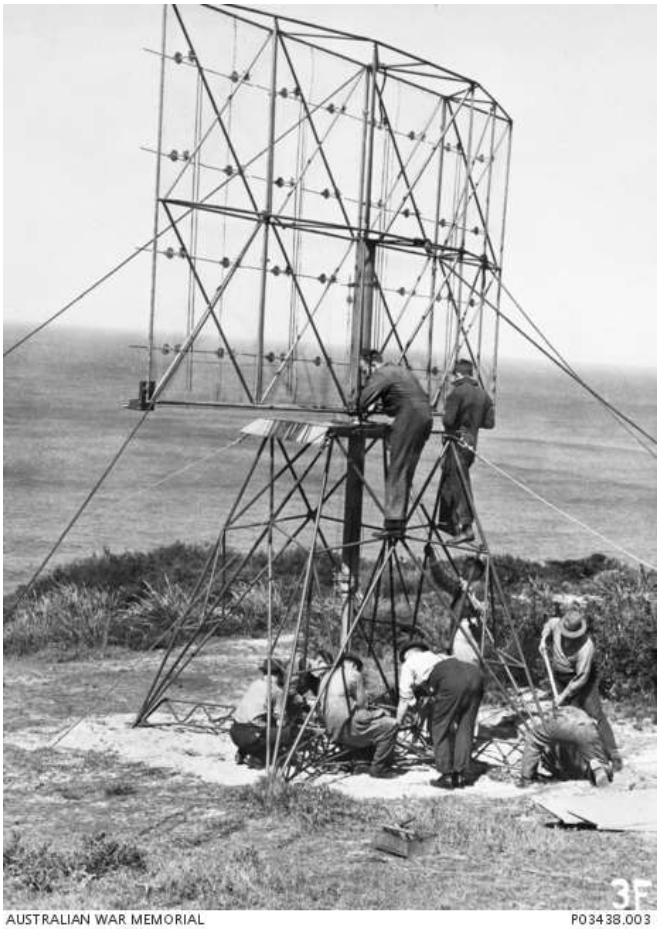
Report on the archaeological investigations of Radar Station 48, North Head, Jurien Bay for the Shire of Dandaragan.

May 2018

Bob Sheppard
Zack Sheppard
Steve Wells



AUSTRALIAN WAR MEMORIAL P03438.003

Heritage Detection Australia

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Disclaimer

HDA has made every effort to ensure all relevant information collected has been presented however the authors cannot be responsible for any omissions or inconsistencies resulting from information which is revealed in the future but was not available at the time of the survey and therefore the recommendations, results and conclusions within the report are based on information available during the survey and the preparation of this report.

Spatial Accuracy

The survey used a Garmin hand held GPS and the Archaeology Sample Collector application to record artefacts and associated deposits. GPS accuracy is subject to the normal variations expected of the technology.

Geoff Royce of Royce Surveys created plans and recorded structures using a Trimble R6 GPS system with accuracy of +or-10mm. Base control used Landgate Geodetic stations SSM North Head and SSM Bartle. These are PWD brass plaques concreted to the limestone sheet rock at North Head adjacent to the Bartle memorial. The coordinate system used for the detailed survey of the site is MGA coordinates Zone 50. Vertical control (heights) used vertical datum AHD71. Future surveyors can access DXF or DWG data files or an Ascii points file by contacting Royce Surveys or HDA.

Cover Image

A 'Doover' similar to the one erected at North Head. Australian War Memorial image.

Executive Summary

In April 2016 Heritage Detection Australia (HDA) was engaged by the Shire of Dandaragan (SD) to complete a heritage survey of the North Head Radar Station 48 (RS48) and associated structures.

The survey was a follow up to numerous visits to the area by archaeologist Bob Sheppard in 2014 -2016 and the creation of *A brief report on a visit to North Head (Jurien Bay) World War Two military site* submitted to SD in 2014 (the 2014 report).

Following the 2016 survey HDA submitted the *Report on a heritage survey of Radar Station 48, North Head, Jurien Bay for the Shire of Dandaragan* (the 2016 report).

In 2018 HDA was engaged by the Shire of Dandaragan to act upon recommendation 2 within the 2016 report.

Heritage Detection Australia Mission Statement

HDA is a Western Australian owned and operated consultancy employing local archaeologists and heritage professionals. All our employees have experience working and volunteering on local heritage projects.

The HDA team:

- is passionate about history, heritage and archaeology
- believe reports should be written in plain English
- is committed to social history and public engagement
- is innovative.

Historical Background

In 1942 a coast watch station was established at North Head near Jurien Bay in Western Australia (Davies 1994:80) and Australian War Records show the site was converted to a radar station and operated from August 1943 until August 1945. It was known as Unit 48RS and was one of a number of radar stations on the west coast including those at Gingin, Yanchep, Rottnest and Geraldton.

The station consisted of an AWMKII radar array driven by two generators housed in concrete bunkers. Some reports suggest that searchlights were linked to the radar station and there were gun emplacements nearby (Anon 1989:19).

The radar was run by Royal Australian Air Force (RAAF) trained technicians with members of the 13th Infantry Brigade (McConnell et. al, 1993:156) used as guards. Nicholas suggests that much of the coastal surveillance was carried out by the Volunteer Defence Corps (1985:78-98). Edwards (1993:34) was

a member of the 10th Australian Light Horse Regiment and he recalls visiting North Head in World War Two (WW2) and members of the 44th Battalion were camped nearby. The War Diary of the 4th Infantry Battalion indicates they were present in the area in 1943.

The radar had a range of around 100 miles with longer ranges possible depending on weather conditions. A ranger and heighter operated the station with information passed to a plotting room. The plots were relayed to a telegraphist and wireless operator who passed the information on to the RAAF Fighter Sector at Pearce. It is believed a phone line was built from the site to Jurien Bay.

Australian war records in the form of a Personnel Occurrence Book, show that more than 100 men were rotated through the site during its two years of operation with around 30 RAAF personnel camped at North Head at a time. Australian Army personnel were camped nearby.

Historical records of the site are sparse and no photographs of the site have come to light. Cameras were not allowed on radar stations. No personnel who served at RS48 have come forward with information about the site. Dandaragan locals, John Grigson and Noel Grigson visited the radar station when it was operational and can remember some details of the site (pers. comm. John Grigson and Noel Grigson 2018). According to the Grigsons, the site was demolished post war and the buildings were sold and salvaged. Some of the material was used on local farms and at Jurien Bay.

The foundations of many of the buildings were incorporated into shacks and camps and the generator bunkers have been used by visiting campers and fishermen.

One of the most unusual claims about the RS48 site was that it was attacked by an unidentified plane during WW2 (Davies 1994:82-83). If this is the case this is the southernmost point of mainland Western Australia which came under enemy fire in this conflict which would make it quite unique.

Heritage Status

The site is listed in the *Shire of Dandaragan Municipal Inventory of Heritage Places* (2004:68) which states:

> Statement of Significance: 'The Radar Installation Site has high historic significance for the important role it played during World War II. Further, the relative intactness of the concrete shelters, which are representative of the Nissen Hut style of military structures, adds to their significance.'
>
> Management Category: 'Category 1. A place of exceptional cultural heritage to Shire of Dandaragan and the state of Western Australia, that is either in the Heritage Council or Western Australia's Register or worthy of consideration for entry into the register. Retain and conserve the place.'

The RS48 is not registered by the State Heritage Office (SHO) (pers. comm. SHO 2016). HDA's brief for the work in 2018 included determining the potential for the site to be registered with the SHO.

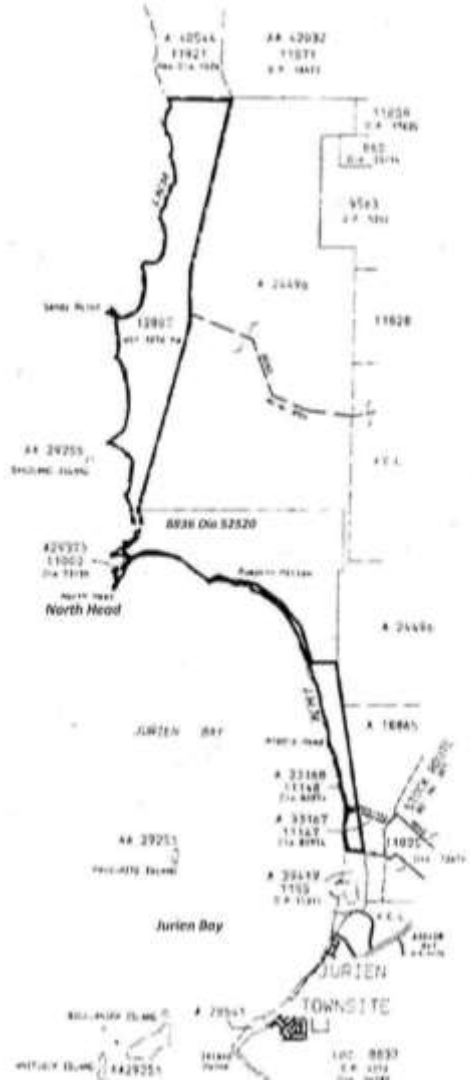

Figure 1. North Head and Jurien Bay.

Survey Area

The survey area is located approximately 9km NNW of Jurien Bay town site on a peninsula known as North Head. The Lot/ Location: Vic. Loc. 11000. Reserve No: 29373.

RS48 is situated on coastal reserve administered by the SD. WW2 infrastructure associated with the RAAF and Army camps which supported the radar station or WW2 defences, including foundations, drains, building pads, an underground tank, tracks, and camps are within the boundaries of private land.

Permission for the survey team to access and survey the related infrastructure on private land was coordinated by the SD.

The area is a popular campsite with locals, who use the access tracks running through the sand dunes. Vegetation along the peninsula can be described as coastal scrub with coverage ranging from dense to moderate. There is substantial disturbance to the survey area. Vehicles have degraded sand dunes and modern rubbish is scattered throughout the bush and adjacent to the tracks.

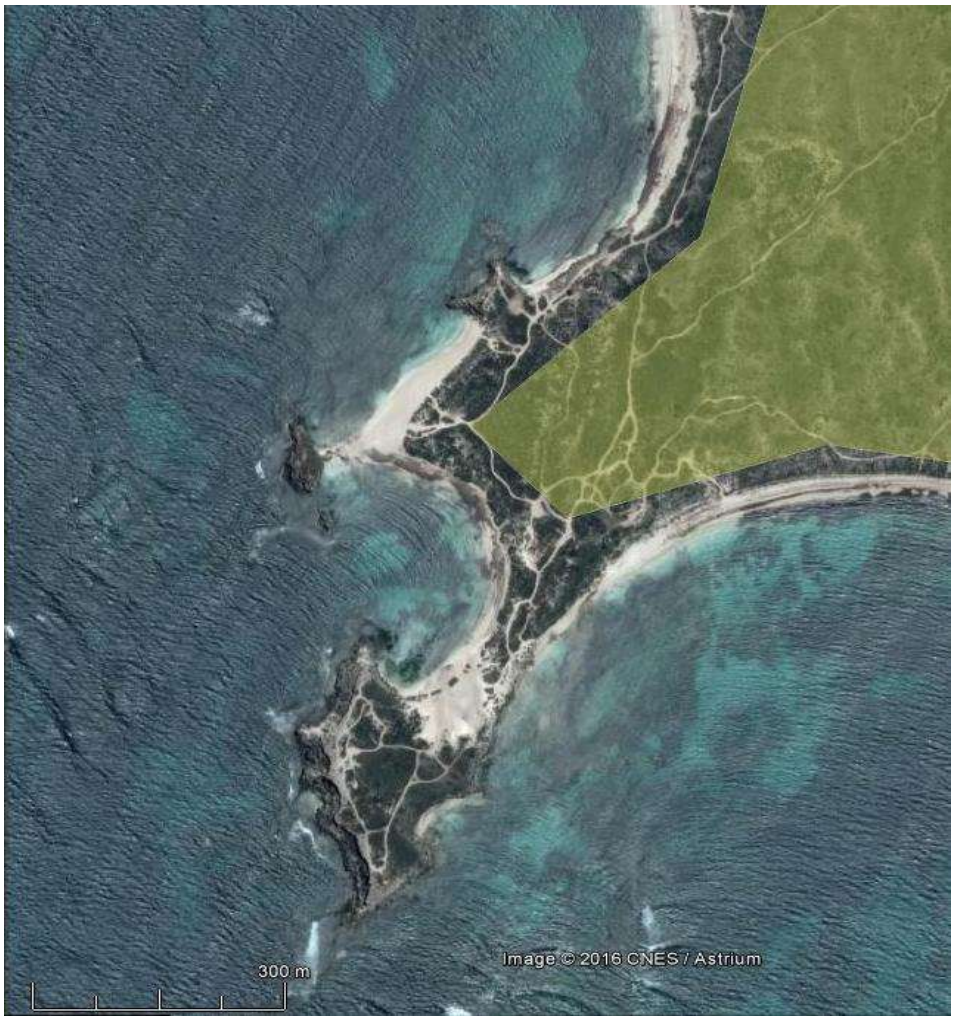

Figure 2. Google Earth image of North Head. The shaded area indicates private land.

Occupational Health and Safety

All HDA staff and their employees have read, understood and agreed to comply with *HDA Occupational Safety and Health Policy and Procedures.*

HDA Personnel

The Heritage Detection Australia team for the 2018 survey:

Bob Sheppard

Bachelor of Arts Honours (Archaeology)

Graduate Certificate of Forensic Anthropology

Honorary Associate Western Australian Museum (Curatorial and Research)

Lead archaeologist of the RS48 excavations

Archaeologist and principal of HDA

Zack Sheppard

Bachelor of Arts Honours (Archaeology)

Graduate Certificate of Forensic Anthropology

Diploma of Education

Senior archaeologist HDA

Steve Wells

Master of Professional Archaeology

Master of Educational Leadership

Bachelor of Psychology

Senior archaeologist HDA

Geoff Royce

Surveyor

Ian McCann

Videography, photography and imagery

Aims

The aims of the 2018 investigations were to meet Recommendation 2 of the 2016 report by HDA.

