
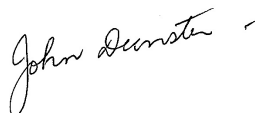





Exploration Operations Mining Management Plan and Public Report

- Verdant Minerals Ltd
- Ammaroo Phosphate Project
- Authorisation Number: 0609-4
- 2018
- 11/7/2018

The MMP must be endorsed by a senior representative of the company who has the appropriate level of delegation.

	Author	Reviewed by	Approved by
Date	11/7/18	11/7/18	11/7/18
Name	Nigel Doyle	John Dunster	Chris Tziolis
Signature			

I, Chris Tziolis (*Managing Director*) declare that to the best of my knowledge the information contained in this mining management plan is true and correct and commit to undertake the works detailed in this plan in accordance with all the relevant Local, Northern Territory and Commonwealth Government legislation.



SIGNATURE:

DATE: 11/7/2018

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Amendments

The following amendments from the 2017b MMP are:

Deepen existing Costean 5 (ARC177) by 1m to retrieve a maximum of 10 tonnes of phosphate rock for processing optimisation test work.

Dig new Costean (Costean 7 – BCRC642) to 9m depth to retrieve a maximum of 10 tonnes of phosphate rock for processing optimisation test work.

Dig new Costean (Costean 8 –BCRC649) to 4m depth to retrieve a maximum of 10 tonnes of phosphate rock for processing optimisation test work.

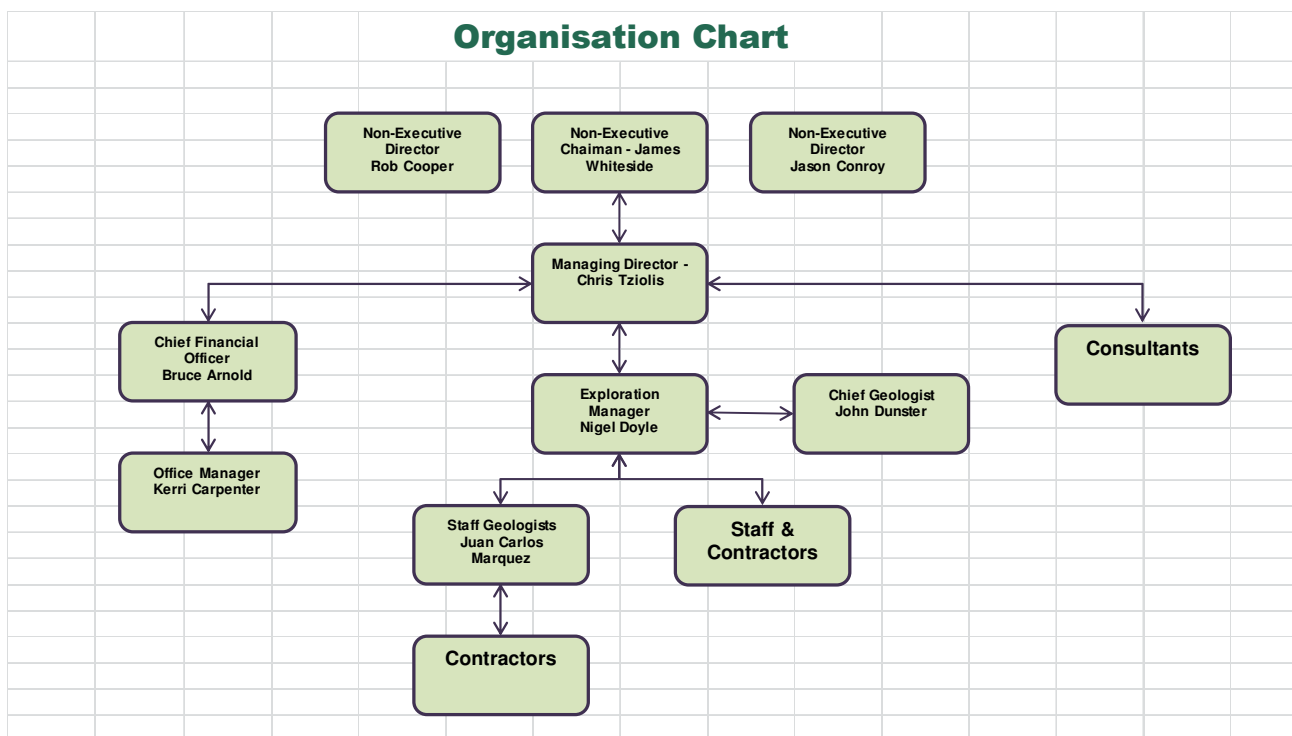
1 Operator Details

Provide operator details including:

- Verdant Minerals Ltd (formerly Rum Jungle Resources Ltd)
- Key contact: Nigel Doyle (Exploration Manager)
- GPO Box 77, Darwin NT 0801
- 20/90 Frances Bay Dr, Stuart Park, NT 0820
- Ph – 8942 0385
- Fax – 8942 0318
- ndoyle@verdantminerals.com.au

1.1 Organisational Structure

The Exploration Manager is responsible for onsite activities.



1.2 Workforce

Staff

Verdant Minerals will utilise 1 to 2 geologists and up to 4 geological field assistants on the project. Extra staff, contractors and consultants are employed as needed. Local Aboriginal workers from Ampilatwatja are employed periodically during rehabilitation activities.

Contractors

Contractors who may spend days to weeks at a time on-site include:

RC/AC Drillers: Bullion Drilling Pty Ltd - typically 3 personnel on each rig and Colling Exploration – 2 personnel

Diamond Drillers: Winmax Australia -typically 3 personnel
Earthmoving: Phillips Earthmoving - 1 to 2 personnel
Environmental: Ecoz Environmental Consultants, 1 to 2 personnel
Hydrogeology: Ground Water Science, 1 to 2 personnel
Site Clearances: CLC staff and Traditional Owners, groups of up to 6
Local Workers: Through My Pathway Ampilatwatja
Surveyors – Brian Blakeman Surveys

Visitors

Short-term visitors who may over-night at Ammaroo camp or who may wish to inspect works include:

Verdant Minerals Management
Investors & Brokers
Fuel supply and other deliveries
Cleanaway to collect septic
Pest Control
Consultants involved in EIS work
Transport contractors
Tradesmen (eg electrical inspections, tagging)

Prior to commencement of activities, all personnel will undergo a Verdant Minerals Site/Field Induction which covers safety, emergency response, station rules, camp rules, environment, cultural and heritage concerns etc. All visitors are given an appropriate induction. Full details were given in the previous full MMP. A full set of all VRM policies and guidelines are available on-site as well as a copy of the upgraded site inductions.

2 Identified Stakeholders and Consultation

Ammaroo Station/Derry Downs Station (Sandover Pastoral Company) – Owners S & A Weir

Verdant Minerals have been operating on Ammaroo Station since 2010. The company has a signed Land Access Agreement with Ammaroo dated 28/5/2018.

Murray Downs Station: Owner Romeo Roxas

Verdant Minerals does not have current exploration tenements on Murray Downs station however we have permission from 2016-2018 to access the property for environmental, archaeological and geotechnical studies over the proposed transport corridor. A permission document was signed on 25/10/2016 by Romeo Roxas.

Elkedra Station : Owners – Driver Family

Verdant Minerals discussed exploration plans for 2017 with the Driver family prior to the original drilling program and again prior to the second drill program. The proposed camp site was approved by Elkedra Station via email on 4/9/17.

Department of Primary Industry and Resources

Authorisation 0609-4 was granted by A Padovan on 18/5/2017. The total environmental bond for the project is now \$247,177. A field inspection and audit by DPIR was carried out 14/6/2017 including a visit to the recently drilled Rockhole project.

Central Land Council

Verdant Minerals has various Exploration Agreements with the Central Land Council over the Ammaroo Phosphate Project on both Ammaroo and Elkedra Stations. Clearance programs are conducted yearly once exploration programs have been submitted. The most recent clearance program was done prior to the 2017 exploration season and a quote has been received for the current exploration clearance. Negotiations are currently in progress working towards a Native Title Agreement for the Ammaroo Mine.

Traditional Owners – Ampilatwatja Community

The most recent community meeting was held on May 16, 2018 at Ampilatwatja to update the community on progress being made with the project. The previous meetings were held in October 2017 at both Ampilatwatja and Murray Downs Communities. Local Traditional Owners were employed directly by Verdant Minerals and through My Pathway in Ampilatwatja between September and November 2016 to help out with rehabilitation activity, flora/fauna surveys, fencing and archaeological surveys.

Local workers accompanied both Flora and Fauna crews and Archaeological crews during surveys in late 2016 as part of the EIS process.



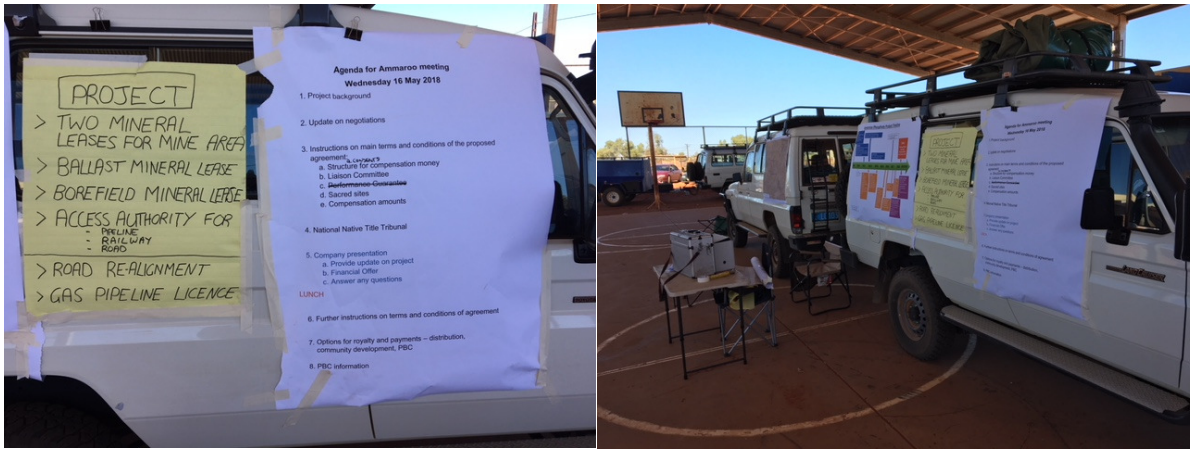
Community meeting onsite in 2013



Community meeting in Ampilatwatja in 2014



Community meeting in Ampilatwatja October 2017



Community meeting in Ampilatwatja May 2018



Local workers carrying out pit fencing duties in October 2016



Local workers weighing drill bags in 2016



Local workers rehabbing drill holes in 2016

NT Worksafe

A current Risk Management Plan has been accepted by NT Worksafe and work onsite is conducted under that RMP.

Evidence of two way communication with station owners is contained within Appendix 4.

3 Project Details

Project Name:	Ammaroo Phosphate Project
Location:	360 km north east of Alice Springs
Site Access:	Sandover Highway and Murray Downs Rd

Tenement	Area km ²	Blocks	Grant	Expiry	Holder
EL 24726	63.91	20	1/04/2008	31/03/2018	Territory Phosphate
EL 25184	60.72	19	19/04/2007	18/04/2019	Territory Phosphate

• **Table 1. Tenement list for Ammaroo Phosphate Project**

MAP OF SITE LOCATION AND LAYOUT

The Ammaroo Phosphate Project tenements are located 360 km northeast of Alice Springs and 300 km southeast of Tennant Creek by road, on the Barrow Creek SF53-06 and Bonney Well SF53-02 1:250,000 mapsheets. Verdant Minerals has been exploring for Cambrian rock phosphate in this area since 2010 resulting in the discovery of the Ammaroo Phosphate resource and the Rockhole phosphate prospect. The Ammaroo deposit has a JORC resource of over a billion tonnes.

Access to the project area is via the sealed Stuart Highway and the partly sealed Plenty and unsealed Sandover Highways from the south and the Taylors Road / Murray Downs road from the north. The nearest fuel and accommodation are at the Wycliffe Well Roadhouse and Holiday Park in the northern part of the area, on the Stuart Highway, 180 kilometres north by road from Alice Springs and 130 kilometres south by road from Tennant Creek. Access within the project area is limited to various station and exploration tracks. The 20-person Ammaroo camp and fly-camps are used for exploration. A bore is used for camp water. A medical clinic is located at the Ampilatwatja Aboriginal Community. Ammaroo and Murray Downs Stations have both contracted earthmoving equipment and operators, as have companies based in Tennant Creek and Alice Springs. Fuel is carted from Alice Springs on an as-needs basis. The other nearest airstrips, police station and medical clinics are at Ampilatwatja and Ali Curung. The Ammaroo base camp has an emergency helipad.

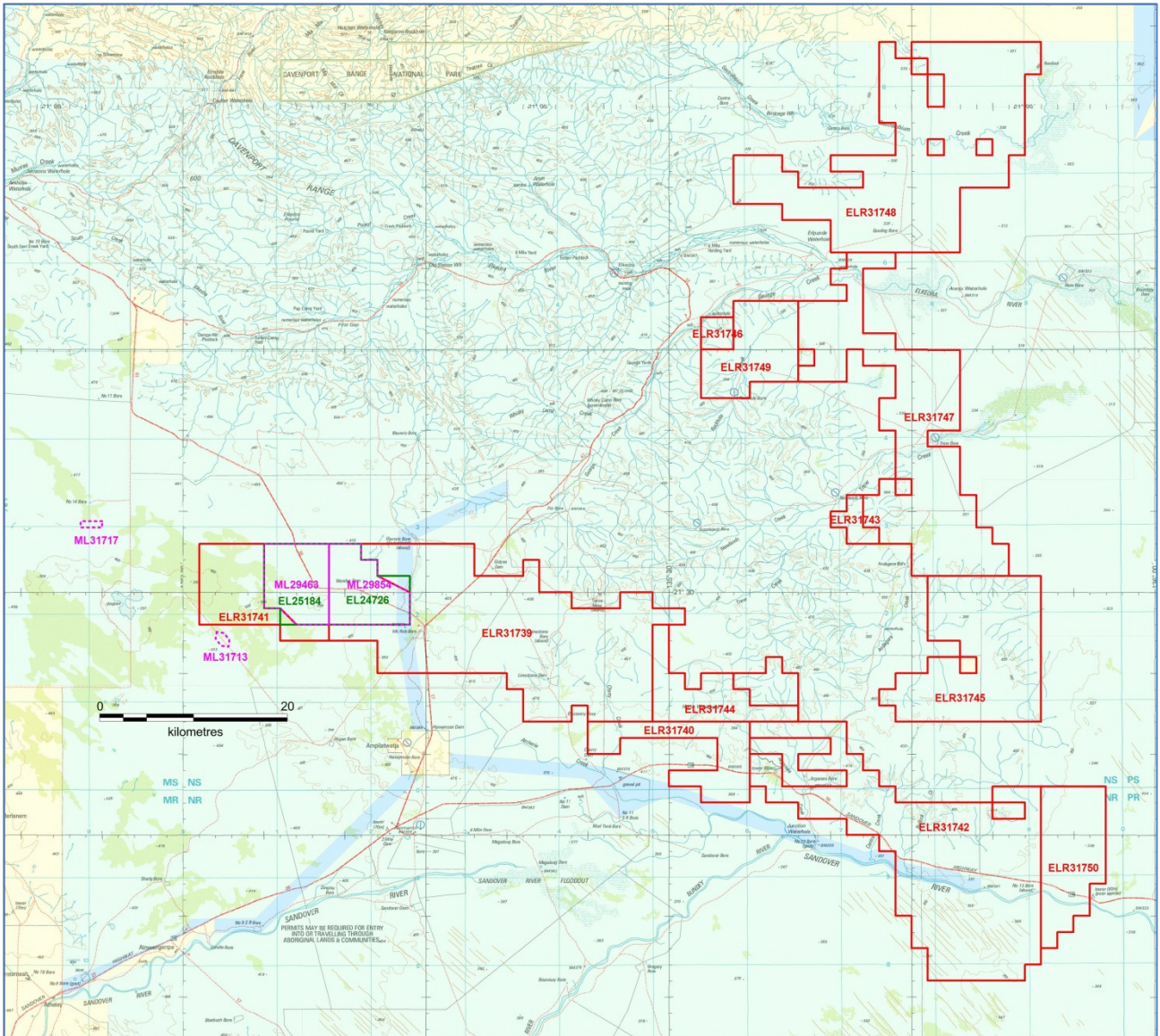


Figure 1. Map of Ammaroo Phosphate Project.

3.1 Previous Activities and Current Status

The general area was previously explored for phosphate by VAM Ltd in 1968 when nine rotary air blast (RAB) holes were drilled in the vicinity of Limestone Bore, 10 km north of Ammaroo Homestead. Several of the RAB holes encountered relatively shallow economic grades of phosphorite. Phosphate was also known to exist in the vicinity of the Ammaroo Turquoise Mine. VAM recommended further exploration within the Cambrian Arthur Creek Formation for a distance up to 120 km from Limestone Bore.

VAM's recommendations were additionally supported by work carried out by the NTGS in 2004. This work involved systematic sampling of hundreds of water bores in the Wiso, Daly and Georgina Basins by NTGS geologists. Fields testing of rock chips from water bore drilling was conducted using ammonium molybdate solution. Positive reaction from such chips was then quantitatively analysed for phosphate. Most significantly, a water bore, RM13015, situated on the Sandover Hwy within tenement EL 25185 encountered an intersection of 45 m of phosphate ranging from 2% to 17% P_2O_5 . NTGS recommended further sampling of available drill cores from oil wells in the area.

Work by Verdant Minerals and Territory Phosphate

In June 2008 Aragon Resources Ltd entered into an agreement subject to shareholder approval to acquire 100% interest in Territory Phosphate Pty Ltd.

In May 2009 Territory Phosphate had completed the first stage aircore drill program for a total of 46 holes for 3,366 m completed on tenements EL 25185 and EL 25183. Territory returned during October 2009 and drilled a further five holes for 319 m on EL 25185. This first phase scout aircore drilling programme was aimed to locate and evaluate phosphatic horizons within Arthur Creek Formation, previously intercepted in waterbore RN13015 and stratigraphic drillhole NTGS Elkedra 3. Limited line clearing by way of a raised blade was conducted over the eastern 1 km X 2 km grid pattern of 29 holes by the station owner and supervised by Aragon's Exploration Manager. This low impact clearing totalled 26.2 line kilometres. All remaining 17 holes in the central area were drilled from existing station tracks and required no clearing. All drill collars were plugged and rehabilitated at the completion of each hole.

Verdant Minerals Ltd (VRM) signed a Heads of Agreement with Aragon Resources Ltd. The terms of the agreement allowed Verdant Minerals to earn an initial 60% interest over 5 years by meeting an initial expenditure of \$3M. Verdant Minerals could then earn another 10% interest by spending an additional \$2M over the 2 years, taking total expenditure to \$5M over 7 years for a 70% interest in the tenements. Aragon had the right to contribute their 40% interest after the completion of the first stage if they did so elect.

Verdant Minerals commenced an exploration program in **September 2010**. Seventy-two holes were completed for a total of 3,562 m over the three tenements. Drilling discovered shallow high grade phosphate at a new prospect now called Barrow Creek 1 to the NNE of Ammaroo Station and the Ampilatwatja community on the Murray Downs Road and medium grade phosphate was discovered during infill drilling of Aragon's previous discovery now called Ammaroo 1.

In February 2011, VRM Jungle completed the purchase of 100% of the issued capital of Territory Phosphate Pty Ltd from Aragon Resources for a total consideration for \$1M cash and 16 million fully paid ordinary shares of VRM. Verdant Minerals and its subsidiaries now hold 100% interest in all tenements and ELA's which make up its Ammaroo Phosphate Project.

Due to successful drilling results received from the Barrow Creek 1 prospect, an approximately 2 x 4 km grid with 100 x 100 m and 200 x 200 m hole spacing's was drilled over the high grade zone on EL 25184. Resource definition drilling commenced on March 24 2011 at Barrow Creek 1 where 349 holes were completed for 8,986 m. Exploration continued ~15 km to the west and ~9 km south of the resource grid where 59 holes were completed for 1824 m, and was completed on April 18. A JORC compliant resource was released in June 2011 in which Barrow Creek 1 consisted of 93 million tonnes of phosphate with a cut-off of 10% P₂O₅ and an average grade of 16% P₂O₅.

A second phase of drilling was completed during **July to October 2011** to expand and upgrade the resource. This consisted of a further 470 RC drill holes to the east, west and south and included 50 x 50 m spaced holes around the high grade area. It also consisted of 32 diamond drill holes for bulk density testing and duplication of RC drill holes. An updated resource estimate for Barrow Creek 1 was released to the market on December 5. At a 10% P₂O₅ cut-off, the total resource (Inferred and Indicated) is 253 million tonnes at an average grade of 15% P₂O₅. At a 15% P₂O₅ cut-off, the total resource (Inferred and Indicated) is 97 million tonnes at an average grade of 18% P₂O₅. This upgraded resource was estimated by MPR Geological Consultants Pty Ltd in accordance with the Joint Ore Reserves Committee Code using data from a total of 889 RC drill holes and 32 diamond drill holes for a total of 25,949 m.

During 2012, Verdant Minerals Pty Ltd completed infill drilling of the Barrow Creek 1 deposit to increase the Inferred status to Measured and Indicated. The main portion of the deposit was infilled to 100 x 100 m and 50 x 50 m spaced holes, with a total of 1,219 holes drilled for 35,815 m. The resource was upgraded to 136Mt Measured and 42Mt Indicated at a 10% P₂O₅ cutoff, with a combined total (Measured, Indicated,

Inferred) of 238Mt with an average of 14.6% P₂O₅ at 10% cut off. This upgraded resource was estimated by MPR Geological Consultants Pty Ltd in accordance with the Joint Ore Reserves Committee Code. The new Inferred statistics show mineralisation has an average thickness of 6.1 m and average depth to top of mineralisation of 22 m over an area 6.9 km x 5.3 km, however the average depth is much shallower in the Measured resource area. The Resource has been compiled from work completed at Barrow Creek 1 over the 2011 and 2012 field seasons, consisting of a total of 2,108 RC drill holes and 32 diamond drill holes for a total of 61,764 m. The density of the deposit has been estimated at 1.7 t/bcm based on immersion density measurements from costean samples and diamond core samples.

During the first half of 2013, Verdant Minerals completed RC drilling to the area south of Ammaroo 1, western and northern extensions of the Barrow Creek 1 grid, and a few regional reconnaissance exploration lines. Diamond drilling was also completed on EL25184 and four holes on EL24726. A total of 348 RC and Diamond holes were completed for 9456 meters across ELs 25184, 25183, 25185, 28116, 29266, 29267 and 24726 with 159 km cleared for drilling access.

