ELLIOTT PROJECT
NORTHERN TERRITORY

TENEMENTS EL27186, EL27187, EL27189, EL27190
AND EL27544

COMBINED ANNUAL REPORT
FOR THE PERIOD ENDING 25 OCTOBER 2011

GROUP REPORTING NO. 136/09

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<thead>
<tr>
<th>Title Holder</th>
<th>Vale Australia EA Pty Ltd</th>
</tr>
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<tr>
<td>Operator</td>
<td>Vale Exploration Pty Ltd</td>
</tr>
<tr>
<td>Titles</td>
<td>Exploration Licences 27186, 27187, 27189, 27190, 27544</td>
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<td>Project Name</td>
<td>Elliott</td>
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<td>Report Title</td>
<td>Combined Annual Report for period ending 25 October 2011, Elliott Project, ELs 27186, 27187, 27189, 27190, 27544</td>
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<td>Corporate Author</td>
<td>Vale Exploration Pty Ltd</td>
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<tr>
<td>Commodity</td>
<td>Phosphate</td>
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<tr>
<td>Date of Report</td>
<td>24 November 2011</td>
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<tr>
<td>250 000 K mapsheet</td>
<td>Beetaloo, Helen Springs, Newcastle Waters and South Lakewood</td>
</tr>
<tr>
<td>100 000 K mapsheet</td>
<td>Elliott, Helen, Kekwick, Lakewood, Murrangi and Newcastle Waters</td>
</tr>
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<td>Contact details</td>
<td>Vale Exploration Pty Ltd</td>
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<td><a href="mailto:Lynne.odonnell@valeaustralia.com.au">Lynne.odonnell@valeaustralia.com.au</a></td>
</tr>
</tbody>
</table>
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Executive Summary

This is the second combined annual report for Elliott Project ELs 27186, 27187, 27189, 27190 and 27544 for the period ending 25 October 2011. End of Year 2 50% relinquishments were lodged for ELs 27186, 27187 and 27189. An application to waive the Year 2 50% relinquishment for EL27190 was approved by the Department. EL 27188 was part of the Elliott Project but was surrendered in full effective 12 September 2011. The Elliott Project, located approximately 6 km west of the historic town of Newcastle Waters and 13 km west of Elliott, is a sub-project of Vale’s Georgina Phosphate Exploration Project and covers Cambrian sedimentary rocks of the Wiso Basin. On the southern margin of the basin, the Cambrian rocks overlie strata of the Arunta Block, whilst to the west they unconformably overlie basement composed of Early Proterozoic rocks. The project area is flat lying with outcrop interpreted to be Middle Cambrian. Phosphate exploration work on Elliott in 2011 consisted of a Flora and Fauna Desktop Study Report, geophysical interpretive targeting, line clearing and reconnaissance reverse circulation (RC) drilling and drillsite rehabilitation. A Geophysical Basin Modelling Study was completed over Vale’s Georgina Project, including Elliott, to gain a better understanding of the Georgina Basin and assist with phosphate drill targeting. Eight (8) holes for a total 834m and 442 composite drill samples were completed on ELs 27187 and 27190. Drilling was completed on these tenements in the previous reporting year and the assay results are provided in this report. Assay results for the 2011 RC drilling will be available in the next reporting period. Further drill targeting using RC drill results and geophysical modelling studies is planned for the 2011-2012 reporting period.
1 Introduction

1.1 Location and Access

The Elliott Project is located approximately 6 km west of the historic town of Newcastle Waters and 13 km west of Elliott. Mapping and drilling covered only the south-eastern part of the Elliott Project (tenements - EL27187, EL27189 and EL27190 known as Lakewoods). The project area can be accessed via the Stuart Highway, north of Tennant Creek, thence via station tracks to the south and north of Lake Woods.

The project consists of contiguous tenements located on the Beetaloo SE53-06, Helen Springs SE53-10, Newcastle Waters SE53-05 and South Lakewood SE53-00 1:250,000 and Elliott 5662, Helen 5561, Kekwick 5561, Lakewood 5562, Murrani 5463 and Newcastle Waters 5563 1:100,000 map sheets straddling parts of Murranjai (PPL1074), Newcastle Waters (PPL 947), Powell Creek (PPL948), and Hayfield (PPL1135) stations.

