EL 28836 “Bundey River West”

FINAL REPORT

6 FEBRUARY 2012
TO
21 FEBRUARY 2014

March 2014

Huckitta SF53-11
Alcoota SF53-10

A W Mackie
March 2014
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<table>
<thead>
<tr>
<th>FIGURES</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Figure 1  EL 28836 Bundey River West Location</td>
<td>3</td>
</tr>
<tr>
<td>Figure 2  EL 28836,38,28886,28887 Regional Geological Setting</td>
<td>21</td>
</tr>
<tr>
<td>Figure 2a EL 28836,38,28886,28887 Geology Alcoota-Huckitta 250K</td>
<td>23</td>
</tr>
<tr>
<td>Figure 3  EL 28836 Bundey River West Geology</td>
<td>15</td>
</tr>
<tr>
<td>Figure 4a Track Minerals Rock chip location- EL 28886</td>
<td>9</td>
</tr>
<tr>
<td>Figure 4b Track Minerals drainage sample location- EL 28886</td>
<td>10</td>
</tr>
<tr>
<td>Figure 4c CRAE Loam/gravel sample location- EL 28836, 28838</td>
<td>11</td>
</tr>
<tr>
<td>Figure 4d ROR Lag sampling site location- EL 28837</td>
<td>12</td>
</tr>
<tr>
<td>Figure 4e NUP EL 26876 Uranium over Geology- EL 28838</td>
<td>16</td>
</tr>
<tr>
<td>Figure 4f NUP EL 26876 Geology- EL 28838</td>
<td>17</td>
</tr>
<tr>
<td>Figure 4g Hale Energy EL 25378 SKYTEM- EL 28837</td>
<td>18</td>
</tr>
<tr>
<td>Figure 4h TOE EL 26542 SKYTEM EL 28886</td>
<td>19</td>
</tr>
<tr>
<td>Figure 4i CRAE EL 6117 tve KI gravel samples- EL 28836, 28887, 28838</td>
<td>13</td>
</tr>
<tr>
<td>Figure 4j Otter EL 1452 Anomalous rock chips- EL 28838, 28887</td>
<td>5</td>
</tr>
<tr>
<td>Figure 4k CRAE EL 2789 Drainage chromite location- EL 28837</td>
<td>7</td>
</tr>
<tr>
<td>Figure 6  Regional IOCGU Prospectivity</td>
<td>26</td>
</tr>
<tr>
<td>Figure 6a EL 28836, 38, 28886, 87- Geology over TMI</td>
<td>27</td>
</tr>
<tr>
<td>Figure 6b EL 28836, 38, 28886, 87 Geology over Ternary Radiometrics</td>
<td>24</td>
</tr>
<tr>
<td>Figure 6c EL 28836, 38, 28886, 87 TMI</td>
<td>28</td>
</tr>
<tr>
<td>Figure 6d EL 28836, 38,28886, 87 Ternary Radiometrics over TMI</td>
<td>29</td>
</tr>
</tbody>
</table>

**Appendices**

**Appendix 1** Consultant Geophysicists Report
1. SUMMARY

A program of regional reconnaissance combined with acquiring relevant geophysical located digital data was implemented during first year of tenure. Modelling, image processing and interpretation of 500m i.s. TMI/Radiometric regional data revealed a coincident elevated TMI/Uranium channel anomaly requiring further investigation.

A review of all available exploratory data was undertaken to assess potential IOCGU mineralization prospectivity of licence area during 2013. No stand-out drill targets were delineated consequently the licence is surrendered.
2. INTRODUCTION
EL 28836 butts up to north western boundary of HUCKITTA. One of a group of four exploration licences comprising Bundey River Uranium - IOCG project area. Research by GA (2012) deemed NE Arunta region highly prospective for iron oxide copper-gold (uranium) deposits based on premise uranium/thorium-enriched granites enhance hi-regional geothermal heat flow/conductivity, promoting preferential metal solution movement via regional structural conduits purportedly deposited in suitably prepared trapsites.

3. LOCATION and ACCESS - Figure 1
EL 28836 Bundey River West overlies 133.5 sqkm of the infracratonic Georgina Basin butting up to northwestern boundary of HUCKITTA. Access from Alice Springs is north via Stuart Highway, 70km to Plenty Highway turnoff, east for 110km along Plenty Highway to Dneiper - Mt Swan turnoff, north for 40km via MacDonald Downs Station, to No 1 Bore which continues on through the licence area before swinging northwest to join the Sandover Highway.