> Archaeological excavations be carried out to investigate the functions of individual structures, the extent of the installation (both residential and administrative, as well as other elements such as communications, drainage etc.) and to help determine the nature of what day-to-day life was like for personnel serving at Radar Station 48. The results would strengthen a nomination for state heritage registration.

Survey Methodology

Introduction

Archaeological methodology requires objective collection of data for subjective interpretation. At RS48 the absence of comprehensive historical documentation of the site increases the importance of careful analysis of the archaeological evidence.

At RS48 the archaeological evidence relates to a short time period, being from the establishment of a coast watch post in 1942 to the close of the radar station in 1945. The structures at RS48 were heavily salvaged post WW2. Building foundations and structural material were used by shack owners until 2000. The HDA team established the period of interest for the work in 2018 would be from 1942 to 1945. Cultural material which post-dated 1945 was not regarded to be of interest in the interpretation. Considering the isolation of the area pre WW2 it was not envisaged that the team would locate artefacts from before 1942 and therefore not related to RS48. The team was mindful of obligations in relation to the discovery of Indigenous material.

Structural interpretation

Following the examination of the RS48 environs in 2016 the HDA team devised a methodology for the 2018 work which would fulfil the obligations of Recommendation 2 of that report. To interpret the structures located in 2016 the team created the following methodology:

- pre disturbance inspection and photography of structures
- post site clearing recording and interpretation of structures
- archaeological excavations at selected locations
- interpretation of the evidence collected
- comparison of the interpretation with available literature and oral testimony.

Archaeological excavations

Excavations would use formal archaeological practices and include:

- pre and post excavation photography
- form recording of contextual information, units, artefacts etc.
- use of a 5mm sieve
- post excavation rehabilitation.

Shovel test pits

HDA used shovel test pits (maximum depth 600 mm) to

- define site boundaries
- provide rapid assessment of targets located during archaeo metal detection surveys
- determine locations for formal excavations.

The number of shovel test pits was minimised by using AMD target identification methods and probing using a 10mm x 1.2m metal probe.

Archaeo metal detection (AMD)

Archaeo metal detection is the use of metal detectors as a tool to assist archaeological investigations. The HDA lead investigator Bob Sheppard is a pioneer in the use AMD in Australia and has been a practitioner for over thirty years. Using target identification strategies AMD can aid in determining metal types, shapes and depths of buried metal targets. For these investigations the team used a Minelab CTX 3030 metal detector. The Army camp site was discovered using a metal detector in 2016. The majority of cultural material at this site is sub surface and therefore not visible. AMD was important in finding material related to the stated objective 'to help determine the nature of what day-to-day life was like for personnel serving at Radar Station 48'.

Oral history

The HDA team were fortunate to have the assistance of John Grigson and Noel Grigson who are the only known informants who can recall the radar station operating. The Grigsons were also involved in the post war demolition of the site. Their testimony was invaluable in interpreting the site and in providing details of additional structures which are no longer present. The Grigson family has material salvaged from the

site on their property on Cockleshell Gully Road. HDA recorded this to assist in determining the form of structures partially present at and removed from RS48.

Literature review

Only two official documents relating to RS46 have so far been found. These relate to personnel and equipment. Literature related to other radar stations from WW2 has been examined to assist in the interpretation of RS48.

Rehabilitation

At the end of excavations all pits and trenches were back filled and the area 'made good'.

Artefact collection and recording

All cultural material was handled with care. Artefacts deemed to be outside of the scope of the current research questions were left either in situ or returned close to their original location.

Cultural material relevant to the investigation was recorded photographically and entered into the artefact database. Where multiple items e.g. bullet cartridges were found, a single or representative example may have been photographed and catalogued.

Cultural material kept during the investigation was carefully stored in sealed, labelled plastic bags to ensure the preservation of the artefact and its ready identification and site location.

All cultural material retained as part of the research was delivered to the Shire of Dandaragan offices at the completion of the investigation.

Artefact database explained

Artefacts were recorded onto a spreadsheet which appears as an appendix. Each artefact was allocated a unique 3 digit number (Column A) and its location was noted according to whether it came from one of the concrete structures (S4 -10) which was denoted in the database as RS48 or D2 which was denoted as RS48A. If the artefact came from a trench then this is indicated by 'T' and the appropriate number. If there is additional recorded detail about a unit within a trench this appears as 'U' followed by the appropriate number (Column B). As an example of the use of the spreadsheet Column B headings, artefact number 062 has a location designation RS48AT5U5. This means it location was RS48A (D2), and came from Trench 5 Unit 5. The material from which the artefact was predominantly constructed was also recorded along

with the number of items consisting a particular artefact (Columns C & D). For example artefact 002 consisted of 12 iron fragments which were considered as one database entry for simplicity.

A functional category for each artefact was allocated according to headings commonly used in archaeology (Column E). The categories used are as follows:

Domestic: Materials used in a domestic setting.

Structural: Materials used for building of permanent features.

Subsistence: Materials used for the consumption for food and drink but not alcohol.

Medicinal: Materials used for health purposes.

Recreational: Materials used for enjoyment.

Military: Materials used for military operations.

Unknown: Material with an unknown function.

The type of artefact was also briefly noted as a means of ready identification along with a short description (Columns F & G).

Survey results

Introduction

For this report two sites are described.

1. The RAAF camp (RS48). This includes the radar station infrastructure at North Head, the accommodation and administration area to the north, and the associated infrastructure such as power, water, communications, roads, effluent and rubbish disposal.
2. The Army camp (RS48A) is in the valley to the west of the RS48 accommodation and administration area. This area was described in the 2016 report as D2.

Each site report is further described as:

- Structures and given an 'S' prefix
- Deposits and given a 'D' prefix
- Features (excavated) 'F' prefix
- Trenches (excavated) given a 'T' prefix

RS48 Results (Radar Station and RAAF Camp)

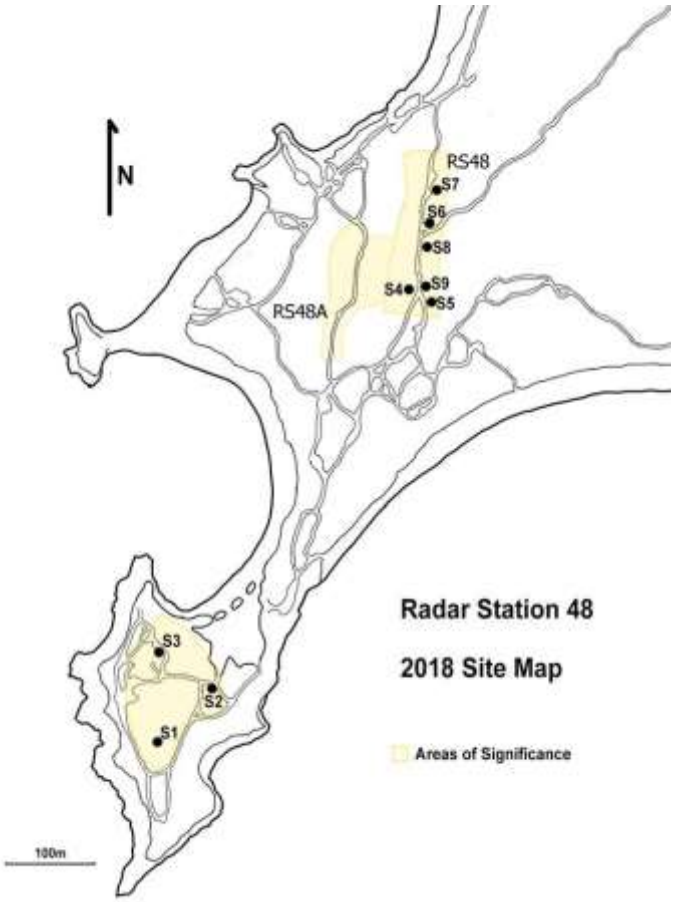

Figure 3. Locations of the major RS48 structures at North Head.

S1 Radar Station tower and control room (Doover)

Description of structure

Structural foundations are located at the highest point of the North Head peninsula (approximately 19.80m ASL) with 360 degree views of the coast. What remains are concrete sand bags stacked at least five layers high (upon visual inspection). The sand bags form a series of steps on the northern side of the foundations. The extent of the structure is unknown as much of it hidden by vegetation and sand, however it is estimated to be 6m x 6m.

Function of structure

The foundations are the remains of RS48. This formed the control room and antenna, which was known by the RAAF as the 'Doover'.

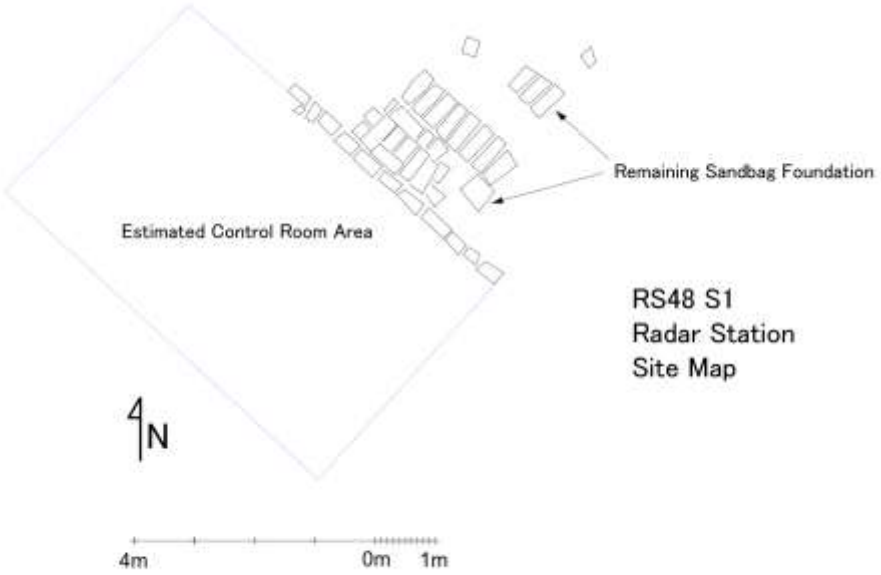

Figure 4. Plan of S1. HDA image.

Figure 5. Sand bag steps and Doover' foundations at S1. Looking south. HDA image.

Figure 6. Sand bag steps at 'Doover' site showing heights (100mm increments). HDA photo.

Figure 7. Imprints of hessian on sand bags at S1. HDA photo.

Figure 8. Looking north from the S1. 'Igloos' A and B are in the middle ground. HDA photo.

Figure 9. Small structure on southern side of S1 foundations. HDA photo.

Pre disturbance and clearing

Considering the fragility of the structure and the vegetation which is protecting the site, the HDA team decided not to carry out any vegetation removal, excavations or any activities which would damage it in any way. The site is partially concealed by the vegetation and hidden from public view and it was decided that excavations could cause additional pressure to a very fragile site. The team observed some copper wire, nails and asbestos on the surface at the site. Nearby there are some corroded iron food cans consistent with being WW2 related.

During an examination of the site three small structures were also observed:

1. A small pile of stones on the eastern side of S1.
2. A small pile of stones in on the southern side of S1.
3. Two lines of stones approximately 2m long and 1m apart near the south western corner of S1.

1 and 2 could be related to stabilising cable anchor points to support the tower in strong winds. 3 could be defining a pathway leading to nearby air raid shelters or weapons pits.

Determination of function

Two methods were used to determine the function:

(a) Interpretation of the structure

The structure is clearly 'military' in its construction, and given its location the team have a high degree of confidence that this is the base of the 'Doover'.

(b) Oral history and literature review

The HDA interpretation that the structure was the Doover is supported by the testimony of John Grigson and Noel Grigson (pers. comm. 2018) who assisted in the demolition of the nearby RAAF camp after WW2. John Grigson visited the site with the HDA team in May 2018. John Grigson also recalled a small hut, probably weatherboard, near the Doover but had only faint recollections of it. This hut could be the operations room which formed part of radar stations (See for example Brenkley 2008:58). Only extensive excavations at the site could confirm this testimony and considering the fragility of the site it was determined not to be warranted.

Current Condition

The foundations are in fair condition.

Figure 10. S2 Generator room (Igloo) looking south east. HDA photo.

RS48 S2 Generator Room (Igloo) A

Description of structure

The structure is a north-facing Nissen hut shaped building made of steel reinforced concrete. The roof and floor is 300mm thick and the north and south walls 250mm thick. It is 5m x 4.1m with the longer sides facing east and west. The building is 3.3m at its highest point. It has a metal door at the front (north), a window at the rear (south) and an exhaust point in the roof. The north west corner of the structure has been compromised by sand dune degradation and remedial action using bagged sand has been undertaken to protect the structure. Graffiti and vandalism have had a negative impact on the preservation of the building. Sections of the iron door and window have been destroyed and the structure contains beds, a refrigerator and rubbish. The interior has been modified by campers. A concrete engine bed has been removed.

Function of structure

The building, known as an 'Igloo' housed a generator which ran the Radar Station 48 and associated infrastructure. Power lines ran from the Igloo to the Doover and the nearby RAAF camp.

Pre disturbance and clearing

Considering the nature of the site HDA team decided not to carry out and vegetation removal, excavations or any activities which would damage it in any way.

Determination of function

Two methods were used to determine the function:

(a) Interpretation of the structure

The structure is clearly 'military' in its construction, and given its location the team have a high degree of confidence that this is one of the radar station's generating rooms.

(b) Oral history and literature review

The HDA interpretation that the structure was a generating room is supported by the testimony of John Grigson and Noel Grigson (pers. comm. 2018) who assisted in the demolition of the nearby RAAF camp after WW2. John Grigson visited the site with the HDA team in May 2018.

Research has shown that 'Igloos' exist at other radar stations around Australia and similar 'Igloos' can be found at the Yanchep Radar Station site.

Current Condition

The generator room is in fair condition.

RS48 S3 Generator Room (Igloo) B

Description of structure

The structure is a north-facing Nissen hut shaped building made of steel reinforced concrete. The roof and floor is 300mm thick and the north and south walls 250mm thick. It is 5m x 4.1m with the longer sides facing east and west. The building is 3.3m at its highest point. It has a metal door at the front (north), a window at the rear (south) and an exhaust point in the roof. Graffiti and vandalism have had a negative impact on the preservation of the building. Sections of the iron door and window have been destroyed and the structure has been modified by campers. A concrete engine bed remains inside the structure.