1.2 Tenement Details

The Elliott Project tenements (refer Table 1) are held by Vale Australia EA Pty Ltd and operated by Vale Exploration Pty under Authorisation 0558-02. The area of the tenements as at 25 October 2011 is shown in Figure 1.

End of Year 2 50% relinquishments were lodged for ELs 27186, 27187 and 27189. Relinquished areas are shown in Figures 2, 3 and 4. An application to waive the Year 2 50% relinquishment for EL27190 was approved by the Department on 17 October 2011.

EL 27188, previously part of the Elliott Project, was surrendered in full effective 12 September 2011.

Table 1: Elliott Project Tenement Details

<table>
<thead>
<tr>
<th>Tenement Number</th>
<th>Holder</th>
<th>Area (Blocks) as at 25.10.11</th>
<th>Date of Grant</th>
<th>Date of Expiry</th>
<th>Expenditure (Year 2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EL27186</td>
<td>Vale Australia EA Pty Ltd</td>
<td>249</td>
<td>26/10/2009</td>
<td>25/10/2015</td>
<td>$80,000</td>
</tr>
<tr>
<td>EL27187</td>
<td>Vale Australia EA Pty Ltd</td>
<td>202</td>
<td>23/10/2009</td>
<td>22/10/2015</td>
<td>$70,000</td>
</tr>
<tr>
<td>EL27188</td>
<td>Vale Australia EA Pty Ltd</td>
<td>500</td>
<td>26/10/2099</td>
<td>Surrendered 12/09/2011</td>
<td>$80,000</td>
</tr>
<tr>
<td>EL27189</td>
<td>Vale Australia EA Pty Ltd</td>
<td>161</td>
<td>26/10/2009</td>
<td>25/10/2015</td>
<td>$65,000</td>
</tr>
<tr>
<td>EL27190</td>
<td>Vale Australia EA Pty Ltd</td>
<td>315</td>
<td>23/10/2009</td>
<td>22/10/2015</td>
<td>$70,000</td>
</tr>
<tr>
<td>EL27543</td>
<td>Vale Australia EA Pty Ltd</td>
<td>236</td>
<td>application</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EL27544</td>
<td>Vale Australia EA Pty Ltd</td>
<td>313</td>
<td>04/03/2010</td>
<td>03/03/2016</td>
<td>$55,000</td>
</tr>
<tr>
<td><strong>Total Commitment</strong></td>
<td></td>
<td><strong>$420,000</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Exclusions (from EL27544) include all land vested in the Commonwealth, all radio telecommunication repeater sites and Reservation from Occupation 24350 NT Portions 5027 and 5026. The gas pipeline transects EL27187 and EL27190. The area covered by EL27187 was reduced by Vale prior to grant to exclude the Longreach Waterhole Protected Area (which is just outside of and abuts the east of EL27187) from the tenement.

1 From EL27544 Licence Document
Figure 1: Elliott Tenement Location Plan as at 25.10.11
Figure 2: EL 27186 – Area Relinquished 25.10.11
Figure 3: EL 27187 – Area Relinquished 22.10.11
Figure 4: EL 27189 – Area Relinquished 25.10.11
1.3 Native Title

There are six registered Native Title claims over the project area tenements.

- Buchanan Downs DC02/16 is registered and overlaps the western portion of EL27544;
- Murranji DC00/22 is registered and overlaps the western portion of EL27544;
- Murranji No 2. DC02/12 is registered and overlaps a southern portion of EL27544 and the majority of EL27188;
- Newcastle Waters 2 DC02/32 is registered and overlaps the entire EL27186, the NE corner of EL27188 and the northern half of EL27187;
- Powell Creek DC01/37 is registered and overlaps the southern half of EL27187, the entire EL27189 and the majority of EL27190;
- Helen Springs DC01/39 is registered and overlaps the SE corner of EL27190

All of these Native Title claimants are represented by the Northern Land Council.

