SUMMARY

Title Holder: AREVA Resources Australia Pty Ltd
Operator: AREVA Resources Australia Pty Ltd
Tenement Manager/Agent: M & M Walter Consulting
Titles/Tenements: EL28211, EL28212, EL28213, EL28214
Project Name: Davenport Project
Report Title: Davenport Project Joint Annual Technical Report for the period 17th March 2012 to 16th March 2013
Target Commodity: Uranium
Group Reporting ID: GR 249/12
Personal Author: Rachael WILSON
Date of Report: 15th May 2013
Datum/Zone: GDA94 Zone 53
Sheet Name (250k): Barrow Creek (SF53-6); Bonney Well (SF53-2)
Sheet Name (100k): Taylor (5755), Murray Downs (5855), Wauchope (5756)
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ABSTRACT

AREVA Resources Australia’s (AREVA) Davenport Project consists of EL28211 (Nelson Bore), EL28212 (Dulcie), EL28213 (Lake Surprise) and EL28214 (Ghost Gum Rise). All four titles were granted to AREVA on 17th March 2011 for a period of six years. Amalgamated Reporting was granted to AREVA in April 2012 (GR 249/12).

The Davenport Project targets palaeochannel hosted uranium mineralisation within Tertiary sediments in the Wiso and Georgina Basins. The conceptual target models uranium leaching from uraniferous rich basement of the Davenport and Aileron Provinces (source) into a palaeodrainage system (transport) with the reduced Tertiary units potentially trapping uranium. Historically, the Wiso and Georgina Basins have primarily been targeted for petroleum, phosphates and base metals, with very minimal uranium focused exploration.

For the year ending 2013, exploration concepts and targets were altered with the focus shifting from Palaeozoic sandstones to Tertiary units. Additional technical reviews were conducted for the entire Project area in the year ending 2013 which focused on mapping the Tertiary units of the Southern Wiso and Georgina Basins. Geophysical methods for identifying Tertiary palaeochannels were researched and an airborne electromagnetic survey was designed. An application to the Northern Territory Geological Survey for the Geophysics and Drilling Collaboration program was successful and this funding will be used in the coming reporting year.

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Figure 1: Location of the Davenport Project tenements, Northern Territory.
1. INTRODUCTION

1.1. LOCATION AND ACCESS

The Davenport Project comprises of EL28211 (Nelson Bore), EL28212 (Dulcie), EL28213 (Lake Surprise) and EL28214 (Ghost Gum Rise) and is 100% owned by AREVA Resources Australia Pty Ltd (AREVA). The Project area is located approximately 350km north of Alice Springs, between the Davenport Ranges in the north and the Osborne/Crawford Ranges to the south (Figure 1).

The Project area is located on Aboriginal Freehold Land and Pastoral Leases. Access to the tenement is via the Stuart Highway which passes through the middle of the project area. Several unsealed tracks traverse EL28211 and 28214. Access is limited within EL28212 and EL28213 with minimal minor and poorly maintained pastoralist tracks.

1.2. TENEMENT DETAILS

EL28211, 28212, 28213 and 28214 were granted to AREVA in March, 2011. Amalgamated reporting was granted on the 26th April 2012 (GR 249/12). Table 1 details the Project tenements.

Table 1: Davenport Project – Tenement Summary

<table>
<thead>
<tr>
<th>TENEMENT</th>
<th>DATE GRANTED</th>
<th>AREA (km²)</th>
<th>EXPENDITURE COMMITMENT (YEAR ENDING 20140)</th>
</tr>
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<tbody>
<tr>
<td>EL28211</td>
<td>17/03/2011</td>
<td>687</td>
<td>$124,500</td>
</tr>
<tr>
<td>EL28212</td>
<td>17/03/2011</td>
<td>330</td>
<td>$64,500</td>
</tr>
<tr>
<td>EL28213</td>
<td>17/03/2011</td>
<td>249</td>
<td>$54,000</td>
</tr>
<tr>
<td>EL28214</td>
<td>17/03/2011</td>
<td>98</td>
<td>$25,500</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>814</td>
<td>$268,500</td>
</tr>
</tbody>
</table>
2. GEOLOGY

2.1. REGIONAL GEOLOGY

The Davenport Project lies on the south-eastern edge of the Wiso Basin where it meets the northern edge of the Arunta Region (specifically the Aileron Province), the south-western edge of the Davenport Inlier, and the north-western margin of the Proterozoic Georgina Basin (the Dulcie Syncline; Figure 2).