Figure 11. S3 Generator room (Igloo) looking south west. HDA photo.

Figure 12. S3 Igloo circa 1980s. Franz Britschgi photo from the Jennifer Mars collection.

Figure 13. Engine bed inside S3. HDA photo.

Function of structure

The building, known as an 'Igloo' housed a generator which ran the RS48 and associated infrastructure. Power lines ran from the Igloo to the Doover and the nearby RAAF camp.

Pre disturbance and clearing

Considering the nature of the site the HDA team decided not to carry out and vegetation removal or excavations.

Determination of function

Two methods were used to determine the function:

(a) Interpretation of the structure

The structure is clearly 'military' in its construction, and given its location the team have a high degree of confidence that this is one of the radar station's generating rooms.

(b) Oral history and literature review

The HDA interpretation that the structure was a generating room is supported by the testimony of John Grigson and Noel Grigson (pers. comm. 2018) who assisted in the demolition of the nearby RAAF camp after WW2. John Grigson visited the site with the HDA team in May 2018.

Research has shown that 'Igloos' exist at other radar stations around Australia and similar 'Igloos' can be found at the Yanchep Radar Station site.

Current Condition

The generator room is in fair condition.

RS48 radar station additional structures

An examination of literature regarding similar radar stations constructed around Australia during WW2 has revealed there are numerous additional structures associated with these installations. These include power and communication cables, weapons pits and air raid shelters. These structures were often well camouflaged.

During the 2018 excavations the HDA team discussed the presence of other structures with John Grigson and Noel Grigson who informed the team that there were two anti-aircraft machine gun pits near the Doover. The pits consisted of a timber lined circle, around 2.4m in diameter and 1.5m deep with a metal pole in the centre. This pole supported a light machine gun, perhaps a Bren, Lewis or Vickers machine gun. Running off the pit was an air raid shelter consisting of a timber lining which supported 2.4m x 1.2m x 125mm concrete slabs. The roof of the shelter was buried beneath the sand. In wet weather a slightly conical metal lid was placed over the top of the weapons pit to ensure the pit and air raid shelter did not fill with water.

Figure 14. Anti aircraft pit cover salvaged from RS48 by the Grigson family post WW2. HDA photo with thanks to John and Noel Grigson for their assistance.

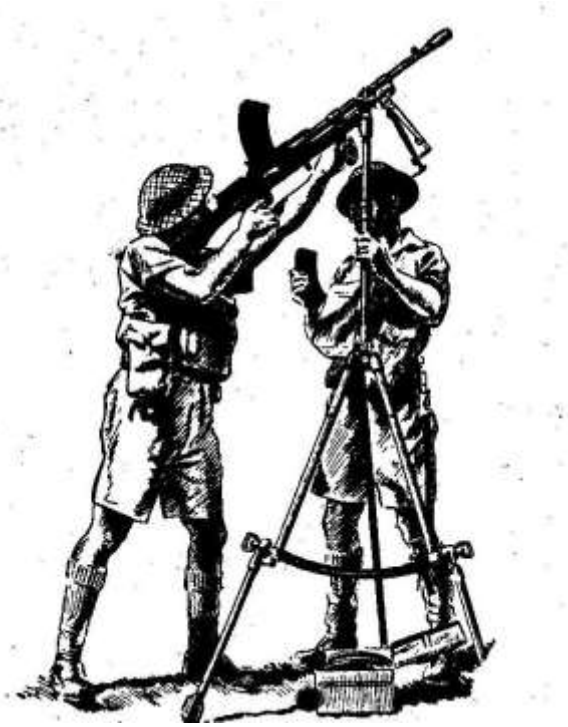

Figure 15. Anti aircraft action using a Bren Gun from WW2 Bren Gun LMG training manual (1943) (HDA archives).

Figure 16. HDA archaeologists examine the location of the anti aircraft pit gun and air raid shelter as indicated by John Grigson (2018). Looking southward. HDA photo.

While there are no known plans of these pits in existence the dimensions can be inferred from the Grigson's testimony and the material from the pits they salvaged post-war. The concrete slabs have been used as flooring for their farm workshop and the metal lid is now used as a shelter for young calves (Figure 14).

Nothing remains of these structures. John Grigson visited the site with the HDA team and indicated these were located at:

Anti-aircraft machine gun pit and air raid shelter A

Anti-aircraft machine gun pit and air raid shelter B

Considering the typography of the site it is likely there are additional pits near the Doover. A depression around 15m north of the Doover foundations could be related to fortifications or other structures.

No evidence of wooden poles supporting power and communications cables has been located. It can be assumed a power line ran from the Igloos to the Doover, and the RAAF camp about 500m to the north east of the Igloos. A telephone cable also ran from the Doover to the RAAF camp. The Grigson family salvaged the copper wire and insulators from these lines. A single sawn off power pole has been located on the norther side of the quartermaster's store.

RS48 S4 Quartermaster's Store

Description of structure

S4 consists of a 5.7m x 3.7m concrete slab ringed by a 100mm internal lip. The structure was divided into at least two rooms by an internal wall. At the north eastern corner there has been post war modification to create a new drainage system, this is likely where the doorway into the structure originally stood. Just off the northern extent is remains of a large pole, likely to be for power.

Function of structure

HDA believes this was the quartermaster's office and storage for the RAAF camp servicing RS48 from 1943 to 1945.

Pre disturbance and clearing

S4 was covered in both sand and scrub brush. Clearing was undertaken using handsaws, shovels, and brooms. Some plants had taken root in small cracks in the concrete pad. They were removed with no damage to the structure. Cultural material was found in the surface layer, consisting of modern rubbish

such as beer bottles, aluminium cans and bottle tops. This material was dated by typology and stratigraphy as post WW2, therefor outside of the scope of our research questions and not collected.

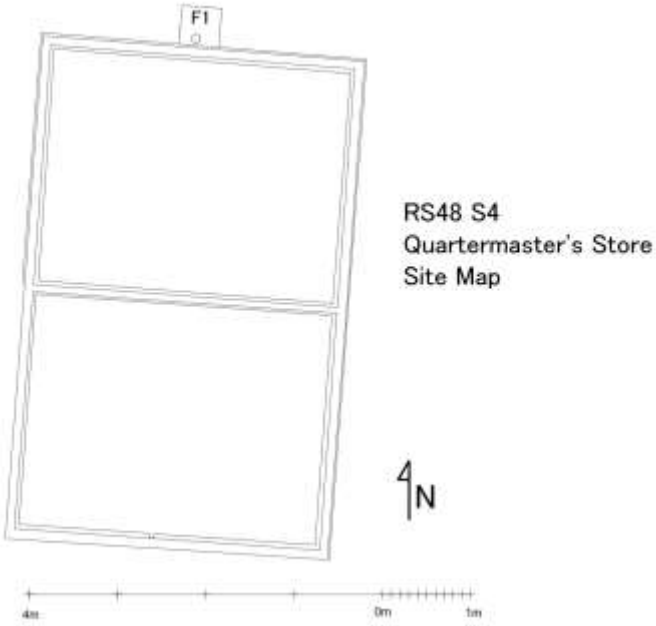

Figure 17. RS 48 S4 site plan. Created by Geoff Royce and Zack Sheppard.

Figure 18. Pre excavation of S4. Photo taken from the track running through the RAAF camp, looking west. HDA photo.

Figure 19. S4 after clearing for interpretation. HDA photo.

Figure 20. S4. Trench 1 Unit 1. HDA photo.

Determination of function

Three methods were used to determine the function:

(a) Interpretation of the structure.

The structure itself, being relatively small, with little distinguishing features and lack of plumbing suggested some small administrative or storage use.

(b) Excavation.

An excavation was undertaken on the northern extent of S4 with the intention of understanding the function of a large wooden pole which was sawn off just above the surface. This excavation consisted of a 450mm x 450mm trench extended 400mm deep. Further probing suggests that the pole continues for a substantial depth beyond this, the depth of this pole, and its size led to its interpretation as a power pole.

(c) Oral history and literature review

Key information was provided to the HDA team by John Grigson and Noel Grigson (pers. comm. 2018) who were able to identify the structure itself as the Quartermaster's Store, corroborating the HDA team's interpretation.

Current Condition

The foundations of S4 are in good condition.

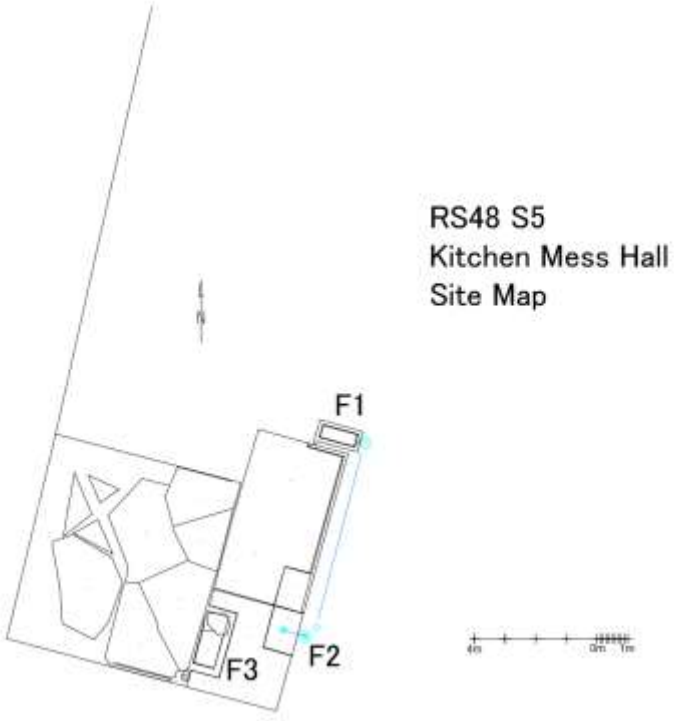

Figure 21. S5 site plan. HDA image.

RS48 S5 Kitchen and Mess Hall

Description of structure

S5 is a concrete floor in two parts (A and B). Part A is 8.8m x 3m. The western section (B) is elevated 100mm higher than the eastern section (A). The floor has a 100mm concrete lip around the inside of the external wall. It is constructed from the same type of concrete as used in nearby structures associated with RS48 camp facilities. Part A holds evidence of an interior wall and is divided into two rooms. The northern most room contains a raised pad 1m x 1.3m x 50mm and the smaller southern room contains two elevated pads. One is a 1m x 1.6m x 100mm concrete pad containing a drain outlet, and the other is 1m x 2.2m constructed of broken bricks. At the north eastern corner of part A is a storm water sump (see excavation of Feature 1).

It is difficult to determine the dimensions of section B, the western section. The concrete floor is broken and the western edge is covered by deep sand. The edge of the slab and cracks have been modified post World War 2 using concrete in an effort to channel water off the broken slab into the nearby underground water tank.

There is a possibility of additional structures around the perimeter of S5. The eastern side was partially covered by an encroaching sand dune. It was beyond the capacity of the team, using hand tools, to excavate sufficient sand to determine if the storm water and effluent drains remain in situ or if there are additional structures around the perimeter of the concrete slab.

Function of structure

The HDA team believes this is the kitchen, mess hall and recreation room for the Royal Australian Air Force camp servicing RS48 from 1943-1945.

Pre disturbance and clearing

S4 was covered in sand, bushes and post war rubbish. The structure was cleared using handsaws, shovels, and brooms. Some plants had taken root in cracks in section B, however they were able to be removed with no damage to the structure. Cultural material found in the surface layer included modern rubbish such as beer bottles, aluminium, glass and bottle tops. This material was post WW2 and therefor outside of the scope of our research question.

Figure 22. S5 pre disturbance. HDA photo.

Figure 23. S5 post clearing for interpretation. HDA photo.

Figure 24. S5 Feature 1 water sump, post excavation. HDA photo.

Determination of function

Three methods were used to determine the function

(a) Interpretation of the structure

The structure contained a number of distinguishing features, including plumbing, internal doorways, external storm water drains, cooking facilities, suggesting a substantial structure used for food preparation, eating, recreation and large gatherings of personnel.

(b) Excavation

Three features were excavated:

F1. Water sump. F1 is a rectangular brick and concrete feature located on the north east corner, and external to, the kitchen and mess hall. The external measurements are 1465mm x 710mm. Excavation began after surface soil and leaf litter was removed at around 150mm from the top edge of the brick work. Samples were sieved using a 5mm sieve as excavation continued to the final depth of 610mm. Finds consisted of small pieces of post war glass and metal and included a modern small beer bottle at 380mm. No material related to the RS48 camp was located. The feature contained three broken slate baffles and it

was determined these served as a silt trap for storm water passing from roof (and gutter) drainage to the underground water tank nearby. The outlet of this feature was at one time linked to the underground water tank by an earthenware pipe. It appears this has been replaced using galvanised pipe post WW2. Using a metal detector the team tracked the galvanised pipe to an additional storm water drain located between S5 and the underground water tank. Test pitting at this drain uncovered a cool drink bottle from circa 1966. F1 had been damaged by salvage, and modified to allow water from the slab to be channelled into the nearby underground water tank. This modification was post demolition and related to the holiday camps built nearby post WW2.

F2. Drain. The drain is a 300mm hole at surface to 100mm below. It is on a raised elevated concrete pad 1m x 1.6m. The contents of the drain hole were sieved using a 5mm sieve. No cultural material was located. The drain takes waste water to an external drainage system which runs along the eastern side of the structure.

Figure 25. S5 Feature 2 drain, post excvation. HDA photo.

Figure 26. S5 Feature 3 stove platform, post excavation. HDA photo.

F3. Stove platform. This raised area consists of a partially demolished brick structure 2.05m x 97mm raised to a maximum height of 120mm above the concrete floor. It consists of a brick surround with a large block of concrete on the southern end. The feature's contents being sand with some small fragments of glass and metal, and a modern aluminium can and pull tabs which were revealed by utilising a 5mm sieve. The sand was sterile at 220mm from the top of the brick surround. It was determined this was the base for the camp stove and this interpretation was confirmed by John Grigson and Noel Grigson who partially demolished the building post WW2.

(c) Oral history and literature review

The HDA interpretation that the structure was a kitchen and mess hall was supported by the testimony of John Grigson and Noel Grigson (pers. comm. 2018) who assisted in the demolition of the structure post war.

