

# A Cultural Heritage Investigation of the Whaler's Way Orbital Launch Complex Lower Eyre Peninsula, SA

A report to the Nauo Aboriginal Community, Southern Launch and the South Australian Native Title Services.



**SCOTT CANE**

23/06/20

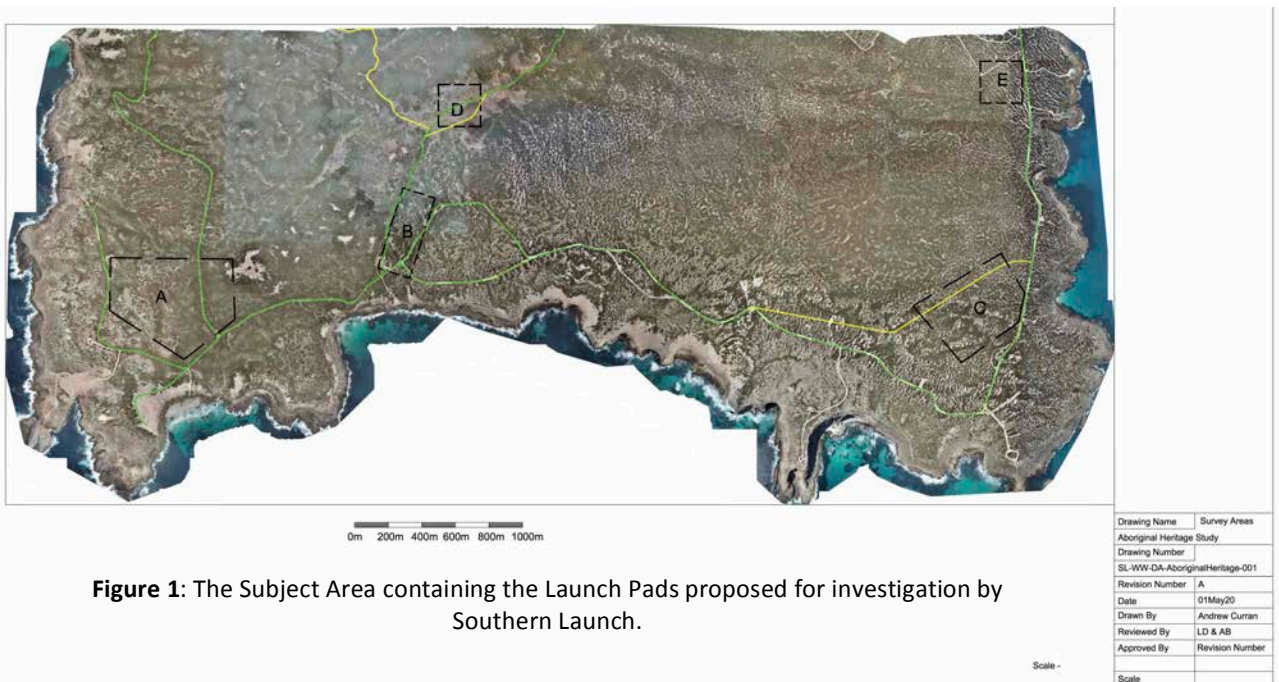
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**Cover figure:** The coast at Whaler’s Way showing the rugged coastline and the basement Precambrian granite overlain by calcrete.

# 1 Introduction

The following report describes the methodology, outcomes and recommendations of an Aboriginal heritage and planning assessment of the Whaler’s Way Orbital Launch Complex proposed by Southern Launch. The proposal consists of five Launch Site Areas designed to send small rockets into space.<sup>1</sup> These Areas are located within a Subject Area indicated on Figure 1 and labelled A, B, C, D and E. It is apparent in Figure 1 that the proposed Areas are comparatively small, covering between 0.3 sq. km in the case of Area A and about 0.07 sq. km in the case of Area E. It is also apparent from field investigations and architectural drawings that the proposed Launch Facilities within these Areas are also small – measuring about 0.05 sq. km in area.<sup>2</sup>



**Figure 1:** The Subject Area containing the Launch Pads proposed for investigation by Southern Launch.

## 1.1 Cultural and environmental considerations

The Launch Complex Subject Area is located within coastal scrub across the tip of Whaler’s Way, on the southern tip of the Eyre Peninsula. The nature of the vegetation varies across this coastal strip, but may be described generally as low and occasionally dense *Eucalyptus* and *Acacia* scrub growing on thin limestone soils and Holocene sand dunes on calcrete substrate over Precambrian granite bedrock. The sand dunes form undulating ridges along the southern, western and north-western portions of the Peninsula and are thus a notable feature in the western portion of Area A, across the southern portion of Area C and north of Area D. Exposed calcrete, thin limestone soils and superficial dunes cover the remainder of the proposed Launch Areas (Plates 1 and 2).