The second half of 2013 saw the Phase 1 drill out of the proposed phosphate exploration potential on EL24726. Drilling was completed on a 400 x 400m drilling grid and the result upgraded the combined phosphate resource of the Ammaroo Phosphate project to over one billion tonnes.

As part of the condition of the takeover of CEN, VRM Jungle cleaned up and rehabilitated 2011 & 2012 RC drillhole sites on EL24726. The rehabilitation of 2011 RC drill holes was completed mid-2013 and the clean-up of the 2012 holes commenced late 2013 and was completed mid-2014. The VRM Jungle owned backhoe traversed these drill lines, digging a small trench next the bag layout area of 2012 holes. Field staff followed, emptying the spoil into the trenches and removing the green bags from site. Locals from the Ampilatwatja community were employed over 3 weeks to help with the effort. The backhoe then filled the trenches back in and leveled them with top soil.

During 2014, Verdant Minerals completed Phase 2 drilling of the Ammaroo Phosphate Deposit on EL 27426 which consisted of 126 RC drill holes for 3735 meters between the east and west limbs of the then JORC 2012 resource. This allowed the resource to then be combined into a single continuous deposit, with the upgraded estimate also incorporating RC drilling completed by Central Australian Phosphate in 2012. The JORC 2012 resource now lies at 1.145 billion tonnes of Phosphate at 14% P₂O₅ at a 10% cut-off.

All RC and Diamond drill holes over the entire Ammaroo Project area have now been rehabilitated. This includes all Verdant Minerals and Central Australian Phosphate resource drilling on EL 25184 and EL 24987 (2010-2014). Costeans remain open and are in the same condition as reported in the previous MMP, fencing is monitored and repaired when necessary. No further costeans or open pit digging is planned under this MMP.

Most cleared tracks have been left to rehabilitate naturally, only a few tracks remain open for access to costeans and the bore on EL 25184. The area has been serviced from the Barrow Creek 1 camp located on EL 25184 with small improvements in late in 2014. Verdant Minerals undertook work to sheet the current roof structure existing between two of the shipping containers, where a large tarp was torn down in a storm late 2013.

During 2015, no exploration work was carried out on the project. Rehabilitation activities took place prior to and after a DME inspection on June 1. The rehabilitation report was submitted to DME in 2015.

Work by NuPower / Central Australian Phosphate

Only minimal on-ground work was undertaken in **2009 and 2010**. **During 2011**, NuPower undertook mapping, surface sampling and two drill programs as shown below. In **March 2012**, NuPower Resources / Central Australian Phosphate submitted two MMPs to the then DoR. Approval was received in April. From **April to June 2012**, NuPower Resources / Central Australian Phosphate continued drilling their approved program. A rehab report was submitted in September 2012. Another MMP was prepared in **September**

2012, but may not have been submitted to DME. These holes have been utilised and re-applied for, separated into four Phases of drilling work in MMP Ammendment 0609-04. Central Australian Phosphate has not undertaken any drilling or field work on EL 24726 **since 2012**.

During 2016 infill drilling to 200m spacing of 200 RC drill holes on EL24726 in the Woodys Dam area was completed. For this drilling, 46km of line clearing at 6m width was done with a D7 dozer equipped with a stick rake.

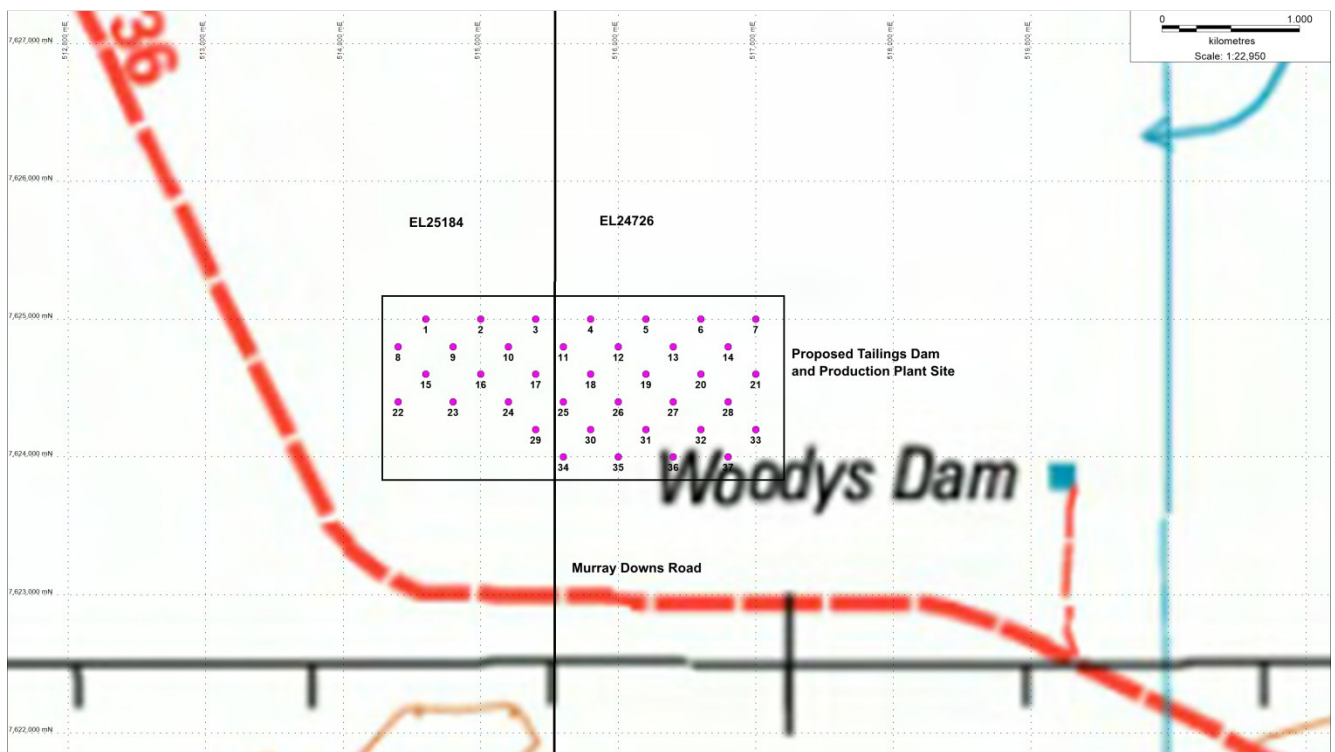
7 diamond drill holes were drilled on EL25184 to test for shallow dolomite/limestone rocks which are planned for use as concrete aggregate and road base during future mine construction. Core samples obtained were used for geotechnical testing.

18 diamond drill holes were drilled on EL24726 for use in metallurgical test work and for collection of density samples.

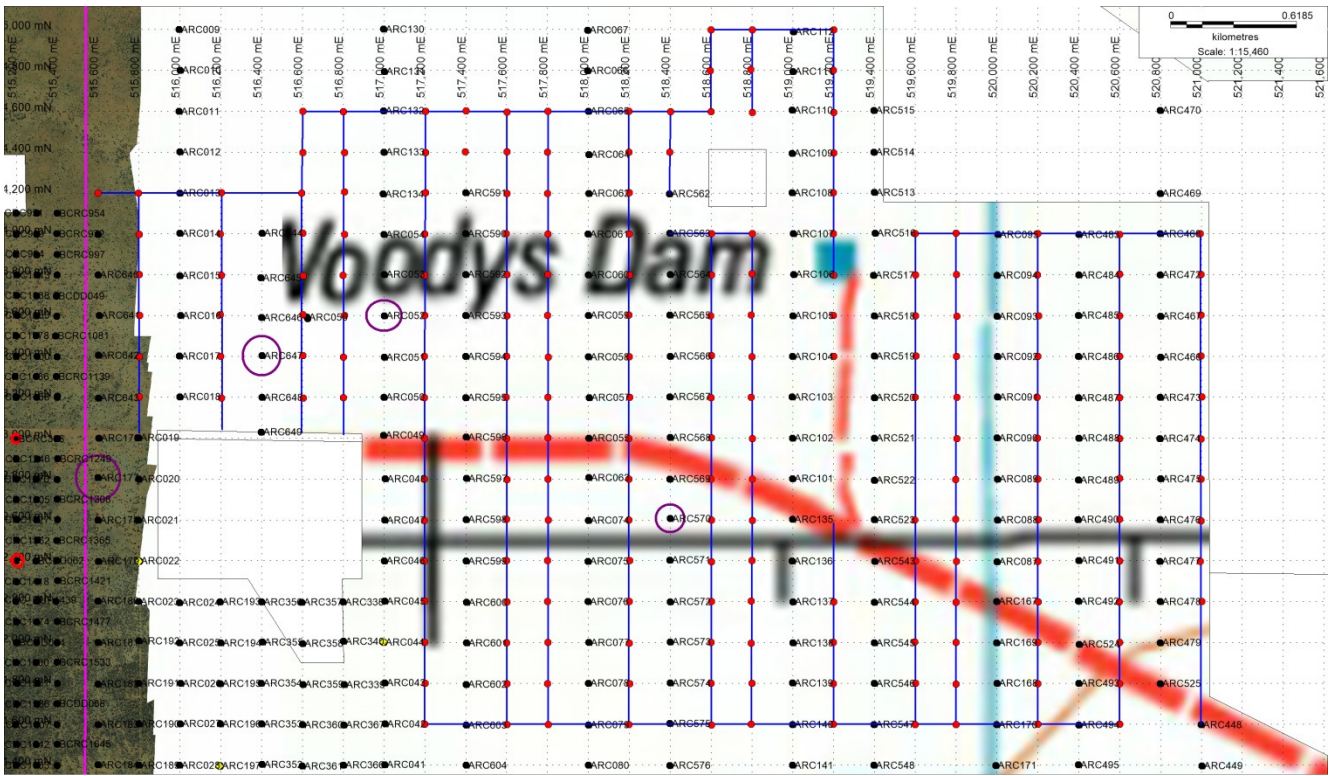
Two bulk sample costeans were dug on EL24726 to provide rock for targeted metallurgical, beneficiation and flotation testing as part of a bankable feasibility study. Bulk Pit 1 (ARC177) is located at 515600E/7622800N

Bulk Pit 2 (ARC647) is located at 516400E/7623400N. Approximately 40-45 tonnes of material was shipped to Canada for metallurgical testing.

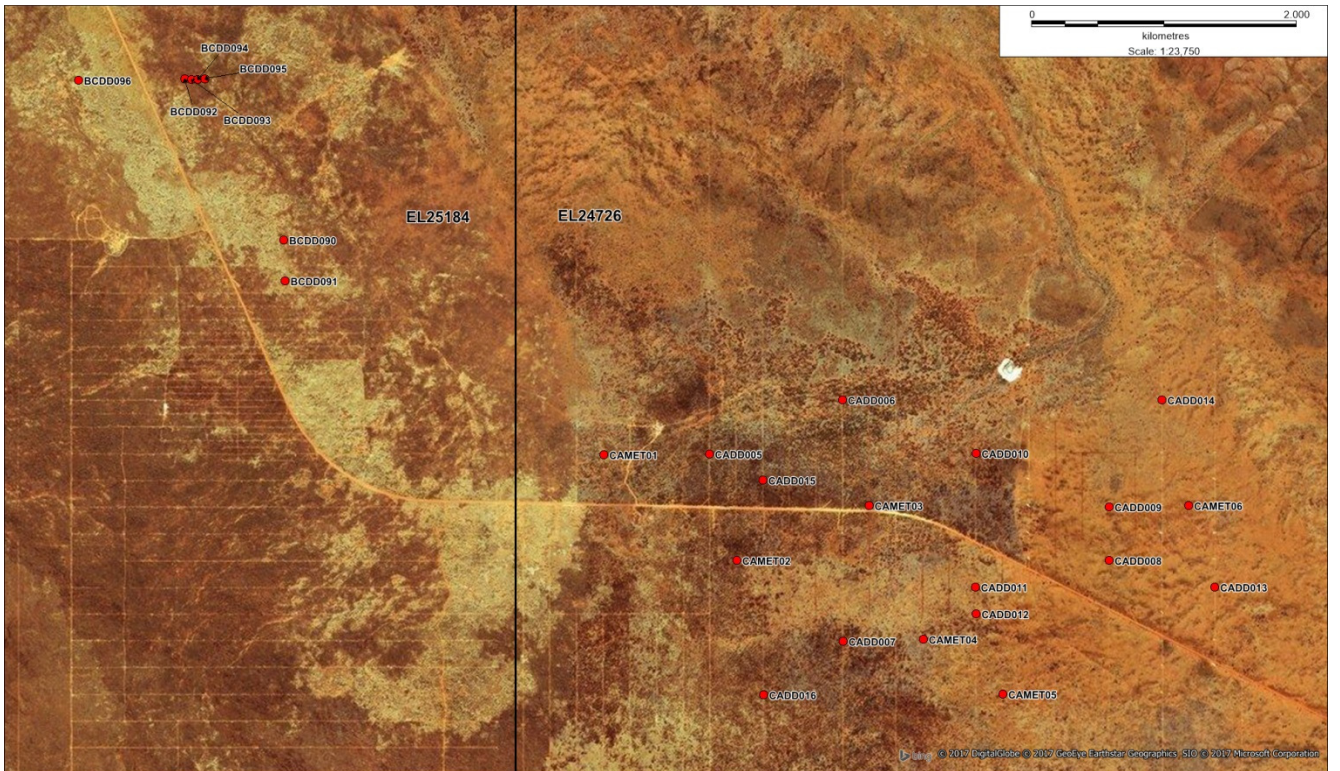
34 Geotechnical pits were dug to enable sampling of materials for geotechnical testing in the area proposed for a tailings dam, processing plant and ROM pad. Four diamond drill holes were drilled to 25m to test deeper geotechnical conditions.



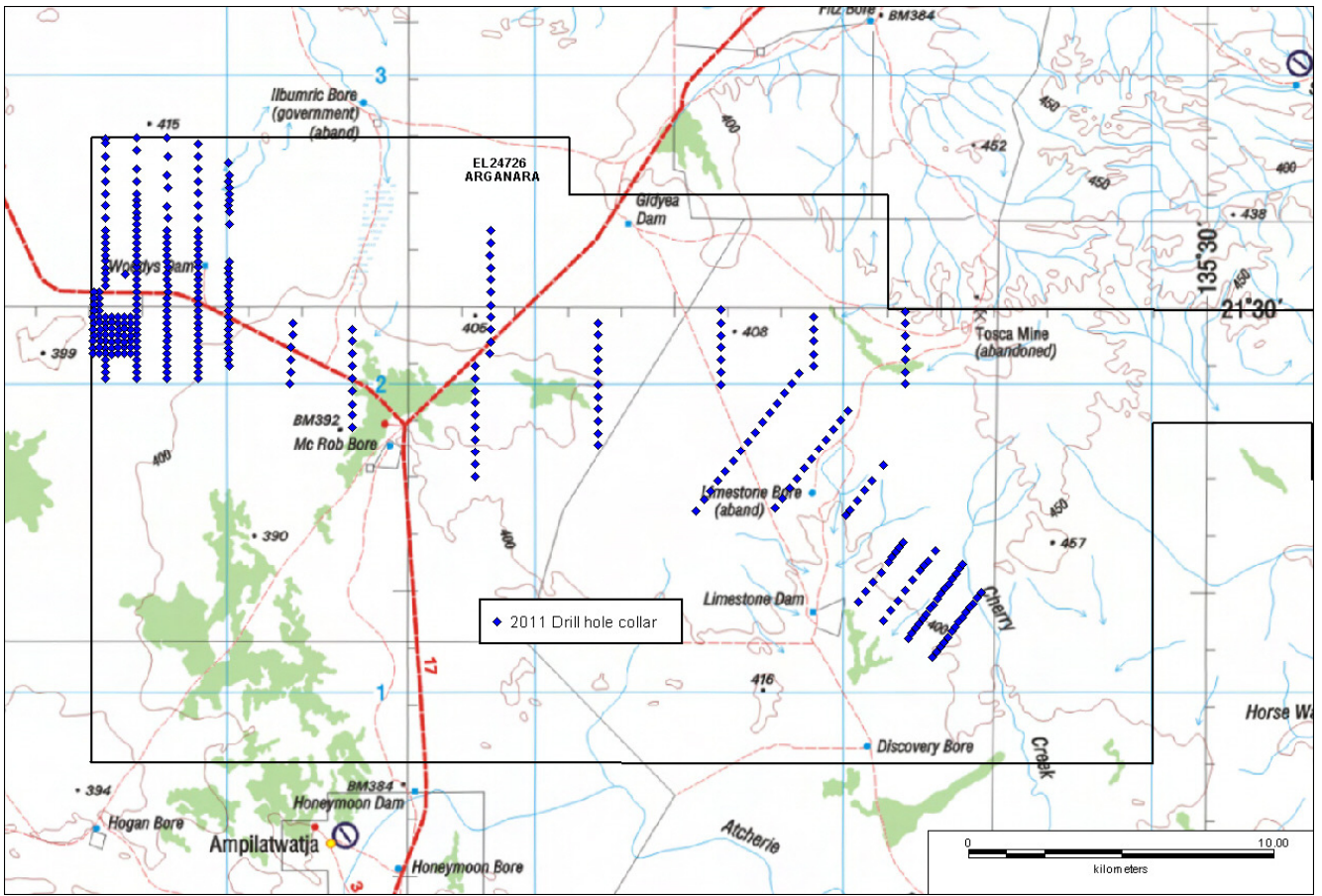
Geotech pits shown in pink. Numbers 14, 15, 17 and 31 were geotech diamond drill holes drilled to 25m. The rest were dug to 4m depth with an excavator.



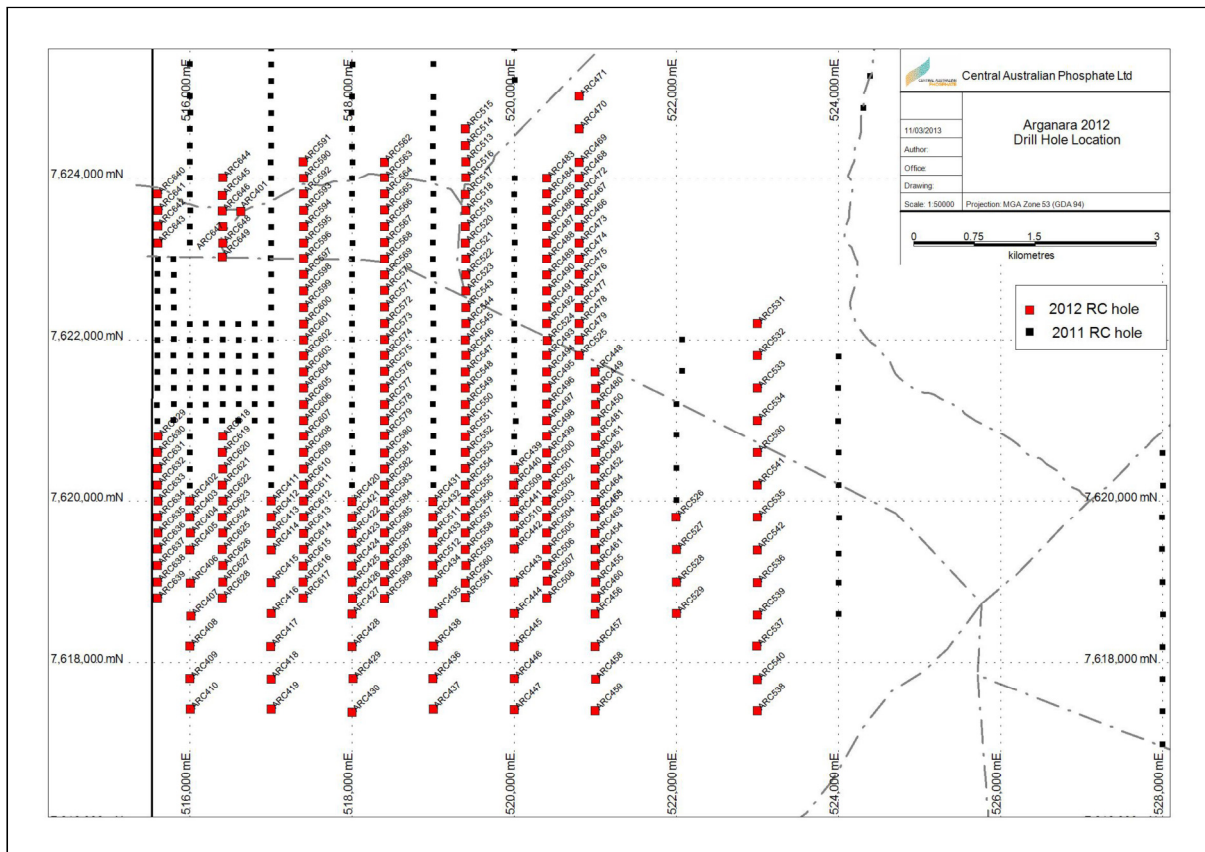
2016 RC drill holes in red and cleared drill access tracks in blue. The two western most circles were the sites of the 2016 bulk sample pits. The other two circled sites were not dug.