1.4 Historical, Aboriginal, Heritage Sites

Historical sites that occur in the general area but outside the project boundary include Crawfords Grave and the Powell Creek Telegraph Station-Overland Telegraph Line Site (Table 2). The historic Newcastle Waters township is located to the east of the tenements but has been included in this document as an access route passes through the town.

Lake Woods is listed on the Register of the National Estate as a place of natural significance and is a ‘Site of Conservation Significance’ in the N.T. Lakewood is the largest freshwater lake in the Northern Territory, home to several varieties of fish and frequented by large numbers of birds including migratory species.

<table>
<thead>
<tr>
<th>Name</th>
<th>Register</th>
<th>Class</th>
<th>Location &amp; Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crawfords Grave</td>
<td>Register of the National Estate</td>
<td>Historic</td>
<td>18km Nth of Newcastle Waters in the NorthSouth Stock Route, 400m south of Ross Creek. AGD 17 12’ 51’’, 133 25’ 46’’.</td>
</tr>
<tr>
<td>Powell Creek Telegraph Station</td>
<td>Register of the National Estate</td>
<td>Historic</td>
<td>5kms West of Stuart Highway, 60kms south of Elliott on banks of Powell Creek</td>
</tr>
<tr>
<td>Newcastle Waters township</td>
<td>Register of the National Estate</td>
<td>Historic</td>
<td>Outside of the tenement area, however access passes next to the township</td>
</tr>
<tr>
<td>Lake Woods</td>
<td>Register of the National Estate</td>
<td>Natural</td>
<td>Occurs partly within tenements EL27187, EL27189 and EL27190.</td>
</tr>
</tbody>
</table>

An inspection of the Aboriginal Areas Protection Authority (AAPA) Register was conducted in September/October 2009. The inspection identified several sacred sites within the tenements.
Aboriginal Areas Protection Authority (AAPA) Certificate C2010/0142 for EL27187, EL27189 and EL27190 issued on 18 June 2010.

An information meeting with Traditional Owners was facilitated by the NLC for EL27187, EL27189 and EL27190 on the 2 December 2009.

An application for a AAPA Certificate to cover tenements EL27186 and EL27188 was lodged on 28 May 2010. An application for an AAPA Certificate to cover tenement EL27544 was lodged on 18 August 2010. The Certificates have not issued at the time of writing this report.

Prior to any ground disturbance activities taking place (site preparation, sump excavation, hole pegging), a Vale representative accompanied by a NLC representative and one or more Traditional Owners conducted a field visit to check all proposed drill sites. The NLC representative and Traditional Owners were satisfied with all proposed ground disturbance and a good relationship with the NLC and Traditional Owners has been established.
1.5 Climate and Hydrology

The Elliott region is semi-arid with annual rainfall of 604 mm (Table 3, BOM, 2010). The climate is characterised by distinct wet and dry seasons with the majority of rain falling between November and March. The predominant wind direction is from the east.

| Table 3: Climate Statistics – Elliott Airport (BOM 2010) |
|---------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Mean Maximum Temperature °C²    | 37.5  | 36.7  | 35.7  | 34.5  | 31.4  | 28.4  | 28.4  | 31.3  | 35.4  | 38.0  | 39.1  | 38.7  |
| Highest Temperature °C           | 45.8  | 44.9  | 42.5  | 40.3  | 38.5  | 36.4  | 36.2  | 38.6  | 42.0  | 44.4  | 45.0  | 46.5  |
| Mean days ≥ 40 °C                | 8.5   | 5.7   | 2.2   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.8   | 7.3   | 12.5  | 11.8  |
| Mean Minimum Temperature °C      | 24.1  | 23.8  | 22.2  | 19.5  | 15.9  | 12.4  | 11.2  | 13.3  | 17.4  | 20.9  | 23.4  | 24.4  |
| Lowest Temperature °C            | 16.0  | 16.2  | 12.2  | 9.0   | 6.6   | 2.5   | 1.5   | 1.8   | 7.2   | 7.5   | 12.3  | 14.4  |
| Mean Rainfall (mm)²              | 135.8 | 160.4 | 85.0  | 23.8  | 7.4   | 4.9   | 3.0   | 1.1   | 6.0   | 23.3  | 46.2  | 95.4  |
| Mean number of days of rain      | 10.3  | 10.2  | 7.3   | 1.6   | 0.9   | 0.7   | 0.4   | 0.3   | 1.2   | 3.5   | 5.5   | 8.2   |