<sup>1</sup> Aboriginal Heritage Assessment request A. Curran 20 March 2020.

<sup>2</sup> Appendix B, Development Application – Architectural Drawings of Traditional Launch Sites by Greenway Architects 20/11/2019.



**Plate 1:** Jody Miller standing on exposed calcrete and low vegetation on the western side of Launch Area A.



**Plate 2:** Brenton Weetra, John Way and Jayden Roderick walking through scrub in Launch Area B.

The vegetation itself is of some cultural note as one species of *Acacia* (probably *Acacia sophorae*) called *Nondo* by local Aboriginal people was harvested annually in the past. In the 1840's Reverend Schürmann from Port Lincoln recorded that 'Nondo'

beans [seeds] were 'much prized by the natives, [and] grows in abundance among the sand dunes between Coffin and Sleaford Bays, where it every year attracts a large concourse of tribes' (Schürmann 1997:127). It may be taken that these seeds were similarly exploited in the past at Whaler's Way and archaeological evidence of that exploitation is found within the Subject Area.

Collectively, sand dunes, soil and vegetation covers each of the proposed Launch Areas in a manner that has the potential to obscure Aboriginal material culture deposited before the historic era. In such circumstances representative elements of Aboriginal heritage may be exposed through natural erosion (particularly areas of dune deflation), animal burrows, cultivation practices and track and fence construction. In addition, there are many exposures of bare calcrete and these, combined with the elements of exposure just described, create sufficient archaeological visibility to adequately assess the nature and significance of Aboriginal material culture within the proposed development locations. Dune deflations are a particular useful point of archaeological investigation as deflation effectively captures, concentrates and exposes any artefactual material left on them from the time of their formation and human occupation. In the case of the study area, these dunes were created at the time of recent sea level rise, about 6,700 years ago and may therefore contain evidence of human occupation from that time (Nicholson and Cane 1994).

Given this context, it is nonetheless apparent that much of the environment contained by the Subject Area is comparatively barren and so typically unsuitable for concentrated or sustained occupation in the past (and the consequent accumulation of Aboriginal material culture). The calcrete and sand dunes that cover most of the Area are pervious and do not hold potable water but that water does seep down to the impervious granite bedrock and then creates natural springs where that granite is along the shoreline. There are several such coastal springs on the Whaler's Way Peninsula and all are associated with extensive evidence of Aboriginal occupation. As well, the local granite contains veins of quartzite that was quarried for the manufacture of stone artefacts and hence creates the possibility that artefacts relating to stone tool production may be located across the survey areas.

In addition to these physical, environmentally-based, cultural considerations, Whaler's Way may contain a number of significant locations of a metaphysical nature. Central to that metaphysical tradition is the myth of the 'Seven Sisters', expressed in various forms across the Lower Eyre Peninsula and the general area of Whaler's Way. The primary male spiritual figure in that narrative is named *Yulanya* (and identified as *Pulyállana* by Schürmann (1844)) from which the 'Uley' Basin and other landmarks such as Yeelanna, Yallunna, Yulina, Yallunda Flat and Palanna (the Fountain) on the Eyre Peninsula derive their names.

It is also of note that the survey areas are located within the traditional lands of Nauo speaking people. The ancestral association of Nauo people to these lands is well attested to in the historic literature (Schürmann 1844) and in the recent determination of native title by the Federal Court of Australia regarding the

neighbouring Barngarla.<sup>3</sup> Here Justice Mansfield found that the Barngarla people's country (and their related rights and interests) did not extend south of the City of Port Lincoln council boundary. I am not aware of any expert anthropological evidence that supports the view that Barngarla people ever owned or succeeded to the lands contained by the Subject Area discussed in this report and as such it is my view that the Barngarla hold no traditional rights or interests within them.