2016 Diamond Drill Hole Locations

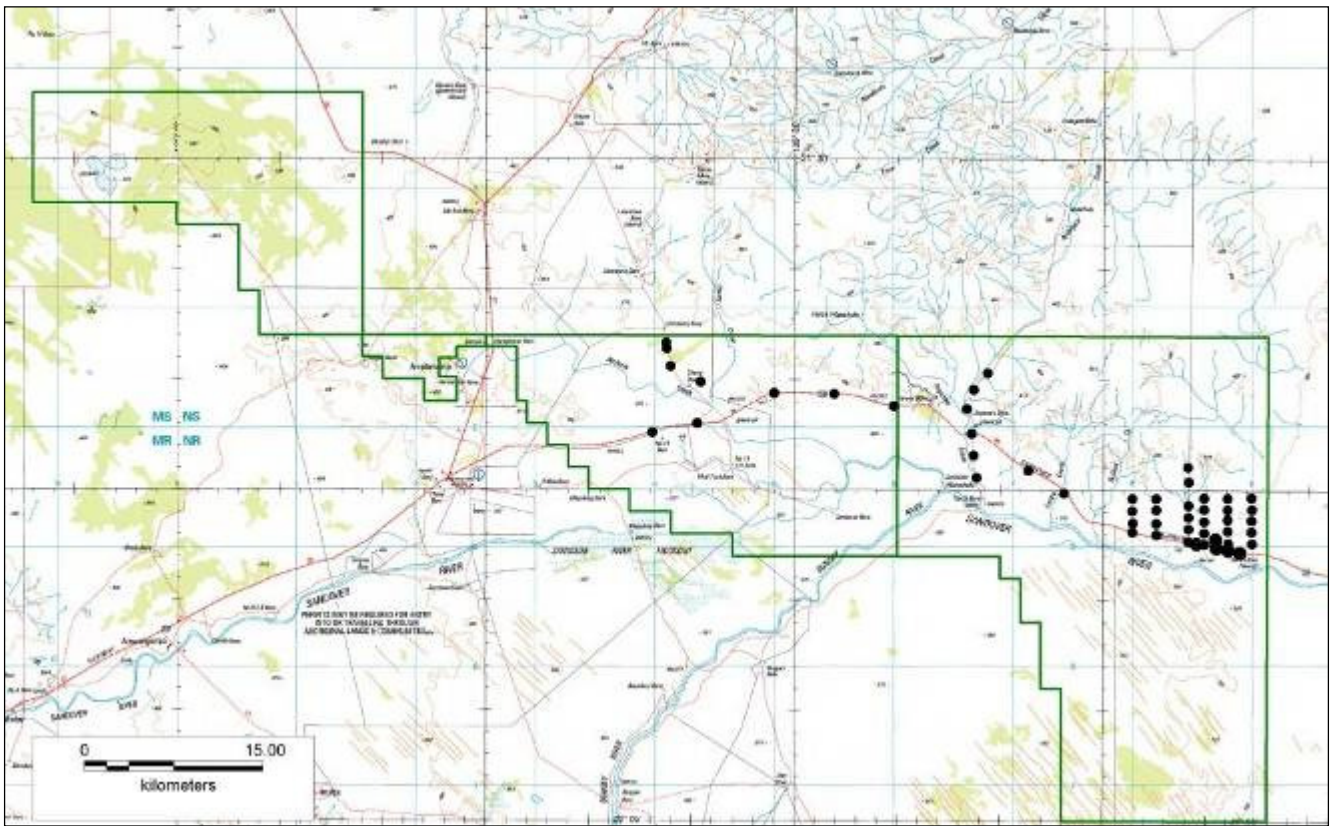


Map of NuPower 2011 drilling

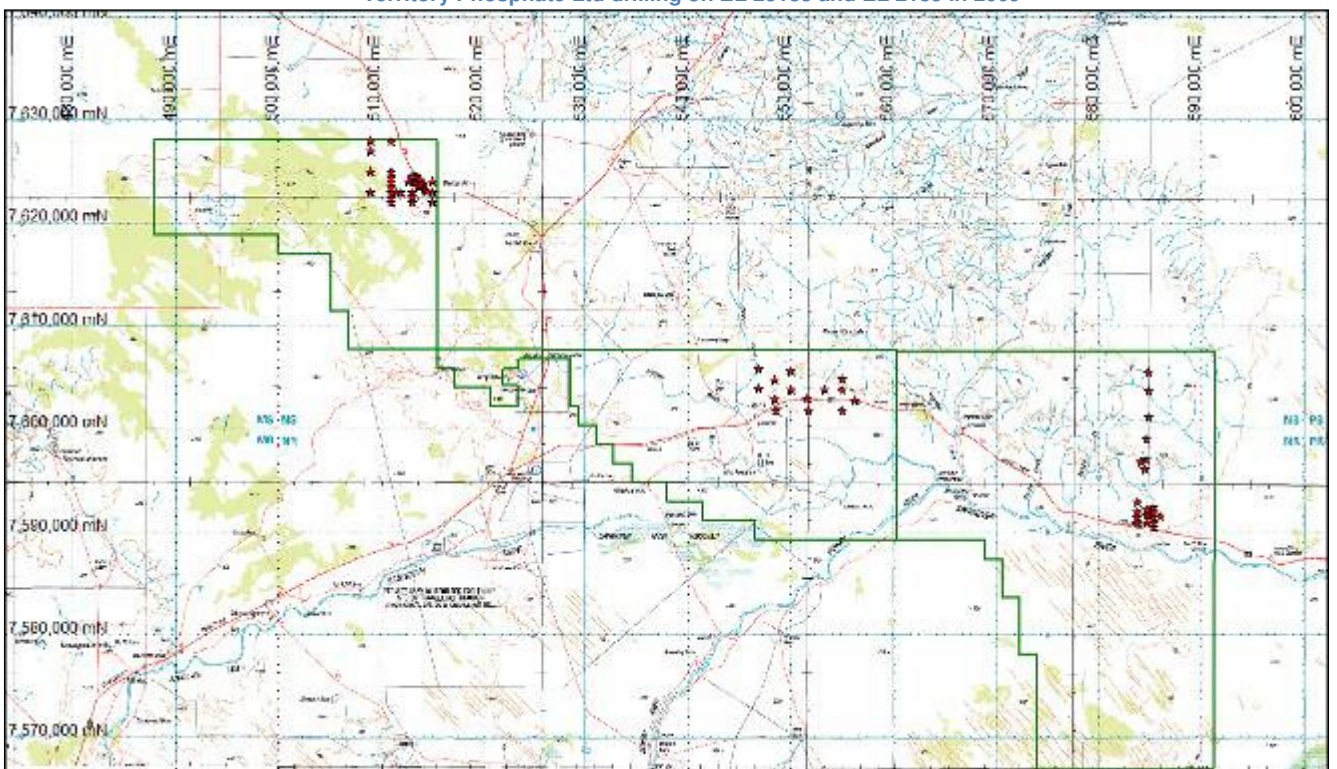


CENs 2012 RC drilling over Arganara on EL24726 in red squares, 2011 RC holes depicted in black dots.

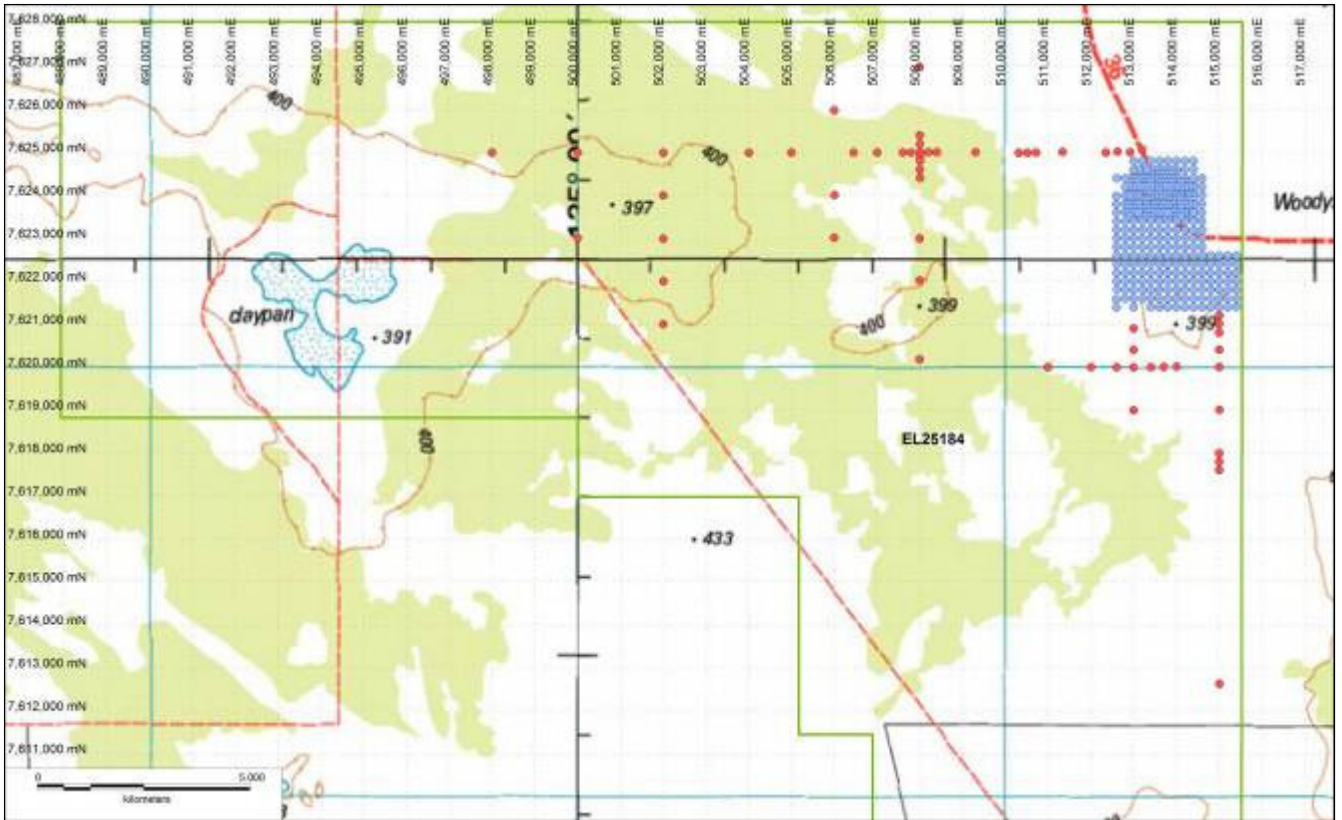
The figures below show the progression of drilling over the Verdant Minerals operated tenements and with the addition of the EL 24726 under the operation of VRM.



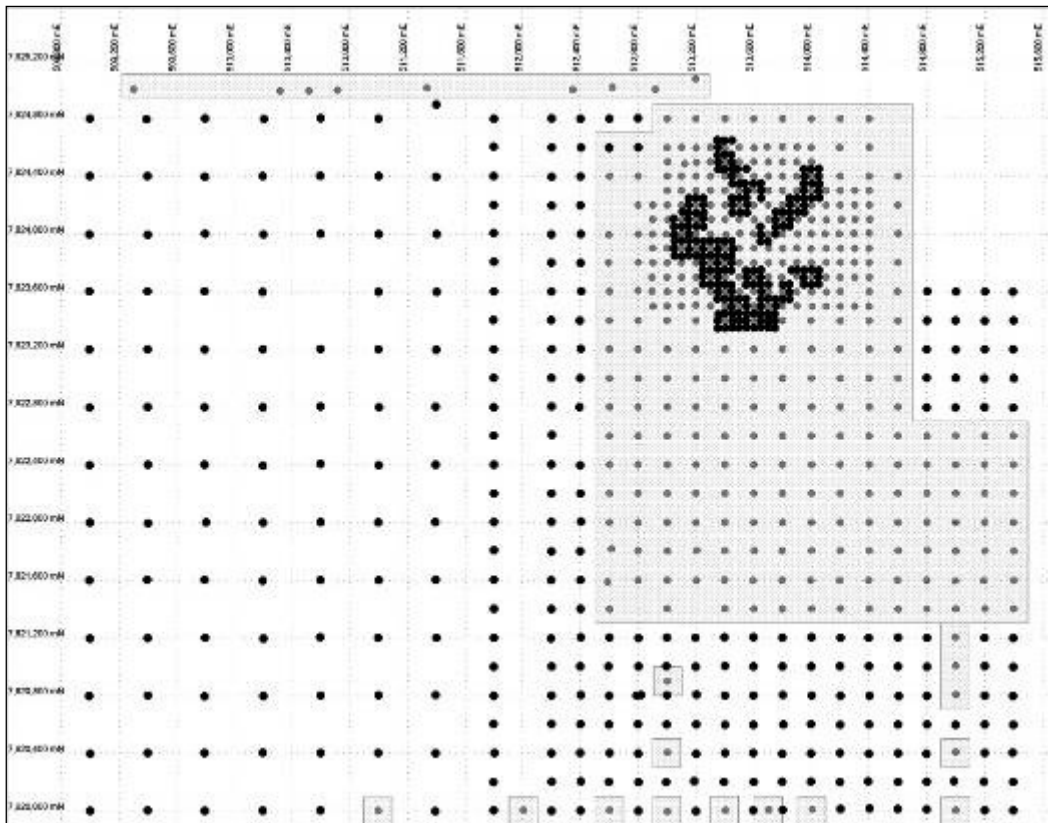
• Territory Phosphate Ltd drilling on EL 25183 and EL 2185 in 2009



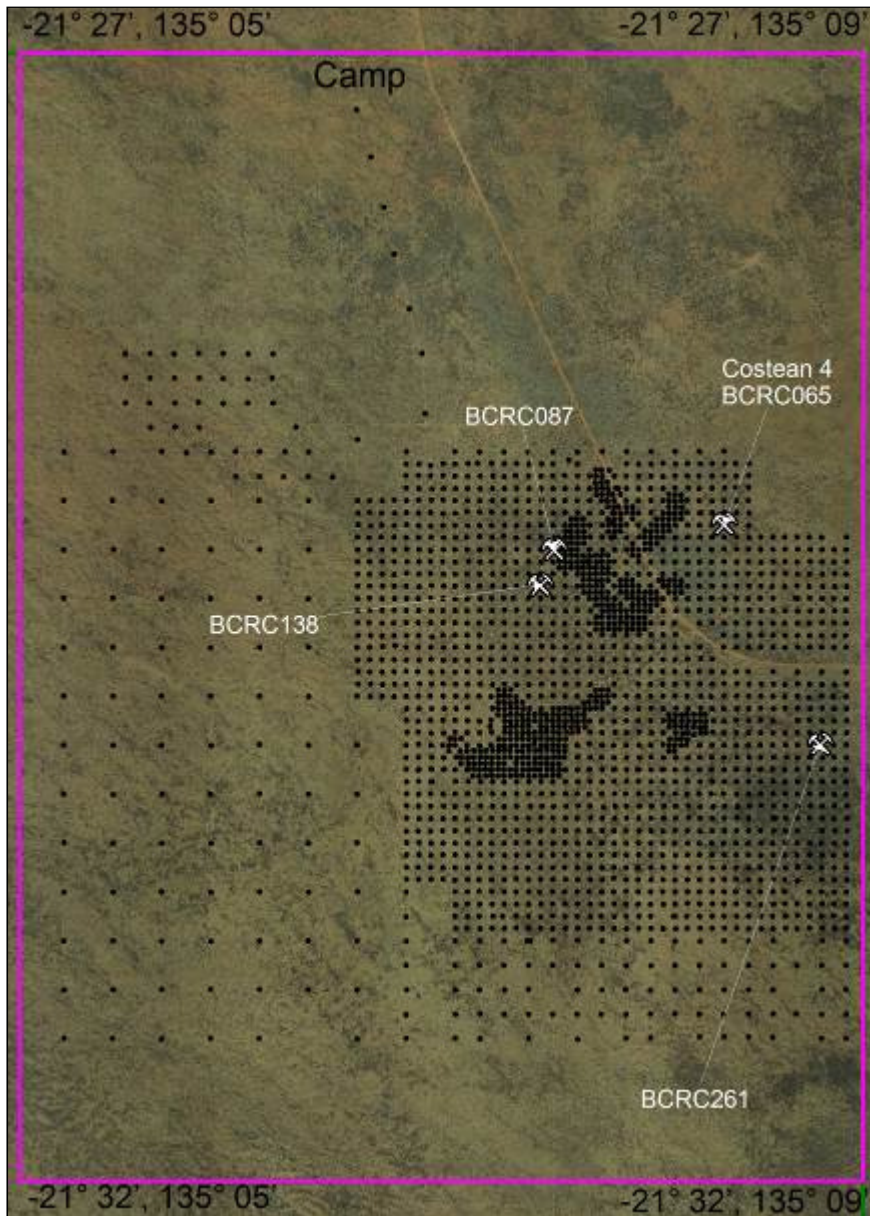
• VRM completed drill holes for September/October 2010



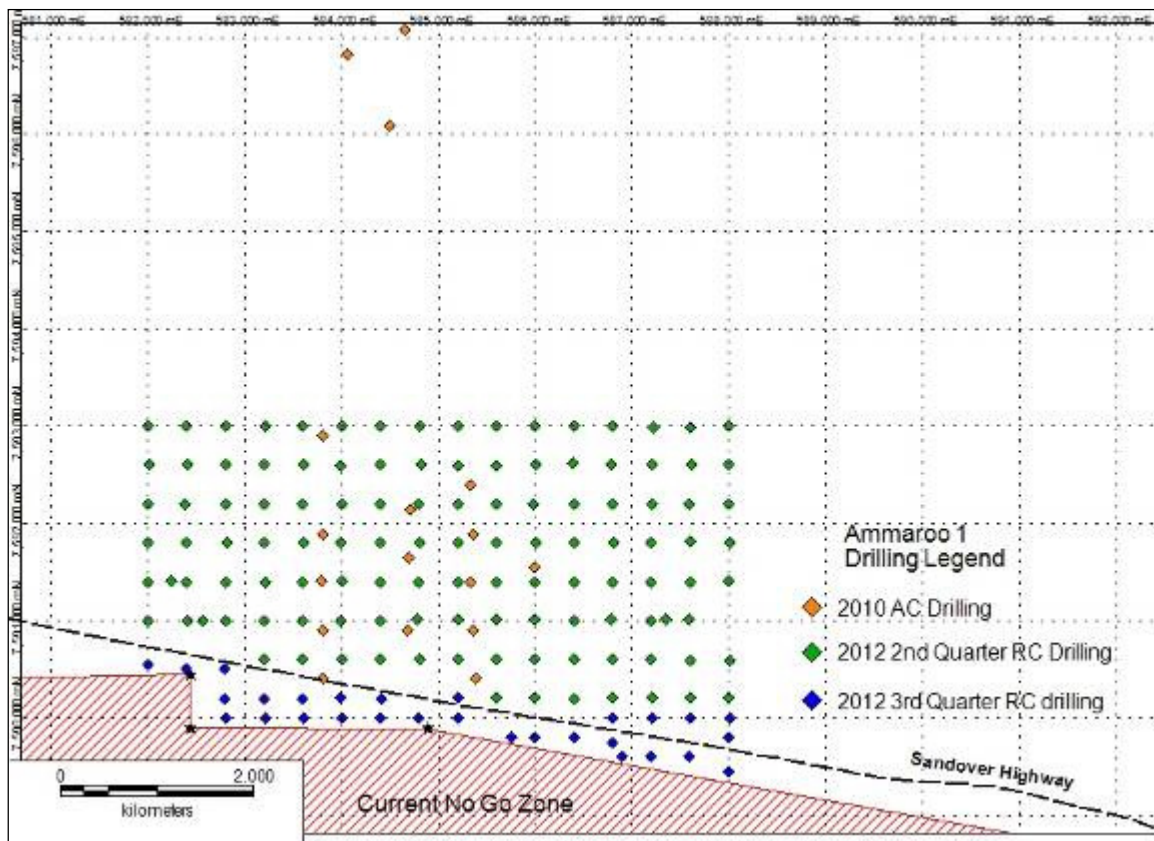
- Resource (blue dots) and exploration (red dots) drilling for March-April 2011



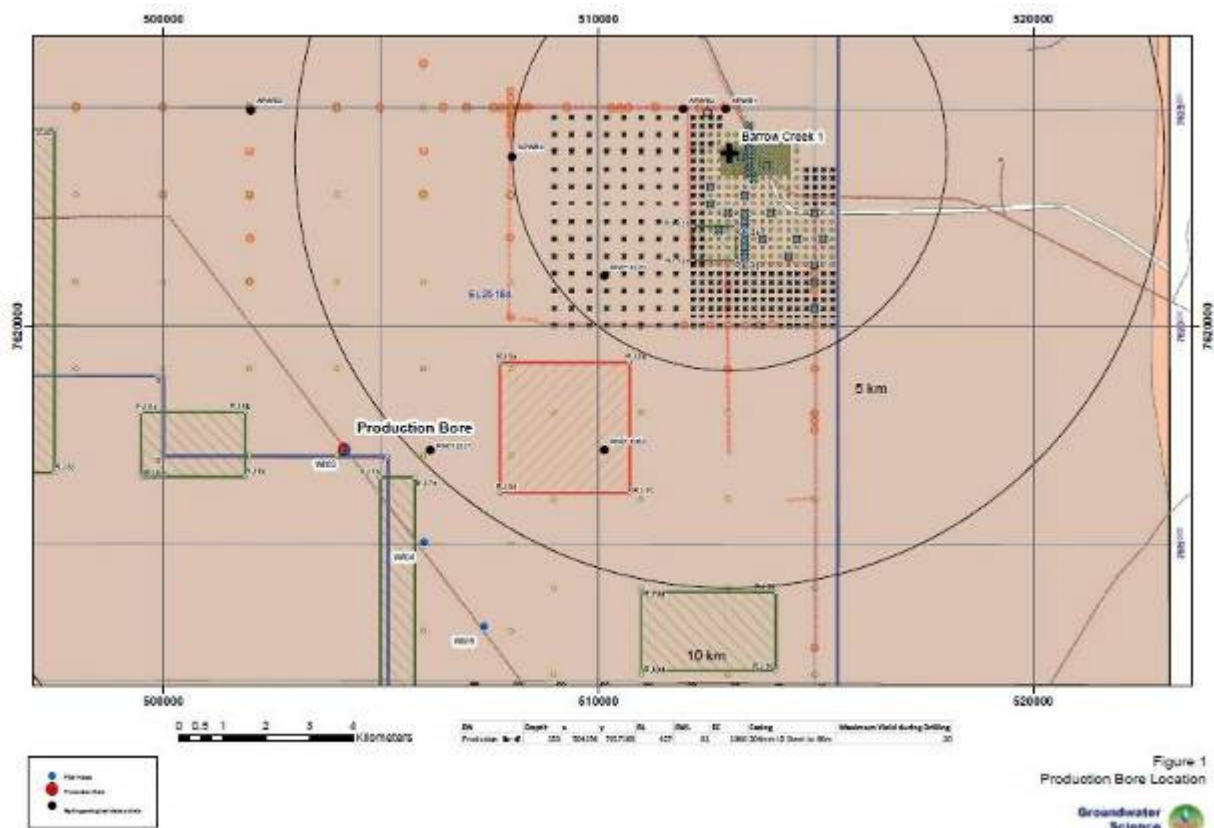
- Entire Barrow Creek 1 RC drilling grid 2011. Greyed areas show drilling March - April 2011, black dots show extension and infill drilling completed August - October 2011



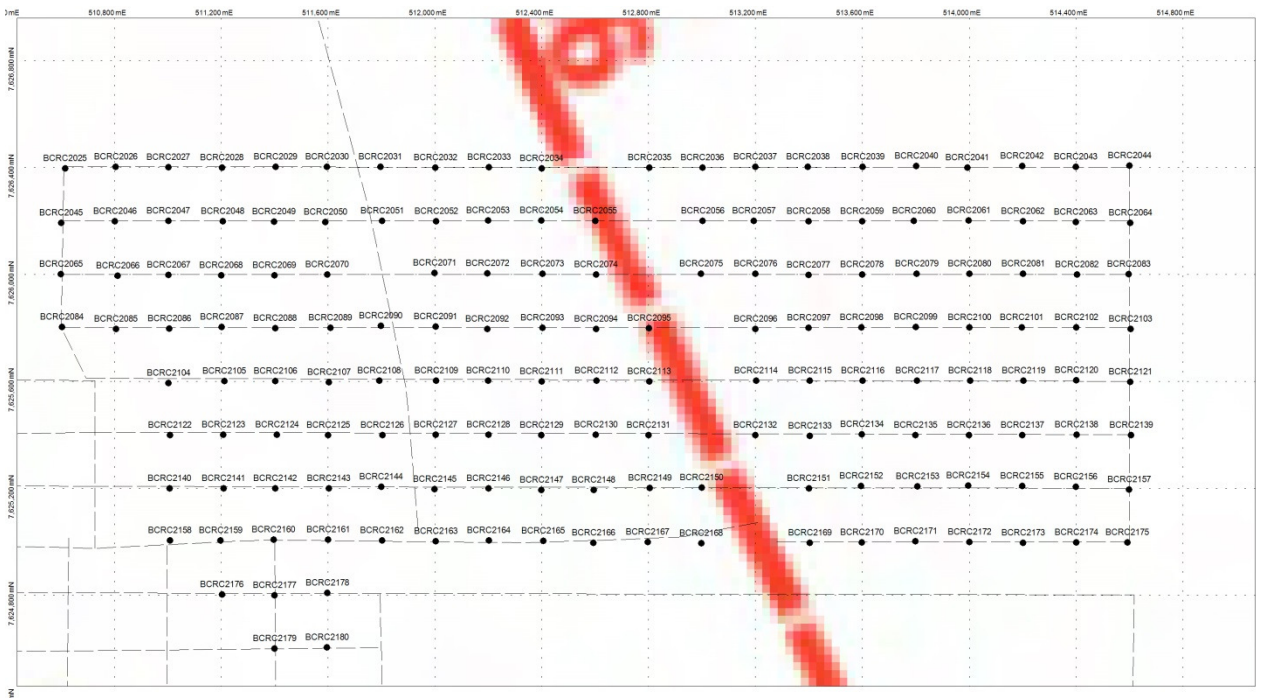
- Drilling completed at Barrow Creek 1 2012, showing costean locations and Mining Lease Application 29463. BCRC087 is Costean 1, BCRC261 is Costean 2, BCRC138 is Costean 3.



