

SUMMARY OF STATE HERITAGE PLACE

REGISTER ENTRY

Entry in the South Australian Heritage Register in accordance with the
Heritage Places Act 1993

NAME: Radium Hill Townsite and Cemetery **PLACE NO.:** 21246

ADDRESS: Maldorky Station, off the Barrier Highway, East of Olary
CL1338/32 H835400 BL1192 Hundred of Olary

STATEMENT OF HERITAGE SIGNIFICANCE

Radium Hill Townsite and Cemetery are significant for their close associations with the early development of uranium mining in South Australia. Radium Hill has a number of important historic associations, including as the site of one of Australia's earliest uranium finds, its naming by Douglas Mawson, and desultory mining activities from 1906 to the early 1940s. However, it was not until after the Second World War that the location really came into prominence.

The destruction of Hiroshima in 1945 not only heralded the end of the Second World War, but also played a crucial role in the inception of the Atomic Age. The subsequent development and use of nuclear technology required fuel, and Radium Hill was recognised as a potential source of uranium, with exploration recommencing there in 1947. Within two years, a decision was made to establish a uranium mine at Radium Hill, with construction of a crushing and sampling plant, the passing of the Uranium Mining Act, and the first structures of the Radium Hill township appearing by the end of 1949. In 1951, Premier Thomas Playford escalated the importance of Radium Hill by negotiating with the US Atomic Energy Commission and the Combined Development Agency to create an agreement for supplying uranium to the United States, and by 1954, full-scale mining and processing was underway at the site. The township expanded to meet the needs of the increased activity and growing workforce, and by the end of the 1950s, Radium Hill sported churches, schools, housing, swimming pools, entertainment venues and a cemetery.

However, the initial optimism of the settlement experienced a setback when output from the mine struggled to compete with higher quality ore available internationally. By 1961, the mine at Radium Hill was forced to close and the township was subsequently abandoned, with many of the buildings and structures being demolished or removed. The surviving fabric at the Radium Hill Townsite and Cemetery, including watertank, building remains, swimming pool, foundations, piers, street layout, garden

beds and gravesites provides evocative evidence of South Australia's early and pivotal role in the finding and exploiting of uranium, and its rapid decline in the face of competing market forces.

RELEVANT CRITERIA (under section 16 of the *Heritage Places Act 1993*)

(a) it demonstrates important aspects of the evolution or pattern of the State's history.

Radium Hill Townsite and Cemetery demonstrates important aspects of the evolution and pattern of uranium mining in South Australia, and have significant associations with South Australia's position in the Western Alliance following World War Two. The rise and fall of the site is linked to South Australia's post-war effort, in particular as a supplier of uranium for military purposes. Radium Hill was personally promoted by South Australia's Premier, Thomas Playford, who saw uranium as a means to fuelling his ambitious plans to industrialise the state.

The existence of uranium minerals had been documented in Australia since the late nineteenth century. Having first been discovered interstate, radioactive minerals were identified in South Australia from 1906 at the Moonta Copper Mines and the area near Olary. 'Carnotite' ore previously discovered by prospector AJ Smith in 1902 was inspected by Sir Douglas Mawson who visited the Olary area in 1906. He noted the radioactive qualities of the ore and quickly renamed it 'Davidite' after his University Professor. Mawson also coined the name 'Radium Hill' for the radioactive Olary deposit. This occurred shortly after the discovery of radioactivity and the isolation of radium, which had sparked the Radium exploration and mining rush, and as such Radium Hill was the site of desultory mining activities from 1906 to the early 1940s. However, it was not until after the Second World War that the location really came into prominence.

