

## Rum Jungle Mine History - Discovery and Exploration

This section deals with the history of the Rum Jungle site from the perspective of discovery of uranium mineralisation in 1869 through to the commencement of full scale mining and production of  $U_3O_8$  in 1953. It does not deal with the overall history of the Batchelor region, readers who wish to know more about the rich history of the region are encouraged to, in the first instance, read Douglas Barrie's book; *The Heart of Rum Jungle*. Another interesting source of information about uranium exploration and discovery in the Northern Territory during the 1950's and 1960's is Ross Annabell's book *The Uranium Hunters*.

Uranium mineralisation was discovered in the Rum Jungle area in 1869 by Goyder's survey party, however it was not recognised as such at the time and remained unrecognised until White's discovery in 1949. Barrie in his book "*Heart of Rum Jungle*" published in 1982 states that in 1912, Dr H L Jensen the then Government Geologist, reported the existence of uranium in the Rum Jungle area<sup>1</sup>. Copper was mined on a small scale between 1905 and 1907 without much success from a series of shallow pits and shafts

In 1913 two diamond drill exploration holes were drilled to test the copper mineralisation at depth. Dr H L Jensen, Director of Mines, reported in March 1915<sup>2</sup>;

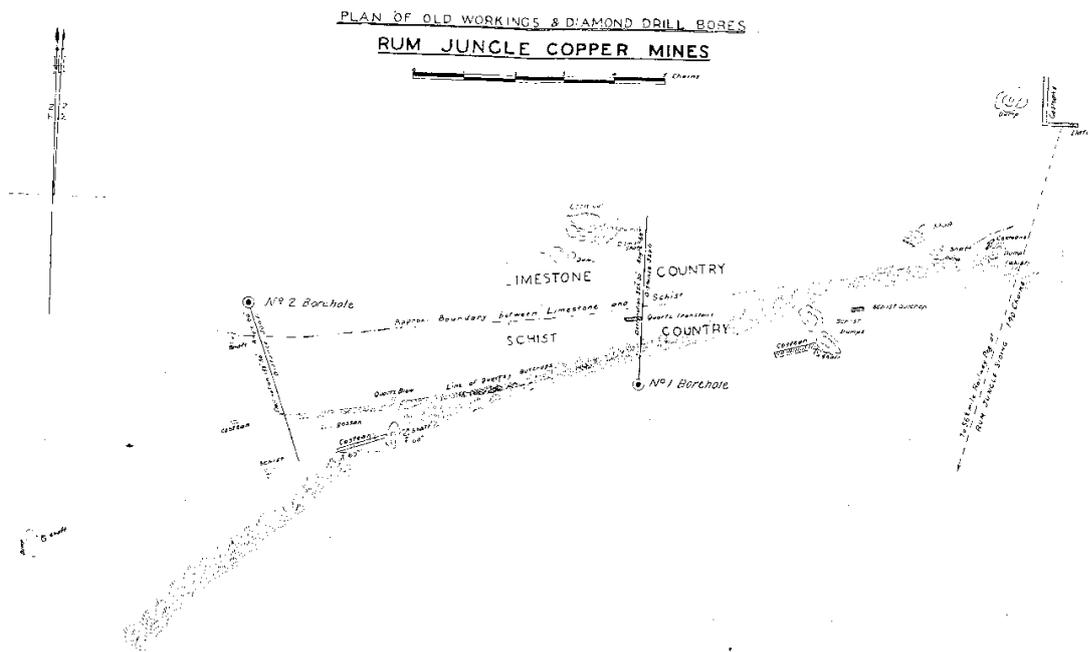
*"Two holes were put down in this locality to test a large formation impregnated with copper in the surface zone to the extent of from 3 per cent. to 5 percent. Rich bunches of copper ore had been worked in this locality a number of years ago. The Government sank these bores on the £ for £ principle, the company represented by Mr. C. G. Gibson, which had an option over the property, having agreed to pay half the cost.*

*The two bores put down were, in my opinion, wholly inadequate to thoroughly test the property, and the results of assays made of the cores of these proving unsatisfactory, Mr. Gibson's principals were not prepared to go on with the expenditure by sinking further bores. I offered the owners of the property to continue the boring to make the test complete if they would enter into an agreement to repay the costs of boring if a successful issue resulted. This they were not prepared to do, and the matter dropped."*

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<sup>1</sup> Barrie, DR, 1982, '*The Heart of Rum Jungle*', The Dominion Press, Hedges and Bell. p. 142.