The Wiso Basin is a Neoproterozoic to Palaeozoic intracratonic sag basin which comprises an east south-east trending, structurally-controlled trough (Lander Trough) containing up to 3km of sediments. Elsewhere, sediment thickness does not generally exceed 300m. The Davenport Province is a mildly deformed and metamorphosed, Palaeo- to Mesoproterozoic succession of siliciclastic metasedimentary and volcanic rocks. These, in turn, unconformably overlie the Tennant Creek Inlier, a volcaniclastic and flysch sedimentary rock sequence which was intruded by granites and deformed by the Tennant Event at ~1850 Ma.

Sedimentation commenced in the early Middle Cambrian with deposition of marine carbonates and overlying shallow marine to intertidal siliciclastics. During the Late Cambrian uplift, erosion occurred, possibly as part of the Delamerian Orogeny. This was followed by deposition of shallow marine to fluvial siliciclastics during the Late Cambrian to Early Ordovician with shallow marine carbonates and siliciclastics following later in the Ordovician after which deposition ceased. In the Devonian, the Arunta Block to the south was uplifted during a phase of the Alice Springs Orogeny leading to deposition of Devonian to Early Carboniferous fluvial siliciclastics along the southern margin of the basin. The most significant faulting is along the southern margin of the Lander Trough. A series of parallel, east-south-east trending faults with an overall displacement of over 2,000m places sediments of the Wiso Basin against the crystalline rocks of the Arunta Block.
Figure 2: Surficial geology of the Davenport Project 1:1M scale. Note the radiogenic hot zones associated with the Proterozoic granites and Volcanics of the Davenport and Aileron Provinces.
2.2. Local Geology

EL28211 (Nelson Bore) is situated over the boundary of both the Wiso-Georgina Basins (north to south) and the Aileron-Davenport Province (west to east) which provides a basement high in the regional basin architecture. The south-western boundary of the tenement runs parallel with the regional Taylors Fault which marks the beginning of the downwards thrusted Wiso Basin. Quaternary and Tertiary sediments cover the tenement and consists of quartz rich sediments, dunes, clay pans and channel sediments. The Tertiary unit unconformably overlies the varying basement, and comprises sediments of quartz rich sands with minor clays, calcretes, laterites, and possible palaeochannel units. The basement geology consists of Wiso Basin Palaeozoic metasediments, Proterozoic Granites and the Hatches Creek Group of sandstone and volcanics.

EL28212 (Dulcie) lies in the northern arm of the Georgina Basin that borders the Wiso Basin. The area consists of outcropping Devonian Dulcie Sandstone, Ordovician Kelly Creek Formation and minor Cambrian Chabalowe Formation; part of the Dulcie Syncline sequence of the Georgina Basin. The basin sequence is overlain by Quaternary sediments consisting of sand rich alluvium, dunes and clay pans. As Palaeozoic units outcrop extensively in this tenement, the potential for Tertiary paleochannels is unlikely.

EL28213 (Lake Surprise) and EL28214 (Ghost Gum Rise), north of tenement EL28211, lie within the Wiso Basin with the north-east tenement border close to the south-west edge of the Davenport Province. The tenements are covered with Quaternary and Tertiary sediments (historical drill logs indicate +50m thickness) with a small section of outcropping Lake Surprise Sandstone in the southern portion of EL28213. Minimal shallow drilling in this area has limited the understanding of the thickness or architecture of Palaeozoic sediments or Proterozoic basement.