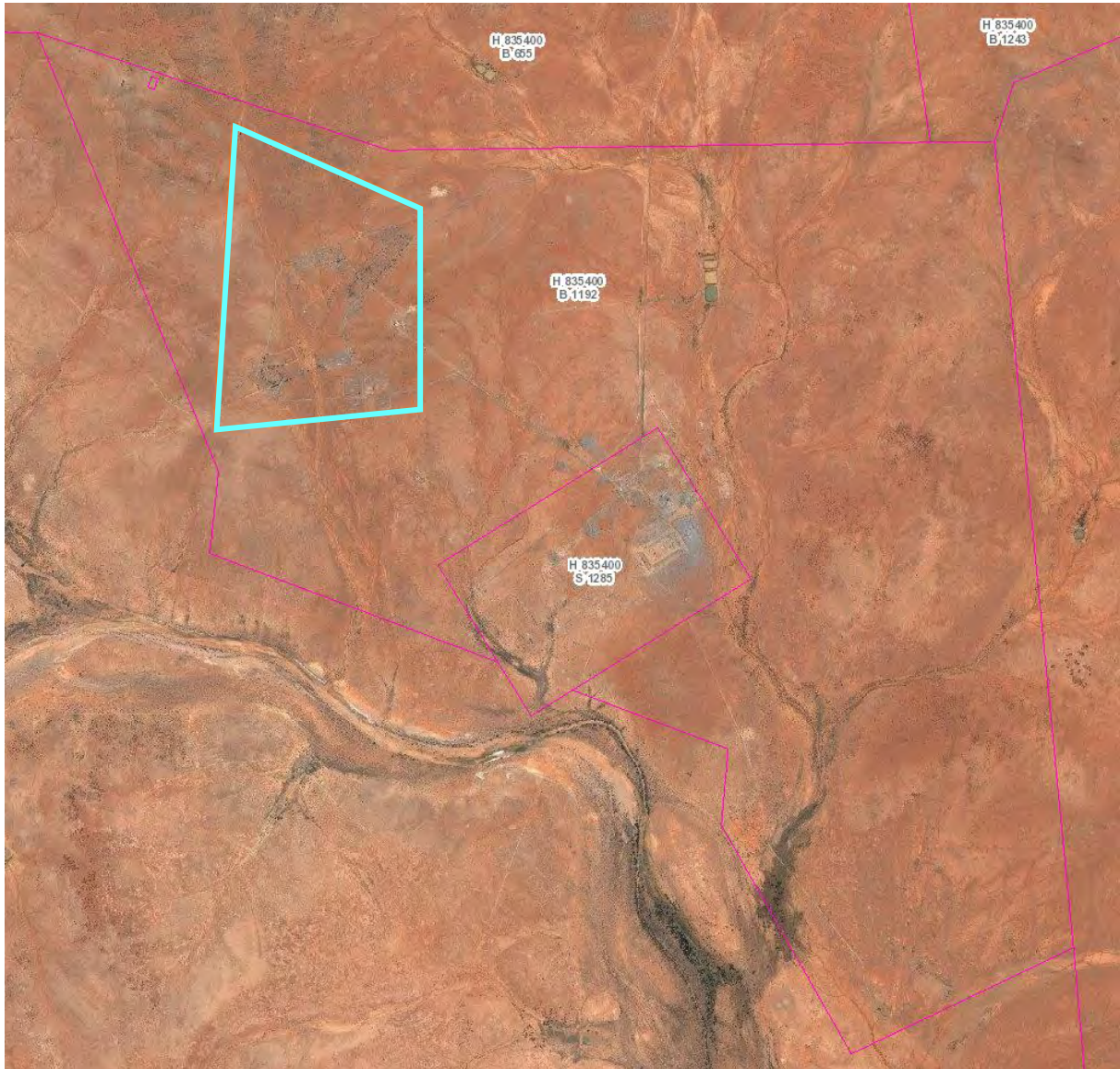
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SITE PLAN

Radium Hill Townsite and Cemetery
Maldorky Station, off the Barrier Highway, East of Olary

PLACE NO: 21246



RADIUM HILL TOWNSITE AND CEMETERY (LAND PARCELS) N ↑
Maldorky Station, Barrier Highway, East of Olary
Site plan generally indicating the boundary and important components of the place.