<sup>2</sup> Jensen, HI. 1913, Report on Diamond Drilling in the Northern Territory, Bulletin of the Northern Territory of Australia, Bulletin No 12, March 1915, p. 7



On the 5<sup>th</sup> April 1948 an announcement in the Commonwealth Gazette stated that rewards would be paid for the discovery of uranium in Australia and its territories. The maximum amount of the reward was fixed at £25,000.<sup>3</sup>

<sup>3</sup> Barrie, DR, 1982, 'The Heart of Rum Jungle', The Dominion Press, Hedges and Bell. p. 145

4. Where the Minister considers that the deposit containing uranium ore is sufficient to be of economic importance, he may approve of a reward of up to One thousand pounds (£1,000).

5. Where a deposit is such that, in the opinion of the Minister, it is capable of producing twenty-five (25) tons or more of uranium oxide, he may approve of a reward of One thousand pounds (£1,000) and he may also approve of an additional reward at the rate of Two thousand pounds (£2,000) in respect of each twenty-five (25) tons of uranium oxide which the deposit is capable of producing.

6. Where, in the opinion of the Minister, a deposit of uranium ore is capable of producing more than twenty-five (25) tons of uranium oxide, the rate of reward may be calculated *pro rata* in respect of the excess over twenty-five (25) tons.

7. The maximum amount of any reward for any discovery of a deposit containing uranium ore shall be Twenty-five thousand pounds (£25,000).

8. Payment of any reward shall be by lump sum or by such instalments payable at such times as the Minister for Supply and Shipping determines.

9. Where two or more persons apply for the grant of a reward in respect of the discovery of the same deposit containing uranium ore, the Minister for Supply and Shipping may, if he approves of a reward, grant the reward to one applicant only or he may apportion the reward among any two or more of the applicants in such proportions as he thinks fit according to his view of the merits of the applicants.

10. Where application is made for the grant of a reward, the application may be granted wholly or in part or refused at the absolute discretion of the Minister for Supply and Shipping.

11. The grant of any reward exceeding One thousand pounds (£1,000) shall be subject to the consent of the Treasurer being given to the grant.

12. An officer or employee of the Crown (whether in the right of the Commonwealth or a State) who makes a discovery of a deposit of uranium ore in the course of his official duties as an officer or employee shall not be eligible for the grant of a reward.

13. The invitation to apply for rewards shall be considered to be withdrawn upon publication of a notice in the *Commonwealth of Australia Gazette* that the Minister for Supply and Shipping has decided that grants of rewards for the discovery of deposits containing uranium ore shall no longer be made.

14. The invitation to apply for a reward in respect of any discovery of uranium ore is not to be regarded as an offer the acceptance of which will give rise to a contract to pay a reward in respect of that discovery.

Dated this twenty-fourth day of March, 1948.

W. P. ASHLEY

Minister for Supply and Shipping.

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COMMONWEALTH OF AUSTRALIA.

REWARDS FOR DISCOVERY OF URANIUM ORE IN THE COMMONWEALTH AND ITS TERRITORIES.

PERSONS making discoveries of deposits of uranium ore are invited to apply to the Secretary, Department of Supply and Shipping, Melbourne, Victoria, for the grant of a reward.

2. An application for the grant of a reward in respect of a discovery of a deposit containing uranium ore will only be considered if the deposit containing uranium ore is distant not less than 15 miles from any other deposit the existence of which is recorded in a list kept by the Secretary, Department of Supply and Shipping.

3. Where, in the opinion of the Minister for Supply and Shipping, the deposit containing uranium ore is not sufficient to be of economic importance, but would justify prospecting in the neighbourhood for further deposits of uranium ore, the applicant may apply for a reward, and the Minister shall determine in such cases what reward, if any, should be granted.