1.6 Land Area Type

The project covers the north eastern portion of the Wiso Basin and a small part of the Dunmurra Basin and straddles both the Sturt Plateau (STU) and Mitchell Grass Downs (MGD) bioregions, which are further described below:

MGD: Lies over the Georgina and Dunmurra basins containing sedimentary rocks of Cretaceous, Tertiary and Cambrian ages and soils are predominantly cracking clays. The vegetation is predominantly *Eucalyptus microtheca* low open-woodland with Bluebush (*Chenopodium auricomum*) sparse-shrubland understory and Mitchell Grass (*Astrebla*) grassland on the Barkly Tableland.

STU: Lies over the Dunmurra, Daly, Wiso and McArthur basins and comprises of a gently undulating plain on laterised Cretaceous sandstones. Soils are predominantly neutral sandy red and yellow earths. The most extensive vegetation is eucalypt woodland with tussock grass or *Triodia* understorey but there are also large areas of lancewood (*Acacia shirleyi*) thickets and bullwaddy (*Macropterianthes kekwickii*) woodlands (Baker *et al.*, 2005).

Lake Woods, a large ephemeral wetland, is located within tenements EL27187, EL27189 and EL27190. The lake basin supports grass/sedge communities, including broad bands of *ligunum* (*Muehlenbeckia florulenta*). The northern edge of the lake and Newcastle Creek are fringed by river red gum (*Eucalyptus camaldulensis*) and coolibah (*Eucalyptus coolabah*).
1.6.1 Flora

Vegetation is a mixed assemblage of Eucalyptus open woodlands, Bullwaddy (*Macropteranthes*) woodlands and forests, *Acacia* open forests and woodlands and *Melaleuca* woodlands (Figure 3).

Introduced flora (weed) species that may occur within the project area include:

<table>
<thead>
<tr>
<th>Species Name</th>
<th>Generic Name</th>
<th>Where</th>
<th>Type of Presence</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Andropogon gayanus</em></td>
<td>Gamba Grass</td>
<td>Possibly</td>
<td></td>
</tr>
<tr>
<td><em>Calotropis procera</em></td>
<td>Rubberbush</td>
<td>Newcastle Waters, along access tracks</td>
<td>Infestation</td>
</tr>
<tr>
<td><em>Hyptis suaveolens</em></td>
<td>Hyptis</td>
<td>Newcastle Waters station</td>
<td>Occurrence</td>
</tr>
<tr>
<td><em>Parkinsonia aculeata</em></td>
<td>Parkinsonia</td>
<td>Lakewood, Elliott 5662 Map Sheet&lt;sup&gt;4&lt;/sup&gt;</td>
<td>Infestation, Common and widespread</td>
</tr>
<tr>
<td><em>Pennisetum polystachion</em></td>
<td>Mission Grass</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Prosopis spp.</em></td>
<td>Mesquite</td>
<td>Elliott 5662 Map sheet&lt;sup&gt;5&lt;/sup&gt;</td>
<td>Present – density unknown</td>
</tr>
<tr>
<td><em>Tamarix aphylla</em></td>
<td>Athel Pine</td>
<td>Helen Springs 5661 Map Sheet&lt;sup&gt;6&lt;/sup&gt;</td>
<td>Occasional and localized occurrences</td>
</tr>
</tbody>
</table>

<sup>4</sup> NRETAS – 1:100,000 Grid Maps of Weed Distribution
<sup>5</sup> NRETAS – 1:100,000 Grid Maps of Weed Distribution
<sup>6</sup> NRETAS – 1:100,000 Grid Maps of Weed Distribution
Figure 5: Elliott Project – Vegetation Plan
1.6.2 Fauna

A search of NRETAS\(^7\) data found that the following vulnerable species have been recorded in the vicinity of the project area (Figure 4, Table 5).