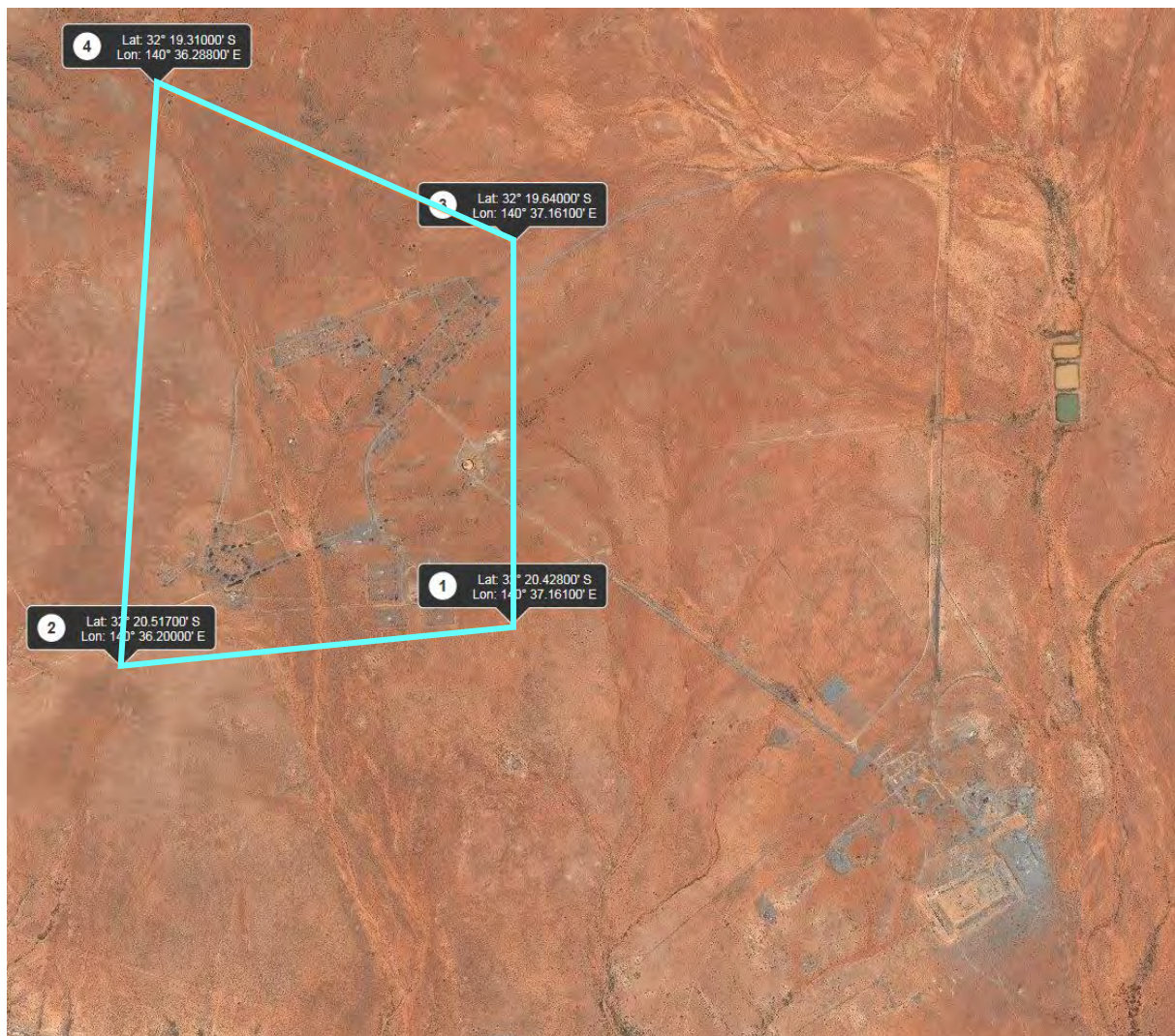
LEGEND

- Boundary of place
- Cadastral boundary

SITE PLAN

Radium Hill Townsite and Cemetery
Maldorky Station, off the Barrier Highway, East of Olary

PLACE NO: 21246



RADIUM HILL TOWNSITE AND CEMETERY (MINESITE TO SOUTHWEST) N ↑
Maldorky Station, off the Barrier Highway, East of Olary
Site plan generally indicating the boundary of the State-heritage listed place derived from GPS coordinates.