## 2 Field survey and participation

### 2.1 Field participants

The field survey was conducted by four Nauo Representatives: Brenton Weetra, Jody Miller, John Way and Jayden Roderick. Scott Cane also participated in the survey with the assistance of Mike Pamp and Brenton Ellis from Southern Launch. No women accompanied the field team at the request of senior Nauo men, due to the cultural sensitivity and associated gender restrictions relating to different parts of the Whaler's Way peninsula.

### 2.2 Field methodology

Given the nature of the terrain contained by the proposed development areas the field methodology was designed to:

1. *Characterise the regional cultural sensitivity* of the Subject Area within which the Launch Areas are proposed. This was done by visiting areas on Whaler's Way thought both likely or known to have either physical or metaphysical cultural significance to the Nauo people.

To this end we also discussed the regional cultural landscape with local landowner, Robert Theakstone and his wife Sandra. The Theakstone family has been the land owners of Whaler's Way since the 1940s and have a long and close relationship with Nauo people.<sup>4</sup> As a consequence it was my view that their historical and local knowledge would be valuable in assessing the Aboriginal cultural heritage of the region (in the context of the proposed Launch Areas).

2. *Characterise the likely cultural sensitivity* of the immediate environment surrounding the proposed Launch Areas. This was done by examining erosion features such as tracks, washouts and dune deflations adjacent to the proposed Areas.

3. Examine each part of the proposed Launch Areas by driving and walking within them until the Nauo representatives and I were satisfied that we understood both the cultural heritage within each Area and the likely impacts of development on the cultural heritage within each Area.

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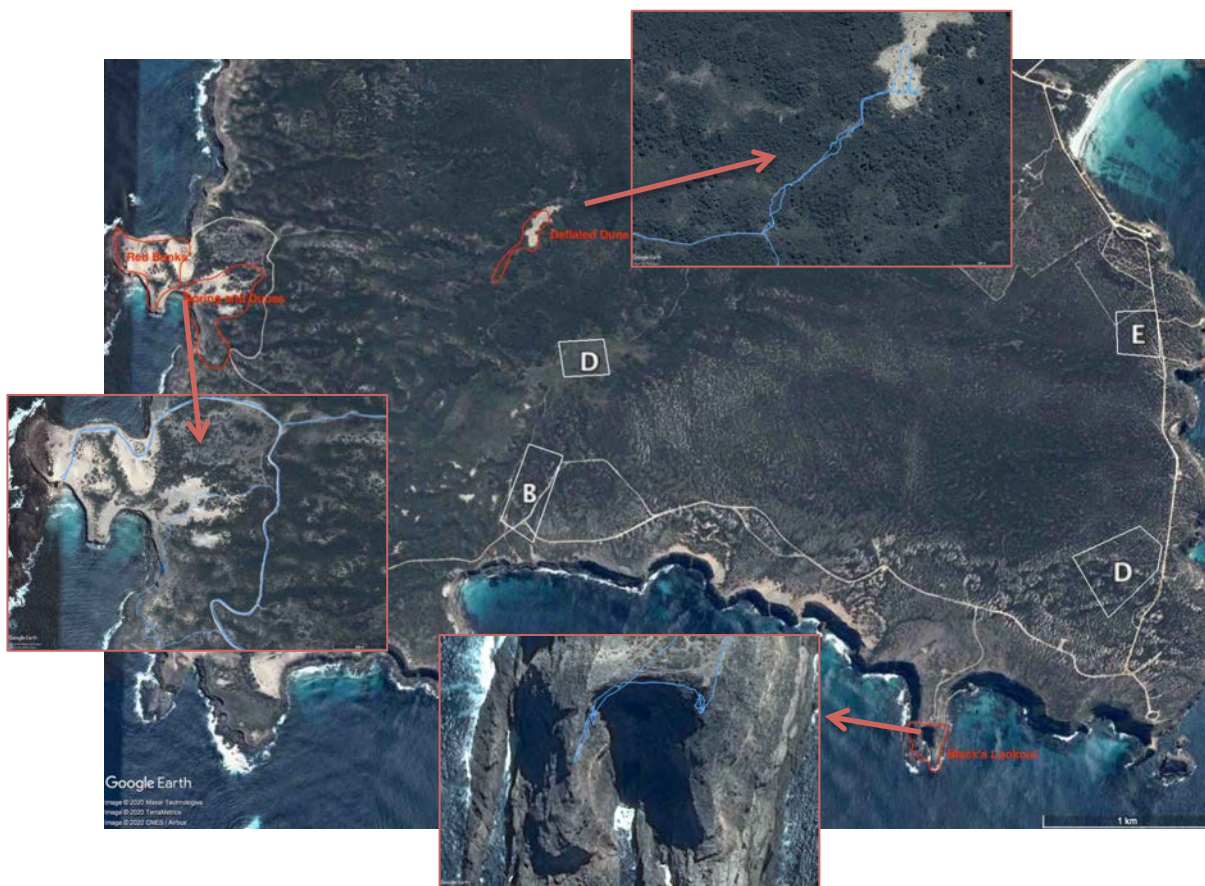
<sup>3</sup> *Croft on behalf of the Barngarla Native Title Claim Group V State of South Australia* [2015] FCA 15: 152-164.