<table>
<thead>
<tr>
<th>Species Name</th>
<th>Generic Name</th>
<th>Tenement</th>
<th>EPBC(^8) Status</th>
<th>TPWC(^9) Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Macrotis lagotis</td>
<td>Greater Bilby</td>
<td>EL27187</td>
<td>Vulnerable</td>
<td>Vulnerable</td>
</tr>
<tr>
<td>Ardeotis australis</td>
<td>Australia Bustard</td>
<td>EL27186</td>
<td>-</td>
<td>Vulnerable</td>
</tr>
<tr>
<td>Epthianura crocea</td>
<td>Yellow Chat</td>
<td>Lakewood – Outside of tenement boundary</td>
<td>ssp macgregori Yellow Chat (Dawson) is Critically endangered, ssp tunneyi Yellow Chat (AlligatorRivers) is Endangered</td>
<td>ssp tunneyi Yellow Chat (AlligatorRivers) is Endangered</td>
</tr>
</tbody>
</table>

The Australia Bustard (*Ardeotis Australis*) has been recorded within the Elliott Project. This species is not considered to be vulnerable, endangered or critically endangered under the *EPBC Act*; however it is considered vulnerable by the NT Government and is protected by the *Territory Parks and Wildlife Conservation Act 2009*.

A search of the Australian Government Department of the Environment, Water, Heritage and the Arts website, ‘Protected Matters Search tool’ identified 7 threatened species and 11 migratory bird species within a rectangular search area encompassing the tenements. These species may also occur within the tenements, however birds listed as migratory or marine are most likely to be located the vicinity of Lake Woods.

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\(^7\) NRETAS - NT Department of Natural Resources, Environment, the Arts and Sport
\(^8\) Environmental Protection and Biodiversity Conservation Act 1999
\(^9\) Territory Parks and Wildlife Conservation Act
Figure 6: Elliott Project – Fauna Plan
Regional Geology

The Elliott Project covers Cambrian sedimentary rocks of the Wiso Basin. On the southern margin of the basin, the Cambrian rocks overly strata of the Arunta Block, whilst to the west they unconformably overly basement composed of rocks of the Early Proterozoic Hatches Creek and Warramunga Groups and their equivalents (Cook, 1986).

Facies relationships and stratigraphy in the Wiso Basin is complex. Figure 7 shows the schematic stratigraphic relationship of formations across the Wiso Basin and Georgina Basin. Stratigraphic locations of phosphate occurrences are also identified (Khan et al., 2007). The Undilla Sub-Basin sequence has been sourced from Kruse and Radke (2008) and the southern Georgina Basin after Dunster et al. (2007).

This section below is considered a useful guide however, it should be noted that Rio Tinto geologists who worked on the Wonarah Deposit considered Wonarah to be hosted in the Gum Ridge Formation (Lilley, 2002). However, the Wonarah Deposit is identified here as occurring in the Wonarah Formation, as others consider that the phosphorite interval on the Alexandria-Wonarah basement high is more likely to be the basal Wonarah Formation (Kruse et al., 2010).

Major phosphate deposition occurred in the Middle Cambrian (Templetonian), an interval which corresponds to a new rise in sea level and was the time of maximum phosphate deposition with up to 100m of siltstones, fine-grained sandstones, cherts and phosphorites being deposited around the eastern margins of the basin and adjacent to the Alexandria-Wonarah High (Cook, 1986).

Figure 7: Schematic west to east stratigraphic transect across Wiso and Georgina (Khan et al., 2007).
Figure 8: Elliott Project – Regional Geology Plan
3  **Local Geology**

The landscape of the project area is flat lying with outcrops of carbonate rocks in EL 27187 and 27189 interpreted to be part of the Middle Cambrian Montejinni Limestone (Cmm). To the southeast and east of EL 27190, phosphate bearing (by Niton XRF field analysis) subcrops and lags of siltstones and sandstones interpreted to be part of the Middle Cambrian Merrina Beds (Cme) were observed.