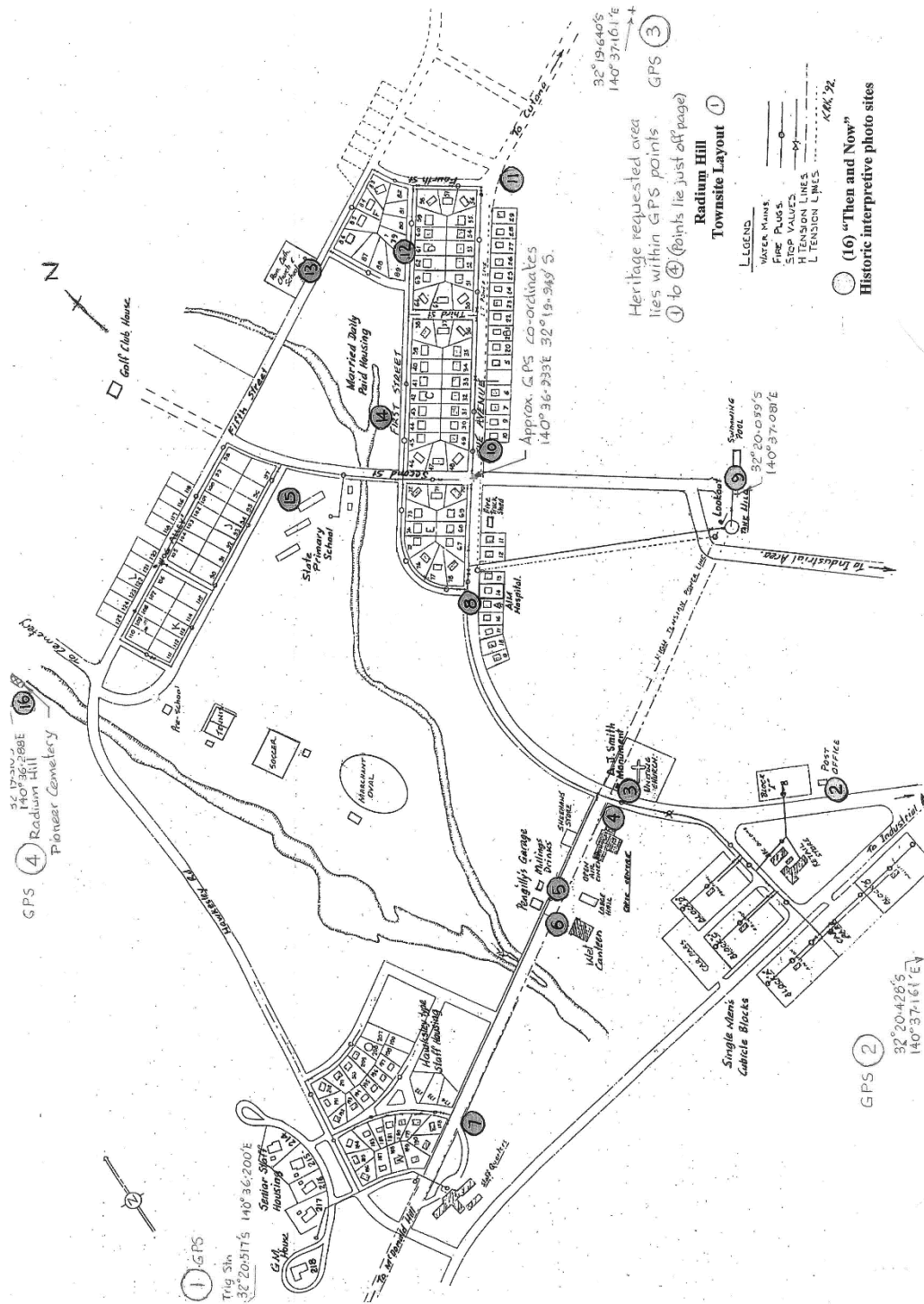
LEGEND

 Boundary of place

COMPONENT PLAN

Radium Hill Townsite and Cemetery
Maldorky Station, off the Barrier Highway, East of Olary

PLACE NO: 21246



COMMENTARY ON THE LISTING

Description and notes with respect to a place entered in the South Australian Heritage Register in accordance with the *Heritage Places Act 1993*

Physical Description

Remains of the township and pioneer cemetery associated with the Radium Hill mine site. The most substantial remains of the site are the 2million gallon (9ML) concrete water tank on the hill overlooking the town, ruins of visitor's accommodation, the Catholic Church and school, and the swimming pool. The town layout is still clearly evident with paved roads lined with eucalyptus trees. Concrete pads, piers, steps to the houses and some remnant garden edgings are all that remain of the residential accommodation and other facilities. Modern interpretive photo plaques have been placed around the site.

