australia should mine and export uranium
- 1977 May Second Fox Report - Ranger Uranium Environmental Inquiry – Proposed Development of Ranger
- 1986 October Ranger Uranium: Water Management System PPN0. 273/86. Government responded in November 1987 - House of Representatives inquiry
- 1988 November The Potential of the Kakadu National Park Region, PPN0. 389/88 - Senate Standing Committee on Environment, Recreation and the Arts.
- 1991 Mining and Minerals Processing in Australia (4 Vols) – Industry Commission
- 1991 April Kakadu Conservation Zone Inquiry Final Report – Resources Assessment Commission
- 1996 April Report of the Senate Select Committee on Radioactive Waste. In response to this the Senate decided to reconstitute the Committee as the Select Committee on Uranium Mining and Milling.
- 1996 May Senate Select Committee established to report on Uranium Mining and Milling
- 1997 May Senate Select Committee on Uranium Mining and Milling released report
- 1999 April Australia's Kakadu – Government response to UNESCO World Heritage Committee regarding Kakadu National Park.
- 1999 April Senate Inquiry into Jabiluka Uranium Mine Project referred to ECITA Committee
- 1999 June Report of ECITA Committee into Jabiluka Uranium Mine Project released
- 2002 June Senate Inquiry into Environmental Regulation of Uranium Mining