3. Historic Exploration

Previous exploration within the Southern Wiso Basin primarily focused on petroleum exploration with very limited uranium exploration. However, uranium mineralisation is known in the region and is restricted (thus far) to the Proterozoic Aileron Province and the Devonian to Carboniferous parts of the Ngalia and Amadeus Basins (Figure 3). Uranium at Nolan’s Bore (Arafura Resources), to the south, occurs in phosphatic and REE-enriched metasomatic pods and veins within the high-metamorphic-grade Lander Rock beds. Sporadic precious and base metal exploration was undertaken by several major mineral resource companies between the early 1970s - current. As part of these on-ground investigations, limited drilling was carried out, with most drilling targeting the Proterozoic basement underlying the Wiso and Georgina Basin successions to the southwest of AREVA’s current tenements. With the exception of Toro Energy’s neighbouring tenements (uranium), current exploration is focused on Phosphates, gold and base metals.
<table>
<thead>
<tr>
<th>COMPANY</th>
<th>YEAR</th>
<th>COMMODITY</th>
<th>ACTIVITY</th>
<th>COMMENT</th>
</tr>
</thead>
</table>
| Kewanee Australia Pty Ltd   | 1970-1974  | Base Metals | • RAB, RC and Diamond drilling on geophysical defined targets. | • SW of Davenport Project in the Crawford-Osborne Ranges  
|                             |            |           |                               | • Defined a sub-economical Cu-Ni resource (Prospect D)  
|                             |            |           |                               | • Relinquished ground                                                  |
| Australian Development Ltd  | 1972-1976  | Iron      | • Drilled geophysical targets | • Desktop study targeted iron formations  
|                             |            |           |                               | • Tenement area (EL40, 41) west of AREVA project  
|                             |            |           |                               | • Shallow drilling resulted in no viable results  
|                             |            |           |                               | • Tenements were relinquished                                           |
| Peko Mines Ltd              | 1974-1976  | Base Metals | • Geophysical survey  
|                             |            |           | • Diamond drilling on possible target | • Detailed Magnetic survey over EL1041, NW of AREVA project area  
|                             |            |           |                               | • Identified several anomalies  
|                             |            |           |                               | • Target Ex182 followed up with diamond drilling (390m) with no success |
| Shell Company of Australia  | 1981-1983  | Base Metals | • Geophysical surveys  
|                             |            |           | • RAB drilling | • Tenements NW of AREVA project area  
|                             |            |           |                               | • Completed airborne and ground magnetic surveys over EL2720  
|                             |            |           |                               | • Followed up with 5 shallow RAB drillholes targeting Au and base metal anomalies  
|                             |            |           |                               | • No mineralisation intercepted and no further work was recommended |
| CRA Exploration             | 1988-1990  | Diamond   | • Grab sampling | • Tenement EL6324, SW of AREVA project  
|                             |            |           |                               | • Grid sampling over the Tomahawk Beds and Dulcie sandstone for Kimberlite indicator minerals  
|                             |            |           |                               | • Samples results recovered chromites, though considered not to be derived from a Kimberlite source  
<p>|                             |            |           |                               | • The tenement were relinquished                                         |</p>
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<thead>
<tr>
<th>Company</th>
<th>Year</th>
<th>Industry</th>
<th>Exploration Activities</th>
<th>Notes</th>
</tr>
</thead>
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<tr>
<td>Newmont Exploration</td>
<td>1989-1990</td>
<td>Gold</td>
<td>• RAB drilling</td>
<td>• Tenement EL6324, north of AREVA project&lt;br&gt;• Sampled drill chips from concurrent water bore drilling to depth of 120m&lt;br&gt;• Samples failed to yield significant Au mineralisation&lt;br&gt;• Tenements were relinquished</td>
</tr>
<tr>
<td>Poseidon Gold Ltd</td>
<td>1988-1992</td>
<td>Gold</td>
<td>• Geological mapping and soil sampling&lt;br&gt;• Aircore drilling</td>
<td>• Tenement EL6306, south of AREVA project&lt;br&gt;• Work included reconnaissance, soil sampling, and geological mapping&lt;br&gt;• Aircore drilling of 40 holes for 150m to test altered dolerite sill. Results ranged from 1ppb to 33ppb Au.&lt;br&gt;• Tenement was relinquished</td>
</tr>
<tr>
<td>Northern Uranium</td>
<td>2007-2008</td>
<td>Uranium</td>
<td>• Mapping and rock chip sampling&lt;br&gt;• RC drilling&lt;br&gt;• Diamond drilling&lt;br&gt;• Geophysical survey</td>
<td>• Tenements EL24995 and EL23937 to the north of AREVA project&lt;br&gt;• Focused on exploration around historic Munadgee uranium prospect and prospective structural corridor&lt;br&gt;• RC drilling program defined small mineralised shoots of uranium in the basement rocks&lt;br&gt;• Follow up diamond drilling targeted Munadgee working at depth with weak results&lt;br&gt;• Further detailed geological mapping and rock chip sampling followed by a ground based magnetic survey.</td>
</tr>
<tr>
<td>Rum Jungle Resources</td>
<td>2008-current</td>
<td>Phosphate</td>
<td>• RC drilling</td>
<td>• Tenements EL25183-186 and EL28116-17, east of AREVA project&lt;br&gt;• Targeting Cambrian Phosphate beds in the Wiso and Georgina Basins&lt;br&gt;• RC drill program delineated the Barrow Creek 1 resource (97.3mt @ 18.1% P2O5) and the Ammaroo 1 prospect</td>
</tr>
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### ABM Resources