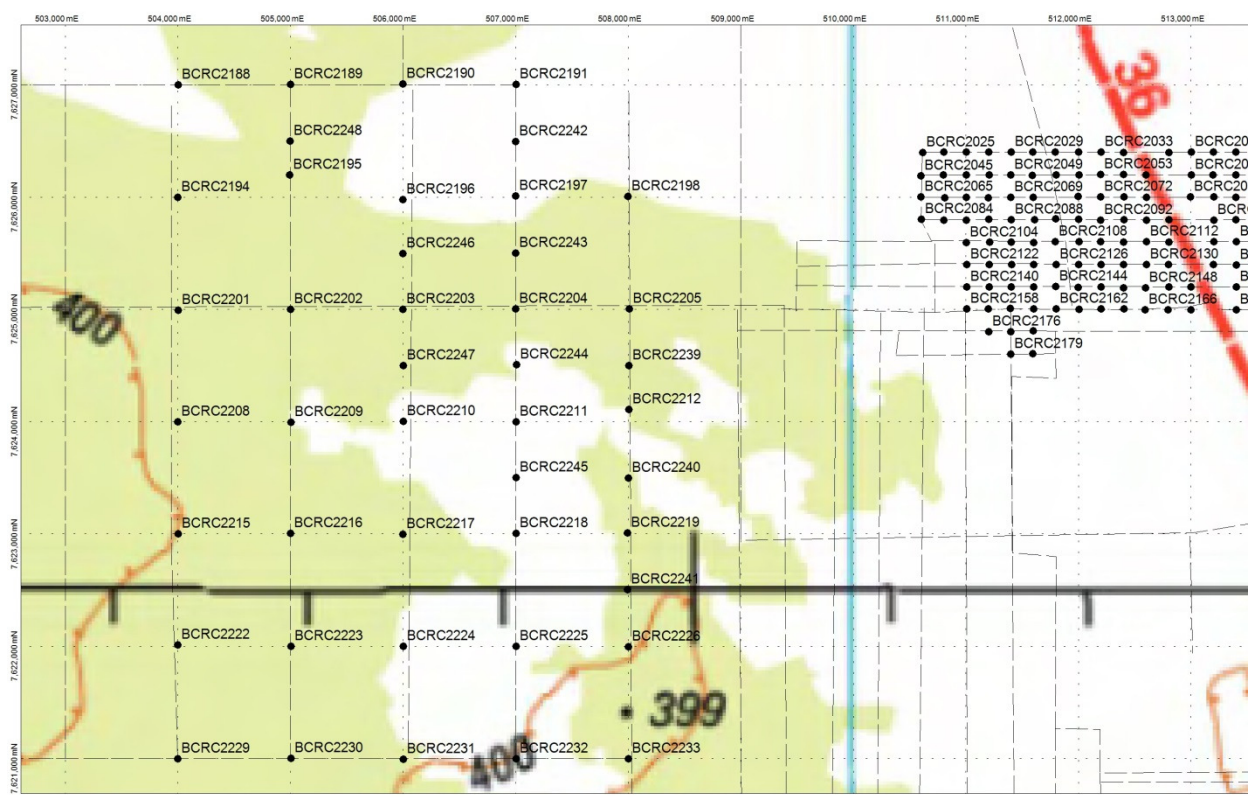
- Completed drilling at Ammaroo 1 Phosphate deposit since 2010



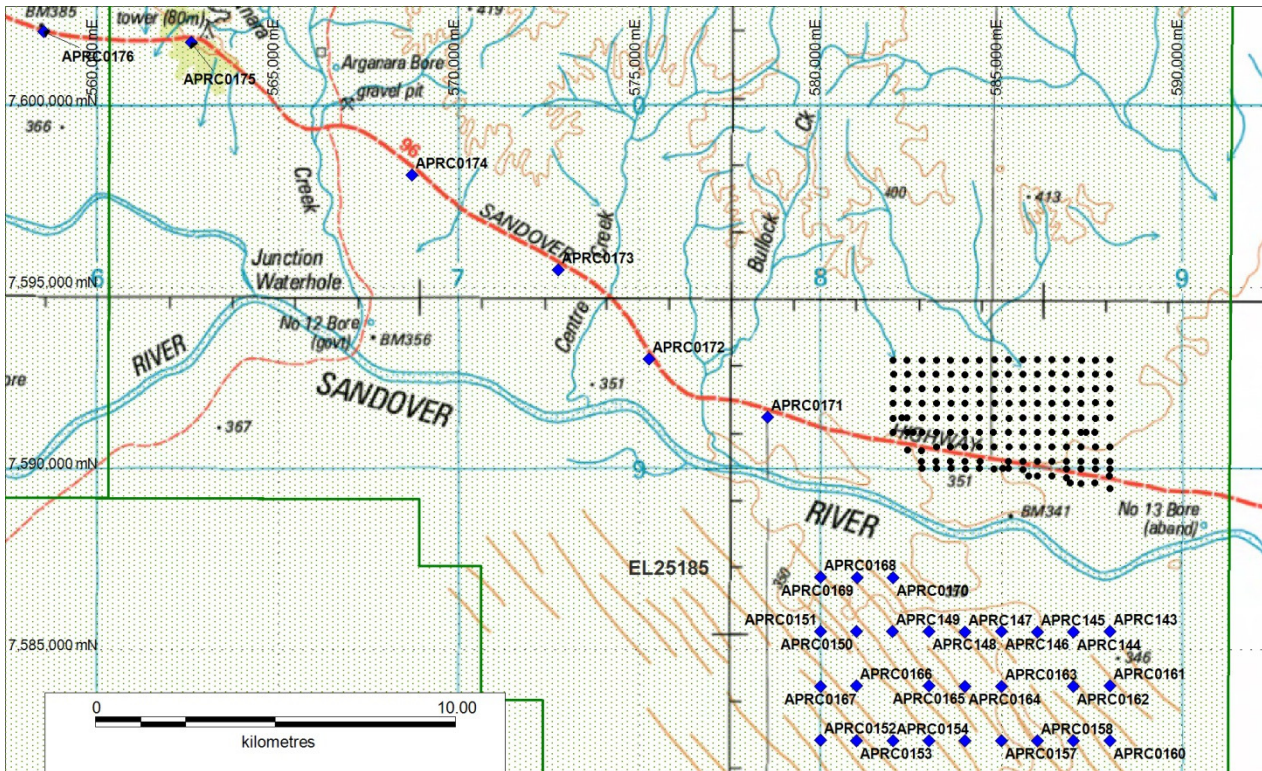
- Location of BC1 Water Production Bore (WI03) and two other test bore sites



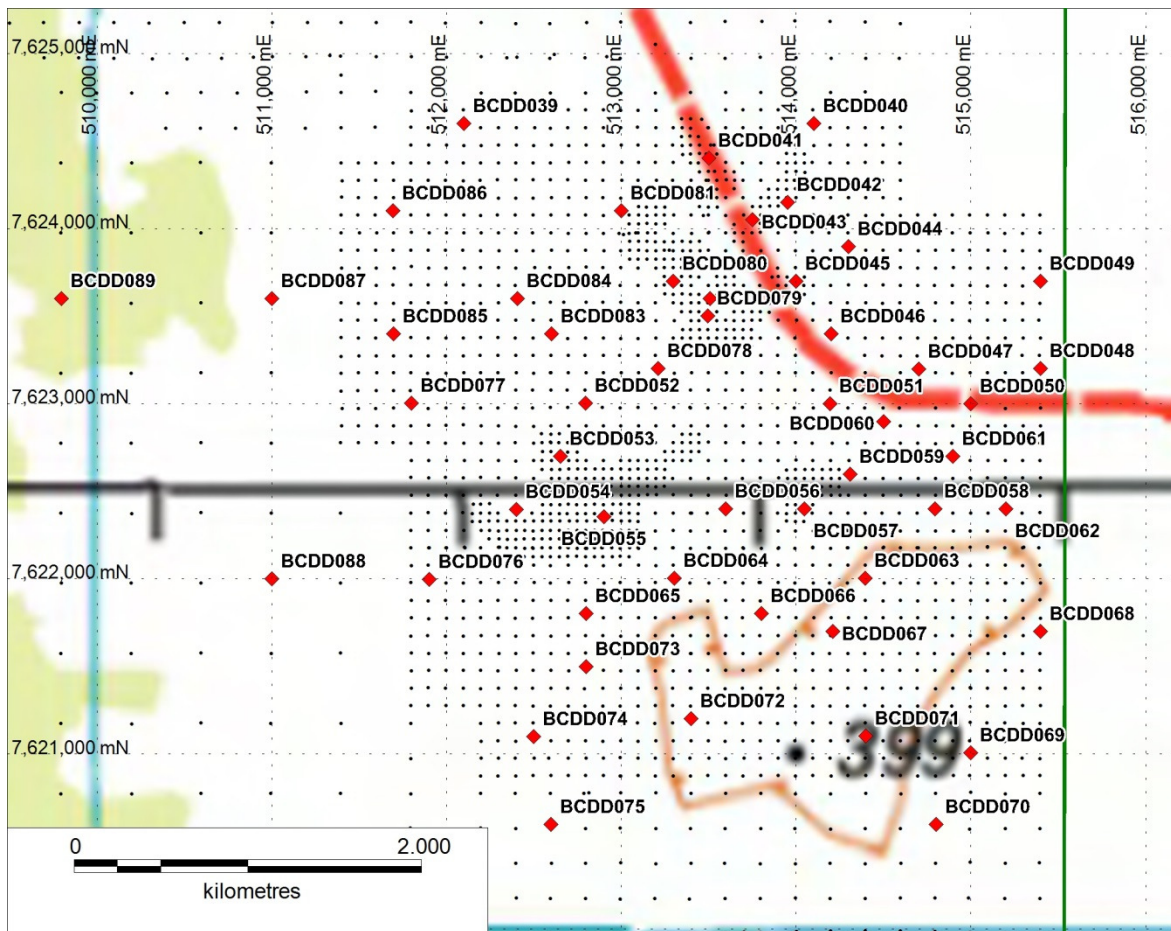
- **200m x 200m spaced drilling completed to the North of BC1 deposit 2013**



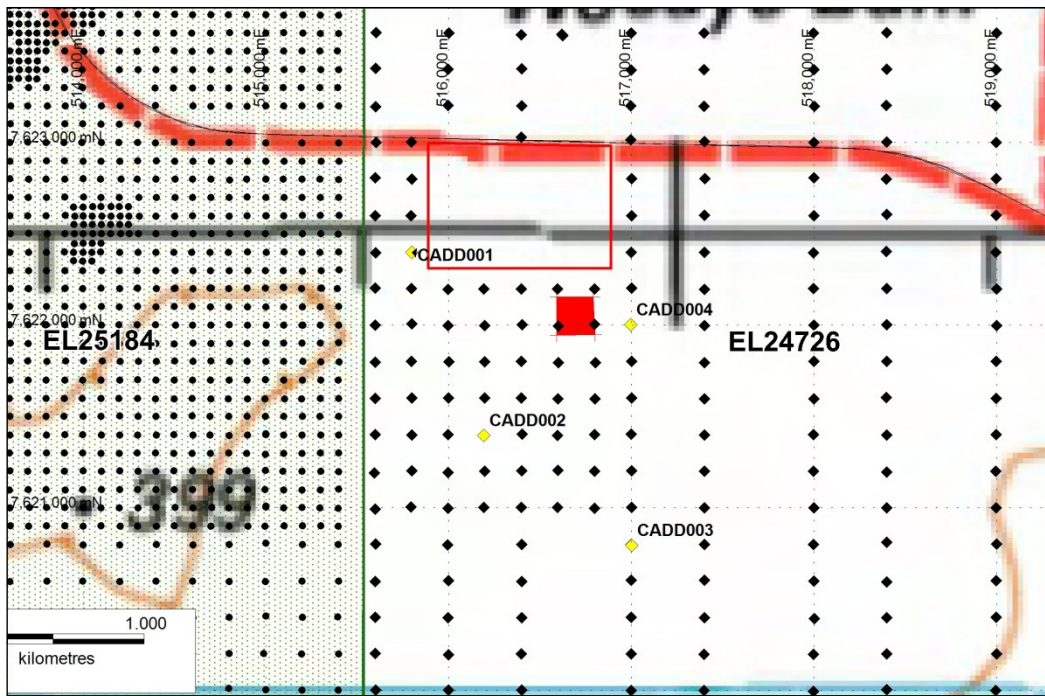
- **1km spaced drilling to the west of BC1 deposit including the 10 infill holes under amendment to 0609-03 2013**



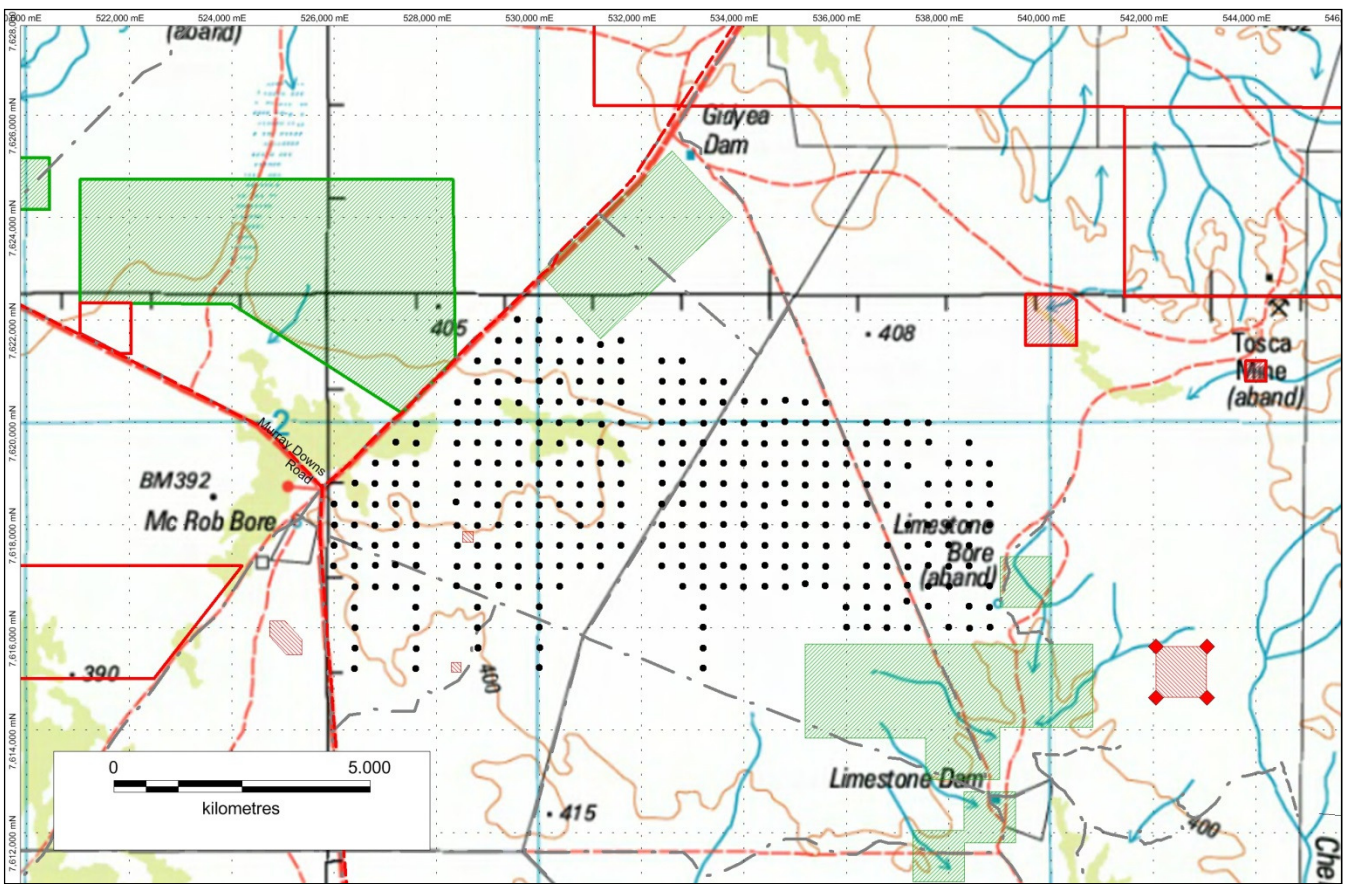
- Drilling completed south of the Ammaroo South deposit (formerly Ammaroo 1) and Sandover River on a 1 x 1.5km grid. Also included here are the six exploration holes on ELs 25185 and 25183 2013



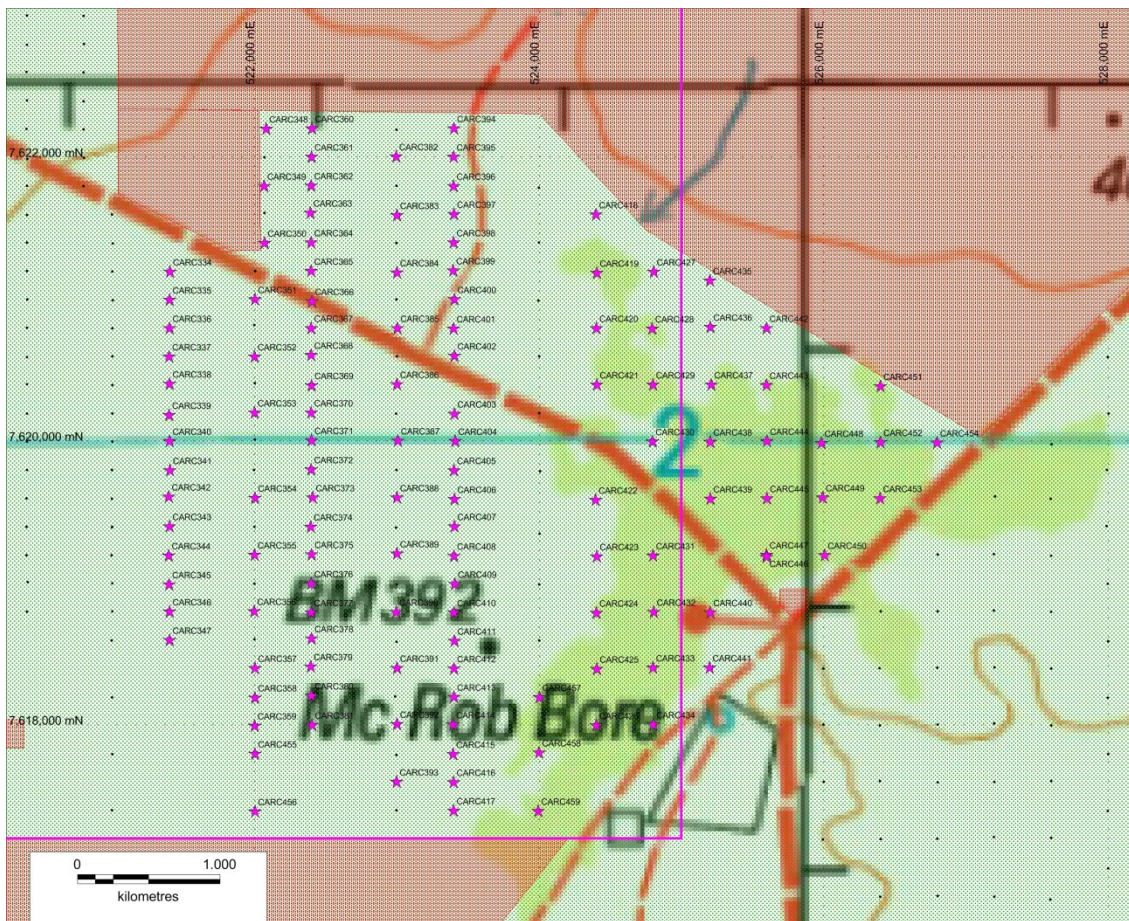
- Diamond drilling completed on the BC1 deposit in 2013



- Diamond drill hole locations in yellow drilled on CEN EL 24726 in 2013. The red rectangles are Sacred Sites.