4. TENURE
EL 28836 Bundey River West comprising 42 graticular blocks, (133.54 sqkm) was granted to Gempart (NT) P/L for 6 years on 5th February 2012.
Area: 42 sub blocks  
Actual Area: 133.5 sq km
5. PREVIOUS EXPLORATION (Figures 3, 4a to 4k)

1970 - 1980

In 1970 CPM (AP2162) conducted an IP survey along the Perenti Cu prospect shear zone (a single traverse 1828m long). Three inclined core drill holes were collared to test resultant IP anomalies namely DDNT - 12 - 3, 2 and 1, 170m, 127.4m and 1.86,4m TD respectively (Total 484.32m).

A brief log of drillhole 3 is as follows:

0 - 143m foliated quartz-chlorite-biotite-feldspar granite

143 - 157.6m quartz reef + chlorite + 2% chalcopyrite + specular hematite

157.6 - 170m chlorite-rich granite + chalcopyrite/quartz veins + hematite.

14.6 m of core was split from 143 to 157.6m assayed for Cu, Pb, Zn, Ag and Au returning 11.9m averaging 0.6% Cu. DDNT-12-2 was spilt from 133 - 152m (16 samples) assayed for Cu, Pb, Zn, Ag, Au returning 9 m averaging 0.37% Cu. The following is an abridged log:

0 - 133m foliated granite

133 - 136.15m breccia, chlorite-hematite matrix with red feldspar+ quartz fragments

136.15 - 142.2m quartz reef + 2% disseminated chalcopyrite minor fluorite

142.2 - 143.7m breccia

143.7 - 145.9m quartz reef

145.9 - 167.7m hematite - chlorite rock

167.7 - 187m porphyritic feldspar hematite rock + chlorite + sulfide

During 1971 Siegal Geophysics conducted 4 north west trending lines of IP, 5km long, 3km apart in Mopunga Range area 10km southeast of Mt Ultim for VAM Ltd (AP 2196). Also in 1971 Kratos Uranium NL (AP 2587) conducted an airborne radiometric survey along northwest - southwest flight lines 1609m apart over an area of 944sqkm covering EL 28886. 15 anomalies delineated only on 11PR, 3km east of Mt Swan homestead was followed up (1740 cps at 30m) comprising Waite Formation overlying granitic gneiss assaying Thorium 105ppm, Uranium <40ppm. Asarco (EL 377) rockchip sampled Mopunga Range area (A2737 - 44) in 1972.

In 1973 Neptide Minerals conducted a rockchip sampling traverse commencing from 10km east of Delmore Downs to about 10km south of Macdonald Downs homestead collecting 54 samples of which MCI assayed Cu 1000ppm, Pb 2000 ppm.

Otter Exploration NL moved into the area in 1977 pegging EL 1452 Bundey River and EL 1453 Mt Ida conducting 1km line space (altitude 120m) aerial radiometric survey (north - south orientation) over a 1725sqkm area covering EL 28886 and southern half of EL 28838. Radiometric anomalies delineated by GAD-4/GSP3 were followed up by rockchip sampling. Br6-2 (Anomaly C2) assayed 10 ppm Uranium, 65ppm Thorium total count 794cpc (Figure 4j)
OTTER CR 7848, 7935, 7847
radiometric anomalies on chip assay 28887
best results Figure 4j

Ledan Peak
Bore
● 250ppbU

El 1453 El 1452

Br6-6 calcite TC 430

Br6-2
U 10ppm, Th 65ppm
low ridge, Qtzofeld-spathic gneiss

Sandover

TC 499
quartzite; Grant Bluff Fm in faulted contact Qtzofeld-spathic iron-rich zone

Br6-4
Cu 30, Pb 200, Zn 700 ppm.

U 135-215 ppm
uraniferous leucoxene within Qtz-feld-par-mica gneiss

Fig 4j
Three anomalies were delineated on EL 1453 namely C25, C27, C38 followed up by rockchip sampling assaying 46, 36 and 215ppm uranium respectively located 5km south of EL 28886. Uranium occurs as uraniferous leucoxene within quart-feldspar-mica-micro-gneiss or within quartz reefs associated with contact zones. Ledan Peak Bore assayed 250ppb Uranium. Scheelite mineralisation occurs within epidotised calcisilicate rock near anomaly C38 (2.65%W) 10km south west of Delmore Downs homestead.