Economic uranium mineralisation was discovered in the Rum Jungle area by a local prospector and farmer, John (Jack) Michael White, on the 11<sup>th</sup> August 1949. White owned a farm on the East Branch of the Finnis River about 5 kilometres downstream from the area where he discovered what he termed a 'distinctive and unfamiliar mineral occurrence'.

During this period it was common for prospectors in the region to reward local aboriginal people to bring them interesting stones they found<sup>4</sup>, some of the mineral discoveries in the region can be attributed to this

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<sup>4</sup> Mills, K. – pers. comm. December 2010

practice. Given that Jack White had an aboriginal partner at this time the potential for her contribution to the discovery cannot be discounted.



Jack White (1955) – photo National Archives of Australia: A1200, L19444

White believed the discovery to be uriferous, based on referring to a Bureau of Mineral Resources (BMR) coloured illustrative pamphlet on radioactive minerals.<sup>5</sup>

On the 12<sup>th</sup> August 1949 White went back to the spot and dug a trench 15 feet long and collected green and yellow rock samples which he delivered to the Mines Branch in Darwin the next day.<sup>6</sup>

The Minister for the Interior, Mr H.V, Johnson announced the find on the 6<sup>th</sup> September 1949.<sup>7</sup>

White was unable to be granted a lease or claim as the land on which he made the discovery was freehold and also because of the control of material (mineral) laws. He was paid £1,000 for his discovery in October 1950, this was on the basis of a proven deposit of 25 tons of uranium oxide. A second payment of £7,000 was made in September 1952 after further exploration had been carried out. Once the existence of a substantial body of ore was confirmed the Federal Government paid White a third reward payment of £17,000 this being the last payment of a total of £25,000 (\$760,000 in 2009 dollars)<sup>8</sup> for his uranium find.<sup>9</sup>

Exploration of the area undertaken by Bureau of Mineral Resources (BMR) between 1949 and 1952 established the existence of a viable ore deposit known as White's, in addition prospective anomalies were also identified at Dyson's and Mount Fitch<sup>10</sup>. Exploration continued with the sinking of two shafts to a depth of 100 feet. On the 1<sup>st</sup> November 1951 a cross cut from one of the shafts entered ore at 22 feet from the shaft and it extended for a considerable distance in high grade ore.

Following is an article from Time Magazine dated 15<sup>th</sup> September 1952:

*"From Darwin to Melbourne, the word had got around that Australia's vast, tropical Northern Territory was bursting with uranium. Hundreds of adventurous young men from Australia's overcrowded southern cities, plus many an old gold fossicker from West Australia, were making their way up through the desert by jeeps, horse-drawn wagons, on horseback, even in airplanes. In Darwin, Geiger counters were sold out as fast as they came into the store. One newspaper advertised counters: "Find Uranium and Make Your Fortune"*

*The excitement had begun at Rum Jungle, 60 miles south of Darwin, where a prospector named Jack White uncovered a three-mile-long lode of uranium-bearing ore in 1949. Australia was then too busy and prosperous selling wool at fancy prices to bother about uranium, but a growing dollar shortage renewed government interest in uranium production.*

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<sup>5</sup> Berkman DA, The Geology of the Rum Jungle Uranium Deposits, in proceedings AusIMM Rum Jungle Branch, Symposium Uranium in Australia, Rum Jungle . Moline . Mary Kathleen, June 16 – 21 1968, p 12

<sup>6</sup> Barrie, DR, 1982, 'The Heart of Rum Jungle', The Dominion Press, Hedges and Bell, p . 145.

<sup>7</sup> Barrie, DR, 1982. 'The Heart of Rum Jungle', p 145. The Dominion Press, Hedges and Bell, pp. 145, 148.

<sup>8</sup> Reserve Bank of Australia Inflation Calculator - <http://www.rba.gov.au/calculator/annualPreDecimal.html>

<sup>9</sup> Barrie, DR, 1982, 'The Heart of Rum Jungle', The Dominion Press, Hedges and Bell, p . 149..