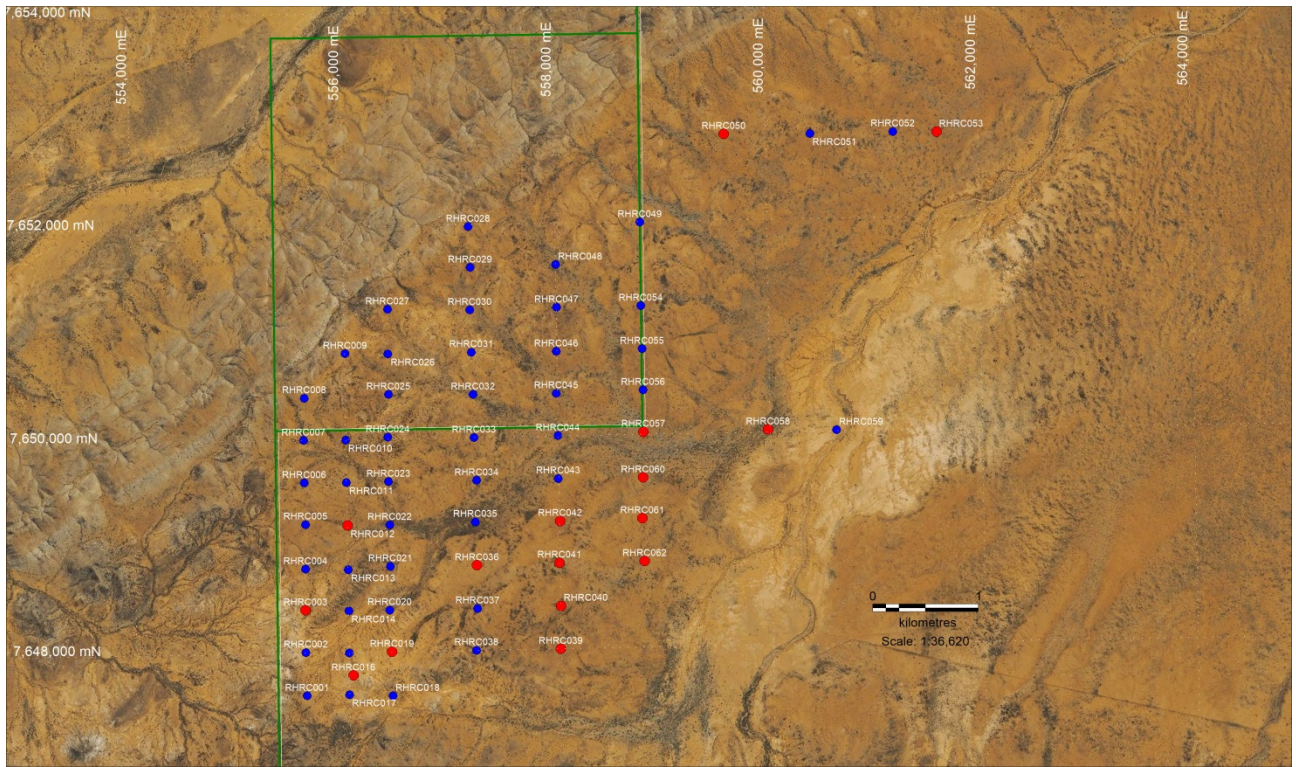


- Phase 1 drilling completed on EL24726, Ammaroo East 2013

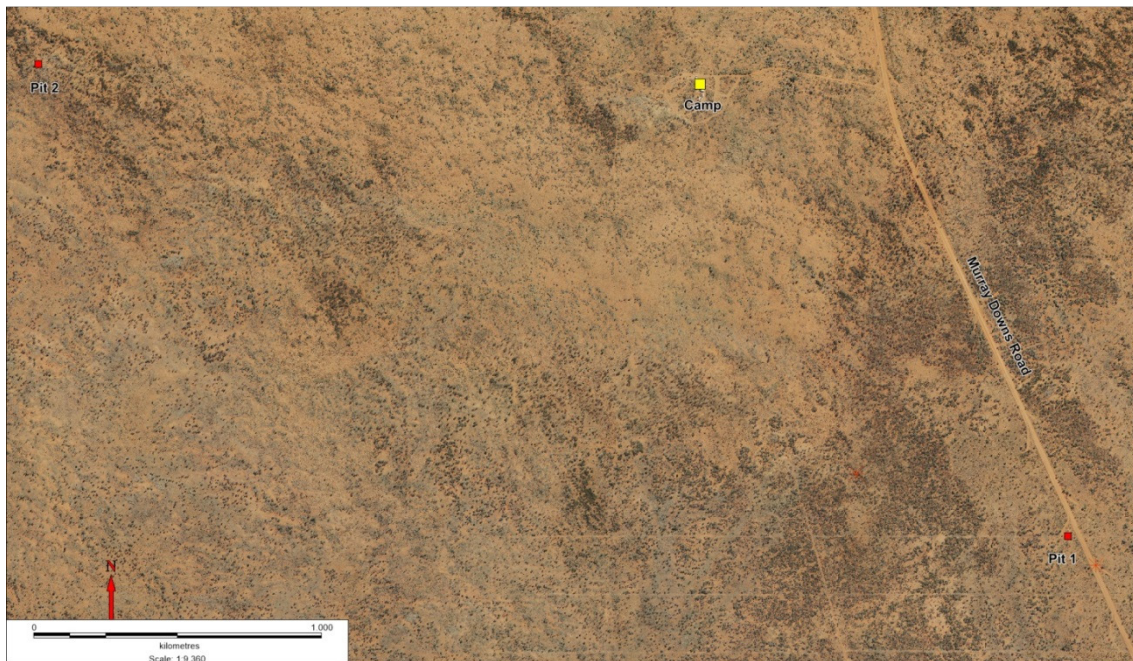


- Phase 2 RC drilling completed July 2014 on EL24726

During 2017 at the Rockhole prospect on Elkedra Station in May and June, a small RC rig mounted on a light 4x4 truck was used to drill 62 holes to a maximum of 44 m for 1,457 m in total. The drill spacing was nominally 400 m x 400 m and 800 m x 400 m with some more broadly-spaced peripheral holes to the east. Two backhoe test pits were dug on EL25184 for geotechnical sampling and then subsequently backfilled.



Rockhole RC Drilling 2017. Better phosphate holes are in red showing exploration potential further east.



Two backhoe test pit locations on EL25184

3.2 Proposed Activities

Deepen existing Costean 5 (ARC177) by 1m to retrieve up to 10 tonnes for processing optimisation test work.

Dig new Costean (Costean 7 – BCRC642) to 9m depth to retrieve up to 10 tonnes for processing optimisation test work.

Dig new Costean (Costean 8 – BCRC649) to 4m depth to retrieve up to 10 tonnes for processing optimisation test work.

This work is critical to final design of the crushing and milling plant for the proposed Ammaroo Mine. Some fine tuning of the crushing and milling circuit is needed to reduce fines generation and increase phosphate recovery. A final investment decision on the mine will not be made until this work is completed.

Pits will be dug with a 30 tonne excavator. Topsoil will be stored separately for re-spreading. The two new pits, Costean 7 and 8 will be fenced and left open for investors to view. Costeans 3, 5 and 6 will be backfilled and rehabilitated with all fencing materials removed. At the completion of these works, three pits will still be open and 5 will have been backfilled and rehabbed.

Costeans have been located within the first 5 years of the proposed mine plan.

Costean Number	Drill Hole Number	Easting	Northing	Area Disturbed	Sample Depth	Tonnage Sampled
Costean 5	ARC177	515600	7622800	80m2 - existing	3-5m	5 -10 tonnes
Costean 7	BCRC642	514000	7624450	48m2 - new	7-9m	5 -10 tonnes
Costean 8	BCRC649	514000	7624350	18m2 - new	2-4m	5 -10 tonnes

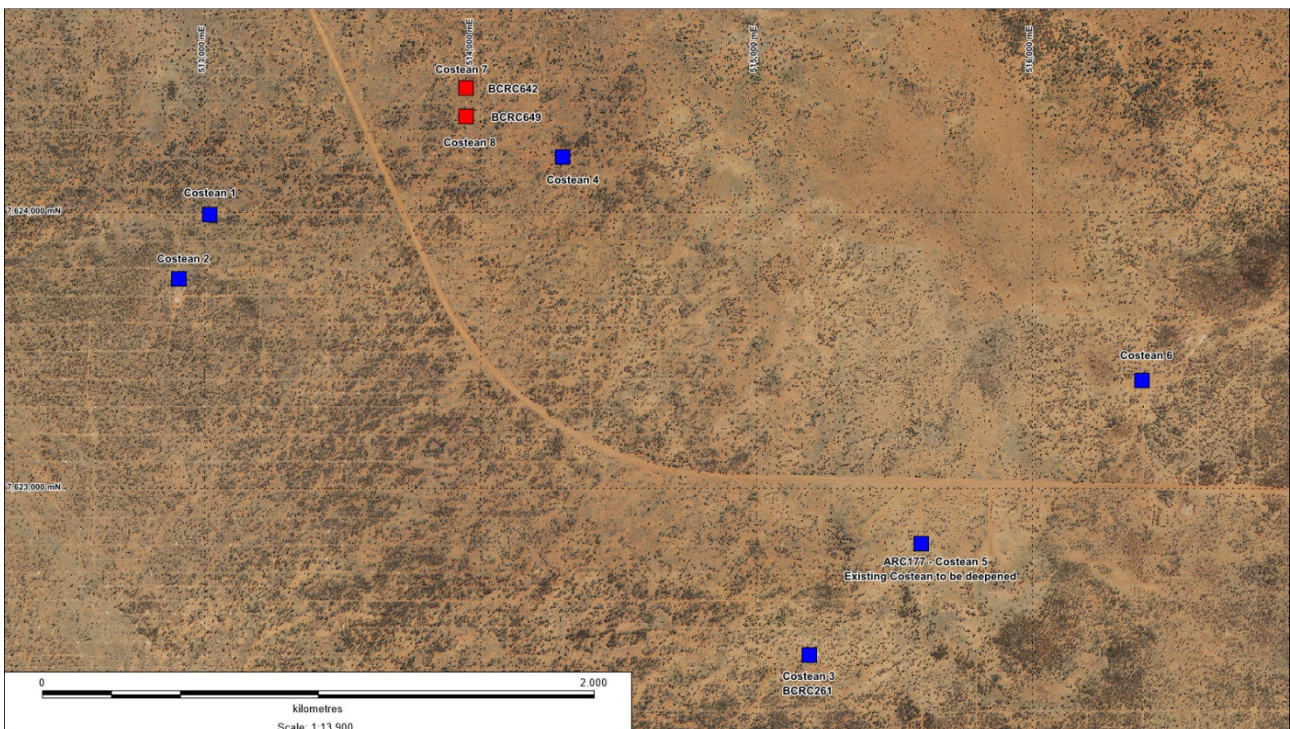


Figure: New costeans in red, existing costeans in blue

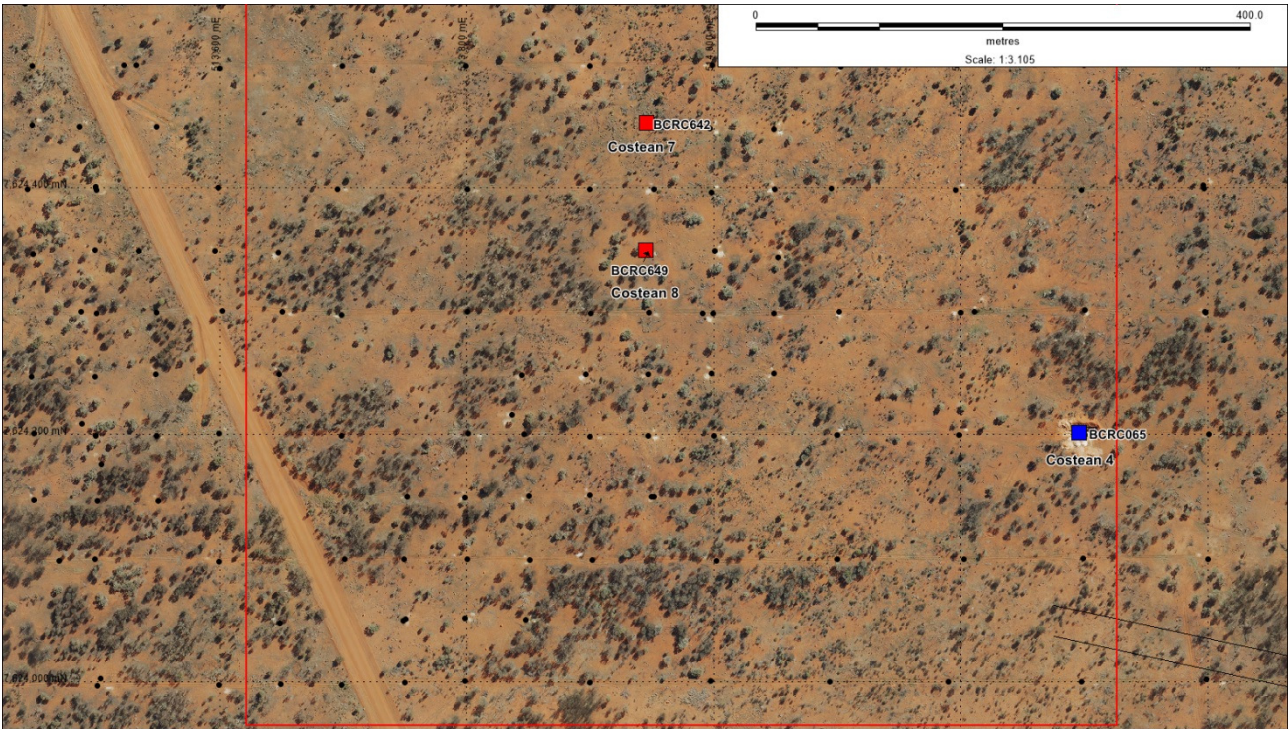


Figure: Proposed new costeans 7 and 8 east of the Murray Downs Road

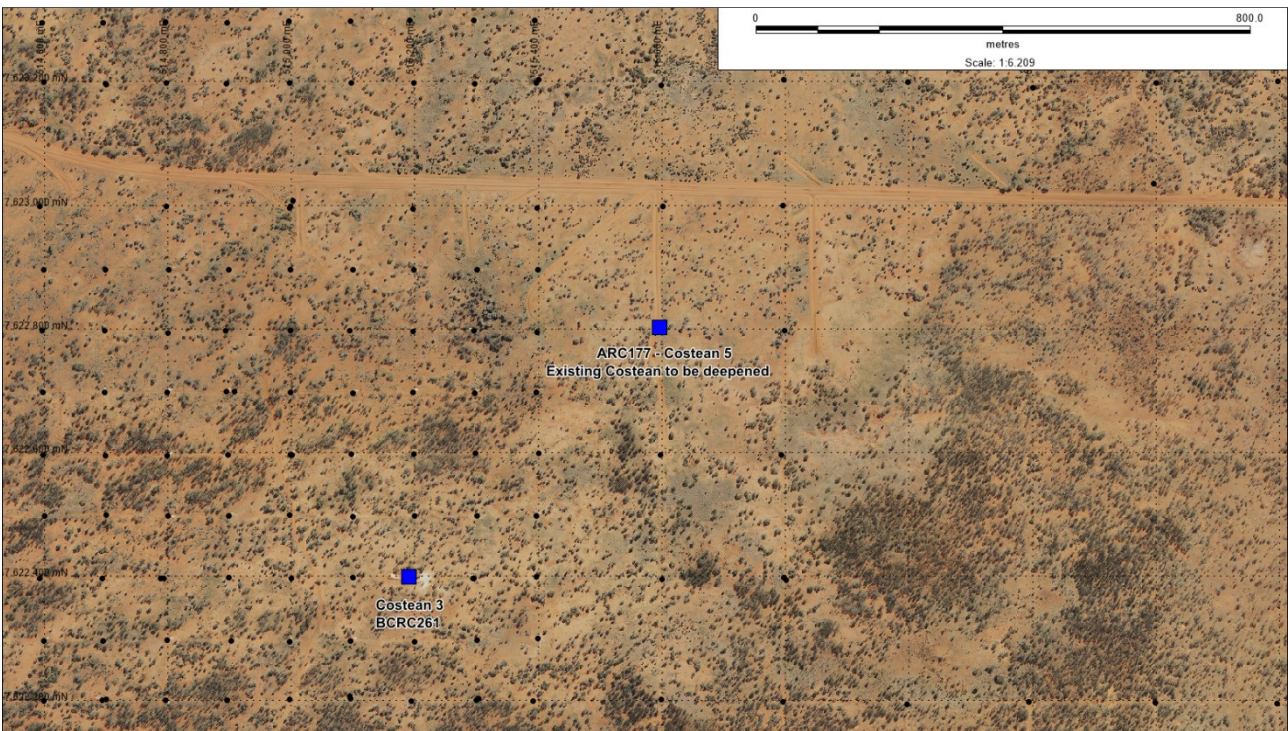


Figure: Costean 5 to be deepened by 1m

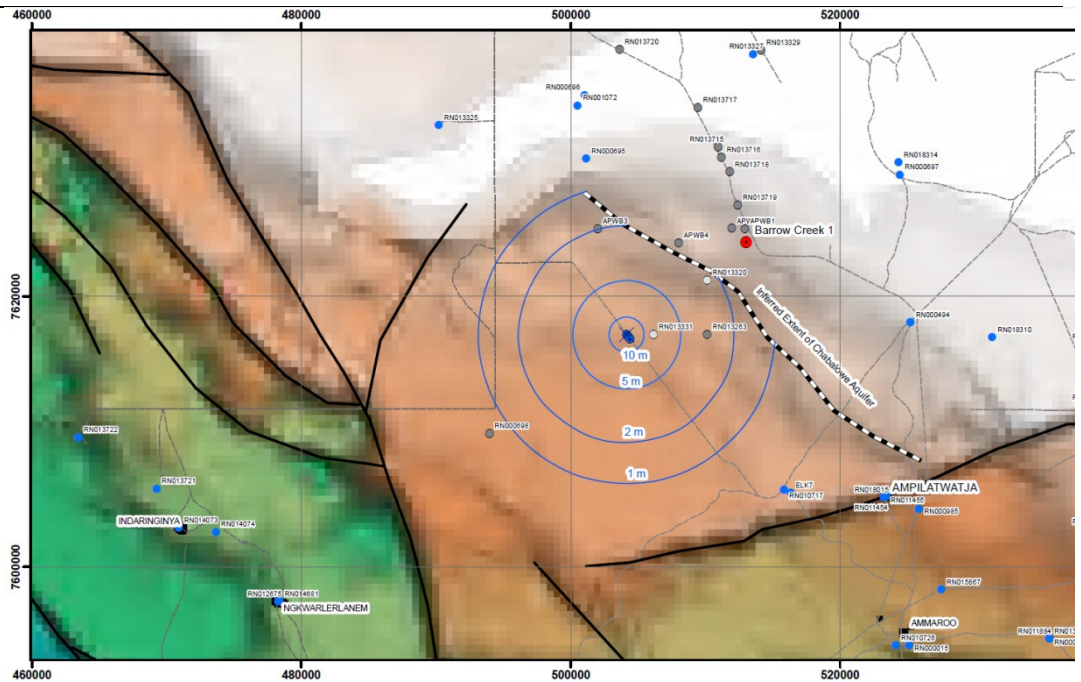


Existing Costean 5 (ARC177) which is to be deepened, sample taken and then backfilled and rehabilitated

4 Current Project Site Conditions

Site Conditions	Description
Geology	<p>The north western part of ELKEDRA occurs within the southern part of the Early Proterozoic Tennant Creek Block, an area which is also referred to as the Davenport province (Stewart and Blake, 1984). The remainder of ELKEDRA is covered by flat-lying sedimentary rocks of the Georgina Basin (Shergold and Druce, 1980).</p> <p>The Early Proterozoic rocks are represented by the Hatches Creek Group, a 10 000 m thick sequence of shallow-water sediments and interlayered volcanics characterised by the presence of numerous quartz arenite formations. The base of this Group is not seen in ELKEDRA but further north, near Tennant Creek, it unconformably overlies the 1870 Ma Warramunga Group (Blake and Wyche, 1983; Wyche and Simons, 1987). The Hatches Creek Group was folded, intruded by granites at about 1660 Ma and then gradually eroded over a period of about 800 Ma to form part of an undulating cratonic basement on which the Georgina Basin sequence was deposited. The Davenport Range represents a topographic high on the basement surface.</p> <p>The Georgina Basin sequence in ELKEDRA attains a maximum preserved thickness of at least 1000 m. The oldest sediments of this sequence, of probable late Proterozoic (Vendian) age, occur in a deeper trough in SANDOVER and are not exposed. The oldest exposed unit is the Early Cambrian Andagera Formation, deposited around the flanks of the Davenport Range in a terrestrial valley-fill and alluvial fan setting. The first widespread marine sediments are dolostones of the Early Cambrian Errarra Formation. These form thin outcrops along the southern margin of the basin in HUCKITTA (Freeman, 1986) and appear to extend northwards into ELKEDRA under younger cover. A sharp contact separates these dolostones from the overlying organic-rich calcareous siltstones of the Arthur Creek Formation which were deposited under subtidal, partly anoxic conditions. These siltstones grade laterally northwards into shallow-marine sediments of the Gum Ridge Formation (Walley, 1987) and westwards into more arenaceous, tidal to supratidal sediments of the Chabalowe Formation. They are overlain gradationally by the Middle to Upper Cambrian Arrinthrunga Formation. The Arrinthrunga Formation was disconformably overlain in Late Cambrian to Early Ordovician times by shallow-marine sandstones of the Tomahawk beds. Remnants of an unnamed elastic unit of possible Mesozoic age are preserved in the southeastern part of ELKEDRA. At the top of the sequence, in a synclinal structure along the southwestern margin of the basin, is the Dulcie Sandstone of Early to Middle Devonian age.</p> <p>A number of northwest-trending faults, which are downthrown to the northeast, displace the Georgina Basin sequence. These were probably activated in the Carboniferous during the Alice Springs Orogeny (Shaw and others, 1984, p.471).</p> <p>Ferricrete and silcrete occur throughout and developed during deep weathering in the Tertiary Period. Calcrete occurs over Cambrian carbonates and within alluvial soils.</p> <p>Ridges in the Davenport Range are flanked by both Tertiary and Quaternary colluvium. Much of the eastern and southern parts of ELKEDRA are covered by Quaternary sand, soil and alluvium.</p>
Hydrology	<p>The project area is drained by two east-flowing river systems, the Sandover-Bunday system and the Elkedra system. These rivers deposit their alluvium in the sandplains and have long been severed from their original destination, the Georgina River in Queensland, about 150-200 km east. The Sandover and Bunday rivers are part of a braided alluvial fan derived from the Harts Range in the south. Relicts of several palaeochannels are evident. The Sandover River falls from 410 m at the southwestern corner to 290 m on a floodout at the eastern margin, a gradient of</p>