Disseminated copper mineralisation in quartz breccia within northwest trending shear zone cutting granite occurs at the Perenti Cu prospect. Delmore Downs wolframite workings are within pegmatite cutting a roof pendant of garnet gneiss near a granite contact.

Anomaly DA7 sample MTD4.10.1 assayed 55ppm U, TC 970 cps located 3.4km south southwest of Delny homestead.

**1980 - 1990**

In 1983 WMC (EL 3303) collected 41 drainage samples centred over the headwaters of Plenty River, draining lower half of EL 28837. Several pyrope garnets were recovered from AA614017, however followup infill sampling failed to repeat initial positive KI results.

CRAE were also active in the area during 1983 after reviewing Huckitta AMAG/Radiometric geophysical data identifying 12 dipolar AMAG anomalies requiring investigation.

12 AMAG features were identified as potential kimberlitic magmatic intrusions six of which are within EL 28837 i.e. H1, H2, H3, H9, H10 and a weak dipolar anomaly 2km north of sample site 821723 (2 x 0.5 chromites) over which they conducted a GMAG survey (5km x 0.5km), rockchip, soil and auger drill sampling of line 7000E for no anomalous geochemical results. The anomaly source was magnetic inclusions in granite? *(Figure 4k)*

AMAG feature H1 is overlain by an east west trending prominent quartz ridge fault trace. Ground magnetometry was carried out and a gravel sample 968947 (negative for KIs) was collected. AMAG features H4, 5, 6, 7, 8 were GMAG-traversed and sampled for no anomalous results except for rockchip 968950 (comprising magnetite-quartzite rock) overlying H4 which assayed 660ppm Zn, 120ppm Pb, 105ppm Cu, 155ppm Ni, 830ppm Ba. 29 gravel samples were collected, however only 11 were observed reporting 1, 2 and 1 chromites from 821719, 821723 and 821727 respectively.

Also 1983, Uranerz P/L conducted 26.7 line km of detailed scintillometry and collected 50 rockchip samples from EL 3308 an area covering 20km from west to east, of Delny - Mt Sainthill Fault Zone butting up to the eastern boundary of EL 28837. They also conducted a radon survey across Delny - Mt Sainthill Fault Zone comprising 2 x 3.5km north south traverses. They concluded all radiometric anomalies identified were Thorium based?

Anomalous rockchips included, 0090- 4.25%Cu, 0095, 0082, 0089 > 1000ppm Ce > 1500ppm Th-magnetic granite, 0086-3525ppm Th, 0079-410ppm U-quartzofeldspathic gneiss, 0113, 0114, 0115, 0116 >150ppm U, 0.3% Th epidote-magnetite granite.

In 1984 Geopeko farmed into EL 3308 flying a 150m l.s., N-S AMAG/Radiometric survey over the area after which they withdrew from the joint venture.
CRAE collected and processed 161 gravel samples from EL 5802 during 1989, the western boundary of which butts up to Bundey River and includes what is now Mt Ultim National Park. 70 minus 80 mesh drainage samples were assayed for Cu, Pb, Zn, Ag, Ni, Co, Mn, Cr, U, Z, Th for no anomalous results. Three gravel samples collected from Alkara Creek close to where it enters Bundey River, 10km east of ELs 28887 and 28838 namely 821620, 621, 636 contained 2, 3 and 3 chromites respectively. Also during 1989 CRAE collected and observed 54 gravel and 75 loam samples for KIs and microdiamonds from EL 6117 which cover all of ELs 28887, 28836 and western side of EL 28838.

7 loam / 5 gravel and 7 loam / 8 gravel samples were collected and observed for KIs from ELs 28887 and 28836 respectively. All of which were negative. Nine circular airphoto features (located 10km east of ELs 28836, 28887) were found to be ferruginisation of Tomahawk Beds (Georgina Basin sequence) Figures 4c, 4i.