<sup>4</sup> See the *Port Lincoln Times* 24 May 1941:2.

## 2.3 The Subject Area

In order to situate and assess the cultural heritage of the proposed Launch Areas, I felt it was necessary to examine the cultural heritage of the Subject Area in which they were located. This entailed visiting locations deemed likely, or known to be, of cultural interest to the Nauo.

To this end the field team drove to and inspected Black's Lookout, Red Banks (and its associated shoreline); a spring located east of Red Banks and a large area of deflated sand dunes associated with that spring (pointed to us by Robert Theakstone); and an area of dune deflation 700 m north of Launch Pad D. These locations are marked on Figure 2.



**Figure 2:** Areas investigated within the Subject Area (Red Banks, Spring and Dunes, Deflated Dune and Black's Lookout).

## 2.4 Survey of the proposed Launch Areas and immediate environment

### 2.4.1 Area A

Area A is the largest of the proposed Launch Pads covering just over 2 sq. km. A track runs through its eastern quarter and a deflated dune is associated with its north eastern corner. The western half of the Area is set over an exposed calcrete ridge (Plate 1) while the eastern side sits over calcrete and low sand dunes. Vegetation across the entire Area is low *Eucalyptus* and *Acacia* coastal scrub. A shallow water-

holding depression and natural soakage is located near the western margin of the Area.

The field track taken through and around Area A is presented in Figure 3. As can be seen in that figure the field team walked to the deflated dune adjacent to the proposed Launch Area and into its most deflated portion (inset Figure 3). The field team also walked through the central portion of the area, examined the soakage mentioned above and drove north-south along the track through the Area.



**Figure 3:** Field track taken through Area A with the insert showing the deflated dune in its north-eastern corner.

#### 2.4.2 Area B

Area B is relatively well vegetated with coastal *Eucalyptus* and Acacia Scrub growing over thin soil and exposed calcrete (Plate 2). Tracks traverse the western, eastern and south-eastern part of the Area. Dunes are located to the immediate west and a sinkhole is located on its north-eastern margin. This sinkhole is recent and formed when the calcrete gave way under a heavy road grading vehicle.

As can be seen from Figure 4, the field team walked through northern half of the Area and inspected sinkhole. They also drove each of the tracks within the Area (although the eastern track appears not to have been GPS tracked). The field team also inspected the dunes to the west with a view to locating any evidence of Aboriginal activity exposed in the dune's deflations.