	<p>0.7 m per km. The Elkedra River drains the Davenport Range, having a gradient of 1.5 m per km within the range, and 0.8 m per km across the sandplain to Annitowa, the lowest area on the map at about 260 m above sea level.</p> <p>With these very low gradients, floodplains are developed along both river systems, particularly where the drainage channels have been diverted by areas of outcrop. The lower end of each floodplain is covered by aeolian sand.</p> <p>There is no permanent surface water features on the granted tenements. Seasonal rains may yield very intermittent small streams and pools as runoff from low lying hills in the region. These streams and pools generally only last hours, days to weeks.</p>
<p>Hydrogeology</p>	<p>Ground Water – Elkedra In the Rockhole area, 62 holes have been drilled to a maximum depth of 44m. No water has yet been intersected in any drill hole.</p> <p>Ground Water - Ammaroo Almost all of the successful bores drilled in the project area and surrounds are located within the Georgina Basin sedimentary rocks. The sandstone, limestone and dolostone units exhibit reasonable primary porosity, whilst fault structures and solution joints provide secondary porosity to facilitate locally higher well yields. Groundwater flows from the margins of the Georgina Basin from northeast, northwest and southwest and converges towards the centre, to an area south of a centre point within the project boundary, and then towards the east. Standing water levels in this area are some 60 to 100 m below ground surface. The water table at the BC1 camp bore is at 64m below surface, and at the site of the production bore 10km south west of BC1 is at 81m below surface. Hydrogeological reports are located in Appendix 7. Groundwater Science are the company’s groundwater consultants.</p> <p>Ground water chemistry Groundwater is of good quality and low salinity. The salinity of the ground water ranges around 960 to 1,430 mg/L TDS and decreases toward the south. This gradient in reduced salinity is likely due to recharge during intermittent flow events in the Sandover River.</p> <p>Ground Water Users and Management The project area is located near, but outside of, the Western Davenport Water Control District. Registered bores within 20 km of the project area and available bore logs, pumping test data, standing water level data and groundwater chemistry data are given in the NOI. Fourteen functional registered bores are identified within a 20 km radius of the centre point in the project area. Most of these bores were drilled as stock water supply bores, with a few drilled to provide road maintenance supplies and community or station supplies. The water requirement for these uses is low; for stock bores 1-2 L/s is adequate, while the Department of Roads stipulates 2 L/s as the required supply. Verdant Minerals has drilled four bores to 72 to 82 m depth and yield 1.5 to 2 L/s of potable water. Flow tests are described in the NOI and below.</p> <p>The Ampilatwatja (25 km from Barrow Creek 1) and the more distant Ali Curung communities have their own bores. Work completed by consultants in 2013 was directed towards demonstrating that pumping from Verdant Minerals’ bores will not affect the communities’ water supplies. Step tests and constant rate tests and various extraction rates were completed and draw down monitored. The results were used to project groundwater draw down over 25 years at 100L/s, as a typical scenario for mine production. The regional drawdown impact was calculated and the radius of affected areas after 25 years was 14.5km, where only 1m of drawdown is expected. The closest community and operating station bores are outside this drawdown area. Please see Appendix 9 for full report by Groundwater Science.</p>



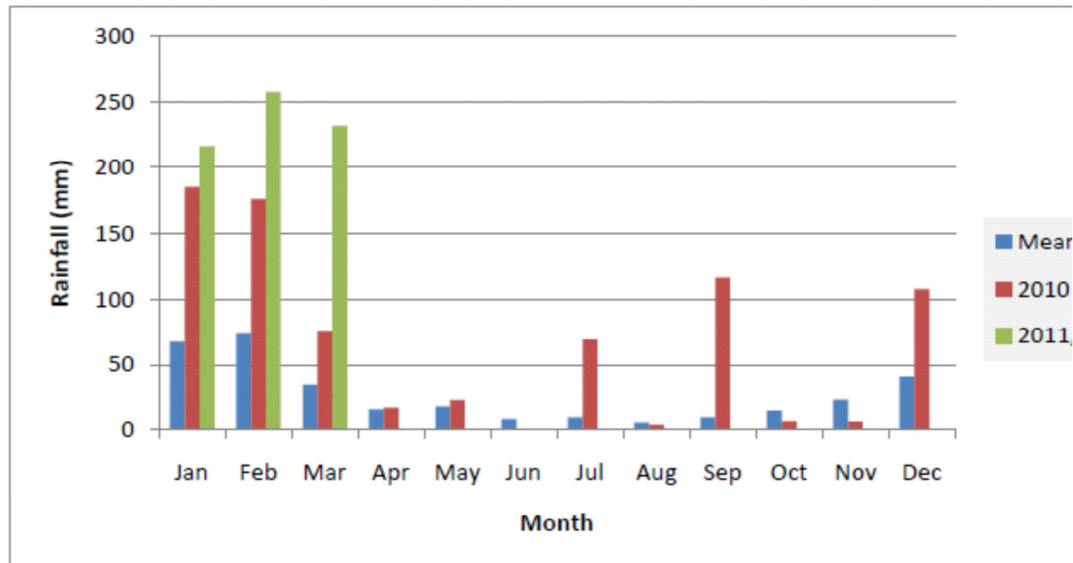
Groundwater drawdown depth circumferences calculated based on 25 years of pumping 100L/s.

Climate

The climate is described as arid tropical by Baker et al 2005. The year is notionally divided into two main seasons, a short, hot summer featuring the bulk of the annual rainfall and a longer mild to cold and dry winter. These two dominant seasonal patterns are separated by short (1-2 months) transitional periods. The summer rains are somewhat influenced by the monsoonal rain patterns from the north, particularly cyclones which cross the Western Australian coastline.

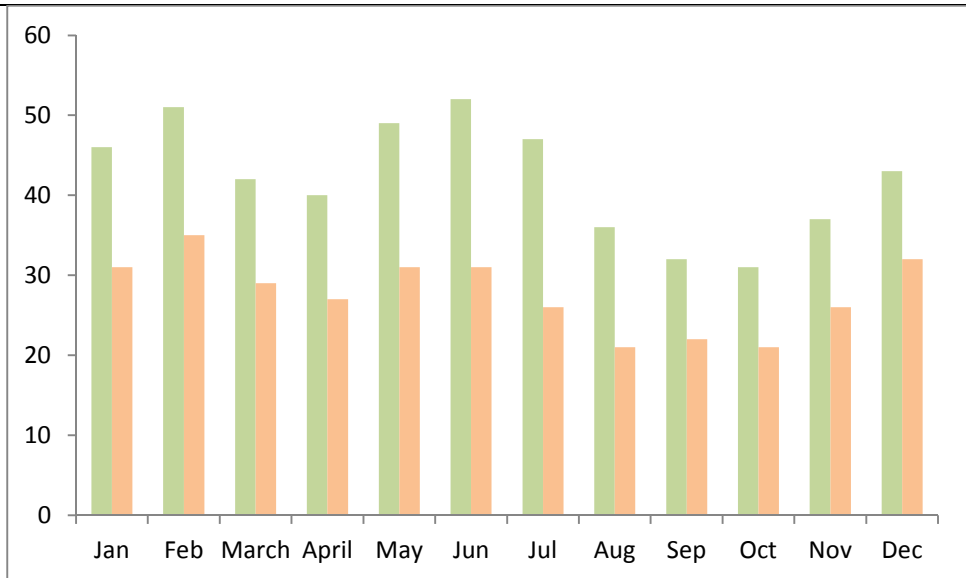
1> Rainfall figures over a 30 year period (1981 – 2010) indicate an annual average rainfall of 383 mm (BOM 2012). However, rainfall is highly variable and unpredictable and annual records range from 86.4 mm to 914 mm. As shown below, much of 2010 and the start of 2011 were atypically wet while the rainfall for 2012 was more typical (Figure 3).

Climate



Average rainfall for the project area.

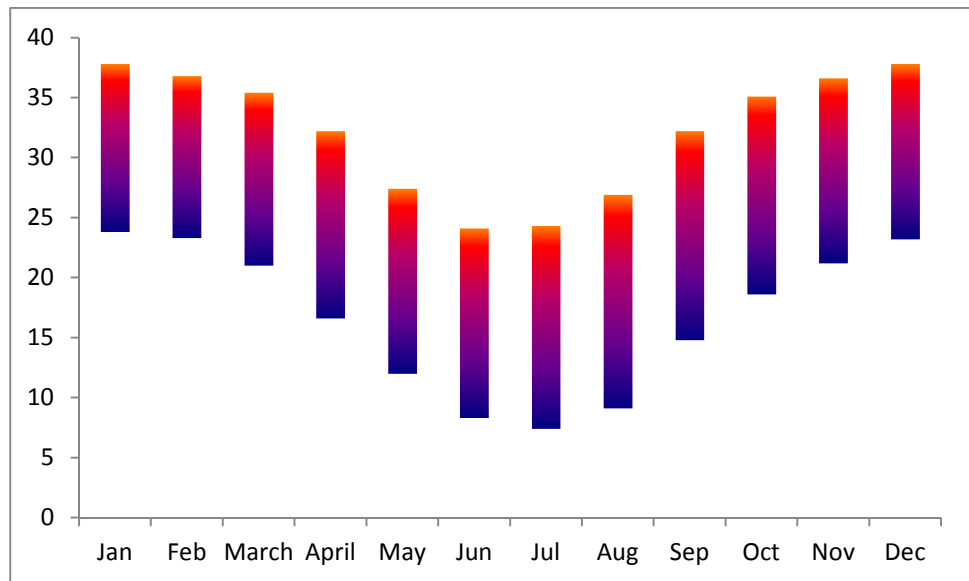
2> The average monthly relative humidity at 9 am (derived from data from 1988 - 2010) fluctuates between 31 to 52 percent with an average of 42 percent. The average monthly relative humidity at 3 pm is about 11-21 percent lower than the 9 am recorded humidity.



3>

- **Mean monthly relative humidity (%) at 9am (Green) and 3pm (Orange) at Ali Curung, NT (BOM 2013).**

4> The mean monthly maximum and minimum temperature over a 30 year period (1981 – 2010) indicate that the summer temperatures can fluctuate between 21 and 38 degrees Celsius and the winter temperatures can flux between 7 and 27 degrees Celsius. Sub-zero temperatures occur occasionally during July and August and there have been instances of surface water freezing at night. [Figure 5](#) shows the mean monthly maximum and minimum temperatures recorded at Ali Curung in 2013.



5>

- **Mean maximum (red) and minimum (blue) monthly temperatures (°C) at Ali Curung, NT (BOM 2013).**

There is currently no climate monitor on site however one is planned to be installed in the coming months as part to collect data for a possible Environmental Impact Statement in the future. The nearest weather station is Ali Curung however no records have been received from there for some time.

Flora

The following description is summarised from Perry and others (1962) and Perry and Lazarides (1962).
In the Davenport Range and the dissected siltstone plateau to the southeast, the strike ridges and hills have shallow stony soils with sparse shrubs and low trees such as snappy gum (Eucalyptus

	<p>brevifolia) over varieties of spinifex (Triodia sp.). The extensive red earth plains to the southwest of the ranges are well covered with mulga scrub (Acacia aneura); where limestone's occur, Georgina gidyea (A. georginae) is developed.</p> <p>The dolostone plateaus and plains in ANNITOWA and OORATIPPRA have little soil and are sparsely covered with low witchetty bush (A. kempeana) and gidyea over short grass or spinifex. The shallow drainage floors across the Ooratippra plain support mulga and coolibah (E. microtheca).</p> <p>Sandplains have a cover of spinifex (Triodia and Plectrachne sp.) with sparse shrubs and low trees, mainly E. brevifolia. Alluvial depressions between sand dunes contain stands of mulga. River and stream channels are lined with the river red gum (E. camaldulensis) and ironwood (A. estrophiolata) and in parts with coolibah. Vegetation on the alluvial plains alongside the large river channels includes mulga, witchetty bush, gidyea, coolibah and ghost gum (E. papuana) but where the channels flood into the sandplains the plains are mainly open with short grasses such as Mitchell grass (A. pectinata).</p>
<p>Fauna</p>	<p>Also from Perry and others (1962) and Perry and Lazarides (1962);</p> <p>Native Mammals recorded in the greater area include:</p> <ul style="list-style-type: none"> • Nyctophylus geoffroii - Lesser Long -eared Bat • Lagochestes conspicullatus - Spectacled Hair- wallaby • Onychogalea unguifera - Northern Nailtail • Macropus rufous - Red Kangaroo • Pseudomys johnsonii - Pebble Mound Mouse • Pseudomys hermandbergensis - Sandy Inland Mouse <p>The introduced mammals include:</p> <ul style="list-style-type: none"> • Canis lupus dingo – Dingo • Felis catus - Feral cat • Vulpes vulpes – Fox
<p>Land Use</p>	<p>The underlying land tenure includes Perpetual Pastoral Lease, Northern Territory Government and Aboriginal Land (NT enhanced freehold) Perpetual Pastoral Lease and access and cultural matters managed through the Central Land Council. Ammaroo Station runs 20 000 head of cattle on Ammaroo and Derry Downs Stations. Pastoral Leases also include Murray Downs Station, Singleton Station and Elkedra Station. VRM Jungle continues to engage with station managers throughout the drill program, from planning to rehabilitation.</p>
<p>Historical, Aboriginal,</p>	<p>Verdant Minerals has multiple Native Title Exploration Agreements over the Ammaroo Phosphate Project. Each of the ELs under the agreement(s) contains areas of various levels of restricted access</p>

Heritage Sites	<p>relating to sacred sites, dreaming trails or other sites of significance to the Aboriginal people. These are documented in multiple generations of Sacred Site Clearance Certificates.</p> <p>Verdant Minerals abides by all conditions and agreements entered into by Central Australian Phosphate as well as the general terms of its own agreements with the CLC.</p>
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5 Environmental Management System

Verdant Minerals Ltd is committed to maintaining best practice environmental procedures on the Ammaroo Phosphate Project. VRM's Environmental Policy and Guidelines are available in Appendix 1. VRM's policies and guidelines are reviewed, not just annually but as new information comes to hand or when conditions change so the environmental procedures and guidelines remain dynamic to best suit the prevailing conditions and to assure that the environment is protected.

Low Ecological Services (LES) completed a survey over the Barrow Creek 1 lease area in May 2011. The report includes a broad survey of the ecology and landscapes in the lease area to identify any threatened flora or fauna likely to be present. LES also undertook a search for threatened flora and fauna under the EPBC Act and TPWC Act. One threatened flora species was listed in the area and ten threatened fauna species were listed to be present in the region. This survey included a swamp in the west of EL 25184 which VRM has now declared a no-go area in order to protect that habitat. During the ground survey, none of the threatened flora or fauna species were located in any areas of proposed activity by VRM.

In October 2011, Verdant Minerals Limited requested LES to assess two sites proposed for the location of possible open cut mine pits. This site visit included site descriptions and landscape surveys of the proposed pit sites and further detailed flora/fauna surveys at these sites. Although diverse and productive, the sites were found not to be representative of any threatened community and no threatened species were detected at these sites.

These reports indicate that no threatened species are likely to be at direct risk of exploration and resource development activities and that the landscapes and habitats are common and widespread throughout the region. Possible threats do exist from ground disturbing works and vehicle mobility and include the introduction of plant and weed species, erosion by the placement of new tracks, disturbance of the natural flow of drainage patterns and cleared vehicle tracks providing pathways to spread feral animals into remote areas. To manage these threats Verdant Minerals will monitor the presence of introduced plants and weeds and remove if infestation occurs, particularly in drainage depressions. Avoid creating wind rows when clearing tracks and driving while the ground is soft and wet during seasonal periods to prevent channels for water flow, and rehabilitate and monitor tracks that are no longer in use. Verdant Minerals will monitor the presence of feral animal tracks and set up a suitable control program if necessary.

VRM understands that the Acts above have been updated as of December 2012 to the Territory parks and Wildlife Conservation Act (TPCWA). A new search of the threatened species list will be conducted if further work is planned on the project or if an Environmental Impact Statement is issued.

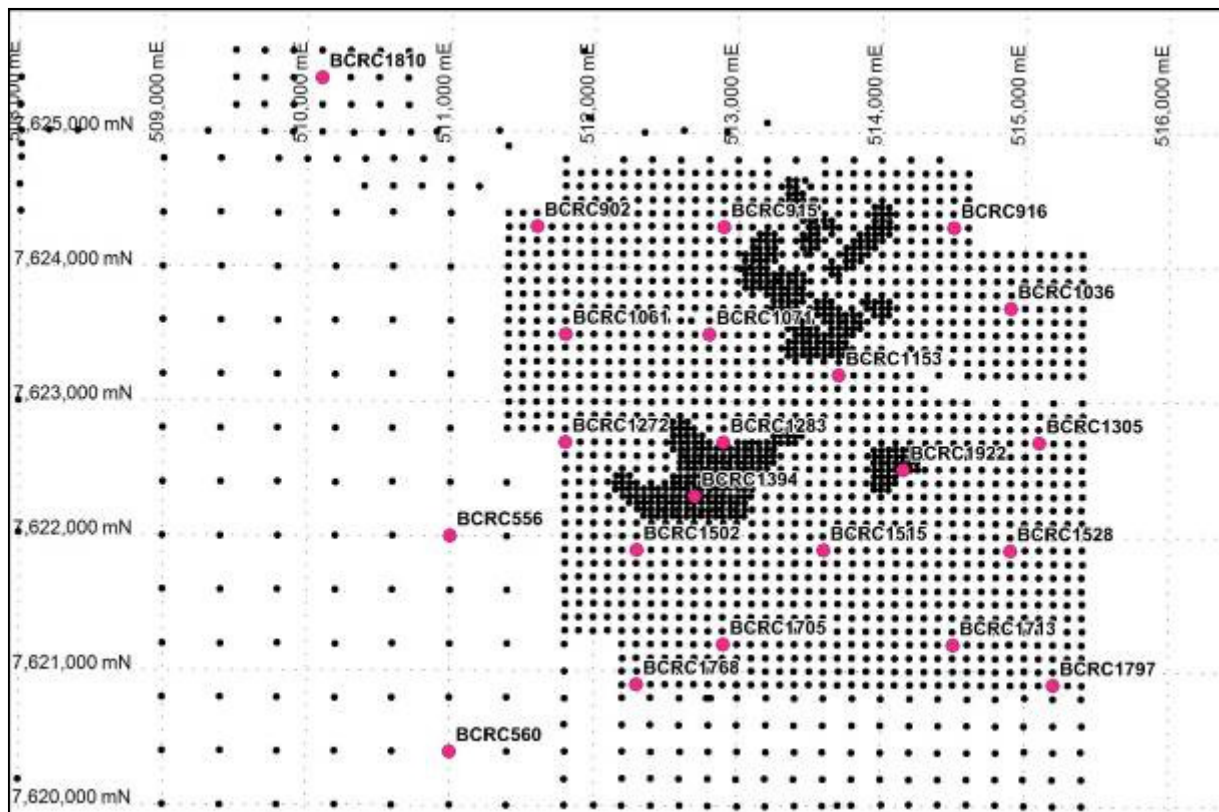
A follow-up survey took place in the beginning of 2012 during the warmer months to account for seasonal bias, as previous reports were indicative of the cooler months. The survey focused on areas of current and proposed bulk sampling pits as well as drainage lines and depressions and other unsurveyed habitats. A desktop survey was also undertaken and results included in the report. This survey found a further eight reptiles, 16 bird species from 12 families and five mammals that were not reported in the previous surveys. They are described in the report previously submitted to DPIR and will be taken into consideration with the development of the project. Further to this seven fauna species and two weed species were identified on ground in the March 2012 survey and their threat described further in the report on page 39. These pests and weed species have already been identified by VRM Jungle and there perceived risks of environmental

harm are covered in the Ammaroo Site Induction. The full survey and reports from Low Ecological Services to date have been supplied in previous MMP's.

Baseline studies and data gathering are being conducted as a precursor to whatever more intensive environment impact studies may be needed in the future. VRM Jungle has undertaken sampling of soil and overburden to test for geochemical elements that will remain in stockpiles that may have the potential to cause damage to the surrounding environment by acid forming and non-acid forming materials. These preliminary results will aid VRM Jungle in planning for management of waste rock dumps and tailings storage facilities in the future.

The figure below shows the locations of sampling and assays and assays were forwarded to VRM Jungle's environmental consultants EcoZ Pty Ltd, for examination and reporting. These results have been received by EcoZ and are being used for future mine planning and discussed in the NOI.

Four dust monitoring stations were set up in April 2013 at BC1, spaced towards each extent of the deposit, and monitored over 5 months. Insufficient dust was collected over the 5 months and the results remain inconclusive. Verdant Minerals await instructions to repeat this test.



• Location of soil and overburden sampling

5.1 Environmental Policy and Responsibilities

Verdant Minerals operates on a minimal environmental impact basis that all works are completed to cause the least environmental damage as is possible. This is done by applying the standard WHS hierarchy of controls in order of Planning, Elimination of threats, Substitution, Isolation, Engineering controls and solutions, Safe work practices and PPE.

Part of VRM's exploration policy is to use existing access already in place (fence lines, roads, tracks) and any clearing of additional access will only occur after risk assessment, consultation with all stakeholders and approval via the MMP and will be justified by careful planning, documentation and communication. It is in VRM Jungle's best interest to plan operations with consideration of the ease of future rehabilitation by choosing areas of lower risk of environmental damage e.g. erosion, loss of vegetation, changes to drainage patterns etc. VRM Jungle applies rehabilitation practices on a "soon-as-practicable" basis following completion of drilling program and abides by the Environmental Policy, Procedures and Guidelines (Appendix 1). VRM Jungle will also ensure all contractors used for clearing or exploration purposes will undergo an environmental induction prior to entering any project area. Earthmoving and drilling contractors will be at all times supervised by an experienced staff member to prevent or minimise environmental damage to heritage sites, topsoil, flora and fauna.

Alongside the Environmental Policy and Procedures, VRM Jungle also has more detailed Policy and guidelines for environmental management. These include Fire, Fuel and Flammable Materials and Hazardous Substances, Flora & Fauna, Heritage and Cultural Site, Radiation Management, Waste Management and Weed Management and can be supplied if needed.

The company takes responsibility for environmental matters and the Exploration Manager is charged with implementing sound environmental practices (refer to the VRM Jungle Environmental Policy and Guidelines and associated documents in Appendix 1).

5.2 Statutory and Non-Statutory Requirements

Exploration will be conducted in compliance with all of the following permits or conditions as per AA7-026 Exploration Operations MMP Structure Guide:

- Aboriginal Land Rights (Northern Territory) Act (Commonwealth)
 - Aboriginal and Torres Strait Islander Heritages Protection Act (Commonwealth)
 - Atomic Energy Act (Commonwealth)
 - Australasia Railway Act
 - Authorisation conditions
 - Bushfires Act and Regulations
 - Code of Practice for Radiation Protection and Radioactive Waste Management in Mining and Mineral Processing
 - Code of Practice for Safe Transport of Radioactive Materials 2001
 - Environmental Assessment Act
 - Environmental Offences and Penalties Act
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- Environment Protection & Biodiversity Conservation Act
- Heritage Act and Regulations
- Lands, Planning and Mining Tribunal act
- Land Access Consultations
- Lease conditions
- Mineral Titles Act and Regulations
- Mining Management Act and Regulations
- Native Title Act
- Northern Territory Aboriginal Sacred Sites Act and Regulations
- Plant Health Act and Regulations
- Reporting requirements such as those for; production statistics; employment/injury and safety statistics; frequent reporting
- Soil Conservation and Land Utilization Act
- Water Act and Regulations
- Weeds Management Act
- Workplace Health and Safety (National Uniform Legislation) Act and Regulations

All activities will also be carried out with due regard for the Traditional Owners and the Aboriginal Community under terms of the Central Australian Phosphate and Verdant Minerals negotiated Deeds of Exploration, managed by the CLC.