**2011-current**
- **Base Metals**
- Geophysics
- Drilling

- Tenement EL28748, west of AREVA Davenport Project
- Flew airborne EM survey over Kroda and Tulsa prospects, part of the Arunta Block
- Gold mineralisation intercepted on Kroda 3 Au Prospect defined over 400m strike with 40m width, open below 150m
- Kroda 1 prospect also returned low-grade Au mineralisation

### Toro Energy Ltd

**2009-current**
- **Uranium**
- Geophysical Survey
- Co-funded with NT Dept. of Mines

- Tenement EL27138, west of AREVA Davenport Project
- SkyTEM geophysical survey over tenement to define possible paleochannels.
- Conductive featured (channels and deltaic fans) mapped in the tertiary and follow up with possible future drilling program

### NT Department of Natural Resources

**1970-current**
- **Stratigraphy**
- Stratigraphic drill holes
- Detailed logging

- Multiple drill holes
- Detailed stratigraphic logs with associated water table data

### NT Department of Natural Resources

**1970-current**
- **Water**
- Water bore drill holes

- Multiple water bore drill holes
- Drill holes vary from 30 to 105m depth

Since the Davenport Project was granted in 2011, AREVA has conducted desktop studies and reconnaissance. An initial desktop study and reconnaissance to the Project area was conducted to:

- Ground-truth the conceptual exploration model in terms of suitable uranium sources, adequate transport and efficient traps;
- Consider the veracity of the original targeting model;
- Gain a better understanding of on-site conditions;
- Assess logistical requirements and consider access tracks; and
- Initiate dialog with relevant landholders.
4. EXPLORATION RATIONALE

The Davenport Project was acquired due to its potential to host a variety of differing styles of uranium deposits (unconformity-related, IOCG-U and vein style). Initially the focus was towards sandstone hosted mineralisation near the margins of overlying sedimentary basins (Wiso and Georgina) and a mineralised style analogous to the Bigrlyi (southwest of AREVA tenements) or Pamela-Angela (south of AREVA’s tenements) uranium deposits. After geological review and field inspections the possibility for uranium mineralisation within Tertiary sediments was recognised as the Devonian Sandstone was considered unfavourable due to a lack of sandstone coverage and depth of stratigraphy, drainage patterns, and no radiometric anomalies.