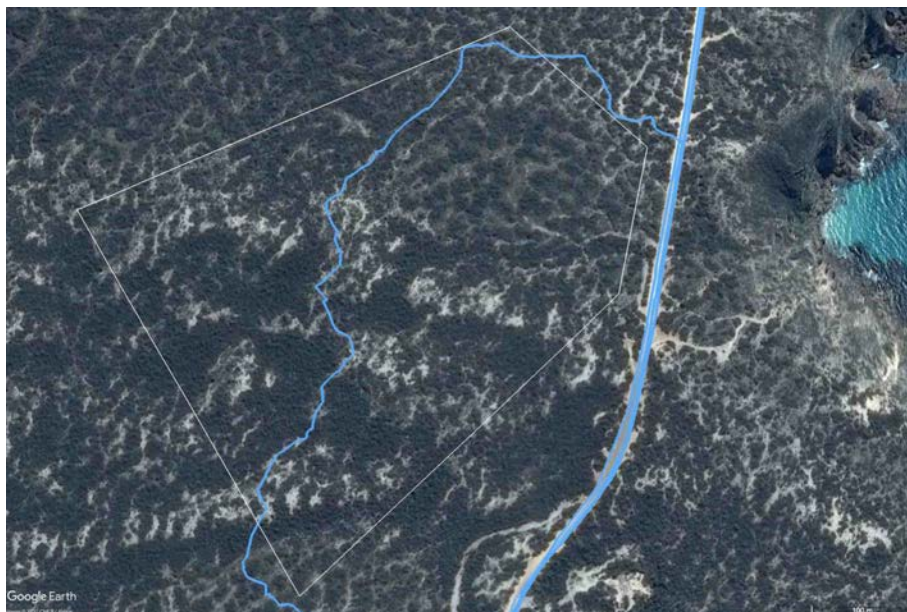


**Figure 4:** Field track taken through and adjacent to Area B.

### 2.4.3 Area C

Area C is loosely vegetated with *Eucalyptus* and *Acacia* coastal scrub over thin soil and exposed calcrete. Archaeological visibility is good here as much of the ground is comparatively bare. The main Whaler's Way Road passes to the eastern side of the Area.

The field team walked into the south of Area C from the Whaler's Way road and then walked north to its northern corner before cutting back to the road, more or less along its northern edge (Figure 5).



**Figure 5:** Field track taken through and adjacent to Area C.

### 2.4.4 Area D

Area D is set over an open plain (Figure 6), said by Mr Theakstone to have been cleared by his father for farming. The soil coverage is thicker and more extensive

here and archaeological visibility is poor. The surround terrain is undulating with large mallee and *Acacia* covered dunes. The cleared plain associated with Area D forms the lowest part in the surrounding landscape and contains a windmill that Mr Theakstone advised obtains water within 'Tertiary Sands' 80 feet (24 m) below the surface (with a salinity reading of 1400 parts/million). This windmill is 70 m west of Area D (inset, Figure 6). The surrounding dunes are heavily vegetated but, as noted in Section 2.3, there is a large area of deflation 700 m to the north. There are also two small dune deflations to the south-west of Area D. All were examined for evidence of Aboriginal occupation and, as seen on Figure 6, the field team walked through the plains associated with Area D and into the two small dune deflations to the south-west. They then drove north and walked into to the large dune deflation referred to above in Section 2.3.



**Figure 6:** Field track taken through Area D and the adjacent dune deflations with the inset showing the windmill and a circular depression referred to in Section 3.2.4).

#### 2.4.5 Area E

Area E is a small area abutting the Whaler's Way Road. It is densely vegetated and, like Area C, has thin soils over exposed calcrete pavement. The field team walked east-west across the Area, from the Whaler's Way Road and then north, approximately along the western border of the Area, before returning east to the Whaler's Way Road via a small track (Figure 7).