Sand sheets cover much of the landscape in the west of EL 27187 and 27189. Lake sediments and grey vertisol soils cover a 5-10 km area surrounding the current shoreline of Lake Woods. To the east of the project, raised ridges and a plateau of upper Meso Proterozoic Jangirulu Formation (Prj) sandstones and quartzites outcrop to form the Ashburton Range, which trends south-southeasterly.

The Jangirulu Formation is characterised by widespread low angle cross current (cm scale) well bedded quartz sandstones. It appears in hand specimen to be indistinguishable to a similar lithological unit which outcrops in both the Brunchilly and Barkly prospect areas, where it was also interpreted as being a Proterozoic basement unit.

4  **Previous Exploration**

Apart from diamond exploration undertaken by Ashton in the 1980’s, very little effective exploration activity has been recorded within the Elliott Project and the project has not been tested for phosphate.

Historic exploration has included:

- Diamond exploration (stream sediment, gravel and loam samples) in the 1980’s
- Gold and base metals exploration (Rock chip sampling, stream sediment sampling) in the 1990’s

In addition, 9 shallow NQ diamond holes [DDH1-7, DDH1A, DDH2A] were drilled in 1986 by the Department of Transport and Works for geotechnical testing to identify sources of ballast for construction of the Darwin to Alice Springs Railway. The deepest of these drill holes was 39m.

Exploration activity on each of the historic tenements is summarised below:
Table 6: Previous Exploration on Elliott Project

<table>
<thead>
<tr>
<th>Dates</th>
<th>Company</th>
<th>Commodity</th>
<th>Tenement Numbers</th>
<th>Item Number</th>
<th>Work Completed</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1986</td>
<td>Department of Transport and Works-Roads Division</td>
<td>Limestone, dolomite</td>
<td>TR23-86</td>
<td>Diamond drilling</td>
<td>9 shallow diamond holes (DDH1-DDH7, DDH1A-DDH2A) completed near Hassett Bore and Benau Bore to identify sources of railway ballast. Average depth to limestone ~10m.</td>
<td></td>
</tr>
<tr>
<td>11/07/1983 – 20/07/1984</td>
<td>Aberfoyle / Ashton / AOG</td>
<td>Diamonds</td>
<td>EL4260</td>
<td>CR1984-0265</td>
<td>Loam sampling Gravel Sampling.</td>
<td>5 loam samples collected at each of 10 sites. No diamonds or indicator minerals identified.</td>
</tr>
<tr>
<td>12/05/1988 - 25/01/1990</td>
<td>Northern Territory Gold Mines NL</td>
<td>Base metals</td>
<td>EL5770</td>
<td>CR1989-0412</td>
<td>Stream sed sampling, rock chips</td>
<td>Target was structurally controlled auriferous qtz veins in Tennant Creek Inlier. 44 rock chip and stream sed samples. No anomalous gold.</td>
</tr>
<tr>
<td>23/05/1989 -</td>
<td>CD Ronan</td>
<td>Gold</td>
<td>EL6415</td>
<td>CR1990-</td>
<td>Reconnaissance</td>
<td></td>
</tr>
<tr>
<td>Dates</td>
<td>Company</td>
<td>Commodity</td>
<td>Tenement Numbers</td>
<td>Item Number</td>
<td>Work Completed</td>
<td>Comments</td>
</tr>
<tr>
<td>-------------------</td>
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<td>--------------------------------------------------------------------------</td>
</tr>
<tr>
<td>25/09/1990</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20/01/1992 - 11/01/1993</td>
<td>CD Ronan</td>
<td>Gold</td>
<td>EL754</td>
<td>CR1993-0078</td>
<td>Geochem samples</td>
<td>No accurate sample details. Ten samples were assayed for P. Highest P reading – 253 ppm.</td>
</tr>
<tr>
<td>1996</td>
<td>CD Ronan</td>
<td>Iron Ore</td>
<td>EL9202</td>
<td>CR1996-0597</td>
<td>Rock chips samples</td>
<td>46 rock-chip samples collected. Results of 20-30% Fe recorded.</td>
</tr>
<tr>
<td>2004-2006</td>
<td>GS Eupene</td>
<td>Bae metals and gold</td>
<td>EL23688</td>
<td>CR2004-0344, CR2005-0290, CR2006-0315</td>
<td>Reconnaissance</td>
<td>Area was targeted as a ‘Primary Hub’ that on Paradigm Geosciences Confidential technology has the same signature as mineral deposits. Field reconnaissance only.</td>
</tr>
</tbody>
</table>
5  Exploration Previous Reporting Period