AREVA’s current exploration focuses on the Tertiary sediments that overlie the Palaeozoic and Proterozoic basement and the possible existence of drainage channels with potential reducing traps that might concentrate uranium mineralisation (Figure 3). Tertiary sediments can occur up to ~100m thick over the Palaeozoic to Proterozoic basement and has been described (multiple stratigraphic and bore drillholes) as sand dominated with interbedded clays, silts and gravels. Redox conditions are mixed, with predominately oxidised sediments and interlayered reduced grey-greenish sands, which shows a potential for redox fronts/flow movement within the Tertiary unit. The source of the sediment and possible uranium mineralisation is derived from the Davenport and Aileron Provinces which provide both coarse detritus material but also leachable uranium from their radiogenic units (granites of the Tennant Creek Inlier and volcanic units of the Hatches Creek Group).
Figure 3: Schematic cross section over EL28211 (Nelson Bore). Current exploration concept is focused towards mapping the Tertiary sequence that unconformably overly the Paleozoic and Proterozoic Basement.

Following the uranium roll-front model of source-transport-trap, the Davenport Project contains the following attributes;

**Source:** Uplifted blocks of the Davenport and Aileron Province provide coarse detritus and associated uranium minerals to the Basins Palaeozoic and Tertiary sediments.

**Transport:** Proximity of the basement rocks to the basin; alluvial/fluviatile transport mechanisms off the ranges.

**Trap:** Existence of paleochannels or deltaic fans and the possibility of reductants (lignite, organic matter, pyrite). Petroleum exploration of the basins indicates the presence of reductants (Figure 6).
To understand the potential of the Davenport Project more information is required on the Tertiary sediments, basement architecture, and potential trap sites. The available data on the Tertiary sediments is derived from sparse drilling focused towards stratigraphy of basement, base metal exploration and construction of water bores. An Airborne Electromagnetic (AEM) survey across the tenement package would enable the mapping of Tertiary sequences and potentially highlight paleochannels. Interpretation of the AEM survey will enable targeting for future drilling programs.

5. WORK COMPLETED DURING YEAR ENDING 2013

Work conducted on the Davenport Project during the year ending 2013 consisted of continued technical studies. Due to the unfavourable geological conditions highlighted from the 2011 reconnaissance, AREVA’s exploration concept was modified from focusing on the Palaeozoic Sandstones (Lake Surprise and Dulcie Sandstone) to a Tertiary paleochannel deposition model over the Wiso Basin. The change of exploration approach to the Davenport Project resulted in the need to review the available data and the planning of future exploration activities.

In this reporting period, focus was on designing, planning and implementing an Aerial Electromagnetic (AEM) geophysical survey over tenements EL28211, EL28213, and EL28214 to be performed in the year ending 2014. Due to ground access issues, with poor network of roads and tracks, an AEM survey is proposed which will provide a cost effective way to resolve Tertiary sedimentary architecture and structural features over the large area.

The AEM survey is designed to allow delineation of Tertiary paleochannels and variance in the basement geology. The depth of the palaeochannels is expected to be several meters down to 70 metres. The survey is initially planned with flight lines orientated at N60° (perpendicular to...
expected palaeochannel direction at N150°), line spacing fixed at 500m and tie lines every 5,000m and for a total survey distance of 2,324 line km.

AREVA was successful in the Northern Territory Geological Survey’s Geophysics and Drilling Collaborations program and will receive $100,000 to co-fund the proposed AEM survey. AREVA is hoping to conduct this survey in September 2013.

6. CONCLUSION AND RECOMMENDATIONS

During this reporting period, the Davenport Projects exploration rationale has been regenerated from a sandstone-hosted model in the Palaeozoic aged units, to the overlying Tertiary palaeochannel sediments. This refocus was based on findings of historical data and field inspection which determined that the Palaeozoic units (Lake Surprise and Dulcie Sandstones) have low potential to host significant uranium mineralisation due to unfavourable drainage and catchment systems.

Activities for the next 12 months (year ending 2014) will include the design and preparation for an airborne EM survey in collaboration with the NTGS (EL28211, EL28213 and EL28214). Further to the AEM survey, a follow up regional drilling program will be implemented on identified targets if any.

EL28212 will be the focus of geological mapping to assess the outcropping sandstone units hosting uranium mineralisation.
REFERENCES


Afmeco Project Generation Progress Report 2012 (Internal Report)