John Grigson and Noel Grigson also informed the HDA team that there was an additional wooden extension to the building on the northern side of section A. This weatherboard covered wall, which included the wall above the concrete slab, was 70 feet long (approximately 20m). The building, constructed

of a timber frame, was not lined, with a corrugated iron roof and weatherboard external walls. The wooden extension was built on raised stumps and this section was completely removed by salvagers. While no structural evidence of this was found using a metal detector the team located numerous nails which showed evidence of being from demolition in the area indicated by the Grigsons. At the location of a possible northern wall of the timber addition the team found a storm water drain suggesting water was collected from a roof at this point. This drainage point is in the correct location for the '70 feet long wall' and indicates the Grigsons were correct in their recollections. Timber palings from the structure have been used to clad the workshop at the Grigson's farm. It is also apparent that the concrete floor at section A was supported on brick pillars and a brick wall beneath the slab edges. The wall and pillars were supported by footings. Probing along the southern side of section B has indicated footings are present. These pillars and the wall were removed during demolition and the concrete floor was deliberately broken and collapsed to ensure it would not be a trap for visitors wishing to explore beneath the floor of the structure (pers. comm. Noel Grigson 2018). The team was informed that bricks recovered from the site were used in the construction of water tanks and troughs on the Grigson's farm.

Current Condition

Section A of the structure is in good condition with some minor modifications post World War 2.

Section B has been damaged by demolition and has been modified post WW2.

Figure 27. Weatherboards salvaged from S5 now form part of the Grigson's workshop wall. HDA photo.

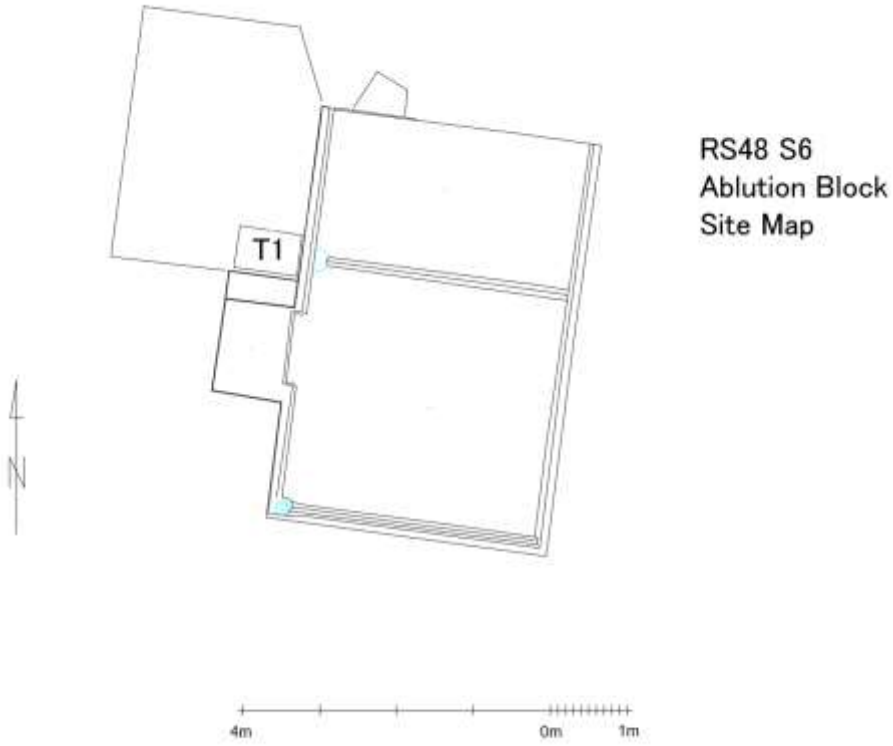

Figure 28. S6 site plan. HDA image.

RS48 S6 Ablution Block

Description of structure

The main structure is a rectangular (5.5m x 3.70m) concrete foundation. A small extension off the western central end of the foundation measures 1.8m x 1m. Also constructed of concrete, this extension appears to be an entrance which is reached via 2 steps. Concrete construction of S6 is consistent with that which is found at other structures associated with RS48 camp facilities i.e. 'blue metal rock' and cement.

Running east – west a 'crack' traverses the foundation approximately one third of the distance from the southern edge. This may be the remains of a more intact original drain cemented over by campers after the abandonment of the building by the RAAF. A second 'crack' also running east – west, runs across the foundation at approximately two thirds of the distance from the southern edge. This crack may also be the remains of a drainage channel associated with the building's original use. On the western end of the foundation where this channel originally exited the building there is evidence of it having been either cemented over or modified in more recent times.

Figure 29. S6 before clearing for interpretation. Photo looking west. HDA photo.

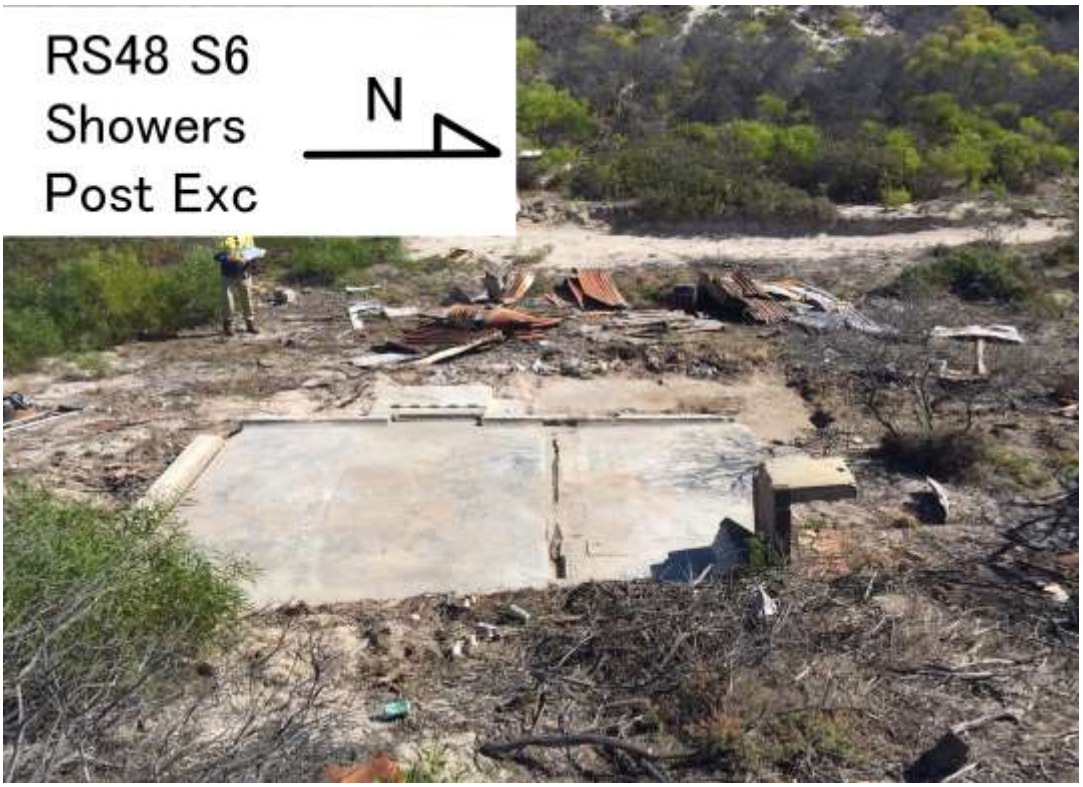

Figure 30. S6 after clearing for interpretation. Photo looking west. HDA photo.

The channel contains a coiled wire and fibre pipe which has been partially cemented in place. The enclosure of the channel and pipe inclusion are post WW2. They are believed to be associated with water collection by later users of the foundation.

Internal junctions of wall remains, with the floor of the foundation have been modified by a cement 100mm concrete lip running along the internal perimeter of the foundation. This modification is believed to be associated with water collection subsequent to the building's use as a shower block.

Evidence of an internal wall running east to west is also evident. This consists of the remains of a brick and concrete feature protruding up to 10mm above the foundation and located immediately to the north of the northern 'crack'. Attached to this wall on its northern side are two raised concrete beds approximately 250mm x 250mm. One pad is located on the eastern corner of the wall and the eastern end of the foundation separated by approximately 500mm from the other.

Adjacent to the north east corner of the foundation is the remains of a brick and cement 'block' consisting of three sides of square shape. This structure appears to be made of a mix of WW2 and modern era bricks. It may be associated with the original use of the building or it could be a post WW2 structure utilising salvaged material.

Extending to the west (2.5m) and east (3.25m) of the foundation is a thin layer (200mm maximum thickness) of cement and possibly limestone or sand. This sits directly on the ground without a supporting sand pad or compressed earth below it. Its construction appears to be a post WW2 covering to reduce dirt being carried into the main building.

Function of structure

The HDA team believes this is the ablution block for the RAAF camp servicing RS48 from 1943-1945

Pre disturbance and clearing

S6 was covered with many sheets of corrugated iron, including some with bull nosing. Rusted round iron framing was also present over the foundation along with much modern rubbish including beer bottles, broken glass and various plastic waste. A thick leaf layer, branches and living shrubs also covered parts of the foundation. Beneath the larger items covering the foundation lay sand and smaller debris such as aluminium cans, plastic bottles, degraded plastic toys and glass fragments mainly from beer bottles. The material found over the foundation was identified as post WW2 and therefore beyond the scope of the current research questions. All material cleared to expose S6 was left on site.

Figure 31. S6 Trench 1 Unit 3 post excavation. HDA photo.

Determination of function

Three methods were used to determine the function

(a) Interpretation of the structure

The structure contained structural elements such as an internal drainage system indicative of a 'wet area'. A smaller adjoining room with two pads may be associated with a hot water or heating function. This smaller room may also have served as a laundry area. The size of the foundations is indicative of a function for small numbers of personnel at any given time such as for hygiene purposes. Collectively these structural elements are indicative of the building being used as a shower/toiletry and washing facility whilst it was part of the RS48 camp.

(b) Excavation

One feature was investigated.

S6 T1 Trench 1. A shovel test pit was placed at corner of the bottom step and western edge of the foundation. This test pit was extended to become a trench measuring 900mm x 600mm. All material removed from the trench was passed through a 5mm sieve.

Initial excavation adjacent to the bottom visible step aimed to find any indications of an additional step. Clearance to 40mm of leaf litter, sand and amber glass fragments revealed the existence of a post RS48 cement pad. Crumbling in places and loosely compacted, a sufficient area of this pad was removed to enable a broader investigation. The trench was placed in an area commonly called a 'sweep zone' which is typically where floor sweepings and cleaning results in material culture being cleared out of a room and deposited just beyond a door or entrance. It was anticipated that any finds within the sweep zone could reveal information about the age and function of the building.

Immediately below the cement pad (natural surface layer) post WW2 items located included fragments of amber glass, presumably from beer bottles, a pull tab, a clear glass fragment, plastic wrapping, two nails and a 303 bullet casing. These items are indicative of a mixed cultural material. The modern material found indicates that the cement pad was most likely constructed during the 1960s or later.

Below the surface layer to 200mm post WW2 cultural material was found. This included brown glass fragments and plastic. Building rubble consisting of fragments of concrete was found from 200mm - 300mm. The rubble may be associated with the demolition and salvage of parts of the building after the area ceased operations as part of the RS48 camp.

From 280mm a sterile layer was reached. Excavation to 300mm continued at which level the trench was closed.

(c) Oral history and literature review

The HDA interpretation that the structure an ablution or shower block during the operation of RS48 camp was supported by the testimony of John Grigson and Noel Grigson (pers. comm. 2018) who visited the camp during its operation. The Grigsons visited the site while the HDA team were present and confirmed the function of S6.

Current condition

The concrete foundation is in good condition with minor modifications post WW2. Despite the building being subjected to salvage pressures the outlines of some functional elements are still evident including an internal wall, internal drainage channels, concrete pads and steps. The addition of a post WW2 pad on the western edge of the structure may have assisted to maintain the integrity of part of the concrete foundation, forming a buffer from erosion or sand collection.

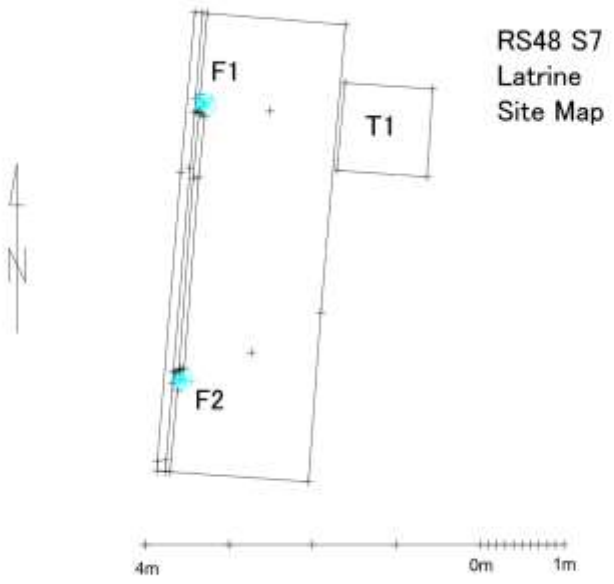

Figure 32. Site plan for S7. HDA image.

RS48 S7 Latrine Block

Description of structure

This structure is a rectangular (5.5m x 1.85m) concrete foundation. Concrete construction consists of 'blue metal' rock and cement, similar to other concrete structures associated with the RS48 camp facilities. The foundation is 180mm thick and inclined with the higher side being on the western side sloping towards the eastern side.

Running along the western edge of the foundation is a shallow semi-circular drain (approximately 3m long) which is connected at each end to a circular drainpipe. Each drainpipe is tapered down through the concrete foundation to join a vertical earthenware sewerage pipe. Each sewerage pipe extends downwards to approximately 500mm before curving or else being joined to a curved earthenware pipe. Estimates of the angle of each curved pipe suggest both may be connected to pipes running towards points approximately 500mm south and north respectively from the middle of the eastern edge of the foundation.

On the eastern side of the foundation are four areas where chipping of the top has taken place. Three iron rods with the remains of threaded ends protrude 90mm from the eastern end of the foundation. Bounding the eastern edge of the foundation is a depression which extends for approximately

2m to the east. This depression may extend further but has been partially covered by a vegetated dune. A large section of flat galvanised iron was partially buried in the depression and is believed to be part of the original building. This sheeting is riveted together in sections and one section has a manufacturer's mark 'Queen's Head' visible.