Vale completed the following work during the previous reporting period:

- AAPA Register search; AAPA Certificate for ELs 27187, 27189 and 27190; meeting with NLC and Traditional Owners.
- Open file literature review; acquisition and reprocessing of geophysical data; and acquisition of NRETAS environmental data.
- In-house depth to basement geophysical modelling to assist first pass drill targeting.
- Daishsat completed a gravity survey of 151 stations on ELs 27187, 27189 and 27190 at Lake Woods.
- CSIRO commissioned to undertake XRF analysis of 522 water bore chip samples from 22 historic water bore holes within Elliott. Report, raw data and analytical data submitted to the Department in Dec-09.
- Helicopter-supported field mapping on ELs 27187, 27189 and 27190.
- Rock chip sampling (98 samples on ELs 27187, 27189 and 27190); assays reported.
- 10 Reverse Circulation (RC) drill holes (VGRC022-31) for 1326m and 491 composite drill samples – 7 holes on EL27187 and 3 holes on EL27190. Analytical results pending next reporting period.
- 6 historic NQ diamond drill holes (163.0m) were logged at the NTGS Darwin and 8 samples cut and submitted to ALS for multi-element analysis.
- 1.3 line km access track; 10 drill pads and 10 sumps; total ground disturbance of 1.19 ha with rehabilitation pending next reporting period.

6  Exploration Current Reporting Period

Work completed in the current reporting period consisted of:

- Field reconnaissance.
- Flora and Fauna Desktop Study.
- Geophysical modelling and drill targeting.
- Line and pad clearing – 2.0 line km access tracks (0.60 ha), 8 pads and 8 sumps (0.64 ha).
- RC Drilling (8 holes for a total 834 m, 442 composite samples); analytical results pending.

<table>
<thead>
<tr>
<th>EL27187</th>
<th>1 hole</th>
<th>144 m</th>
<th>76 samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>EL27190</td>
<td>7 holes</td>
<td>690 m</td>
<td>366 samples</td>
</tr>
</tbody>
</table>

- Total ground disturbance 1.24 ha; rehabilitation completed.

The Elliott Project Flora and Fauna Desktop Study Report dated May 2011 by Sustainability is attached as Appendix 1.
6.1 Geophysics

Geophysical Basin Modelling was completed by MIRA Geoscience (Brisbane). This modelling study assisted phosphate targeting by generating detailed images of depthbasement, gravity and magnetics. A report entitled ‘Regional 3D Inversion Modelling of Gravity and Magnetic Data, Georgina Project, Northern Territory’ accompanied this work and is located at Appendix 2.

6.2 RC Drilling

Reverse Circulation (RC) drilling - VGRC065-072, 8 holes for a total 834m and 442 composite drill samples (Figure 7, Appendix 3) - was completed by Kennedy Drilling (Kalgoorlie, WA). The drill rig used was a KD180 with 900cfm @ 350 psi onboard air coupled to a Sullair auxiliary (1150 cfm @ 350 psi) and Hurricane booster (700 psi).

The 2011 drilling was designed to follow up 2010 phosphate in drill-hole anomalism and test new targets generated from geophysical (magnetic, gravity, basement depth) interpretive studies.

The 2011 drilling program was completed in a safe and timely manner and all holes reached their target depth. Drilling conditions, sample recovery and quality and drilling rate of penetration (ROP) were of a satisfactory standard and drilling activities completed in a shorter timeframe than last year due to the use of a smaller, more mobile drilling rig, less support vehicles and shallower holes.