Track Minerals P/L conducted a program of drainage (62) and rockchip sampling (31) over EL 5902 also during 1989 covering the current licence area of EL 28886. All samples were assayed for Cu, Ag, Au while rockchips were also assayed for Pb, Zn and As for no anomalous results. Three rockchipping traverses were undertaken namely T1, 3km west of Tower Rock where granite with very large feldspars, schists and metaseds are exposed. T2 is located 2km north west of Camel Dam comprising muscovite quartzite with tourmaline, mica schist, ferruginous quartzite, banded (chlorite/muscovite bands) ferruginous quartzite, chlorite schist/ferruginous metasediment becoming dominantly ironstone followed by quartzite, ferruginous schist and quartzite with muscovite + tourmaline. Figures 4a, 4b.

1990 - 2000

Roebuck Resources NL (ROR) were granted EL8088 in 1994, the western half of which includes most of EL 28837. They conducted a lag sampling program including magnetic pisolites or "M" sampling over selected larger AMAG anomalies of inferred Kanandra Granulite assigned to Strangways Metamorphic Complex. Figure 4d.

Two lead anomalies plus elevated copper and arsenic were delineated over two hi - AMAG areas namely Dingo Dam and Bank Dam. 319 samples were collected and assayed for Au, Cu, Pb, Sn and As. The sampling of magnetic and non-magnetic lag over areas of high AMAG susceptibility appears successful in highlighting anomalous metal values over broad areas of residual regolith?

Interestingly R108 (float from the Bank Dam Anomaly) assayed 160 ppm Cu, 130ppm Pb and 235ppm Zn.

2000 - 2010

Tanami Gold NL (TGNL) were granted EL 22924 December 2002, covering northern half of EL 28837 relinquished in March 2005 with no new data presented. Astro Mining NL were granted EL 23390 May 2003 over the current licence area of ELs 28836, 28887 and 28838 purportedly exploring for diamonds.

In 2005 helicopter supported sampling of a radiometric anomaly over Tomahawk Beds of Georgina Basin cover sequence within current licence area of EL 28887 was undertaken apparently areas of Tomahawk Beds sometimes record elevated responses for uranium and potassium. Five rockchip
EL28837
ROR Lag 'M' Sampling
traverse over TMI Anoms
(319 samples, assayed Au,Cu,Pb
Sn,As)

Boundary
Fence anomaly

Plain Anom.

Emu Dam Anom.

Dingo Dam Anomaly

Pb>50 ppm

Bank
Dam Anomaly

Pb>50 ppm

22 47'

CR 95/10 EL 8088

Jamaica Bore
Anom

Figure 4d
samples were collected ie BCRK 015 - 019 in the vicinity of 511200m to 350mE, 7532240m to 550mN-GDA94. BCRK019 (ferruginous sandstone) assayed 14ppm Uranium 4530 ppm Ba, 76ppm Vanadium.

EL 9806 was granted to TGNL November 2002 covering current licence area of EL 28886. 9 rockchip samples were collected from what is currently south east corner of EL 28886 overlying west north west trending Delny - Mt Sainthill Fault Zone (obstensively sheared brecciated, ferruginous ladan Schist) namely ALK070 - 078 the standout of which is ALK076 comprising weathered regolith/vein quartz (GDA 94, 476959mE, 7520423mN) assaying Ag 2ppm, Au 11ppb Cu 21ppm, Pb 72ppm. Interestingly a bismuth assay of 3.64% or 36400ppm for the above rockchip sample was not followed-up?

EL 25378 was granted to Hale Energy Ltd February 2007 over what is currently the licence area of EL 28837 (Figure 4g). The area is deemed prospective for palaeo-drainage hosted uranium deposits within overlying relatively shallow Tertiary Waite (fluvialite/lacustrine) sedimentary accumulations of clay/sandy clay lesser sand, lignite and evaporite horizons. Alcoa drilled 71 holes (6260m) to maximum depth of 200m in 1979/80 exploring for sedimentary - type uranium deposits within the Waite Basin 6 of which were collared within licence area of EL 25378.

In January 2008 helicopter-borne SKYTEM (time domain electromagnetic geophysical survey) comprising 52, 500m l s, N-S traverses (1085 line km) were flown over eastern half of 25378 (read EL 28837). SKYTEM delineated palaeochannels were tested by 27 aircore drillholes (1685m). 567, 3m composite drill samples were forwarded to AMDEL for multi-element analysis. Average drill hole depth was 60m intersecting sand/carbonaceous clay in most holes recording a maximum scintillometer reading of 317cps.