As required by legislation, station owners are given a copy of the MMP each year and must agree to the MMP before the MMP is approved by DPIR.

All activities will be carried out with due regard for Station owners wishes. Verdant Minerals keeps landowners informed of our activities at all times and will strive to continue to build a good working relationship with them.

Summary of Agreements

Exploration agreements x 3 with the Central Land Council

LAA with Ammaroo Station 2016 and 2017

Written permission from Murray Downs Station

LAA with Elkedra Station (2017 in progress)

Written Permission from Neutral Junction Station

5.3 Induction and Training

As part of an NT-wide move by Worksafe to improve its monitoring and inspections of exploration and mining projects in 2013, Worksafe required Verdant Minerals to redo its Safety Management System and update its Risk Management Plans for each project including Ammaroo. An updated and more comprehensive Company Work, Health, Safety and Environment Policy was prepared by Switched on to Safety in 2014. Risk Management Plans have been prepared for the major projects and updated in 2017. Updated site-specific inductions, Safe Work Procedures and related forms have also been drafted. This

made Verdant Minerals fully compliant with current Work Health Safety laws across all jurisdictions in which it operates.

Field staff are required to sit the site specific inductions and work through safe work procedures and guidelines before field work is to commence. All aspects of this MMP will be covered by the crew leader during the initial and refresher site-specific inductions. Particular attention is paid to environmental and safety issues during daily morning meetings and weekly “toolbox” environment and safety reviews, in which all staff and contractors on site are required to attend. A permanent daily camp diary is also utilised to record the movement of staff, contractors and visitors to and from site, activities that will be carried out and the location of, a record of the amount of fuel and water on site and any other WHS or camp comments. Any issues raised during these meetings or diary’s will be formally noted and acted upon promptly and further addressed in the weekly report and toolbox meeting.

- Below is a list of examples of environmental topics covered;
 - Grass seeds in Radiators – Check for and remove all seeds and grass in radiators before leaving a project site. This includes leaving site to go to town, or e.g. leaving Ammaroo 1 to head to BC1. This prevents the transport and spread of weeds and other vegetation to other areas.
 - Wildlife – Be aware of stock on road, roo’s, horses and other wildlife. Drive to the road conditions, avoid travelling at night, slow down in higher risk areas such as boggy roads or water points where animals will accumulate.
 - Fire dangers – When conditions are especially dry, hot and windy staff are reminded to put all cigarette butts in the bin, no welding or other operations that cause sparks is to take place. Stay in well cleared areas away from grasses if performing such activities.
 - Rubbish – Put all rubbish in designated bins, including and especially plastics and food scraps and make sure all rubbish bins are closed and secured shut. This is to prevent attracting wildlife such as dingos, scavenging birds and other mammals to camp.

Rain – Stay off tracks after heavy rain fall to avoid creating channels for erosion

5.4 Identification of Environmental Aspects and Impacts

• **Table 2 Environmental aspects and impacts of the Ammaroo Phosphate Project**

Aspect	Impact	Risk Rating	Management measures (prevention)	Management measures (remediation)
Drilling	Hydrocarbon spill	Medium	Training in safe refueling and use of hazardous materials	Spill Kits and clean up, dispose of contaminated ground
	Generation of Dust	High	Rig has adequate stuffing box and collar	Dust masks a worn, and outside return is pointed away from workers and down wind
	Interception of groundwater	Low	If groundwater interception is thought to be possible, provide adequate sumps at drill site	Stop drilling and plug hole if environment is at risk of contamination
	Fire	High	Drill pads free of grass and weeds,	Vehicles fitted with fire extinguishers
	Drilling fluids spill	High	Use of biodegradable fluids, service off site, use of collection	Spill Kits and clean up, dispose of contaminated ground

			containers, absorbent matting	
Clearing of drill pads	Loss of native flora and fauna	High	Training and experience in clearing procedures	Rehabilitation of drill sites
Clearing of drill lines	Loss of large trees	Medium	Instruct machinery operator to avoid large trees	Plant a new tree
	Erosion	Medium	Use bulldozer with stick rake	Use bulldozer to rehabilitate track at end of use, earth bunding
Sumps	Ground contamination by water overflow	Low	Construct sumps downs slope to catch run off, construct bunds around sump for large water amounts	Remove contaminated surface and replace with topsoil set aside when dug out.
Driving between properties	Spread of weeds	Medium	Wash down and remove weeds from underneath vehicle	Rip up problem weeds
Hydrocarbon Storage	Spills, soil contamination	Low	Bund all hydrocarbon storage containers	Spill kit and clean up
Camp Clearing and Infrastructure	Overflow of septic tank	Medium	Annually have septic tank pumped out.	Have tank pumped out ASAP and any damage disposed off
Waste Management	Pollution to environment	Low	Adequate Bins provided and regular waste disposal in Alice Springs or Tennant Creek facilities. Removal of all waste from drill sites.	Clean up of rubbish or spillage and waste disposed of in Alice Springs or Tennant Creek facilities.
	Attraction of wildlife and pests	High	Adequate bins provided, covered and protected	Clean up, continue to keep all rubbish stored and protected from wildlife until removed to waste facilities.

5.5 Environmental Audits, Inspections and Monitoring

Environmental audits and inspections are carried out at least annually to check rehabilitation of drill sites, access tracks and creek crossings and are documented and reported by photographic evidence.

In August 2012, representatives from the department, David Waterhouse and Peter Waggit, undertook an Ammaroo Site inspection. It was understood their response indicated VRM Jungle were operating according to their Environmental Policy and Guidelines however no report was issued. A second inspection was carried out on 9-11 June, 2015 by Dave Waterson and Roberta Ferrari with a report issued on 4 August 2015. Issues identified during this inspection were remedied in October 2015 and a rehabilitation report showing evidence of this forwarded to DME.

A third inspection was carried out on 1 September 2016 by David Waterson and Kirsten Johnston. No issues arose from this inspection. A fourth inspection was carried out by Kirsten Johnston and Peter Batey in June 2017.

VRM follows the guidance of station owners of all pastoral stations it is operating on, regarding access, clearing and potential erosion issues. VRM use Phillips Earthmoving in Tennant Creek as the preferred contractor for clearing access tracks and grid lines using a dozer and stick rake. Consultation is continuous with station owners who advise VRM on any issues and will suggest more suitable routes if necessary and are welcomed to inspect all earthworks. Follow up inspections of rehabilitation tracks shows the stickrake method of clearing if proving successful with minimal reportable erosion problems and fast rejuvenation of vegetation on tracks is and has been occurring. Fortunately, most of the Ammaroo Project is situated over relative flat topography and risk of erosion is low. However if a problem is noticed, appropriate management method would be devised with the consultation of station owners and any environmental consultants VRM Jungle are in contact with.

VRM Jungle also ensure that upon finishing rehabilitation of a drill hole that dirt is mounded over the completed hole to allow for shifting of dirt down hole. This helps to prevent holes created depressions at the surface. If VRM Jungle notices this on inspection of drill holes the depression is filled in and a mound created over the hole.

Environmental audits and inspections have been carried out periodically to check rehabilitation of drill sites, drill collars and access tracks. Photographs at numerous control points have been taken over time. An audit inspection table and rehabilitation history is appended below.

• **Table. Rehabilitation Audit History**

Month	Year	Activity	Person
Sept	2010	Pre air core photos	Rod Myers
30 Sept	2010	Inspection of Aragon Rehab	Rod Myers, JN
October	2010	Post air core photos	Rod Myers
28 Feb-5 March	2011	Photos before and during dozer stick rake clearing on EL25184	Rod Myers
April	2011	EL25185 access track rehab photos	Nigel Doyle
May	2012	CEN rehab photos and report on EL24726	Andrew Crispe
22 August	2012	DME audit and inspection	ND/PW/DW
Sept	2012	Re-training of field staff on rehabilitation methods	Nigel Doyle
10 October	2012	Murray Downs Air Core Rehab and photographing	Nigel Doyle/ JN/CS
11 October	2012	Ammaroo 1 rehab photos from EL25185	Craig Sing
1 November	2012	Ammaroo 1 Rehab of bags	Craig Sing
May	2013	Installation of dust monitors	Craig Sing
Sept/October	2013	Pre drilling and clearing photos on Phase 1 EL24716	Rod Myers
November	2013	After clearing photos of Phase 1 EL24726	Rod Myers
November	2013	Grader rehab of ruts on drilling access tracks and fence lines	Rod Myers
Sept	2014	Rehab photos of Phase 1 EL24726. Before and after photos of Warrabri and Fertoz clearing and drilling	Nigel Doyle
October	2014	All rehab of CEN EL24726 drill bags and drill sites completed	Craig Sing
Feb	2015	Rehab photos of Phase 1 EL24726, Warrabri and Fertoz EL26915 access tracks and drill holes	Nigel Doyle
May	2015	Rehab of access track ruts on EL26915	Nigel Doyle/JCM
May	2015	Rehab of access track erosion on EL24726	Nigel Doyle
June 9-11	2015	DME Inspection	DW/RF
October 10-11	2015	Fencing of bore on EL25184. Rehab of access track erosion. Removal of weed and batteries etc on EL24726	ND/CS/JCM
September 1	2016	DME Inspection	DW/KJ
October 28	2016	Backfill and Rehabilitate Pit 1, Pit 3 and Pit 4	ND
November	2016	Rehab of 2017 drill bags and drill collars. Drill bags to Tennant Creek Waste disposal in two trips. Fence two new bulk sample pits	ND/CS/JCM
February 9-10	2017	Photograph rehabilitation progress from 2016 drill programs	ND

June 1-5	2017	Rehab of Rockhole campsite, RC bags and collars	ND
June 14	2017	Inspection and Audit by DPIR	KJ/PB
March 23	2018	Inspect and photograph rehab of bulk sample pits	ND



Pit 1 rehabbed on 28/10/2016



Pit 1 after 3 months rehab on Feb 9 2017



Pit 1 Rehab as at 28/3/2018



BCRC138 Pit 3 freshly dug in 2011



BCRC138 Pit 3 rehab in progress 28/10/2016



Re-spreading topsoil on BCRC138 Pit 3 on 28/10/2016



Pit 3 rehab in progress on Feb 9 2017



Pit 2 Rehab as at 28/3/2018



Pit 4 bulk sampled to 7m depth in 2012



Pit 4 backfilled with topsoil re-spread on 28/10/2016



Pit 4 progressive rehab on Feb 9 2017



Pit 4 rehab as at 28/3/2018

5.6 Environmental Performance

5.6.1 Objectives and Targets

Objectives for 2018 are:

Backfill and rehabilitate three bulk sample costeans (costeans 3, 5 and 6)

Complete rehabilitation at costean 2

Dig 2 new bulk sample pits and ensure safe and effective fencing is installed

5.6.2 Performance Reporting

Environmental monitoring (photographs of rehabilitation) are part of our environmental policy. Track construction is one of the more significant environmental impact activities out of the ground disturbing work that VRM undertakes and is monitored yearly for erosion and progress of natural rehabilitation. There was minimal rain over 2013 and 2014, therefore the progress of natural regrowth was slower than expected, however photographs from February 2015 showed excellent rehabilitation recovery.

An inspection of drilling works completed in 2013 and 2014 were followed up in February 2015, with rehabilitation photos located in the previous section (5.8). Photographs are catalogued on the VRM server and displayed in MMP documents.

During the site inspection by DME officers in 2012, it was noted by the Exploration Manager that some rehabilitation of drill samples by certain inexperienced field technicians was below par. These one or two individuals no longer work for VRM. Prior to rehabilitation efforts commencing after the 2013 field season,

re-training was given to field technicians in correct and best practice rehabilitation methods for Air Core, RC and Diamond drill holes. The rehabilitation efforts since then have been exceptional.

Environmental performance in this part of Australia can be governed by climatic conditions. In years of drought not much can be done and it is generally best to leave tracks as they are until it rains and the moisture holds the ground together a lot better. Overworking in dry conditions can lead to bulldust affected tracks and deep rutting. The rain also provides vegetation to also bind the soil and reduce erosion potential. We did quite a bit of remediation work in 2015 as the ground conditions improved after 2 years of drought. This work was reported to DME in an environmental closure report.

Performance for 2016:

Plug and rehabilitate all RC holes - done

Cement all geotech diamond drill holes - done

Fence new bulk costeans - done

Photograph drill lines and drill holes pre-disturbance and post rehab-done

Backfill all geotech pits- done

Backfill and rehabilitate 3 x bulk sample costeans- done

Rehabilitation performance was excellent for 2016. Photographs and monitoring of 2016 work was done in February 2017. Photographs of rehab performance are in Section 6.

Rehabilitation performance so far in 2017 has been good. All Rockhole RC drill hole sites and collars have been rehabbed. We will wait until after the next rains to re-photograph this area and check on progress.

No rehabilitation has yet been done in 2018. It is planned to rehabilitate two costeans during the next phase of work whilst an excavator is onsite digging new bulk sample pits.

All rehabilitation of tracks, drill pads and drill collars outside of the two active EL's has been completed.

A follow up monitoring visit will be conducted to view the Rockhole area rehabilitation later this year.

5.7 Emergency Procedures and Incident Reporting

The Verdant Environmental Emergency Response Procedures are located in the Environmental Policy, Procedures and Guidelines. This includes the Emergency Spill Response involving fuels or hazardous substances and has reference to Procedures in the case of a fire or in the disturbance of a Heritage or Sacred Site. Any incident is assessed for severity according to DPIR's classification guidelines which are printed and accessible on site. Staff are made aware of the assessment guide in the site induction. Any reportable incidents (Class 2 and above) are documented and reported to Verdant Minerals, NT Worksafe and DPIR. All reporting of incidents will be carried out in accordance with the terms of the Mineral Titles Act and the Mining Management Act and other applicable acts of the Northern Territory.

A RMP has been submitted to NT Worksafe for the Ammaroo Phosphate Project as per regulations.

Emergency procedures are to be implemented in situations for example, when;

- A hydrocarbon spillage is greater than 20 litres
- Human hazard is evident
- A spill cannot be immediately contained by personal or equipment on site
- A spill has led to, or likely to lead to, contamination of a waterway, water body or other sensitive location
- A spot fire cannot be controlled
- Damage or threat to a heritage or cultural site has occurred

All drilling personnel are trained to deal with emergency spillages, fires and aware of circumstances involving heritage sites. It is the responsibility of drilling personnel to notify the Senior Geologist or Field Supervisor who will then implement the appropriate procedures. These will include;

- Evaluating the safety aspects and ensure all risks are identified and managed
- Taking steps to contain or prevent further spillage or spread of fire
- Implement clean up procedures
- Assess extent of impact and implement remediation procedures as required
- Investigate cause of incident
- Prepare and submit an incident report
- In relation to damaged heritage or cultural site; document name (if known) of site, location, description of damage, its cause and who discovered damage and witnesses, if any actions were taken to stop the damage and if the site is under threat of further damage
- Recommend actions and implement procedure to prevent further spillage or damage
- File incident report for future reference in continual improvement and audit purposes

6 Exploration Rehabilitation

TABLE OF REHABILITATION OBJECTIVES

Disturbance	Rehabilitation Activities	Schedule (Timing)	Closure Objectives / Targets	Monitoring Techniques
Drill holes	Return drill spoil down hole where possible. Plug and cover holes below ground level. Mound dirt to allow for subsidence	Complete	Met	Inspect and photograph periodically
Drill pads	Remove RC bags Fill in holes and level diamond drill pad to ensure water will not pool or erode ground.	Complete	Met	Inspected and photographed periodically – see photographs in document.

Sumps	N/A	N/A	N/A	N/A
Bulk sample pits	Three rehabilitated, three open and fenced	Dig two new pits in 2018 and rehabilitate two others	Returned to normal	Inspections/photograph
Tracks / Gridlines	Natural rehabilitation and erosion protection installed in places as needed	Naturally, will be monitored over time	Met	Inspect and photograph
Sample bags	Tip down RC hole and remains emptied into trenches upon rehab. Bags relocated to dumping site in accordance with Environmental Policy.	Completed	Met	Inspect and photographed
Camp	If Barrow Creek one does not progress to a mine - all rubbish removed off site, remove buildings and rehabilitate	To be reviewed in 2019	Site returned to normal	Inspect and photograph

6.1 Exploration Rehabilitation Register

Table. Rockhole 2017 RC Hole Rehabilitation Register

Hole_ID	Orig_East	Orig_North	Date Completed	Date Rehabbed	Date Monitored
RHRC001	555597	7647600	26/05/2017	29/05/2017	
RHRC002	555593	7648007	26/05/2017	29/05/2017	
RHRC003	555595	7648405	26/05/2017	29/05/2017	
RHRC004	555601	7648790	27/05/2017	29/05/2017	
RHRC005	555607	7649209	27/05/2017	29/05/2017	
RHRC006	555602	7649601	27/05/2017	29/05/2017	
RHRC007	555601	7650000	27/05/2017	29/05/2017	
RHRC008	555616	7650396	27/05/2017	29/05/2017	
RHRC011	556000	7649597	27/05/2017	29/05/2017	
RHRC010	555999	7649996	27/05/2017	29/05/2017	
RHRC009	556007	7650807	27/05/2017	29/05/2017	
RHRC017	555997	7647604	28/05/2017	30/05/2017	
RHRC015	556001	7647996	28/05/2017	30/05/2017	
RHRC014	556003	7648392	28/05/2017	30/05/2017	
RHRC013	556005	7648779	28/05/2017	30/05/2017	
RHRC012	556006	7649194	28/05/2017	30/05/2017	
RHRC016	556038	7647785	28/05/2017	30/05/2017	
RHRC018	556406	7647586	28/05/2017	30/05/2017	
RHRC019	556403	7648001	28/05/2017	30/05/2017	
RHRC020	556389	7648392	29/05/2017	30/05/2017	
RHRC021	556400	7648802	29/05/2017	31/05/2017	
RHRC022	556400	7649192	29/05/2017	31/05/2017	
RHRC023	556396	7649599	29/05/2017	31/05/2017	
RHRC024	556396	7650016	29/05/2017	31/05/2017	
RHRC025	556407	7650417	29/05/2017	31/05/2017	
RHRC026	556409	7650798	29/05/2017	31/05/2017	
RHRC027	556413	7651217	29/05/2017	31/05/2017	
RHRC028	557184	7651979	30/05/2017	31/05/2017	
RHRC029	557197	7651596	30/05/2017	31/05/2017	
RHRC030	557188	7651197	30/05/2017	1/06/2017	
RHRC031	557197	7650800	30/05/2017	1/06/2017	
RHRC032	557205	7650404	30/05/2017	1/06/2017	
RHRC033	557208	7649999	30/05/2017	1/06/2017	
RHRC034	557226	7649595	30/05/2017	1/06/2017	
RHRC035	557207	7649205	30/05/2017	1/06/2017	
RHRC036	557215	7648799	31/05/2017	1/06/2017	
RHRC037	557215	7648392	31/05/2017	1/06/2017	
RHRC038	557201	7648000	31/05/2017	1/06/2017	
RHRC039	557995	7648000	31/05/2017	2/06/2017	
RHRC040	558002	7648403	31/05/2017	2/06/2017	
RHRC041	557996	7648808	31/05/2017	2/06/2017	
RHRC042	558007	7649200	1/06/2017	2/06/2017	

RHRC043	557996	7649599	1/06/2017	2/06/2017	
RHRC044	557998	7650002	1/06/2017	2/06/2017	
RHRC045	557989	7650400	1/06/2017	2/06/2017	
RHRC046	557995	7650795	1/06/2017	2/06/2017	
RHRC047	558005	7651207	2/06/2017	3/06/2017	
RHRC048	558002	7651610	2/06/2017	3/06/2017	
RHRC049	558803	7651995	2/06/2017	3/06/2017	
RHRC050	559607	7652809	2/06/2017	3/06/2017	
RHRC051	560417	7652798	2/06/2017	3/06/2017	
RHRC052	561200	7652803	2/06/2017	3/06/2017	
RHRC053	561611	7652795	2/06/2017	4/06/2017	
RHRC054	558800	7651210	3/06/2017	4/06/2017	
RHRC055	558804	7650804	3/06/2017	4/06/2017	
RHRC056	558808	7650417	3/06/2017	4/06/2017	
RHRC057	558806	7650024	3/06/2017	4/06/2017	
RHRC058	559979	7650025	3/06/2017	4/06/2017	
RHRC059	560624	7650011	4/06/2017	4/06/2017	
RHRC060	558796	7649595	4/06/2017	4/06/2017	
RHRC061	558781	7649213	4/06/2017	4/06/2017	
RHRC062	558798	7648810	4/06/2017	4/06/2017	

Table. 2016 RC Hole Rehabilitation Register

Hole	Easting	Northing	Date Drill ed	Rubbis h Remov ed	Plugg ed	Spoil Backfill ed	Bags Remov ed	Date of Monitori ng
CARC0460	515798.234	7623205.314	Sep-16	Sep-16	Nov-16	Nov-16	Nov-16	Feb-17
CARC0461	515800.579	7623398.821	Sep-16	Sep-16	Nov-16	Nov-16	Nov-16	Feb-17
CARC0462	515795.428	7623605.200	Sep-16	Sep-16	Nov-16	Nov-16	Nov-16	Feb-17
CARC0463	515795.115	7623802.645	Sep-16	Sep-16	Nov-16	Nov-16	Nov-16	Feb-17
CARC0464	515794.312	7624005.071	Sep-16	Sep-16	Nov-16	Nov-16	Nov-16	Feb-17
CARC0465	515797.328	7624198.155	Sep-16	Sep-16	Nov-16	Nov-16	Nov-16	Feb-17
CARC0466Stake	515602.244	7624202.180	Sep-16	Sep-16	Nov-16	Nov-16	Nov-16	Feb-17
CARC0467	516197.952	7624193.420	Sep-16	Sep-16	Nov-16	Nov-16	Nov-16	Feb-17
CARC0468	516196.9	7623995.	Sep-	Sep-16	Nov-	Nov-16	Nov-16	Feb-17