<sup>10</sup> Berkman, DA, The Geology of the Rum Jungle Uranium Deposits, in proceedings AusIMM Rum Jungle Branch, Symposium Uranium in Australia, Rum Jungle . Moline . Mary Kathleen, June 16 – 21 1968, pp 12 - 31

*Last month new discoveries were reported: 1) on the Edith River, 190 miles south of Darwin, and 2) 1,500 miles away, in South Australia, not far from Radium Hill (which has yielded low-grade radioactive minerals for years). The Australian government promises rewards up to \$55,000<sup>11</sup> for further discoveries.*

*Some Australian uranium ore is already being shipped to the U.S. Under a new agreement now being negotiated, the U.S. will buy most of the uranium Australia can mine in its newly discovered fields. Conscious of the danger of espionage (see above), the Australian government has put the uranium fields out of bounds except for screened personnel.”<sup>12</sup>*

In March 1952, representatives of the United States Atomic Energy Commission (USAEC) and of the United Kingdom Atomic Energy Authority (UKAEA) visited Australia to discuss, among other things, the development of the Rum Jungle Uranium field. This led to the provision of funds to develop the Rum Jungle project by the Combined Development Agency and the signing of an exclusive supply contract between the Commonwealth and the CDA<sup>13</sup>.

The U<sub>3</sub>O<sub>8</sub> produced between the commencement of production in 1954 and January 1963 was used to fill the supply contract with the Combined Development Agency<sup>14</sup> (CDA), the CDA would be the sole customer of the mine.

*“Menzies believed that selling to the Combined Development Agency was 'a matter of importance to the free world'. Nevertheless this did not stop some of his Ministers from openly questioning whether Australia was obtaining the best financial return from such an arrangement. The issue came up in July 1952 when Cabinet discussed proposals to develop the even larger uranium deposits discovered at Rum Jungle in the Northern Territory. The proposal once again was for Australia to develop and operate the mine and for the Combined Development Agency to purchase the entire output. Cabinet was told that the United States was expanding its atom bomb building program so that 'the Western World could smash the Russians' in the event of war. The Combined Development Agency's offer was to pay 70 per cent of the cost of production, plus £2/5/0 per pound of ore for a period of 10 years. Harold Holt, the Minister for Labor and National Service, thought contributing to 'mutual defence' was all well and good, but he was concerned Australia was 'not making much of a profit'. Defence Minister Philip McBride agreed, and claimed that Canada was getting a much better price for its uranium. External Affairs Minister, Richard Casey, put an even more bizarre twist on the discussions: because Australia was 'putting something into the kitty of great value' in the West's fight against communism, they should 'get credit for it – perhaps fighter planes'.<sup>15</sup> During these deliberations General Jack Stevens, Secretary of the Department of Supply, was brought into the Cabinet Room to address the various concerns raised. He assured Cabinet the agreement offered 'a very favourable deal', although 'not a Father Xmas deal for us'. [20] Cabinet subsequently set up a sub-committee to explore the issue in even greater detail and eventually recommended acceptance of the original offer. A 10-year agreement between the*

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<sup>11</sup> \$US 1952

<sup>12</sup> <http://www.time.com/time/magazine/article/0,9171,816955,00.html#ixzz19Y2YEmXw>

<sup>13</sup> Davy, DR, 1975. 'Rum Jungle Environmental Studies, Chapter 1 Managerial History of the Rum Jungle Project', AAEC Research Establishment, Lucas Heights.

<sup>14</sup> The Combined Development Agency (CDA) was a defence purchasing authority established in 1948 by the governments of the United States and the United Kingdom. Its role was to ensure adequate supplies of uranium for the respective countries weapons development programmes. The agency initiated a range of incentives to several countries to encourage exploration and a fast build up of mineral reserves. The main countries targeted for the programmes were the US, Canada, South Africa, and to a limited extent Australia. – source: Wikipedia

<sup>15</sup> National Archives of Australia - <http://www.naa.gov.au/collection/explore/cabinet/notebooks/events-issues-1952.aspx>

federal government and the Combined Development Agency for the development and sale of uranium deposits at Rum Jungle was signed in January 1953."

The Commonwealth Government held title to uranium under the *Atomic Energy (Controls of Materials) Act 1942-1952*, superseded by the *Atomic Energy Act, 1953*, under which the Australian Atomic Energy Commission (AAEC) was formed in April 1953. In 1953 the Commonwealth declared the Hundred of Goyder, which the Rum Jungle site was approximately in the centre of, a restricted area. A Hundred was a land division unit used by Goyder when surveying the Top End in 1869, it was approximately 168 square miles, and was based on the amount of land assumed to be needed to support 100 families.