BRAC011 intersected basement i.e. pyritic quartz biotite garnet gneiss with significant disseminated to massive pyritic bands - the source of SKYTEM interpreted basement conductors?

Interestingly BRAC012 (7481500N, 520500E (Figure 3, EL 28837 Geology) intersected coal from 103m to the end of the drill hole (128m) beneath a thick sequence of lacustrine clays.

Bluekebble P/L were granted EL 26368 March 2008 the eastern half of which was relinquished in July 2011. The area was subsequently applied for by Gempart (NT) P/L i.e EL 28838. Bluekebble reprocessed 500m l. s NTGS radiometric data defining several strong uranium anomalies within EL 28838 licence area requiring investigation.

In 2009 Nupower Resources Ltd (NUP) investigated a large radiometric (U-Th) anomaly coincident with cropping out Mt Swan Granite (1713Ma) over three southern-most blocks of EL 28838 (Figures 4e and 4f). The intense uranium anomaly overlying southwest corner of what was formerly EL 26876 gave spectrometer uranium values ranging from 3.9 - 17 ppm U, 1 - 197ppm Th. Three rockchip samples of porphyritic-biotite-hornblende granite were assayed for U, Th, Ce and La the best of which 20059 returned values of 51.5, 129, 260 and 116 ppm respectively.

Toro Energy Ltd (TOE) were granted EL 26542 June 2008 over the current licence area of EL 28886. In July 2010 a heliborne SKYTEM electromagnetic survey comprising 74,500m l. s. flight lines orientated east north east, 3km long (226.5 line km) was flown over interpreted Delny - Mt Sainthill Fault Zone to determine the nature and degree of ground conductivity ie presence of potential IOCGU/massive sulfide basemetal deposits (Figure 4h). An MMP was approved to follow-up SKYTEM anomalies however adverse findings of a site clearance survey negated access to half the area.
Quaternary / Sedimentary / Soil, silty or sandy, alluvial and aeolian includes other Quaternary units locally

Paleozoic / Sedimentary / Dulcie Sandstone (Duds) Sheet and dune sand, sandy soil / Quartz arenite, medium-grained, thin to medium-bedded, clay-cemented

Quaternary / Sedimentary / Red-earth soil, much is ferruginous: characteristic growth of Mulga (Acacia aneura)

Late Devonian / Sedimentary / Dulcie Sandstone / Quartz arenite, medium-grained, thin to medium-bedded, clay-cemented

Late Devonian / Sedimentary / Dulcie Sandstone / Quartz arenite, fine to medium-grained, rare conglomerate, thick-bedded, silicified

Cambro-Ordovician / Sedimentary / Tomahawk Beds / Quartz sandstone; quartz-arenaceous limestone and dolostone: glauconitic, fossiliferous and bioturbated, thin to thick-bedded, grey where fresh, yellow to brown weathering, much complex meso-scale folding
Pgs; Mt Swan Granite (1713 Ma), pCt; Perenti Metamorphics - metasediment enclaves within Pgs, layered felsic granulite, quartzofeldspathic gneiss, sillimanite-biotite-cordierite rock + minor calc-silicate, metadolerite (1780 Ma ?). Pag; Grant Bluff Fm - laminated fine grain quartz arenite to sublitharenite (Neoproterozoic).
Georgina Basin cover - Pae; Elyuah Fm (Neoproterozoic) laminated green to red fissile shale. Pag; Grant Bluff Fm (Neoproterozoic) - laminated fine grain quartz arenite to sublitharenite. Pak; Elker Fm (Neoproterozoic) red siltstone, sandstone capped with stromatolitic dolostone. Aileron Province crystalline basement - Pgs; Mt Swan Granite (1713 Ma), pCt; Perenti Metamorphics (1780 Ma?) layered felsic granulite, quartzofeldspathic gneiss-sillimanite-biotite-cordierite rx. Pln; Ledan Schist (1780 Ma) biotite-muscovite-quartz schist.
Figure 4g
EL28837 over 25378 THR SKYTEM+DHs
52 N-S, 500m l.s. flight lines (1058 linekm). 27 Aircore dhs (1685m), 567, 3m samples
Average depth 60m. A thick carbonaceous sed unit from 103m, BRAC 11-strong Palaeochannel conductor.
EL28886 over 26542 TOE SKYTEM (CR2011 621)