The cemetery is located about 1.5kms northwest of the township and contains several graves and interment sites surrounded by a wire fence with entrance portal including flagpole.

The boundary of the place is a polygon created from the following coordinates

1	140°36.200'E	32°20.517'S
2	140°37.161'E	32°20.428'S
3	140°37.161'E	32°19.640'S
4	140°36.288'E	32°19.310'S

The components identified as being intrinsic to the heritage significance of Radium Hill Townsite and Cemetery generally constructed between 1949 and 1952 include remains and fabric of:

- 2million gallon concrete water tank
- Swimming pool and surrounds
- Senior Staff Housing
- General Manager Housing
- Single men's cubicle blocks
- Retail Store
- Uniting Church
- Post Office
- AIM Hospital
- Married Daily Paid Housing
- Golf Club House
- State Primary School
- Tennis Courts
- Roman Catholic Church and School
- Pre-school
- Marchant Oval
- Staff Quarters
- Pengilly's Garage

- Open Air Cinema
- Milling's Drinks
- Sheehan's Store
- Replica A J Smith Monument (replaced stolen fabric)
- Wet Canteen
- Large Hall
- Pre School
- Bituminised streetscape and layout including remnant eucalyptus plantings
- Pioneer and later gravesites and fabric of the Pioneer Cemetery, including the fencing, entrance gates and flag-pole.

History of the Place

Radium Hill was initially discovered by prospector AJ Smith in 1906 who pegged a claim called Smith's Carnotite Mine covering the outcropping of heavy dark rock which he thought to be an ore of tin. Douglas Mawson would later call this rock 'davidite' after his university lecturer and it was found to contain minerals such as radium and uranium. Mawson suggested the name of 'Radium Hill' for the site. At this time the commercial use of uranium was limited to providing colouring for ceramic products and very minor quantities of uranium metal, meanwhile Radium was becoming more widely understood for its uses in medicine.

Smith worked the mine for two years until his claim lapsed. The lease was subsequently taken up by the Radium Hill Company who sunk more shafts and mined the site until the outbreak of World War One. Mining was not resumed on the site until 1923 under the Rare Earth and Treatment Company NL who worked the site until 1931. The location of the site and difficulty supplying water had always limited Radium Hill's viability.

In 1944, prior to the first atomic-bomb test in 1945 the government of the United Kingdom requested the Federal government to undertake 'urgent, intensive' investigations of the uranium deposits at Mount Painter and Radium Hill, with the aim of meeting war-time needs. The treatment difficulties of the ore from Radium Hill meant that the Mount Painter region was instead mined.

In 1945 the world's attitude to uranium and nuclear energy was changed forever when Hiroshima was levelled by an atomic bomb. A few months later in South Australia amendments to the Mining Act 1930 were passed, which vested ownership of uranium and thorium, as well of their control in the crown.

In 1947 exploration of the Radium Hill area was progressed in the hopes of finding ore to fulfil the limited but growing overseas demand. The mine was expanded in 1949 to include crushing and sampling plants. Also at this time the Uranium Mining Act, 1949 was passed giving the Minister of Mines the power to open and work mines for the mining of uranium.

At Radium Hill about 40 men were employed in the continuing development of the mine and processing plant. A machine shop, power house, pilot metallurgical concentrator and associated administrative and public buildings were built between 1950 to 51. A separate branch of the Department of Mines, known as the Radium Hill Project, was established in mid-1950.

The search and development of uranium mining in South Australia was fully supported by Premier Thomas Playford who saw the potential of uranium, as a means of providing energy for the industrialisation of the state and he resisted attempts by the Federal Government to gain control of the mine for defence purposes.