No. 58.—28th August, 1952

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Commonwealth Gazette

**THE SCHEDULE.**

The whole of the land in the Hundred of Goyder in the County of Palmerston in the Northern Territory.

Dated this twentieth day of August, One thousand nine hundred and fifty-two.

P. A. McBRIDE  
Minister of State for Defence.

*Defence (Special Undertakings) Act 1952.*

DECLARATION OF A SPECIAL DEFENCE  
UNDERTAKING.

WHEREAS by section six of the *Defence (Special Undertakings) Act 1952* it is provided that a work or undertaking which—

- (a) is being carried out, or is to be carried out, whether within or without Australia, for or in relation to the defence of Australia, or in part for or in relation to the defence of Australia and in part for or in relation to the defence of some other part of the Queen's dominions or of some other country associated with Australia in resisting or preparing to resist international aggression; and
- (b) is declared by the Minister by notice in the *Gazette*, to be a special defence undertaking,

is a special defence undertaking for the purposes of the said Act:

And whereas the mining, recovering, treating and processing of uranium and other prescribed substances as defined by the *Atomic Energy (Control of Materials) Act 1946-1952* in the vicinity of Rum Jungle in the Northern Territory is a work which is being carried out and is to be carried out for and in relation to the defence of Australia:

Now therefore I, Philip Albert Martin McBride, the Minister of State for Defence, hereby declare the mining, recovering, treating and processing of uranium and other prescribed materials as defined by the *Atomic Energy (Control of Materials) Act 1946-1952* which is being carried out and is to be carried out in the vicinity of Rum Jungle in the Northern Territory to be a special defence undertaking.

Dated this twentieth day of August, One thousand nine hundred and fifty-two.

P. A. McBRIDE  
Minister of State for Defence.

*Defence (Special Undertakings) Act 1952.*

DECLARATION OF A PROHIBITED AREA.

WHEREAS by section eight of the *Defence (Special Undertakings) Act 1952* it is provided that if it is necessary for the purposes of the defence of the Commonwealth so to do, the Minister may, by notice published in the *Gazette*, declare an area of land or water or an area of land and water (whether or not it belongs to or is used for the purposes of the Queen, the Commonwealth or a State) to be, for the purposes of that Act, a prohibited area:

And whereas it is necessary for the purposes of the defence of the Commonwealth that the area of land described in the Schedule to this Declaration be declared to be, for the purposes of that Act, a prohibited area:

Now therefore I, Philip Albert Martin McBride, the Minister of State for Defence, hereby declare the area of land described in the schedule to this Declaration to be, for the purposes of the *Defence (Special Undertakings) Act 1952*, a prohibited area.

The Commonwealth entered into a contract with the Consolidated Zinc Group in August 1952 to develop and operate the Rum Jungle project on behalf of the Commonwealth. In 1952 Consolidated Zinc formed a wholly owned subsidiary, Territory Enterprises Pty Ltd (TEP) to manage all aspects of the operation including exploration, mining and milling .<sup>16</sup> On the 1<sup>st</sup> of January 1953 TEP took over development and management of Rum Jungle as an agent for the Commonwealth.<sup>17</sup>

In 1962, Consolidated Zinc merged with the Rio Tinto Mining Company of Australia Ltd to form Conzinc Riotinto of Australia Ltd (CRA) without the change of arrangements between TEP and AAEC.<sup>18</sup>

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<sup>16</sup> Berkman DA, The Geology of the Rum Jungle Uranium Deposits, in proceedings AusIMM Rum Jungle Branch, Symposium Uranium in Australia, Rum Jungle . Moline . Mary Kathleen, June 16 – 21 1968, p 12.

<sup>17</sup> Davy, DR, 1975. 'Rum Jungle Environmental Studies, Chapter 1 Managerial History of the Rum Jungle Project', AAEC Research Establishment, Lucas Heights, p. 1.2

<sup>18</sup> Davy, DR, 1975. 'Rum Jungle Environmental Studies, Chapter 1 Managerial History of the Rum Jungle Project', AAEC Research Establishment, Lucas Heights, p. 1.2