74 flight lines 500m l.s.x 3km = 226.5km linekm. Area of survey 111 sqkm over west north west trending Delny – Mt Sainthill Fault Zone testing 37km strike length delineating multiple conductors/EM anomalies none of which have been drill tested (for potential IOCGU – type deposits ie Perenti Cu deposit analogues).
5.1 Regional Geology

The Bundey River Uranium - IOCG project comprises 4 contiguous titles, from north to south, which either overly Neoproterozoic to Devonian sediments of the intracratic Georgina Basin (EL 28836) and/or straddle the sheared west northwest trending boundary or contact zone with underlying Palaeoproterozoic Aileron Province crystalline basement (ELs 28887, 28838) or butt up to the above contact zone as occurs within EL 28886, wholly within Aileron Province metasediments. The project area overlies 580.3 sqkm of northeast Arunta Inlier a major ensialic Palaeoproterozoic to Mesoproterozoic mobile belt of multiply deformed polymetamorphic basement terrane covering 200 000 sqkm of central Australia. The Aileron Province (the largest of three fault bounded terranes which collectively define Arunta Inlier) comprises green schist to granulite facies metamorphic rocks with protoliths ranging from 1865 - 1710 Ma forming part of North Australia Craton geologically continuous with gold-bearing Tanami and Tennant regions to the north.

About 438sqkm of project area is overlain by essentially flat-lying Georgina Basin sediments of Neoproterozoic to Devonian-age, forming part of North Australian Platform cover successions which are essentially mildly deformed unmetamorphosed and unconformable on Palaeoproterozoic orogens i.e. Georgina and Ngalia Basins in Aileron region.

West-northwest trending faults are dominant structures of northeast Aileron Province including the project area. They are northwest extensions of Delny - Mt Sainthill Fault Zone characterised by retrograde schist zones 5km wide on HUCKITTA. The fault zone has a high angle reverse movement essentially vertical reactivated several times since the Palacoproterozoic. The last documented reactivation was during the Carboniferous Alice Springs Orogeny.

The oldest rocks cropping out in the project area are Delny Gneiss; leucocratic biotite-muscovite-quartz gneiss, two-mica schist, metapsammite/pelite, amphibolite and Delmore Metamorphics; calc-silicate rock, pelitic gneiss, epidote quartzite, anthophyllite-chlorite-cordierite rock, rare epidosite assigned to Strangways Metamorphic Complex(SMC).

The Delmore/Delny amphibolite facies siliclastic meta-sediments are age-dated, 1775 Ma unconformably overlain by Ledan Schist which crops out for over 40km trending west north west within EL28886 licence area wedged between Ida/Mt Swan Granites to south and unnamed granite to north.

Ledan Schist comprising quartz-muscovite +/- biotite +/- andalusite schist plus metapsammite is a member of the informally named Ledan package (1770 - 1730Ma) along with conformably overlying Utopia Quartzite, time equivalent Mendip Metamorphics and granulite facie metasediments of Anira Metamorphics cropping out further west on ALCOOTA. Interestingly, Ledan package unconformably overlies the Strangways Metamorphic Complex and correlates with upper Hatches Creek Group taken together form part of an intracratic basin which formed north of inferred plate margin during rollback of north - dipping subduction zone to the south and southeast, an event which produced the magmatic-dominated Oonagalabi (1765 Ma) succession on ALICE SPRINGS (AGES 2008).

The Strangways Orogeny (1735 - 1690Ma) metamorphosed Ledan package rocks to upper greenschist facies. The older SMC rocks i.e. Kanandra Granulite reached granulite facies (770 -
Figure 2.

Dd;Dulcie Sandstone (Devonian) Olk;Kelly Ck Fm (Ordovician)-dolomitic qtz sst.Puc;Central Mt Stuart Fm(Neoproterozoic)-qtz arenite.Puk;Elkera Fm(Neoproterozoic)-silt/sandst.Pue;Mang Bluff Fm (Neoproterozoic)-glaucophane Qtz sandst.Pue;Elyuh Fm (Neoproterozoic)-mud/siltst. P;Palaeproterozoic Alleron Province;Pgr;Mt Swan Granite(1713Ma)Pgr;uda Granite(1713Ma) PIn;Ledan Schist(1780Ma). Cu;Perenti IOCG prospect
850°C, 6Kbar) were deformed twice imparting 2 gneissic fabrics, refolded about northwest to northnorthwest trending fold axes accompanied by migmatitic melting and granitic intrusion. Importantly tectono-metamorphic relationships observed in Delny and Mapata Gneisses mirror those of the Kanandra Granulite (underlys most of EL 28837, 25km south of Bundey River project area).