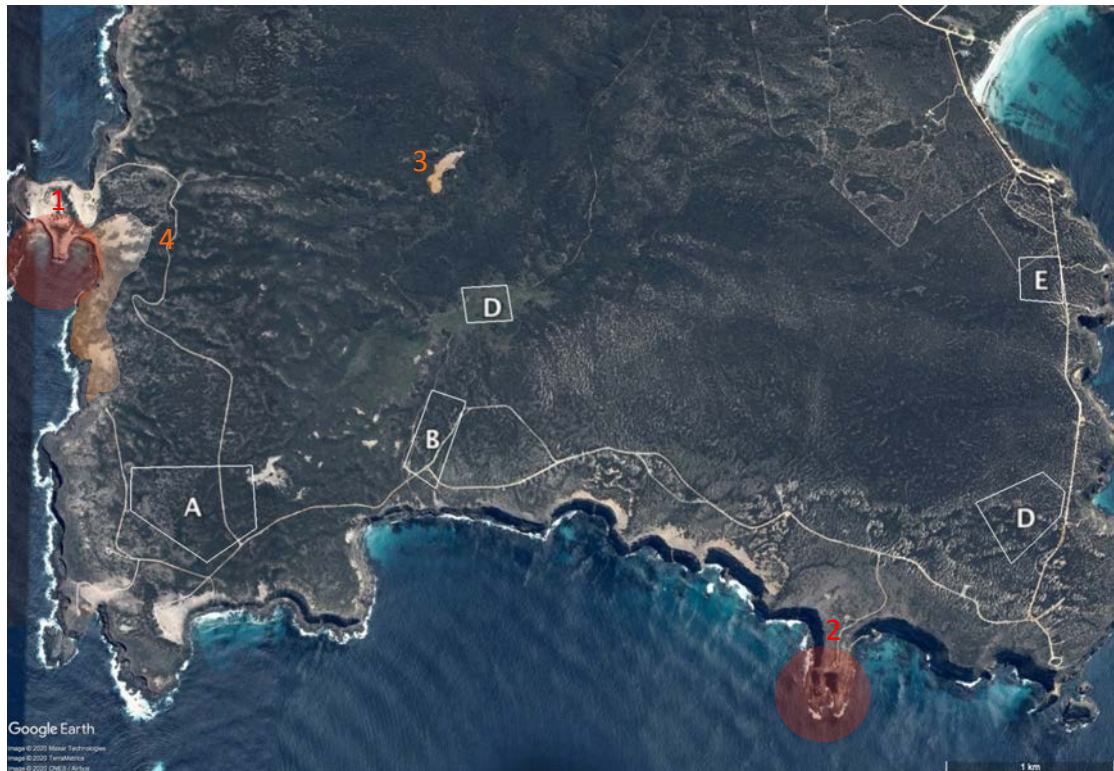


**Figure 7:** Field track taken through and adjacent to Area E.

### 3 Survey outcomes

#### 3.1 The Subject Area

As mentioned in Section 2.3, the field team inspected several areas outside the proposed Launch Areas so as to provide a cultural context of the peninsula tip in which to place and so assess the cultural significance of any Aboriginal materials or areas of significance within the those Areas. That wider exploration led to the location of two sites of mythological significance and two significant habitation areas. These areas are marked on Figure 8 with the red circles (1 and 2) indicating areas of mythological sensitivity and with the faded orange areas (3 and 4) areas of occupational intensity and cultural sensitivity.



**Figure 8:** Mythological places (in Red 1 and 2) and areas of archaeological significance (Orange 3 and 4) recorded during the field survey.

##### 3.1.1 Areas of mythological significance

Two areas of significance were located within the Subject Area that relate to a large mythic complex known informally as ‘Seven Sisters’. This religious narrative extends south-west from the Pilbara, through the Great Victoria Desert and the Eyre Peninsula to the southern tip of that peninsula and is described briefly in Section 1.1. Events associated with that mythic narrative are located on the southern parts of

Whaler's Way but not, as Figure 8 indicates, within the proposed Launch Areas. One is located in the vicinity of Red Banks and the other at Black's Lookout.<sup>5</sup>

### 3.1.2 Areas of Archaeological significance

Two areas of archaeological significance were recorded within the Subject Area. The first of these, identified as Site 3 in Figure 8 and consisting of a large scatter of artefacts exposed in a deflated dune 700 m north of proposed Launch Area D. The archaeological materials consisted of a variety of flakes, cores and formed artefacts as well as water-rounded ground and percussion-damaged granite cobbles. Fragments of emu egg were also located on the site. The quantity, diversity and density of artefacts found at this location is high by regional standards and is significant both archaeologically and to the Nauo.

The site contents reveal artefacts made from a diverse range of raw materials that point to habitation by different groups of people through time. Some of the raw materials used appear to have been sourced from outside the local area; pink quartzite from sources on the eastern side of Whaler's Way; a fine glassy quartz from the Marble Range/Mt. Greenly area and a number of different chalcedonies from the deserts to the north. The density and diversity of artefactual material suggests reasonably intense settlement and subsistence at this location with the presence of granite cobbles and flakes of chalcedony suggesting presence of desert people (who must have transported that material) in the area and the consumption of 'Nondo' (*Acacia* sp.) seeds in the past – consistent with ethno-historical records but Schürmann referred to in Section 1.1 (Schürmann 1844:40, 1997:127).

The site is exposed in unusual deflation caused by intense pre-contact occupation and de-vegetation or, as Mr Theakstone considered, by erosion along an old track constructed in the past. I suspect the latter and believe the deflation presents a window into past settlement and subsistence across the band of dunes connecting south and west (through the Subject Area) to the coast where similar archaeological materials are exposed at Site 4.