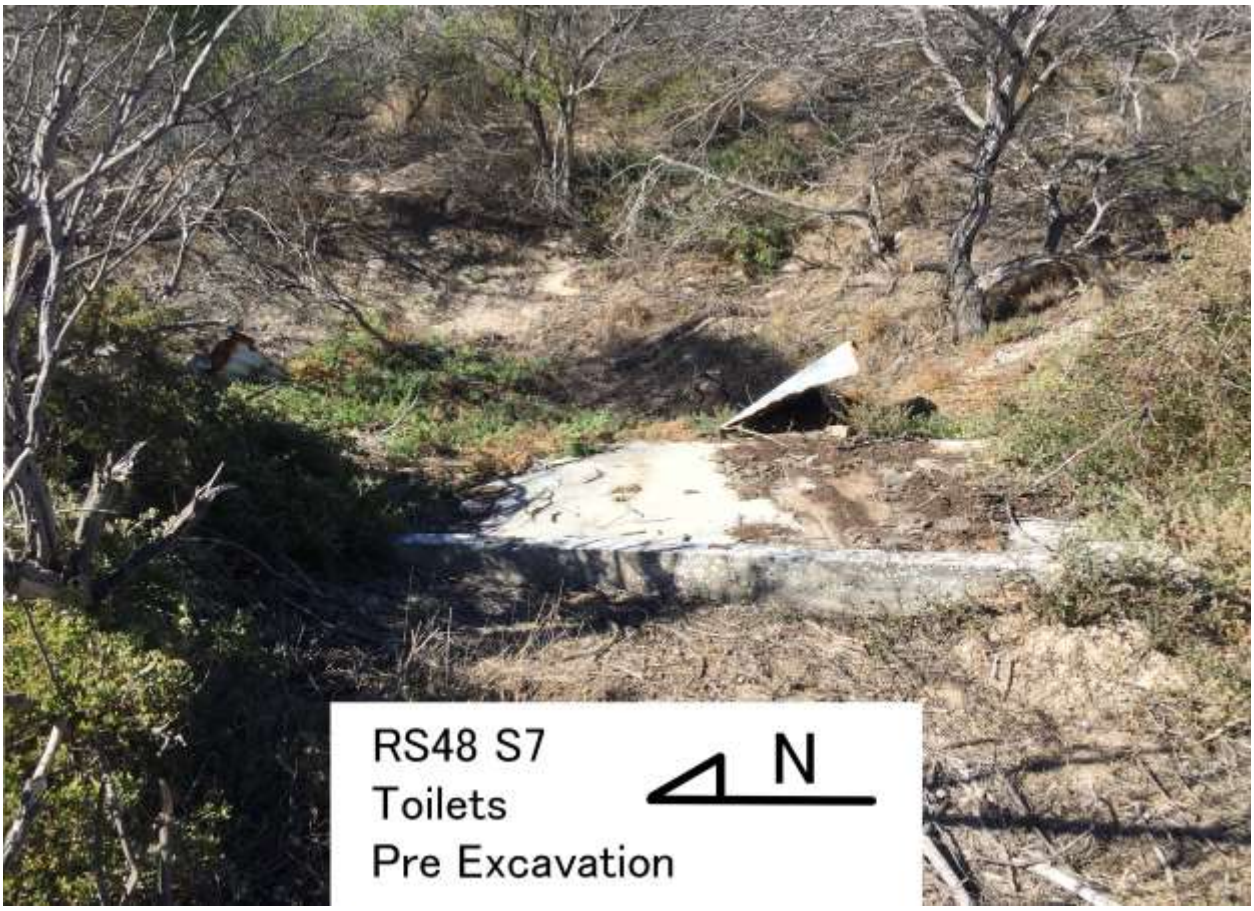

Figure 33. S7 before clearing for interpretation. Facing east. HDA photo.

Function of structure

The HDA team believes this is the latrine or toilet block for the camp servicing RS48 from 1943-1945.

Pre disturbance and clearing

Access to S7 was enabled by clearing of vegetation, mainly acacia bushes and shrubs.

The site was cleared of vegetation, surface, post war refuse, sand and leaf litter. Clearance of the concrete foundation consisted of removal of sand over the surface, accumulated leaf litter, invasive plants and modern rubbish. Hand saws, shovels, secateurs, trowels, hand scoops and buckets were used to carefully clear the concrete foundation.

Observation of cultural material located during clearance of S7 indicated it to be of post war vintage, mainly from the 1970s onwards consisting of stubbies, aluminium cans, plastic drink bottles and

associated plastic wrapping. This cultural material was beyond the scope of the current research. All cleared material was left on site.

Figure 34. S7 after clearing for interpretation. Photo looking to the west. HDA photo.

Determination of function

Three methods were used to determine the function:

(a) Interpretation of the structure

The concrete structure contained a number of distinguishing features, including the drainage channel connected to two downpipes which were attached to plumbing pipes. This is suggestive of a urinal. Protruding iron rods with threaded ends are suggestive of additional structures which attached to the eastern side of the foundation either as attachments points for extensions eastward, for a wall or toilet seats. The chipping of the floor on the eastern side of the foundation in concert with the depression adjacent to the eastern edge are indicative of a toilet setting perhaps into or over a long drop or other sewerage system.

(b) Excavation

Five features were excavated:

F1 Northern Drainpipe. The downpipe is located on the western edge of the foundation and is at the northern end of a drainage channel. Commencing as a round hole, approximately 300mm in diameter, through the concrete foundation, the drainpipe tapers to join an earthenware plumbing pipe. This pipe extends vertically approximately 500mm before connecting to a curved earthenware pipe which redirects any flow of material above it at a right angle and towards the eastern side of the foundation.

Excavation of the northern drainpipe consisted of removal of a top layer of leaf litter and sand followed by hand excavation to the connecting curved earthenware pipe. Excavation beyond the mid-section of the curved connecting pipe was not possible due to lack of physical access.

All material removed from the northern drainpipe was collected and sieved through a 5mm sieve. Finds consisted of fragments of amber glass from beer bottles of modern age and rusted iron fragments between the surface and 280mm. One 303 bullet cartridge was found at 250mm and an Australian two cent coin was located at 500mm. These findings are indicative of mixed modern and possibly a single WW2 era cultural material.

Figure 35. S7 Feature 1 post excavation. HDA photo.

Figure 36. S7 Feature 2 post excavation. HDA photo.

F2 Southern Drainpipe. Located at the southern end of a drainage channel, the southern drainpipe has the same dimensions as F1 Northern Drainpipe above. Probing with a metal rod was used to determine the depth of the southern drainpipe and the angle of its orientation towards the eastern perimeter as it was not possible to fully excavate it beyond 430mm due to the confined space within the pipe. Using the same excavation methodology as described for F1 Northern Drainpipe above, no artefacts were located.

F3 Trench 1. A trench measuring 2m north - south by 1m east – west was opened up at the eastern edge of the concrete foundation from the middle of the eastern perimeter and running north. The trench was sited to try to locate the eastern end of the F1 Northern Drainpipe plumbing pipe as it exited the concrete foundation. Evidence of the function of the depression and material culture associated with the original function of the building were also sought.

No evidence of any plumbing pipes exiting the concrete foundation or running beneath it were located and no change in sand colour or compaction was evident when the trench was ceased at 410mm.

The HDA team believe any plumbing pipe was removed after the building has been left by the RAAF, possibly by people seeking building materials for farms or fishing shacks.

Loose sand with root intrusions along with a surface leaf litter contained a variety of modern cultural material indicative of use of the depressed area for a refuse site, possibly by campers. All excavated material was processed through a 5mm sieve. Below 200mm intact stubbies, plastic and glass fragments lessened. Finds included 37 intact stubbies, numerous fragments of amber glass from stubbies and beer bottles, 8 beer cans with ring pull tops, AA battery, plastic drink bottle, building rubble, angle grinding disk, numerous plastic bag and wrapping fragments, 4 x 303 bullet cartridges, braided copper wire partially insulated and an iron cleat.

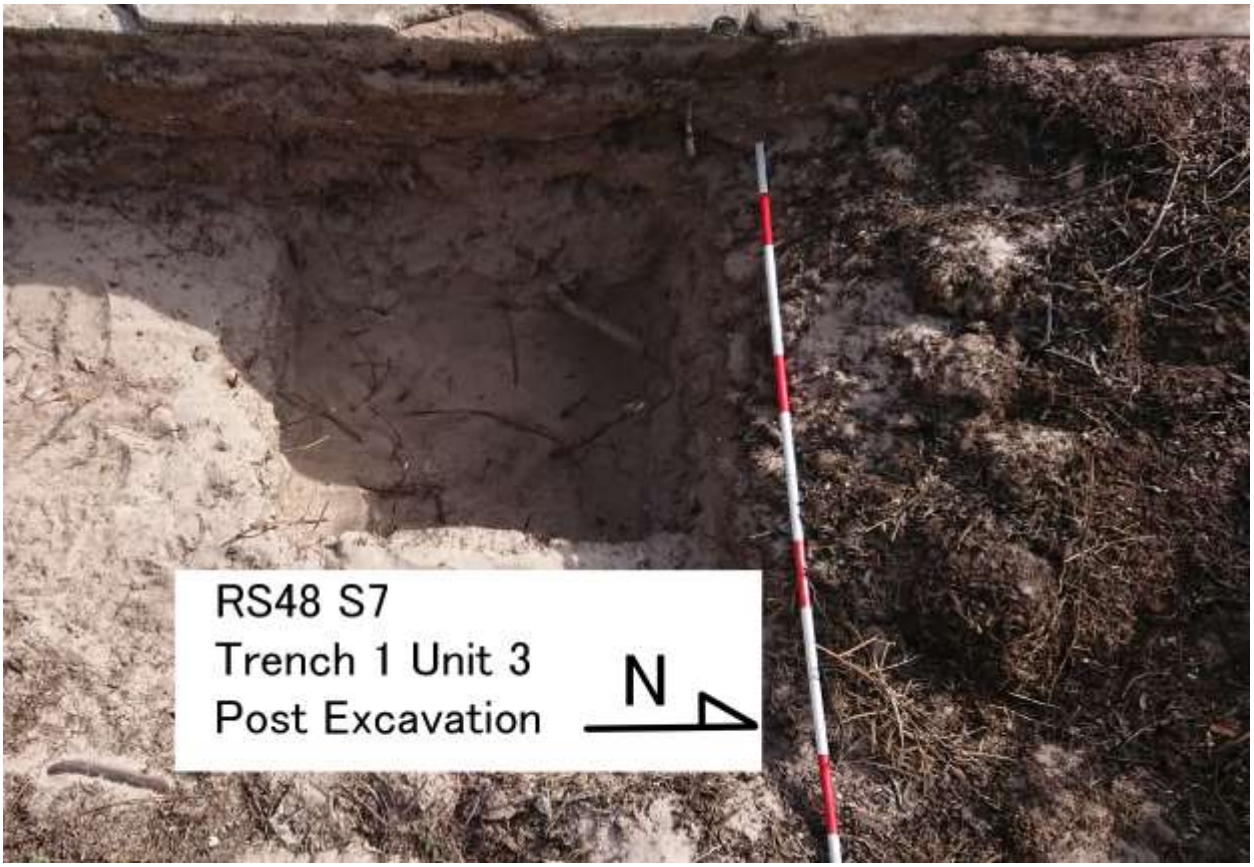

Figure 37. S7 Trench 1 Unit 3. HDA photo.

F4 Trench 1 Sondage. A 700mm X 700mm sondage was dug at the south eastern corner F3 Trench 1 to look for evidence of plumbing or sewerage remains and the possibility of a cultural layer contemporary with the use of the building during its time as a latrine. The sondage was dug to a depth of 1100mm with material cultural finds decreasing until a sterile layer was reached at 900mm. No evidence of plumbing or sewerage remains were found and modern/mixed cultural layer of material was found. Finds included 2

pieces of unidentified grey/black material, possibly organic or plastic, amber glass fragments, a 303 bullet cartridge and a piece of wood.

F5 Trench 1 Sondage Shovel Trench. A shovel excavation was carried out to a depth of 1200mm at the north eastern corner of F4 Trench 1 Sondage to look for any evidence of organic deposition or a deeper cultural layer. No evidence of either was found.

(c) Oral history and literature review

The HDA interpretation that the structure was a latrine was supported by the testimony of John Grigson and Noel Grigson (pers. comm. 2018) who visited RS48 camp as children. The Grigsons visited while HDA were investigating the site and confirmed that S7 was the remains of the RS48 toilet block.

Current condition

The concrete foundations is in good condition with some minor modifications post WWII. The depression immediately east of the concrete foundation may be relatively intact but filled with post WWII refuse with its eastern periphery covered by a sand dune.

Figure 38. Site of S8. Facing south east. HDA photo.

RS48 S8 Mechanic's Hut

Description of structure

S8 consists of a small irregularly shaped concrete slab, made of a thin and improvised concrete.

Function of structure

HDA believes S8 is a post war structure not related to RS48 or its function, however it occupies an area identified as the location of the Mechanics' Hut.

Pre disturbance and clearing

S8 was in a cleared area near a track intersection. Clearing consisted of only removing large segments of post WW2 construction material. Cultural material was found in the surface layer, consisting of modern rubbish such as beer bottles, aluminium cans and bottle tops. This material was dated by typology and stratigraphy as post WW2, and outside of the scope of our investigations and not collected. Probing was undertaken in the surrounding bushland to ensure the extent of S8 was uncovered.

Determination of function

Three methods were used to determine the function:

(a) Interpretation of the structure

The rudimentary design and construction of S8 strongly suggest that it is a post WW2 construction. It shares almost no similarity with other structures located at RS48.

(b) Excavation

A 500mm x 500mm shovel test pit was placed in the middle of the concrete pad of S8 and excavated to a depth of 300mm. Within this shovel test pit, and located under the concrete slab was cultural material dated to post WW2. This suggests that the concrete pad was placed after the end WW2.

(c) Oral history and literature review

Key information was provided to the HDA team by John Grigson and Noel Grigson (pers. comm. 2018) suggesting that the area where S8 was located was once a mechanics' area. However no corroborating archaeological evidence was found.