Within Delmore Metamorphics and Ida Granite (1730 - 1710Ma) cropping out near southwest/western boundary of EL 28886 the effects of Yambah Event (1780 - 1770Ma) are able to be distinguished from Strangways Orogeny i.e. Delmore Metamorphic, upper amphibolite facies west north west to north west striking S1 fabric assigned to Yambah Event overprinted by east - west trending S2 fabric of Strangways Event which is also co-planar with a gneissic fabric found in Ida Granite. Syntectonic plutons namely 1730 - 1710Ma Ida and Mt Swan Granites intrude older metasediments and Ledan Schist on ELs 28838 and 28886. They are assigned to high heat production (HHP) group of granites (Zhao and McCulloch subdivision) which intrude 1780 - 1750 Ma Main Group i.e. Crooked Hole and Queenie Flat Granites on central ALCOOTA. HHP granites are enriched in heat producing elements namely uranium, thorium and potassium (Figure nj and 6b). They are also enriched in LREE, Zr, Nb, Y relative to Main Group. HHP granite geochemistry indicates a felsic (mantle derived) and granitic source i.e. older Main Group granites.

Tertiary to Recent cover comprising lateritic sands/clays, calcrete and ferricrete are common over low-lying areas, up to 70m thick. Calcrete is sometimes replaced by chalcedonic silica which can be uraniferous (500 ppm U from a chip sample).

The present static watertable is significantly below the calcrete base therefore older than present hydrogeological regime thus influencing both the preservation and appropriate media of trap sites forming secondary uranium mineralisation and also identifying palaeo- flow directions and source rocks.

5.2 Local Geology -EL 28836

EL 28836 occupy’s northeast corner of Bundey River project area well into Georgina Basin proper.

About half the licence area is overlain by aeolian sand forming dunes which trend northwest. The western half of the licence area is overlain by flat-lying Devonian - aged (405Ma) Dulcie Sandstone (Dud) comprising prominently cross-bedded, medium to very thick-bedded quartz arenite with rare beds of pebble conglomerate and calcareous silty quartz sandstone. There are two facies - Dud 1 and Dud 2 however only the more resistant Dud 2 variant is present within the licence area comprising prominent thicker beds producing escarpments 50m high.
Bundey River Uranium (IOCG) Project
EL28836, 28838, 28886, 28887

Geology

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<thead>
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<th>Formation</th>
<th>Age (Ma)</th>
</tr>
</thead>
<tbody>
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<td>GB cover 405</td>
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<td>Pak - Elkera Fm</td>
<td>GB cover - Neoproterozoic</td>
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<td>Pag/Pug - Grant Bluff Fm</td>
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<td>pCn - Delby Gneiss</td>
<td>Palaeoproterozoic</td>
</tr>
</tbody>
</table>

*Delmore Metamorphics 1775 Ma*
Figure 6b

EL28836, 28837, 28838, 28886, 28887 Bundey River Nth IOCG - U Project- Geology over Ternary Radiometrics

Pgs; Mt Swan Granite 1713 Ma, Pgi; Ida Granite 1770 Ma. Cu; Perenti IOCG analogue (GA)
6. EXPLORATION PROGRAM Appendix 1, Figure 6 – 6d

2012

1. A regional reconnaissance north from No 1 Bore (on station road from New MacDonald Downs homestead to Sandover Highway) traversing across Tomahawk Beds/Dulcie Sandstone contact into the licence area was undertaken.

2. Desktop studies included preparation of Geology, TMI, Ternary Radiometrics, Landsat composite images from NTGS GIWS site and review of previous exploration activity.

3. Consultant Geophysicist acquired relevant Alice Spring - Alcoota / Huckitta located digital geophysical data-modelled, image processed, interpreted i.e. TMI, TMI R to P, TMI 1VD, Total Count, U, Th, K images.