Site 4 is expressed on Figure 8 as a large area of deflated dunes behind a coastal spring described to us by Mr Theakstone. The site here appears to extend throughout the coastal dunes and was said by Mr Theakstone to extend south along the coast, to and around a second spring, the approximate extent being indicated on Figure 8. The site consists of numerous artefacts, again of different material types, suggesting people from different regions traveling with their stone tools and camping, using and discarding them at Site 4. The site also has a high proportion of granite grindstones and hearthstones (Plates 3 and 4), again suggesting *Nondo* bean harvesting and preparation, as described by Schürmann in the 1840s (Schürmann 1844). The ethnography describes large numbers of people converging from considerable distances to harvest, prepare and consume *Nondo* seeds and, experience from elsewhere suggests to me, participate in regional initiation ceremonies.

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<sup>5</sup> Mr Theakstone advised that he named Black's Lookout after his grandmother Charlotte Black and not because it was used by Aboriginal People. The area has, coincidentally, mythological significance to the Nauo.



**Plate 3:** A broken quartzite pestle used for *Nondo* seed preparation, Site 4.



**Plate 4:** A cluster of quartzite and granite hearthstones used for cooking *Nondo* seeds, Site 4.

## 3.2 The Launch Areas

### 3.2.1 Area A

Three artefacts were located in the deflated dune attached to the north-eastern corner of Area A. These artefacts included two flaked pieces of quartzite and a hydrated core of chalcedony (Plate 5, 6). The artefacts point to a low frequency of artefactual deposition in the dunes surrounding Area A.<sup>6</sup> The quartzite appears to have been extracted from seams in the exposed granite along the adjacent coast. Chalcedony is not found in the local region, so the chalcedony core must have been transported from the northern desert regions consistent with the use and occupation of the area by neighbouring people and the harvesting of *Nondo* seeds (Schürmann 1997: 117).



**Plate 5:** Weathered chalcedony core found in Area A, presumably transported from desert regions to



the north.

**Plate 6:** a quartzite flake found in the deflation adjacent to Area A

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<sup>6</sup> It is estimated from the GPS track that about 8000 sq. m were inspected in the dune swale indicating (given the three artefacts located) a deposition rate of 1 artefact every 2,600 sq. m.

No other evidence of Aboriginal occupation was found in Area A. However, it is thought likely that artefacts will be found in the proximity of the shallow drainage depression and swamp in its north-western corner. Soils coverage is likely to have concealed any artefacts (see Section 4.1).

### 3.2.2 Area B

No artefacts or other signs of Aboriginal occupation were found in Area B. Investigation of dunes swales to the west of Area B (Plate 7) revealed one artefact – a ground and percussion damaged granite cobble, thought likely to have been used in stone tool manufacture and seed processing.



**Plate 7:** Ground granite cobble found in a deflation west of Area B.

### 3.2.3 Area C

No artefacts or other signs of Aboriginal occupation were found in Area C.

### 3.2.4 Area D

No artefacts or other signs of Aboriginal occupation were found in Area D.

Consideration was given to the possibility that a circular depression located adjacent to the windmill located 70 m west of Area D was a remnant Aboriginal soak (and seen in the insert Figure 6). My own view is that the feature is reminiscent of other old unused soakages I have seen elsewhere in the country, but a northward depression across the wall of the feature also suggest its use as an historic water catchment or dam. Discussions with Mr Theakstone discounted both possibilities, as he advised that his father had extracted gravel there for track construction and that no dam had been built. The chance of the feature being the remnants of old Aboriginal soak is also discounted by the fact that the nearest subsurface water (accessed by the current windmill) is, according to Mr Theakstone, 80 feet (24 m) below the surface.



A significant Aboriginal site was located in the dune deflation 700 m north of Area D and is discussed in Section 3.1.2 above.

### 3.2.5 Area E

No artefacts or other signs of Aboriginal occupation were found in Area E.

## 4 Survey Outcome

Following both specific investigations of each proposed Launch Area and a more general investigation of the Subject Area, it is apparent that:

1. There are no sites or items of cultural significance located within the proposed Launch Areas.
2. There are both secular and sacred areas of cultural significance within the Subject Area to the west and north of the proposed Launch Areas.

The cultural heritage survey revealed that Aboriginal settlement was focused on dune areas and associated points of water along the coast, rather than across its more barren calcrete interior. It is also apparent that these points of settlement are significant, being rich in archaeological content and associated with a significant known cultural event – the annual harvest of *Nondo* beans on the dunes. The combination of sand dunes, seeds and springs establishes the ingredients for concentrated settlement and the formation of significant archaeological evidence in key locations within the Subject Area. These locations and the known areas of mythological significance establish a cultural landscape within which areas of greater and lesser sensitivity can be defined. Such definition sees the proposed Launch Areas situated within areas of low cultural sensitivity within the Subject Area in comparison with the sites recorded during this survey elsewhere within the Subject Area.