	77	002	16		16			
CARC0469	516196.0 92	7623793. 834	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0470	516201.1 67	7623593. 956	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0471	516201.0 19	7623392. 681	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0472	516201.6 45	7623192. 257	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0473	516599.0 28	7623202. 407	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0474	516600.8 01	7623399. 809	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0475	516599.1 82	7623602. 094	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0476	516595.6 63	7623802. 907	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0477	516598.1 25	7623996. 677	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0478	516596.5 61	7624200. 558	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0479	516597.2 35	7624402. 292	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0480	516603.0 14	7624593. 505	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0481	516793.9 36	7624596. 642	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0482	516798.7 51	7624402. 095	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0483	516803.1 42	7624202. 580	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0484	516798.8 89	7623999. 353	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0485	516800.9 06	7623803. 786	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0486	516801.6 80	7623605. 304	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0487	516799.2 58	7623404. 263	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0488	516799.3	7623200.	Sep-	Sep-16	Nov-	Nov-16	Nov-16	Feb-17

	13	216	16		16			
CARC0489	517203.3 72	7624599. 187	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0490	517199.9 98	7624391. 825	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0491	517199.1 70	7624196. 787	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0492	517197.7 00	7623999. 296	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0493	517199.1 73	7623794. 178	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0494	517198.1 36	7623602. 017	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0495	517199.0 42	7623393. 357	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0496	517198.6 87	7623196. 290	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0497	517200.2 58	7623043. 336	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0498	517199.8 12	7622806. 933	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0499	517199.7 20	7622606. 341	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0500	517198.5 57	7622402. 784	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0501	517197.1 35	7622198. 922	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0502	517199.0 06	7622004. 427	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0503	517199.1 18	7621801. 492	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0504	517202.7 34	7621603. 936	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0505	517592.4 50	7621603. 942	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0506	517600.1 72	7621805. 539	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0507	517599.2 53	7621990. 485	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0508	517598.2	7622192.	Sep-	Sep-16	Nov-	Nov-16	Nov-16	Feb-17

	78	715	16		16			
CARC0509	517599.4 85	7622394. 672	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0510	517600.3 82	7622596. 899	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0511	517599.4 80	7622793. 946	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0512	517599.1 20	7623027. 988	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0513	517595.9 67	7623191. 851	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0514	517598.5 75	7623397. 862	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0515	517599.7 63	7623588. 591	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0516	517599.2 40	7623797. 648	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0517	517600.9 00	7623994. 213	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0518	517599.7 04	7624192. 191	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0519	517599.6 26	7624394. 374	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0520	517588.8 57	7624587. 341	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0521	517397.5 86	7624598. 154	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0522	517396.4 37	7624397. 977	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0523	517805.5 56	7624602. 566	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0524	517799.7 92	7624399. 911	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0525	517796.9 45	7624199. 704	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0526	517797.7 94	7623999. 813	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0527	517800.4 57	7623798. 323	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0528	517801.5	7623604.	Sep-	Sep-16	Nov-	Nov-16	Nov-16	Feb-17

	70	522	16		16			
CARC0529	517799.3 64	7623401. 424	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0530	517801.0 52	7623202. 519	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0531	517798.8 47	7623035. 052	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0532	517796.3 13	7622800. 297	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0533	517793.2 46	7622607. 887	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0534	517793.2 08	7622394. 697	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0535	517797.2 00	7622204. 020	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0536	517796.2 16	7621992. 560	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0537	517801.3 91	7621794. 937	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0538	517801.3 59	7621601. 528	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0539	518194.9 26	7621603. 031	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0540	518198.6 34	7621795. 886	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0541	518196.5 66	7621997. 516	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0542	518200.0 08	7622197. 220	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0543	518199.1 49	7622399. 230	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0544	518199.5 45	7622599. 500	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0545	518200.0 38	7622797. 958	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0546	518199.3 87	7623009. 352	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0547	518199.1 75	7623199. 886	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0548	518199.8	7623398.	Sep-	Sep-16	Nov-	Nov-16	Nov-16	Feb-17

	13	023	16		16			
CARC0549	518197.8 60	7623604. 427	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0550	518199.2 08	7623796. 481	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0551	518199.5 85	7624002. 227	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0552	518200.9 62	7624200. 771	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0553	518200.9 04	7624400. 697	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0554	518198.1 09	7624600. 791	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0555	518406.0 44	7624599. 386	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0556	518398.7 03	7624396. 805	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0557	518597.4 30	7624601. 012	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0558	518599.0 59	7624801. 014	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0559	518604.0 21	7624998. 906	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0560	518795.6 18	7624995. 160	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0561	518800.8 27	7624792. 292	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0562	518802.1 61	7624605. 795	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0563	518598.5 94	7623994. 613	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0564	518600.3 86	7623798. 150	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0565	518598.8 03	7623607. 088	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0566	518598.1 68	7623400. 462	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0567	518600.7 16	7623200. 384	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0568	518601.2	7623007.	Sep-	Sep-16	Nov-	Nov-16	Nov-16	Feb-17

	89	373	16		16			
CARC0569	518598.2 45	7622801. 677	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0570	518597.7 00	7622599. 448	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0571	518597.7 61	7622399. 927	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0572	518598.5 89	7622208. 522	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0573	518602.3 60	7622009. 116	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0574	518602.9 24	7621807. 747	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0575	518604.0 02	7621601. 402	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0576	518800.1 68	7621611. 833	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0577	518800.9 90	7621795. 838	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0578	518802.1 00	7621992. 970	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0579	518800.5 16	7622197. 592	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0580	518798.2 37	7622396. 723	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0581	518798.7 21	7622594. 807	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0582	518798.7 94	7622771. 719	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0583	518798.8 65	7622999. 663	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0584	518798.0 36	7623193. 795	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0585	518797.6 35	7623400. 029	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0586	518798.8 70	7623599. 020	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0587	518797.6 35	7623795. 802	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0588	518796.8	7623991.	Sep-	Sep-16	Nov-	Nov-16	Nov-16	Feb-17

	14	567	16		16			
CARC0589	519197.4 91	7624991. 783	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0590	519197.9 67	7624795. 436	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0591	519198.7 57	7624599. 766	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0592	519200.6 76	7624397. 685	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0593	519199.3 99	7624197. 858	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0595	519196.9 16	7623796. 845	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0596	519200.3 24	7623600. 947	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0597	519200.1 93	7623426. 618	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0598	519199.0 81	7622199. 650	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0599	519201.2 83	7622005. 190	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0600	519200.7 10	7621799. 998	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0601	519198.9 34	7621602. 216	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0602	519599.2 58	7621606. 714	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0603	519600.1 01	7621796. 819	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0604	519599.9 86	7621993. 059	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0605	519599.1 92	7622202. 364	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0606	519599.4 87	7622385. 041	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0607	519599.4 32	7622593. 379	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0608	519601.2 45	7623189. 904	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0609	519602.4	7623392.	Sep-	Sep-16	Nov-	Nov-16	Nov-16	Feb-17

	53	313	16		16			
CARC0610	519600.588	7623596.120	Sep-16	Sep-16	Nov-16	Nov-16	Nov-16	Feb-17
CARC0611	519600.041	7623796.326	Sep-16	Sep-16	Nov-16	Nov-16	Nov-16	Feb-17
CARC0612	519599.472	7623997.108	Sep-16	Sep-16	Nov-16	Nov-16	Nov-16	Feb-17
CARC0613	519805.597	7623999.625	Sep-16	Sep-16	Nov-16	Nov-16	Nov-16	Feb-17
CARC0614	519799.940	7623802.927	Sep-16	Sep-16	Nov-16	Nov-16	Nov-16	Feb-17
CARC0615	519799.306	7623605.685	Sep-16	Sep-16	Nov-16	Nov-16	Nov-16	Feb-17
CARC0616	519799.931	7623402.205	Sep-16	Sep-16	Nov-16	Nov-16	Nov-16	Feb-17
CARC0617	519800.988	7623204.184	Sep-16	Sep-16	Nov-16	Nov-16	Nov-16	Feb-17
CARC0618	519800.384	7623002.641	Sep-16	Sep-16	Nov-16	Nov-16	Nov-16	Feb-17
CARC0619	519800.771	7622802.342	Sep-16	Sep-16	Nov-16	Nov-16	Nov-16	Feb-17
CARC0620	519795.788	7622601.843	Sep-16	Sep-16	Nov-16	Nov-16	Nov-16	Feb-17
CARC0621	519801.197	7622401.890	Sep-16	Sep-16	Nov-16	Nov-16	Nov-16	Feb-17
CARC0622	519800.372	7622199.082	Sep-16	Sep-16	Nov-16	Nov-16	Nov-16	Feb-17
CARC0623	519800.440	7621999.018	Sep-16	Sep-16	Nov-16	Nov-16	Nov-16	Feb-17
CARC0624	519802.418	7621797.539	Sep-16	Sep-16	Nov-16	Nov-16	Nov-16	Feb-17
CARC0625	519811.448	7621602.437	Sep-16	Sep-16	Nov-16	Nov-16	Nov-16	Feb-17
CARC0626	520194.753	7621601.310	Sep-16	Sep-16	Nov-16	Nov-16	Nov-16	Feb-17
CARC0627	520203.177	7621798.700	Sep-16	Sep-16	Nov-16	Nov-16	Nov-16	Feb-17
CARC0628	520199.715	7622000.930	Sep-16	Sep-16	Nov-16	Nov-16	Nov-16	Feb-17
CARC0629	520205.9	7622191.	Sep-	Sep-16	Nov-	Nov-16	Nov-16	Feb-17

	27	116	16		16			
CARC0630	520203.2 49	7622391. 241	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0631	520203.7 76	7622600. 987	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0632	520200.0 10	7622795. 828	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0633	520199.5 88	7622995. 138	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0634	520197.9 75	7623196. 800	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0635	520199.1 90	7623394. 967	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0636	520200.3 93	7623589. 760	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0637	520200.1 13	7623797. 470	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0638	520199.7 54	7623994. 482	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0639	520604.8 05	7623995. 596	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0640	520602.9 69	7623804. 456	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0641	520603.5 07	7623605. 909	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0642	520602.4 30	7623405. 533	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0643	520602.3 47	7623201. 639	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0644	520601.4 89	7623005. 732	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0645	520602.6 78	7622805. 185	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0646	520600.8 33	7622601. 490	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0647	520601.2 16	7622405. 204	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0648	520600.4 47	7622205. 449	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0649	520603.0	7622005.	Sep-	Sep-16	Nov-	Nov-16	Nov-16	Feb-17

	01	923	16		16			
CARC0650	520600.4 73	7621800. 307	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0651	520603.1 20	7621604. 844	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0652	520999.0 92	7622189. 700	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0653	520999.4 70	7622392. 288	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0654	521003.4 18	7622595. 626	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0655	521005.3 09	7622793. 541	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0656	521004.0 05	7622988. 247	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0657	521000.8 74	7623192. 412	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0658	521001.7 07	7623393. 656	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0659	521001.5 09	7623592. 718	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0660	521001.8 77	7623794. 605	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17
CARC0661	520997.2 06	7623997. 110	Sep- 16	Sep-16	Nov- 16	Nov-16	Nov-16	Feb-17

Table. 2016 DDH Rehabilitation Register

Hole	Easting	Northing	Date Completed	Date Plugged	Date Site Rehabbed	Date of Monitoring
CAMET01	516201	7623393	Oct-16	Nov-16	Nov-16	Feb-17
CAMET02	517200	7622600	Oct-16	Nov-16	Nov-16	Feb-17
CAMET03	518199	7623009	Oct-16	Nov-16	Nov-16	Feb-17
CAMET04	518602	7622009	Oct-16	Nov-16	Nov-16	Feb-17
CAMET05	519199	7621602	Oct-16	Nov-16	Nov-16	Feb-17
CAMET06	520602	7623006	Oct-16	Nov-16	Nov-16	Feb-17
CADD005	516999	7623395	Oct-16	Nov-16	Nov-16	Feb-17
CADD006	517998	7623800	Oct-16	Nov-16	Nov-16	Feb-17

CADD007	518001	7621997	Oct-16	Nov-16	Nov-16	Feb-17
CADD008	520002	7622600	Oct-16	Nov-16	Nov-16	Feb-17
CADD009	520000	7623001	Oct-16	Nov-16	Nov-16	Feb-17
CADD010	519000	7623401	Oct-16	Nov-16	Nov-16	Feb-17
CADD011	518997	7622400	Oct-16	Nov-16	Nov-16	Feb-17
CADD012	519000	7622199	Oct-16	Nov-16	Nov-16	Feb-17
CADD013	520798	7622399	Oct-16	Nov-16	Nov-16	Feb-17
CADD014	520399	7623796	Oct-16	Nov-16	Nov-16	Feb-17
CADD015	517400	7623200	Oct-16	Nov-16	Nov-16	Feb-17
CADD016	517402	7621595	Oct-16	Nov-16	Nov-16	Feb-17
BCDD096	512250	7626197	Oct-16	Nov-16	Nov-16	Feb-17
BCDD092	513051	7626203	Oct-16	Nov-16	Nov-16	Feb-17
BCDD093	513100	7626201	Oct-16	Nov-16	Nov-16	Feb-17
BCDD094	513150	7626203	Oct-16	Nov-16	Nov-16	Feb-17
BCDD095	513200	7626203	Oct-16	Nov-16	Nov-16	Feb-17
BCDD090	513797	7625000	Oct-16	Nov-16	Nov-16	Feb-17
BCDD091	513802	7624697	Oct-16	Nov-16	Nov-16	Feb-17

Table. 2016 Geotech Site Rehabilitation Register

Hole	Easting	Northing	Date Completed	Date Backfilled	Date Monitored
GT001	514596	7625001	Oct-16	Oct-16	2017
GT002	515001	7624999	Oct-16	Oct-16	2017
GT003	515402	7625000	Oct-16	Oct-16	2017
GT004	515793	7625002	Oct-16	Oct-16	2017
GT005	516199	7624999	Oct-16	Oct-16	2017
GT006	516600	7625000	Oct-16	Oct-16	2017
GT007	516998	7624999	Oct-16	Oct-16	2017
GT008	514399	7624800	Oct-16	Oct-16	2017
GT009	514800	7624798	Oct-16	Oct-16	2017
GT010	515198	7624799	Oct-16	Oct-16	2017

GT011	515598	7624800	Oct-16	Oct-16	2017
GT012	516005	7624803	Oct-16	Oct-16	2017
GT013	516397	7624799	Oct-16	Oct-16	2017
GT014	516795	7624789	Oct-16	Oct-16	2017
GT015	514597	7624603	Oct-16	Oct-16	2017
GT016	515000	7624598	Oct-16	Oct-16	2017
GT017	515408	7624610	Oct-16	Oct-16	2017
GT018	515800	7624596	Oct-16	Oct-16	2017
GT019	516199	7624601	Oct-16	Oct-16	2017
GT020	516601	7624599	Oct-16	Oct-16	2017
GT021	516997	7624600	Oct-16	Oct-16	2017
GT022	514397	7624403	Oct-16	Oct-16	2017
GT023	514791	7624398	Oct-16	Oct-16	2017
GT024	515197	7624399	Oct-16	Oct-16	2017
GT025	515598	7624400	Oct-16	Oct-16	2017
GT026	516000	7624398	Oct-16	Oct-16	2017
GT027	516398	7624399	Oct-16	Oct-16	2017
GT028	516799	7624402	Oct-16	Oct-16	2017
GT029	515399	7624199	Oct-16	Oct-16	2017
GT030	515796	7624204	Oct-16	Oct-16	2017
GT031	516199	7624198	Oct-16	Oct-16	2017
GT032	516603	7624195	Oct-16	Oct-16	2017
GT033	517002	7624195	Oct-16	Oct-16	2017
GT034	515599	7623999	Oct-16	Oct-16	2017
GT035	515999	7624000	Oct-16	Oct-16	2017
GT036	516400	7623999	Oct-16	Oct-16	2017
GT037	516799	7623999	Oct-16	Oct-16	2017

Table . Work completed by NuPower 2011

Mining Interests (i.e. titles)	EL 24726
Number of holes drilled	351
Maximum depth of holes	72
Number of drill pads cleared (Length: 20 x Width: 4 m)	351
Number of sumps cleared (Length: x Width: x Depth: m)	0
Length of line / track cleared (Kilometres: x Width: m)	95km
Number of costeans excavated (Length: x Width: x Depth: m)	0
Total bulk sample pits excavated (Length: x Width: x Depth: m)	0
Camp area/s cleared	1 (0.25 Ha)
Total area disturbed (hectares)	38 Ha
Drill holes capped / plugged	351
Total area rehabilitated (hectares)	38

• **Table Work Completed by NuPower 2012**

Mining Interests (i.e. titles)	EL 24726
Number of holes drilled	249
Maximum depth of holes	72
Number of drill pads cleared (Length: 20 x Width: 4 m)	249
Number of sumps cleared (Length: x Width: x Depth: m)	0
Length of line / track cleared (Kilometres: x Width: m)	67.4km
Number of costeans excavated (Length: x Width: x Depth: m)	0
Total bulk sample pits excavated (Length: x Width: x Depth: m)	0
Camp area/s cleared	1 (0.25 Ha)
Total area disturbed (hectares)	40 Ha
Drill holes capped / plugged	249
Total area rehabilitated (hectares)	40

Costeans

The first bulk sample pit/ costean was excavated in April 2011. An up to date table of all bulk sampling pit/costean locations is provided below. Two costeans were excavated in November 2017 with bulk samples sent to Canada for metallurgical testing. Original costeans 1, 2 and 4 were backfilled and rehabbed in late October 2016. Costeans 3, 5 and 6 are scheduled for rehabilitation this year.

• **Table 3 Up to date Costean locations on EL 25184 and EL24726**

Costean ID	Easting	Northing	RC Hole Replicate	Date Completed	Rehabbed? y/n	Rehab date
Costean 1	512899.5	7623997.62	BCRC086	Apr-11	Yes	October 26 2016
Costean 2	512900	7623700	BCRC138	May11	Yes – some topsoil remains to be re-spread	October 26 2016
Costean 3	515199.1	7622399.26	BCRC261	May 11	No	Being used for rehab of drill samples. Partly rehabbed in December 2016
Costean 4	514300.75	7624200.56	BCRC065	1/07/2012	Yes	October 26 2016
Costean 5	515600	7622800	ARC177	25/10/2017	No	Keep open for investors
Costean 6	516400	7623400	ARC647	24/10/2017	No	Keep open for investors

• **Table Summary of work completed at the Ammaroo Phosphate Project tenements**

Mining Interests (i.e. titles)	EL 25184	EL 25183	EL 25185	EL28402	EL28403	EL24726	EL28648	EL30520
Number of holes drilled	2017 – 2 geotech costeans 2016 – 8 DDH 12 geotech pits 2013 – 217 RC holes for 4272 & 51 Diamond for 1589.1 2012 – 1221 holes for 35821m 2011 – 927 holes for 27191m 2010 - 37 holes for 1326m	2013 – 1 RC for 51m 2010 - 20 holes for 1,095 m by VRM 2009 - 9 holes for 592 m by Territory	2013 – 33 RC holes for 1550 2012 – 155 holes for 7564 2010 - 21 holes for 1431m 2009 - 42 holes for 3,094 m by Territory	2012 -3 RC holes for 180 m	2012 - 5 RC holes for 201 m	2016 – 200 RC holes, 19 geotech pits and 21 DDH 2014 – 126 RC holes for 3735m 2013 – 332 RC Holes for 14181m, 4 Diamond holes for 125.6 2012 – 249 RC holes for 9108m 2011 – 357 RC holes for 12591m	2017 – 18 RC holes	2017 – 44 RC holes
Maximum depth of holes	70 m, average 30 m	113 m	70 m	78 m, average 60 m	51 m, average 40.2 m	72m	44m	44m
Number of drill pads cleared (None)	Drill pads on road access	Drill pads on road access	Drill Pads on road access	Drill pads on road access	Drill pads on road access	Drill pads on road access (351 cleared by NUP in 2011 - 20 x 4m)	none	none
Number of sumps cleared (Length: m x Width: m x Depth: m)	N/A	N/A	N/A	N/A	N/A	N/A	n/a	n/a
Length of line / track cleared	2010 – 22.4 2011A – 115.4 2011B – 64 2012 – 73.3 2013 – 86.5km Tot – 275.1km	2010 – 24.5 2013 – 0km Tot 24.5km	2009 – 26.2 2010 – 9.1 2012 – 62.3 2013 – 41km Tot – 131.6km	N/A	N/A	2011 – 95km 2012 – 67.4 km 2013 – 134.8km 2014 – 34km 2016-46km Tot – 377.2km	n/a	n/a
Number of new costeans excavated: 2 (Length: x Width: x Depth: m)	2 planned for 2018	N/A	N/A	N/A	N/A		n/a	n/a
Existing bulk sample pits/costeans excavated - 1 2. (8m L x 8m W x 4m D)	Costean 2.512900, 7623700	N/A	N/A	N/A	N/A	ARC647 (15mx10mx5m) ARC177 (10mx8mx5m)		
Camp area/s cleared	100x100 m	No Camp	Camped in Gravel Pit, area already disturbed	Based at camp on EL25185	Based at camp on EL25185	Utilised existing Barrow Creek 1 Camp, NuPower camp rehabilitating		n/a tent camp
Total area disturbed (hectares)	166 ha	13 ha	78 ha	N/A	N/A	474 ha		
Drill holes capped / plugged	Yes	Yes	Yes	Yes	Yes	All drill holes have been plugged, covered and rehabilitated.	All plugged and rehabbed	All plugged and rehabbed
Total area rehabilitated (hectares)	All drill holes rehabilitated	All drill holes rehabilitated and access tracks rehabilitating naturally	All drill holes rehabilitated and access tracks rehabilitating naturally	All drill holes rehabilitated	All drill holes rehabilitated	198 ha	All	All

Mining Interests (i.e. titles)	EL29373	EL29374	EL27987
Number of holes drilled	0	0	0
Maximum depth of holes	0	0	0
Number of drill pads cleared (None)	0	0	0
Number of sumps cleared (Length: m x Width: m x Depth: m)	0	0	0
Length of line / track cleared	0	0	0
Number of new costeans excavated: 2 (Length: x Width: x Depth: m)	0	0	0
Existing bulk sample pits/costeans excavated - 1 2. (8m L x 8m W x 4m D)	0	0	0
Camp area/s cleared	0	0	0
Total area disturbed (hectares)	0	0	0
Drill holes capped / plugged	0	0	0
Total area rehabilitated (hectares)			

6.2 Costing of Closure Activities

The total environmental bond held the project is \$247,177. With two new pits to be dug, one pit deepened and two existing pits to be back filled and rehabilitated, I would think the current bond held should suffice for this work program which should only take 3-4 days in total.

Cost for 2018 Closure Activities -Close out 5 bulk sample pits

Excavator mob/demob – 270km each way at \$10/km = \$5400

Excavator working hours to backfill pits 26hrs @ \$300/hr = \$7800

5 tonne tipper hire from Ammaroo Station \$500 per day for 2 days \$1000

Staff Travel, food and wages 5 days \$8000

Total = \$22,200