Current condition

S8 is in poor condition, due to low quality design and materials. However, due to not being WW2 related, its condition and protection are outside of the scope of this report.

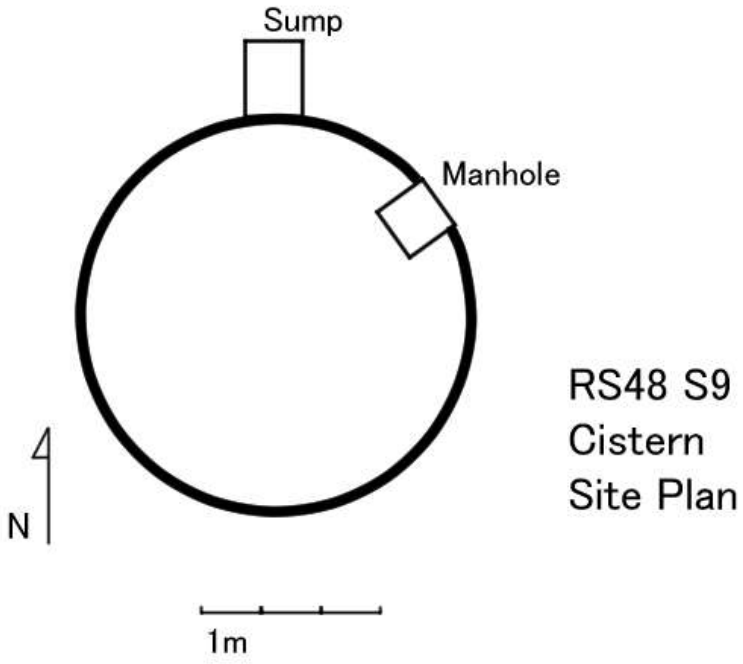

Figure 39. Cistern site plan. HDA image.

RS48 S9 Cistern (and associated pipes)

Description of structure

The underground cistern has a diameter of 6.48m meters and an estimated volume of 41.7 cubic meters. It has been constructed from concrete using a similar style of construction to the Igloos and concrete foundations nearby. Access to the interior of the tank is through a manhole which is 2 x 2 feet in Imperial measurements. Iron rungs have been concreted into the tank wall. The structure also includes a number of water pipes. An earthenware plumbing pipe partially cracked runs into the ground near the cistern. Given its location adjacent to S9 it is assumed this pipe runs into it. The flanged end of the earthenware pipe is at the top. A second element consists of a pipe fitting the internal diameter of the earthenware pipe and extending vertically above it. This pipe is constructed of flat galvanised iron which has been shaped to fit the earthenware pipe then riveted to maintain its correct size. The top of the galvanised iron pipe has been cut into small segments which have been folded towards the centre to fashion a partial cap. A hole has been cut into the side of the galvanised iron pipe to allow the third element, a commercially

manufactured galvanised iron water pipe to run at a slight angle into the vertical pipe. The galvanised pipe runs at an angle of approximately 170 degrees magnetic towards S5.

Figure 40. Western edge of the cistern roof. Photo looking north. HDA photo.

Figure 41. Interior of cistern (2016). HDA photo.

Figure 42. Cistern man hole. HDA photo.

Function of structure

The HDA team are confident this is the cistern for holding fresh water for the RS48 camp from 1943-1945. The pipework adjacent to the cistern is a drain pipe feeding rainwater run-off from S5 Hall to S9 and forms part of the fabric of the camp servicing RS48 from 1943-1945. Modifications to the drain pipe were made by subsequent users.

Pre disturbance and clearing

The cistern was not exposed during these investigations. The associated pipe was partially covered with sand, leaf litter, broken bottles and undergrowth. Clearance consisted of removal of sand over the surface, accumulated leaf litter, invasive plants and modern rubbish. Hand saws, shovels, secateurs, trowels, hand scoops and buckets were used to carefully clear area to enable ease of access. No evidence of any cultural material associated with WW2 operations was located during clearing. All cleared material was left on site.

Determination of function

Three methods were used to determine the function:

(a) Interpretation of the structure

The cistern is in good condition and is clearly for fluid storage. It was accurately recorded in 2016 and no additional measuring or interpretation was required for this report. The associated water pipe is situated

near the edge of S5 and S9. This relative location suggests a function linking these two structures. An earthenware plumbing pipe running into S9 is indicative of the pipe being part of a water collection system employed during the operation of the RS48 camp. Subsequent modifications to the original earthenware pipe are indicative of later attempts to continue with its function as a water collection down pipe.

(b) Excavation

One excavation was conducted:

Shovel Pit 1 (S9) Drain Pipe. A shovel pit 800mm X 800mm was excavated to determine the function of the protruding riveted galvanised iron pipe and in the process to determine its relationship with nearby structures. All material excavated was passed through a 5mm sieve. The excavation revealed a manufactured galvanised iron water pipe at 50mm connected to the vertical riveted galvanised pipe. Immediately below the galvanised iron water pipe was an intact Coke bottle with a label indicating the contents as '1 Litre' and '35floz'. The use of both Imperial and Metric measures of volume on this bottle indicate that it was used around the time of the introduction of metric measurement in Australia. This indicates that the galvanised iron modifications to the original site probably happened at or after this time i.e. in the mid-1960s or later.

At 280mm the vertical pipe fitted into the flanged end of an earthenware plumbing pipe. Cultural material remains found from 250mm to the end of excavation at 300mm consisted of corroded iron fragments possibly from a can, fragments of concrete and earthenware plumbing pipe.

Figure 43. S9 drain post excavation. HDA photo.

(c) Oral history and literature review

John Grigson suggests this tank was filled by run off from the roofs of the nearby military buildings and fishermen later adapted the exposed nearby foundations to enable water to be diverted into the tanks (pers. comm. John Grigson 2018). No information was sought in regards to the associated pipes.

Current condition

The cistern is in very good condition. The earthenware downpipe forms part of a broader plumbing and rainwater collection infrastructure which was essential for the long term operation of the camp. Much of this infrastructure is buried. Subsequent modifications appear to be 'local' and may be representative of the ingenuity of subsequent users.

RS48 Deposits

The following is an evaluation of four deposits of cultural material which were identified in the 2016 report as warranting further examination to establish if they were related to RS48. (Please note: D2 from the 2016 report is now covered by the area described as the 'Army Camp (RS48A)'.

Figure 44. Example of material on the surface at D1 in 2016. HDA photo.

Figure 45. D1 post excavation. HDA photo.

RS48 D1 Bully Beef Tin Dump

Description of deposit

D1 is located within a sand dune blowout and consists of scattered cultural material protruding from the sand walls. This material was observed in the 2014 and 2016 reports.

Origins of deposit

HDA believes D1 is a rubbish dump. While we have not been able to ascertain an exact period, the bully beef tins consisting much of the material present in D1 is contemporary to WW2 and RS48's usage.

Investigation of deposit

A 500mm x 300mm shovel test pit was placed within the area designated as D1 and excavated to a depth of 200mm. This excavation was intended to investigate the depth of material. The excavation found no additional material other than that found on the surface. This suggests that the extent of D1 is only what is immediately visible in the sand dune blowout.

RS48 D3 Bottle Dump

Description of deposit

D3 is a scattering of modern alcohol bottles and cans dispersed over an area of shrub land

Origins of deposit

HDA believes D3 is a random dispersion of modern trash.

Investigation of deposit

A study of the cultural material found at D3 determined it was deposited post WW2, and none was relevant to RS48 or its related activities. It was considered outside of the scope of this investigation and no further work was undertaken.

Figure 46. D4 bottle dump. HDA photo.

RS48 D4 Bottle Dump

Description of Deposit

D4 is a modern bottle and trash dump, located on the surface off the south western corner of S4, the Quartermaster's Store.

Origins of deposit

HDA believes believe that D4 is a modern bottle dump created by post WW2 activities and campsites.

Investigation of deposit

A study of the cultural material found at D4 determined it was deposited post WW2, and none was relevant to RS48 or its related activities. It was considered outside of the scope of this investigation and no further work was undertaken.

Figure 47. D5 bottle dump. HDA photo.

RS48 D5 Bottle Dump

Description of deposit

Located by HDA (2016 report) at the south eastern end of their survey area this site consists of approximately 20 intact beer bottles and stubbies covering a 3 meter area. In situ dating of the intact bottles indicates the majority are of post WWII with stubbies dating from the 1980s. An intact amber glass jar screw top jar embossed with “FAULDING & Co LTD” on the shoulder was also found along with numerous fragments of broken brown glass.

Origins of deposit

The HDA team believes this is site is not associated with the operation of RS48 camp. It is a small collection of bottles and a jar which have accumulated up to recent times.

Investigation of deposit

Observation of the site indicated a collection of bottles, a jar and broken glass. The area, density and amount of cultural material is suggestive of casual discarding of glass items rather than a bottle dump. Dating of bottles, a jar and bottle base fragments suggest a date range of material from the 1940s through to current times. It has no known relationship to the operation of RS48. The site is intact but is not considered to be of relevance to the current research question.

RS48 Additional structures (administration and accomodation)

Introduction

John Grigson and Noel Grigson recall seeing the number '13' on one of the RAAF buildings when they visited the active radar station between 1942 and 1945. This suggests there are at least 13 RS48 related buildings in the area.

The Grigsons indicated there were at least 5 additional structures at the RAAF camp of which nothing visible remains as these were completely salvaged post war. Including the five structures revealed by John Grigson and Noel Grigson and the three structures at the radar station site the HDA survey work has accounted for 13 structures.

The signals room

The signal room was situated on a slightly elevated position at the southern end of the RS48 camp. It consisted of a wooden floor on stumps, weatherboard walls and a corrugated iron roof. This room received the signal information from the Doover and was connected to it, and the Igloos, via telephone and power cables. The Grigson's testimony is supported by the HDA team's discovery of a buried copper earth stake.

The medical officer's room

The medical officer's room was situated on a slightly elevated position at the southern end of the RAAF camp and adjacent to the mess hall. It consisted of a wooden floor on stumps, weatherboard walls and a corrugated iron roof. The Grigson's testimony is supported by the HDA team's discovery of a number of

iron nails in the area which suggested demolition.

Officers' quarters

The officers' quarters was situated at the point where the main access track to Jurien Bay entered the camp. It consisted of a wooden floor on stumps, weatherboard walls and a corrugated iron roof. The building was lined.
The building was completely salvaged post war. No evidence of this building was located by the HDA team.

Barracks A

The first of two barracks was situated to the north of the officers' quarters. It consisted of a wooden floor on stumps, weatherboard walls and a corrugated iron roof. The building was not lined. The building was approximately 20m long. The building was completely salvaged post war. No evidence of this building was located by the HDA team.

Barracks B

The second barracks was situated to the north of the barracks described above. It consisted of a wooden floor on stumps, weatherboard walls and a corrugated iron roof. The building was not lined. The building was approximately 20m long. The building was completely salvaged post war. No evidence of this building was located by the HDA team.

RS 48 camp additional infrastructure (services)

Introduction

In addition to the structures described above John Grigson and Noel Grigson provided details of the following infrastructure associated with the Radar Station.

Access road

The access road for the camp was east of the officers' quarters and passed the mechanic's hut on the right heading towards Jurien Bay. There was no track through the RAAF camp heading north as there is today.

Telephone line

A telephone line ran from the RAAF camp eastwards towards Mount Leseur. The Grigson family salvaged part of this line post war.

Figure 48. Insulators salvaged from the radar station telephone line by the Grigsons post WW2. HDA photo courtesy of the Grigson family.

Small arms firing range

There was a small arms firing range to the north of the latrines. This included a firing mound.

Water tank

A metal tank was located at a high point on the sand dune ridge to the west of the RAAF camp. This tank provided water pressure for the camp facilities. Water was pumped to it from the underground tank.

Rubbish dump

A rubbish dump was located east of the RAAF camp in a hollow in the dunes. This could be beneath the dump which contains much of the rubbish from the holiday shacks which existed in the area. It appears much of the material from the shacks which were demolished around 2000 was also dumped here.

Waste water, storm water and effluent pipe

Along the main track and adjacent to S6 is a section of earthenware pipe (S10 in the 2016 report), which appears to be intact, but also may have been moved by track maintenance or earthmoving. Local informant John Grigson informed to team this pipe took sewerage and storm water from the camp buildings to the ocean (pers. comm. John Grigson 2018). There are numerous pieces of earthenware pipe scattered around the area and it is believed much of this was salvaged or reused by shack builders after WW2.

Figure 49. Probing for the waste water pipe along the edge of the main track through the RAAF camp in 2016. Earthenware pipe can be seen in the foreground. Photo facing north. HDA photo.