A pivotal point in the development of Radium Hill as a viable mining operation was Playford's visit to the United States in August 1951, when he negotiated with the US Atomic Energy Commission and the Combined Development Agency (CDA) for the sale of low-grade uranium oxide from Radium Hill. The Americans wanted a long-term secure supply of uranium and paid £4 million for 'development work at Radium Hill and a uranium treatment plant at Port Pirie.'

In March 1952 a technical mission from the United States visited Australia to inspect the Radium Hill deposits. In April of the same year an agreement to develop and purchase the Radium Hill uranium deposits for a period of seven years was signed between the CDA, the Commonwealth Government and the State Government.

Secrecy around the project was at Radium Hill in an amendment to the 1949 Uranium Mining Act in 1952 and workers were required non-disclosure agreements. Within the Department of Mines the Project was 'shrouded in secrecy', with its own separate budget, separate accounting system, separate record keeping, its own security staff and security clearances for those involved.

Full-scale mining and processing at Radium Hill began in 1954, following the substantial development work. Methods of mining were typical of narrow stope mines in Australia in the 1950s. The rock was drilled with hand guided pneumatic drills, blasted, collected in air powered bidders or dropped through chutes to lower levels and loaded into small rail trucks towed by battery locomotives and taken to the main shaft for lifting to the surface.

Some processing of the ore was undertaken at Radium Hill. The Port Pirie plant, which had been established in 1955 in conjunction with the Radium Hill mine processed about 120,000 tons of concentrate from Radium Hill.

The Radium Hill Township was designed by the South Australian Housing Trust and 145 dwellings, mainly prefabricated, were built by the Trust's contractors between 1949 and 1952. It was laid out on the northern side of a low rise which separated it from the mine site. There were three separate residential precincts in the town which were relatively distinct from each other. The General Manager's house was located on a rise overlooking the township and, in the distance, the mine. Immediately below this were four residences for senior staff and a small group of houses for other staff as well as a complex for official visitors.

Separated from the staff area by a creek, recreation area and civic centre, were the single men's quarters, which consisted of 'blocks' of small transportable cubicles surrounding larger ablution blocks. Married personnel were housed in individual houses, each on separate blocks, in another section of the township.

The recreation area was located in open space by the creek that ran through the middle of the site, and comprised an oval and soccer field, tennis courts and the pre-school and state primary school. A rough 'bush' golf course was located on the northern outskirts of the town. Beyond this the cemetery formed a neatly fenced plot surrounded by the natural bush.

The town was, for its time and location in the remote northeast of the state, relatively well equipped and civilised, and the laying of the water-pipeline from the Umberumberka Reservoir to the township further eased the harsh conditions. The regular supply of water meant that a swimming pool, could be built on the same hill, overlooking the town which was able to boast a number of services and facilities by the mid 1950s: an Australian Inland Mission Hospital, post office, police station, barber shop, two churches, store, service station, cool drink factory and 'wet' canteen and drive-in cinema. The social life of the town was also important to its residents. Numerous sporting clubs made use of the facilities and a wide variety of clubs and organisations were also supported, including Buffalo and Masonic Lodges, drama group, scouts, church fellowships and Sunday Schools, CWA, a camera club, magicians club and a Social Club which formed a close knit community spirit.

The town eventually contained 165 houses and 220 two man cubicles. The peak population in the town was 1,200, with 867 recorded as living in the town in 1961, many of them post-war European immigrants who had found work opportunities at Radium Hill.

In 1961, just over seven years after the signing of the contract to establish the Radium Hill mine, the South Australian Government closed it down, despite Premier Playford's effort to find new buyers, but the expensively produced South Australian uranium 'could never compete in a world uranium glut.'

In the months following the closure the residents moved out and much of the infrastructure and buildings were dismantled and removed. By Easter 1962 the main shaft had been capped.

In August 1975 a 247ha area incorporating the mine site was gazetted as being exempted from the Mining Act, which prevents any further mining on the site. This same area was gazetted on 2 April 1981 as 'Reserved for Purposes of a Repository for Low-Level Radioactive Materials' and was placed under the care, control and management of the Minister for Mines and Energy.

The site is today managed and maintained by the Radium Hill Historical Society.