All holes were drilled vertical with a planned depth range of 100-140 metres, although several holes were stopped once basalt (Helen Springs Volcanics) was intersected.

The 2011 follow-up and new scout reconnaissance drill coverage revealed a sequence of mainly carbonate-rich (dominant dolomite-lesser limestone) rocks with lesser interbedded chert, siltstone and very minor sandstone. The depth of weathering varied from ~43-73m with the upper part of most holes intersecting saprolite and (carbonate-origin) saprock. All holes (except VGRC072) intersected a distinct very fine to fine-grained chlorite+-hematite altered in part basalt sequence at a depth range of ~43-74m. This widespread mafic unit is interpreted to be the Helen Springs Volcanics.

The most important units that relate to potential phosphate mineralisation are interpreted to be the siltstones and fine-grained sandstones (now quartzites) which rest conformably on the massive quartzite sandstone Meso Proterozoic basement rocks. In the Elliott project area, only minor arenaceous and argillaceous rocks were encountered with the dominant type being dolomite-limestone.

The 2011 drill campaign included RC holes with a shallower average depth (104m) than the 2010 RC drilling (133m). Apart from VGRC072, all holes were stopped in basalt.

Assay results for the 2011 drilling campaign are pending. A more detailed review of drilling data will be made once all drill-hole assay results have been received.
Figure 9: Elliott Project – 2011 RC Drill-Hole Plan
6.3 New Disturbances

Minimal access track clearing for drilling was completed at Elliott due to the extensive network of existing station tracks.

Although a greater amount of track clearing was requested in the Elliott Project MMP (15 km), only 2 km of line clearing was required due to existing track network and reduction in drill-hole program from 15 holes to 8 holes. Vale cleared 2.0 line km (0.60 ha) of access track approximately 3 m wide and cleared 8 drill pads on which 8 small sumps were excavated (total pad area – 0.64 ha, individual pad size: approximately 20m x 40m).

The requested 50 x 25 m area as described in the MMP in the case of a larger rig being made available by the drilling contractors did not eventuate and as a smaller drill rig setup was used, a smaller drill pad size was cleared in the 2011 field season.

Total ground disturbance for the Elliott Project for the 2011 field season was approximately 1.24 ha.

Rehabilitation of drill pads, sumps and drill collars was completed shortly after the drilling was completed in the reporting period.

6.4 Rehabilitation Completed

The Elliott Project has been the subject of very limited historic exploration, most of which is believed to have been rehabilitated.

Vale rehabilitation of 2011 RC drill sites, pads and tracks was completed in October 2011. The disturbed sites were rehabilitated as soon as practicable after the exploration drilling campaign. Drill holes were plugged after each hole was drilled. Access tracks where ripped and topsoil respread at the end of each campaign, or where infill drilling is warranted, at the end of exploration activities.

Revegetation involved scarifying compacted surfaces and respreading topsoil (and its contained seedbank) over disturbed surfaces. Any vegetation stockpiled during clearing processes was then spread/placed on top of the topsoil. The seedbank will then be allowed to germinate naturally.
7 References


NRETAS, 2009b. Northern Territory Government Sites of conservation Significance, Tarrabool Lake. Department of Natural Resources, Environment, the Arts and Sport (NRETAS).


Russell-Smith J. 2002. Pre-contact Aboriginal, and contemporary fire regimes of the savanna landscapes of northern Australia: patterns, changes and ecological responses. In ‘Australian fire regimes: Contemporary patterns (April...


APPENDIX 1

ELLIOTT PROJECT FLORA AND FAUNA DESKTOP STUDY REPORT

SUSTAINABILITY – MAY 2011
APPENDIX 2

GEOPHYSICAL BASIN MODELLING REPORT

MIRA GEOSCIENCE – MAY 2011
APPENDIX 3

2011 DRILL HOLE DATA -
DIGITAL COLLAR, SURVEY, LITHOLOGY
APPENDIX 4

PDF FILES OF REPORT FIGURES