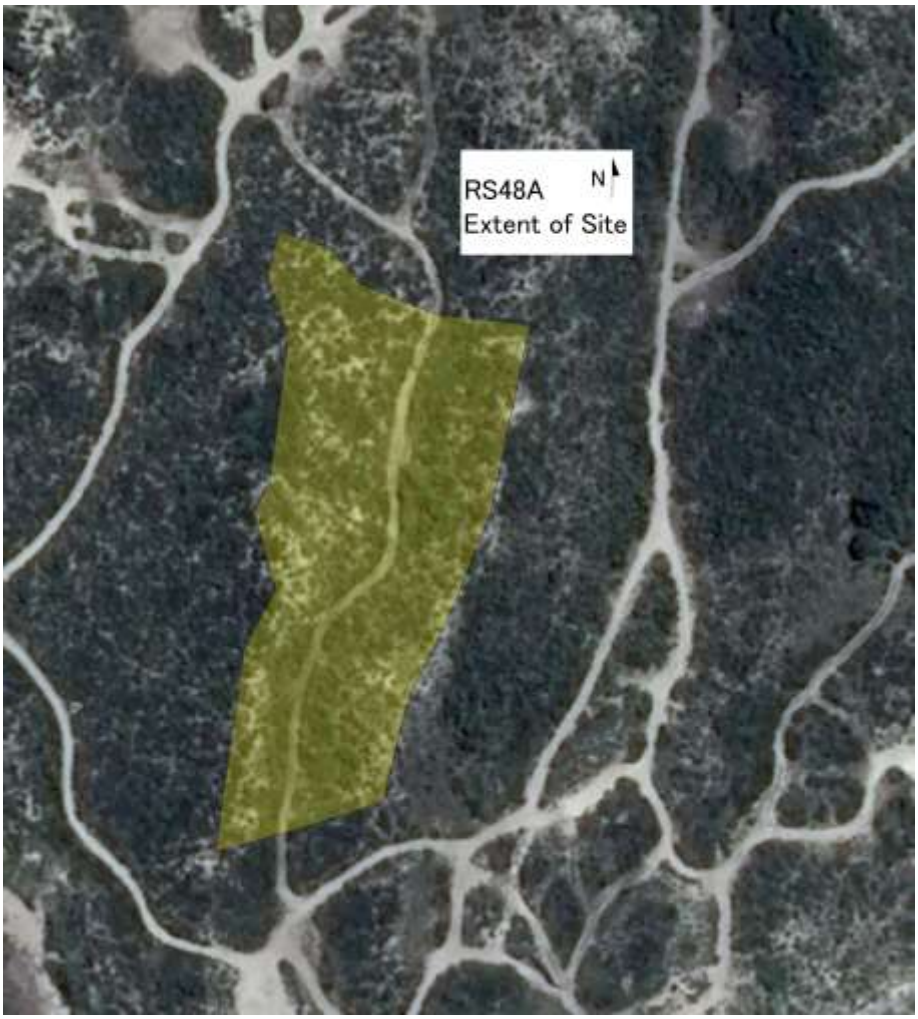

Figure 50. Overlay (yellow) on a Google Earth image of the tentative boundary and area of the WW2 army camp RS48A. This is in the depression in the dunes immediately to the west of the RAAF camp. HDA image.

RS48A Investigations and Results (Army camp)

Previous work

During the 2016 survey archaeologists and volunteers located cultural material from a possible military camp to the west of the RS48 camp using AMD methods. The area of highest concentration of metal targets was designated 'D2' in the 2016 report and has been designated RS48A in this report.

Based on observations of the plans of other radar stations around Australia, and in the absence of historical records of RS48, the survey team believed there would be a separate camping area for enlisted

men or Army personnel away from the main camp area. These men would be housed in tents which would lack lasting structural components.

In the absence of visible evidence of the camp being located during transects the senior archaeologist and principal of HDA, Bob Sheppard, decided an AMD reconnaissance would locate buried cultural material associated with the camp.

The team believed a camp would be in the shelter of the dune system either to the west or east of the structural components (foundations). This would allow for a separation of the enlisted men and officers but would be in close proximity to the mess hall, headquarters and the ablution block.
The western side was the preferred site as it allowed easier access to the beach for the military personnel.

In 2016 using archaeo metal detection, archaeologist Bob Sheppard and volunteers Ian Styles and Brad Faulkner located a military site in the depression between the dunes immediately to the west of the visible structural elements at RS48.

Shallow test pits were used to identify a number of near surface metal targets. Finds included a tube of insect repellent, a tube of shaving cream, a 303 cartridge in a clip, pieces of barbed wire and numerous 303 cartridges. Several large pieces of metal were located but not identified and left in situ. The larger targets were around 600mm deep.

Figure 51. WW2 insect repellant and shaving cream tubes located at RS48A in 2016. HDA photo.

Figure 52. Fired 303 case in an ammunition clip located at RS48A in 2016. HDA photo.

Figure 53. Fragments of barbed wire located at RS48A. HDA photo.

In an area of 80m x 20m 80 buried targets were located and recorded by GPS and left in situ without identification or test pitting. Sheppard (2016 Report) estimated the coverage of the area was around 20 per cent which would indicate there are 400 metal targets in the search area. Based on Sheppard's previous experience a similar number of non-metal artefacts could also be present.

None of the metal artefacts located were visible and therefore would not have been located using conventional visual survey during transects. It was determined that in the 2018 investigations shovel test pits and formal excavations would be used to establish the extent and contents of the deposit.

Determining the extent of RS48A

The extent of RS48A was determined by an AMD survey combined with a terrestrial survey. HDA archaeologists used a CTX3030 metal detector for this survey.

The methodology was to search for WW2 era metal artefacts using the metal detector, this included barbed wire, bullet casings, and dateable personal goods. To determine this, metal objects found were excavated in small shovel test pits, until they were uncovered and age be determined. These artefacts were then left in-situ. When a WW2 era artefact was found the search continued radially from that point until no further WW2 material was located, the point at which the WW2 material stopped being found was considered a tentative boundary for the extent of the site. This was undertaken at first on cardinal and ordinal points, however the survey became more organic as the RS48A site's shape became irregular.

The extent of the site can generally be considered to be the valley directly west of RS48, sharing a common boundary bordered with the North Head car park to the south, and a camping area to the north.

RS48A could consist of a larger area than determined during the survey. Modern camping areas are directly to the north and south of RS48A, including a large car park. These disturbances could have either destroyed part of RS48A, or their footprint may obscure evidence of RS48A. Further surveying could find additional WW2 material scattered further away but the team believes the main campsite lies within the marked area.

Structures

During the 2016 and 2018 investigations no structural elements similar to those at RS48 were located at RS48A. While being shown the archaeological activities at RS48 in 2018, informants John Grigson and Noel Grigson told the HDA team that the army was camped in the valley in the sand dunes to the west of the RS48 camp. This supported the HDA team's observations from 2016. The Grigsons recalled the soldiers were 'doing it tough' and living in tents. The water supply was two shallow soaks dug in the sand. They

recalled there was a small corrugated iron hut at the site which the Grigsons later salvaged. The galvanised iron appeared to have been in a fire and could have been deliberately burned.

According to the Grigsons, tension existed between the soldiers and the RAAF personnel over the difference in accommodation available to the two groups. The soldiers moved out of their camp two days before the full contingent of RAAF personnel arrived.

One wooden floor stump is visible at the base of the western dune at RS48A and a piece of corroded corrugated iron was located in a shovel test pit nearby. There are a number of broken concrete blocks near the track through RS48A and these could be related to foundations of a hut. Structural related artefacts also included galvanised iron building stump caps, various nails, a bolt, galvanised iron, alloy eyelets, iron wire, copper wire and soldering wire. These finds indicate the likelihood of at least one wooden stumped building, with some walls requiring fixing to frames by nails being located at the site and later salvaged. No indication of the roof material is evident and the size of function of the building/s is not known.

Figure 54. Concrete block on the side of the track through RS48A which could be part of the foundations of the small hut reported by John and Noel Grigson. HDA photo.

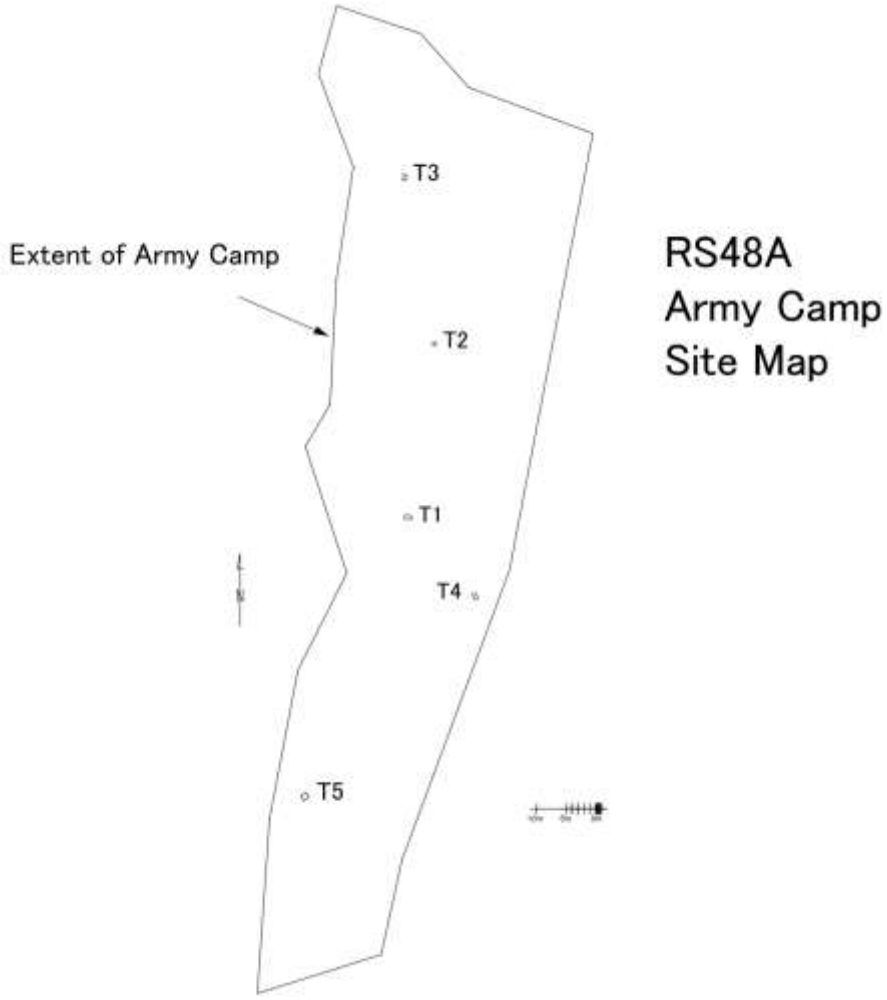

Figure 55. Location of archaeological excavations carried out at RS48A in 2018. HDA image.

Excavations at RS48A

RS48A Trench 1 (RS48AT1)

Method for determining placement of trench

Trench 1 was placed in accordance to the results of an AMD survey. A cluster of metal anomalies were detected within a close proximity of each other. HDA archaeologists decided this was a key area of interest for a trench.

Figure 56. RS48A T1 post excavation. HDA photo.

Description of trench

Trench 1 is a 1.25m x 800mm excavation that extended to a depth of 300mm.

Description of context

Trench 1 consisted of a single stratigraphic unit named Unit 1. Unit 1 is a loose, medium grain, light grey (10 Y/R 7/1 on the Munsell chart) sand which consists of the majority of sand dunes present at both RS48 and RS48A. Leaf litter on the surface and root intrusions are present throughout Unit 1.

Description of finds

Trench 1 located several noteworthy finds. A fired 303 cartridge case was located at 120mm. This cartridge was produced in Hendon, Australia during WW2. Also at 120mm was a Brylcream hair cream bottle of 1940s vintage. An iron construction cleat with nails was also located at this depth. While it cannot be easily dated, we suggest that it could have been used in the construction of canvas clad buildings.

Conclusion

Trench 1 uncovered WW2 material that we believe could be associated to the Army Camp. The finds included military items, personal items, and construction items. This diversity of WW2 era artefacts is interesting, especially when compared to other excavations including those undertaken at the RS48.

Figure 57. Brylcream jar found in RS48T1. HDA photo.

RS48A Trench 2 (RS48AT2)

Method for determining placement of trench

Trench 2 was placed in accordance to an AMD survey. A single large metal object was located by archaeologist Bob Sheppard. It was decided that it would be valuable to excavate as a trench.

Description of trench

Trench 2 is a 500mm x 700mm excavation that extended to a depth of 250mm.

Description of context

Trench 2 consisted of a single stratigraphic unit named Unit 2. Unit 2 is a loose, medium grain, light grey (2.5 Y/R 7/1 on the Munsell chart) sand which consists of the majority of sand dunes present at both RS48 and RS48A. Leaf litter on the surface and root intrusions are present throughout Unit 2.

Description of finds

During excavation of T2, the large metal object that was located was found to be a corroded steel post.

Conclusion

HDA believes the steel post located within T2 could be WW2 era and lumps of corrosion attached to the steel post could represent the remnants of wire. This means that the post located in T2 could represent part of the barb wire defences located around RS48A.

RS48A Trench 3 (RS48AT3)

Method for determining placement of trench

Trench 3 was placed in accordance to an AMD survey. Zack Sheppard and Steve Wells located a cluster of metal objects in a close proximity to a WW2 era surface find. A trench was placed under the assumption that more WW2 artefacts would be located nearby.

Description of trench

Trench 3 is a 1m x 700mm excavation that extended to a depth of 350mm.

Description of context

Trench 3 consisted of a single stratigraphic unit named Unit 3. Unit 3 is a loose, medium grain, light grey (7.5 Y/R 8/2 on the Munsell chart) sand which consists of the majority of sand dunes present at both RS48 and RS48A. Leaf litter on the surface and root intrusions are present throughout Unit 3.

Figure 58. Shaving cream tube found on the surface at T3. HDA photo.

Description of finds

T3 contained a single significant find. The artefact found on the surface in direct proximity to T3 was a pre-1953 dated tube of shaving cream. We believe that this artefacts is likely part of a soldier's daily grooming while stationed at RS48A. The artefact found at a depth of 120mm within T3 is a 1940's/50's alloy tube of toothpaste, which is also likely related to RS48A's wartime usage.

Conclusion

HDA believes the combination of two WW2 era personal grooming items found close to each other in T3 is significant in telling us about the daily life of soldiers at RS48A.

Figure 59. RS48A T3 post excavation. HDA photo.

RS48A Trench 4 (RS48AT4)

Method for determining placement of trench

Trench 4 was placed by HDA archaeologists over a surface find of a WW2 era bottle with the assumption that further WW2 material would be found nearby.

Description of trench

Trench 4 is a 500mm x 500mm excavation that extended to a depth of 300mm.

Description of context

Trench 4 consisted of a single stratigraphic unit named Unit 4. Unit 4 is a loose, medium grain, light grey (7 Y/R 7/1 on the Munsell chart) sand which consists of the majority of sand dunes present at both RS48 and RS48A. Leaf litter on the surface and root intrusions are present throughout Unit 4.

Figure 60. Surface find at RS48A Trench 4. HDA photo.

Figure 61. RS48A T4 post excavation. HDA photo.

Description of finds

T4 contained 5 fragments of iron cans, and a small section of soldering wire, which are non-diagnostic. However the bottle found on the surface of T5 has been dated from 1934-1948, which means it could likely be related to activities undertaken at RS48A during WW2.

Conclusion

While the bottle at T4 is likely WW2 related, due to it being a surface find amongst modern rubbish, it is hard to determine if it is a primary deposition.