In short, no evidence of Aboriginal occupation was located within the proposed Launch Areas. It is apparent from ancillary investigations associated with Sites A and B that some artefacts are located across the calcrete plains in which the Launch Areas are located. However, the frequency of artefacts is so low as to have little cultural value, certainly insufficient in the view of the field participants to create an impediment to the proposed development. Our understanding of the cultural landscape independently accorded with the opinion of Mr Theakstone, who observed that Aboriginal settlement concentrated on the dunes along the western side of the peninsula and that we, the survey team, would ‘find nothing’, across the comparatively calcrete plains central to the Subject Area. He added that if Southern Launch were going to put the facility anywhere it should be in the general area of Launch Area A through B, C and E. Our findings support that opinion.

As such the Launch Areas identified for investigation have been cleared for the proposed development, with the following minor qualifying conditions:

### 4.1 Site A

Site A has been cleared for development on the condition that no development occur within:

a) a 1.5 ha polygon (marked on Figure 9) east of the western margin of that Area and surrounding a natural soakage identified within it. The square is marked by the western margin of Area A following grid references (53 H):

NW corner 557057 6133966

NE corner: 557188 6133966

SE corner: 557192 6133856

SW corner: 557056 6133858

b) a rectangle of 1 ha enclosing the north-east corner and encompassing a portion of the low dunes where artefacts were found during the survey (see Section 3.2.1) along a line east and north from Grid Reference;

53 H 557696 and 6133969



**Figure 9:** The two exclusion areas identified in Area A

#### **4.2 Site B**

Site B has been cleared for the proposed development without conditions.

#### **4.3 Site C**

Site C has been cleared for the proposed development without conditions.

#### 4.4 Site D

Site D has been cleared for the proposed development without conditions.

#### 4.5 Site E

Site E has been cleared for the proposed development without conditions.

#### 4.6 Broader cultural consideration

Is apparent from discussion with Southern Launch personnel during the field trip and examining the detail of their management planning document<sup>7</sup> that they expect to meet high environmental, social and economic standards should their development proposal proceed. It is also apparent that the company is actively interested in establishing best practice management regimes within which there is a framework for the establishment of an Environmental Sanctuary. It is our suggestion, in light of the significance of the cultural remains located within the Subject Area, that this concept be enlarged to become an Environmental and Cultural Sanctuary. Naao cultural heritage and cosmology could thus form a necessary and interesting part of the Sanctuary as both a companion in sound land management and an integral part of the broader socio-economic goals of Southern Launch in fostering conservation, education, employment and tourism.

The survey conducted here reveals that the Subject Area has tremendous potential for cultural heritage management and cultural tourism; an opportunity to present integrated insights into the secular and sacred cultural resources of the Subject Area set in a spectacular natural settings. Coincidentally and somewhat fortuitously, the mythological significance of locations defined in this survey also have particular connection and relevance to key constellations in the night sky and, as such, align rather well with the astronomical scientific and philosophical ethos of Southern Launch. The cultural heritage revealed in this report points strongly to a worthwhile educational and cultural tourism package and, it is suggested, should be considered accordingly in future social, economic and environmental planning and development.

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<sup>7</sup> Appendix B, Development Application – Architectural Drawings of Traditional Launch Sites by Greenway Architects 20/11/2019.

## 5 References

Nicholson, A.F. and Cane, S.B. 1994 Pre-European coastal settlement and use of the sea. *Australian Archaeology* 39:108-117.

Schürmann, C.W. 1844 *A Vocabulary of the Parnkalla Language Spoken by the Natives Inhabiting the Western Shores of Spencer's Gulf, to Which is Prefixed a Collection of Grammatical Rules Hitherto Ascertained*. Adelaide: George Dehane.

Schürmann. C.W. 1997 [1879] The Aboriginal Tribes of Port Lincoln in South Australia, Their Mode of Life, Manners, Customs, Etc, in J.D. Woods (ed.), *The Native Tribes of South Australia*, pp. 209–251. Adelaide: Friends of the State Library of South Australia, [Originally published Adelaide: E.S. Wigg & Son, 1879].