Chronology

Date	Event
1906	AJ Smith discovers uranium-ore in the area of Olary
1906	Douglas Mawson field trips to the area and names the ore 'Davidite'
1908	Smith's mineral claim lapses and is taken up by the Radium Hill Company
1914	Production stop during World War One
1923-1931	Radium and Rare Earth Treatment Company NL works the site
1940-42	Australian Mining and Smelting Co Ltd works the area
1944	United Kingdom requested the Federal government to investigate uranium Deposits at Mount Painter and Radium Hill for wartime purposes
1945	Test of Trinity atomic bomb in New Mexico Hiroshima was levelled by an atomic bomb Amendments to the Mining Act 1930
1947	Renewed exploration of deposits at Radium Hill
1949	Construction of a crushing and sampling plant Passing of the Uranium Mining Act, 1949 Construction begins on Radium Hill Township
1951	Negotiation with US Atomic Energy Commission and the Combined Development Agency (CDA) by Premier Thomas Playford in the United States
1952	Technical mission from the United States visits Australia
1954	Following development of Radium Hill, full scale mining and processing begins
1961	Closure of mine-site and decommissioning of Township
1975	Mine site gazetted as being exempted from the Mining Act
1981	'Reserved for Purposes of a Repository for Low-Level Radioactive Materials'
2006	State-heritage assesses mine-site, townsite and cemetery and defers report awaiting site management and remediation plan by the Department of Mines
2015	Townsite and Cemetery nominated for the SA Heritage Register
2016	Joint DEWNR/DSD site visit to Radium Hill

References

This summary was prepared from: Department of Environment, Water and Natural Resources 2016, *Heritage Assessment Report: Radium Hill Townsite and Pioneer Cemetery*, Adelaide

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 - 2 April 1981, p. 1018
- National Archives of Australia

www.naa.gov.au/the_collection/cabinet/1952_cabinet_notebooks/1952_events_issues.html

- The Radium Hill Historical Association www.radiumhill.org.au

SITE DETAILS

Radium Hill Townsite and Cemetery
Maldorky Station, off the Barrier Highway, East of Olary

PLACE NO: 21246

FORMER NAME:	Smith's Carnotite Mine
DESCRIPTION OF PLACE:	Radium Hill town-site remains and the pioneer cemetery. Excludes the Radium Hill mine-site.
DATE OF COMPLETION:	1949-1961
SA HERITAGE REGISTER STATUS:	Description: Confirmed Date: 17 May 2017
LOCAL HERITAGE STATUS	N/A
CURRENT USE:	Description: Interpretive Site Dates: C2000
PREVIOUS USE(S):	Description: Mining Township & Cemetery Dates: 1949-1961
ARCHITECT:	Name: Department of Mines Dates: C1950
BUILDER:	Name: Department of Mines Dates: C1950
LOCAL GOVERNMENT AREA:	Description: Unincorporated SA
LOCATION:	Unit No.: N/A Street No.: 402 Street Name: Maldorky Road Town/Suburb: Oulnina Post Code: 5440
LAND DESCRIPTION:	Title Type: CL Volume: 1338 Folio: 32 Lot No.: BL1192 Plan No.: H835400 Section: N/A Hundred: Out of Hundreds (Olary)
Pastoral Lease: PE002436	
Mining Tenement: 5179	
Native Title: Wilyakali	

PHOTOS

Radium Hill Townsite and Cemetery
Maldorky Station, off the Barrier Highway, East of Olary

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Replica Memorial commemorating the discovery of Radium Hill by Arthur John Smith (original was reportedly stolen), 2million Gallon Tank on hill in background. 2016



2million Gallon Tank on hilltop, 2016

PHOTOS

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Remains of General Managers residence, 2016



Remains of visitor's accommodation, 2016

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Remains of Catholic Church, 2016



Remains of Schoolhouse, 2016

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Remaining bituminised road, note: avenue of eucalypts, 2016



Swimming pool remains, 2016

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Water-tank stands associated with removed residential accommodation, 2016



Extant garden borders constructed of glass bottles, 2016

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Radium Hill Pioneers Cemetery entrance, 2016



Radium Hill Pioneers Cemetery gravesites, 2016