RS48A Trench 5 (RS48AT5)

Method for determining placement of trench

At the start of the investigation of RS48A, HDA archaeologists conducted an AMD survey to delineate the extent of the RS48A campsite. During this survey archaeologists located a concentration of metallic objects. This was chosen to be the location of Trench 5.

Description of trench

Trench 5 was a 1.2m x 1.5m trench excavated to a depth of 400mm.

Description of context

Trench 5 consisted of a single unit, Unit 5. Unit 5 is a loose, medium grain, light grey (7.5 Y/R 7/1 on the Munsell chart) sand which consists of the majority of sand dunes present at both RS48 and RS48A. Leaf litter on the surface and large root intrusions are present throughout Unit 5.

Description of finds

Trench 5 uncovered a large amount of varied material, including:

11 galvanised iron 'Stump Tops' which we believe could be used on top of wooden supports holding up barracks present at RS48.

1 1960s-70s beer bottle

1 Scent Bottle

1 section of fine copper wire

11 fragments of iron food cans

16 Hedon production WW2 era 303 casings, fired.

A small amount of an unknown, cobalt blue, chalk like substance.

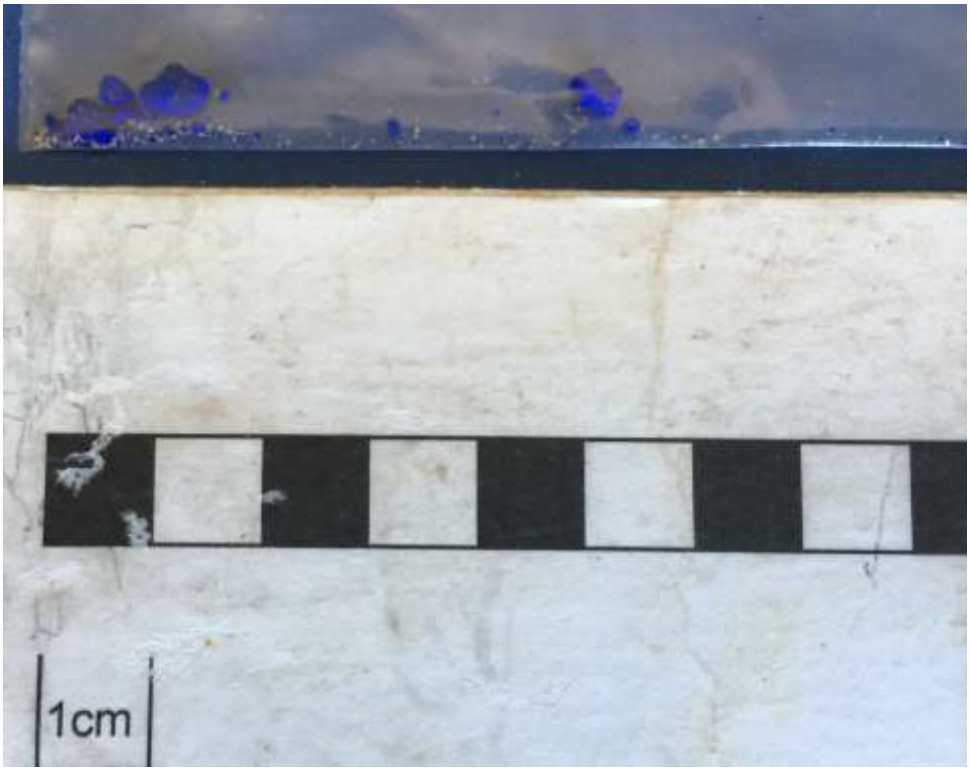

Figure 62. Unidentified blue substance located in RS48A T5. HDA photo.

Figure 63. Scent bottle located at RS48A T5. HDA photo.

Conclusion

We suggest that Trench 5 is likely an intentional rubbish dump. Much of the material present could be related to the activities of RS48 or the Army Camp. The artefacts located can inform us of the cultural material present during the WW2 use of the site, even if the deposit found at T5 was not created by WW2 personnel.

AMD and surface finds at RS48A

During AMD reconnaissance work numerous targets were located, identified and left in situ. Some artefacts deemed to be diagnostic were retained and entered in the artefact database as surface or AMD finds.

Figure 64. 303 calibre bullet casings located during AMD survey at RS48A. HDA photo.

Comparative analysis of the archaeological remains of RS48 and RS48A

Introduction

The RAAF camp, (RS48) and the Army camp (RS48A) show significant differences in the kinds of cultural material present, and age of artefacts remaining in the archaeological record. These differences can inform us as to the different activities performed at RS48 and RS48A, both during their periods of use in WW2, and post war and assist in understanding the 'day to day life' of the personnel camped there.

Discussion

The vast majority of cultural material found at RS48 is from post war usage of the site and was not collected. Efforts focussed on artefacts directly related to its wartime occupation. Artefacts observed at RS48 are predominantly structural and subsistence, with a smaller amount of military artefacts. The structural artefacts are directly related to those structural remains present at RS48, and include significant amount of WW2 era nails and fragments which have been dislodged or are related to post war salvage. Modern material, used in the modification of the structures into camp-sites are also present. Of the subsistence related cultural material found at RS48, the vast majority are post WW2 bottles related to the later use of RS48 as a camping area. The military artefacts collected are WW2 era fired cartridges found sporadically over the entire site.

The lack of WW2 era artefacts related to the day to day living of the men stationed at RS48 tell us about their behaviour towards rubbish disposal. The HDA team describes the RS48 site as 'clean' of WW2 related material and therefore there was a conscious attempt by the men stationed at there to keep their camp-site clean of rubbish. This can be supported by the presence of a large rubbish dump nearby which, although containing modern material, was described by witnesses to be re-use of an older WW2 rubbish dump. This level of cleanliness and orderliness helps to highlight that RS48 was a substantial and carefully run military camp.

Artefacts located at RS48A show a larger distribution amongst the different functional categories of artefacts, with a larger proportion of WW2 era artefacts compared to modern artefacts. At RS48A the largest collection of artefacts were related to military activities, including fired .303 cartridges (the standard rifle cartridge of Australia during WW2) as well as fewer pistol calibre cartridges, and fired projectiles. RS48A also included many artefacts related to the daily life of the soldiers stationed there. For example, these include artefacts 078, 079, 087 and 093 (Refer to the appendix for additional information). Subsistence artefacts included a tube of Nestle Concentrated Milk and fragments of several cans. Previous investigations by HDA (2016 report) located numerous bully beef tins to the south of RS48A which are also believed to be associated with the military camp. The lack of subsistence related finds indicates RS48A was well maintained with rubbish being removed, (possibly to the site where the bully beef tins were found) to ensure camp order cleanliness and proper sanitation. Finds from the current investigation and in 2016 suggests some food was canned or preserved ensuring food was available during lengthy periods between the availability of provisions.

Domestic finds in 2018 include bleach, hair cream bottle, dental cream tube, shaving cream tube, after shave bottle, alloy tin, and a scent bottle. Despite living in tents, as indicated from the oral testimony of John Grigson and Noel Grigson (pers. comm. 2018) who visited Radar Station 48 camp when it was operational, it appears the men in the camp maintained a high degree of personal hygiene, suggesting military grooming standards were enforced at RS48A.

A single medicinal bottle provides evidence that assistance was available for managing health issues at the camp. Evidence of insect repellent being available was noted by HDA (2016 report) and supports this notion. Further archaeological investigation could determine the single medicinal bottle was due to a small number being used by soldiers, or others were moved to a more substantial dumping site. An alternative explanation could be that the medicinal bottle was an example of 'elixir' use. Many medicinal brews at the time were highly alcoholic.

WW2 period beer bottle fragments were found at RS48A. Drinking in moderation and according to military routine was likely allowed at the camp. The small number of bottles and amber glass fragments at RS48A suggests that either there was minimal alcohol to drink, or that cleanliness was enforced and empty bottles were removed to a dumping site away from the camp.

The amount of WW2 material present at RS48A leads us to believe it was an occupation site during WW2. The presence of personal artefacts and the significantly larger amount of fired cartridges suggests the men stationed at RS48A did not have the same level of rubbish management as the RS48 camp. Oral testimony suggests the soldiers at RS48A were predominantly living in tents amongst the sand dunes, this would make it far easier for objects to be lost in the loose sand. The smaller amount of modern rubbish found at the site also suggests it did not have the same post war modification and occupation as RS48.

When comparing the artefacts at RS48 and RS48A we can see some differences. RS48 was a more cleanly run camp, with less rubbish being dumped in the near vicinity of the camp. While RS48A also had rubbish disposal sites, they are closer to the camp site itself. It is possible the more temporary/ephemeral nature of the RS48A camp lead to objects being lost in the loose sand.

Both sites had .303 fired cartridges present, however RS48 are in a far lower number, suggesting that weapons were not commonly fired in the area surrounding the structures, this is reinforced by the oral testimony that RS48 had a separate firing range area. RS48A has cartridges and projectiles spread over a far greater area and in larger numbers, suggesting that firing exercises were not limited to a separate firing range, but that practice was undertaken organically at the periphery of the camp itself, where its gun pits and defensive trenches would have been placed.

Conclusion

The artefacts at RS48 and RS48A reflect HDA's interpretations of the purpose of the two sites. There has been substantial post war occupation and modification at RS48, with the vast majority of artefacts present being post WW2, while RS48A has a far greater proportion of WW2 era cultural material present, suggesting that it has been less impacted by post war activities.

2018 Report Conclusion

Details

At RS48 the HDA team were successful in determining the functions of individual structures, the extent of the installation, both residential and administrative, as well as other elements such as communications, drainage etc.

At RS48 (RAAF radar station, camp and administration) the HDA team.

- determined the function of 8 structures at RS48
- determined the approximate location of 8 additional structures
- examined 4 deposits and established their relationship to RS48
- established the location and extent of additional infrastructure related to RS48

At RS48A (army camp) the HDA team.

- established that RS48A (D2 in the 2016 report) is the site of an army camp
- excavated and recorded 5 trenches
- provided a tentative boundary for the site
- located potential cultural deposits

Through a comparative analysis of the cultural material at the two sites the HDA team was able to help determine the nature of what day-to-day life was like for personnel serving at RS48 and RS48A. This interpretation was hindered by the sparsity of visible cultural material, the effects of post war occupation and a disciplined military approach to hygiene.

Statement of significance

It is beyond the scope of this report to provide a Statement of Significance (SS) for the site however, following investigations carried out at RS48 and RS48A the HDA team are confident a nomination for State

Heritage Office listing would be successful. A formal SS can be provided if requested. Owing to the deterioration of the site due to erosion and vandalism elements of the site could be lost if no remedial action is taken. The loss of structural elements would impede heritage listing in the future and reduce the site's heritage values.

Opportunities

The Radar Station 48 precinct provides the Shire of Dandaragan with a unique opportunity to showcase the important military heritage of the region. If managed correctly the site could play a pivotal role in tapping into military history and heritage tourism (e.g. a military heritage trail) linking the coast and the hinterland.

Opportunities also exist for a community outreach programme to involve the community, including children, in a range of military heritage projects.

Urgent action required

It is beyond the scope of this report to create a short term Conservation Management Strategy CMS (a written strategy can be provided if required) however HDA recommends that immediate steps be taken to:

- prevent vehicles from accessing the site beyond the car park.
- inform the public of the important heritage of the site.
- ensure tour operators understand the fragile nature of the site.

Recommendations

1. Prepare and implement a Conservation Management Strategy (short term).
2. Prepare and submit a nomination of the site to the Office of State Heritage for heritage registration accompanied by the appropriate Conservation Management Plan.
3. Extend the area of the survey to better determine the boundaries of RS48A.
4. Carry out additional archaeological excavations at RS48A.
5. Carry out archival research and record oral histories to create a publication telling the story of the radar station heritage precinct.
6. Promote the role the site has played in the context of the military history of the Midwest to create a project within the Shire of Dandaragan and neighbouring shires to facilitate tourism opportunities and community heritage opportunities which includes other military sites in the hinterland.

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Appendix 1

Community engagement

Prior to the start of the archaeological investigations Heritage Detection Australia called for volunteers to assist with the work. This was advertised on both the Heritage Detection Australia Facebook page and the Shire of Dandaragan Facebook pages. Although some people indicated an interest in participating this did not occur.

HDA lead investigator Bob Sheppard addressed a coastal landcare group meeting in Green Head on 11 May 2018 and gave a brief update on the project.

Bob Sheppard assisted the Jurien Bay RSL by providing a guided tour of the RS48 on 19 May 2018. Around 80 people attended.

The HDA team also provided tours to council members and staff between 7 and 17 May 2018.

Media

Details of the excavation at RS48 were shared with a number of media outlets.

Bob Sheppard conducted interviews with:

- Spirit Radio. Conducted a live interview for the station's morning programme.
- ABC Radio Midwest. The interview was aired on ABC regional radio and details of the project were posted on the ABC Midwest and Wheatbelt Facebook page.
- ABC Radio Northwest. The interview was aired on Brad Beaumont's morning programme on 19 May 2018.
- GWN7 television. The interview and story was aired on 17 May 2018. See https://www.gwn7.com.au/news/2203-digging-up-history.

Social media

HDA provided regular updates of the project via Facebook.

The initial post detailing the activities reached 1,850 Facebook users.

Two short videos were published on line:

- The day a RS48 report sounded air raid warning sirens in Perth.
- Bullets, bottles and the Blue Orchids … a tale of two camps.
- Additional video footage has been retained.

Facebook posts were positive and highlighted the role of the Shire of Dandaragan in the project.

Photogrammetry and 3D imaging

Heritage Detection Australia used their recent survey of the radar station at Jurien Bay to trial the use of 3D photogrammetry for heritage recording as well as a gateway to Virtual Reality (VR) and Immersive Virtual Reality as an off-site visitation tool. 3D photogrammetry allows the construction of computational models that can enhance the management of cultural sites. In its simplest form it allows accurate measurements to be taken from the models that can help track any deterioration of the heritage structures as well as the environment those structures reside in. These models can be viewed on most computers and tablets. VR will allow the disabled, the aged or those without a four-wheel drive to access and enjoy the site. HDA have future proofed the data by capturing the images with full frame cameras and 4K video, processing the data is via Photoscan Professional.

Igloo 'A'. Ian McCann image.