2013

All available exploratory data was reviewed to assess IOCGU mineralization potential of licence area.
7. EXPENDITURE

2012

Regional reconnaissance $2500.00

Consultant geophysicist - acquisition, image processing, modelling, interpretation Alice Springs - Alcoota/Huckitta surveys located digital data $7000.00

Literature search previous exploration, relevant desktop studies plan/image preparation reporting 8.5 days @ $1000/day $8500.00

Administration $2700.00

TOTAL $20,700.00

2013

Review of all available exploratory data $3000.00

Administration $500.00

TOTAL $3500.00

8. CONCLUSIONS and RECOMMENDATIONS

Elevated coincident Uranium channel / TMI response located over southeast corner of licence area requires further investigation namely GMAG/ground radiometric survey. Expenditure is set at $24150.00 for forthcoming licence year.

2013 Annual review of available exploratory data downgraded IOCGU mineralization potential of the licence area. Consequently EL28836 is surrendered.
9. REFERENCES
Freeman, M.J., 1986 Huckitta SF53-11 250K Map sheet Explanatory Notes NTGS DME.
Dashlooty, F., 1989 Track Minerals P/L EL 5902 ATR. NTGS Open File CR89/705 (unpublished)
Handorf, D, 1990. CRAE P/L EL 6117 ATR NTGS Open File CR90/469 (unpublished)
Harvey, B.E., 1983 CRAE EL 2789 ATR NTGS Open File CR83/294 (unpublished)
APPENDIX 1

Consultant Geophysicists Report
MEMORANDUM
APPENDIX 1

To: Alistair Mackie
From: Grant Archer (Consulting Geophysicist)
Date: April 2013
Subject: EL28836 Geophysics

1. INTRODUCTION

A first stage geophysical interpretation and data processing was carried out over exploration license 28836 to come up with a review of the available geophysical data.

The data set used for this task consisted of open file aeromagnetic and radiometric data which had used a 400 meter interline spacing. Only one open file gravity station exists on the property.

All figures referred to in this memorandum have been appended to the end of the text.

2. DATA

Airborne Geophysical data used for the work consisted of the NTGS Elkedra aeromagnetic survey. The survey over the license has a 400 meter interline spacing and was flown with a North-South traverse line orientation.

3. DISCUSSION

Figure 1 shows survey flight lines and available gravity stations. Flight lines are North-South and use a 400 meter spacing. Gravity station locations are plotted using a cross symbol and show that only one station exists on the property.

Figure 2 shows the GEMPART (NT) PTY LTD Geologic map (Reference Gempart (NT) Pty Ltd). The license has Quaternary, Palaeozoic and late Devonian surface geology.
Total magnetic data are shown in figure 3. The data area exhibits a North-South gradient and has a dynamic range of the order of 300nT. Areas of historic joint patterns and fault(s) are shown (reference Gempart (NT) Pty Ltd). An RTP magnetic image is shown in figure 4. Magnetic zones were identified over areas of joint patterns.

A vertical derivative image of RTP magnetic data is shown in figure 5.

Magnetic structures were interpreted as low intensity or as very deep within the license area. Preliminary magnetic modelling was carried out with interpreted depths shown in figure 5; of the order 1700m or greater. Preliminary magnetic anomalies are annotated in figure 6.

A Digital terrain model is displayed in figure 7 using a 5 meter contour interval. Preliminary magnetic structure and published joint patterns are annotated.

Figure 8 is a plot of the potassium-uranium-thorium composite image with structure annotated. Published fracture locations coincide with potassium low zones and topographical highs.

Figures 9 – 12 show potassium, uranium and thorium concentrations and total count data. Total count spot highs (all concentrations) are annotated (blue circles) and fracture zone areas (green circles) where potassium concentration is low.

**Conclusion**

Geophysical data coverage over the license is limited to open file regional magnetic and radiometric data (400m spaced flight lines). Gravity coverage is virtually non-existent.

Magnetic intensity over the license is small with a regional gradient increasing intensity to the north. Enhancements and modelling of magnetic data were able to position 2 main deep magnetic sources. Preliminary magnetic modelling was able to calculate depths over 1700 meters to the main magnetic sources. The model could be developed further. Magnetic zones were identified over areas of joint patterns.

Preliminary work on radiometric data was able to identify at least 4 spot high locations. Published joint zones coincided with potassium lows in the middle of the license and to the south.

Electrical data and ground gravity acquisition could be considered to assist with exploration if appropriate for types of targets. More detailed magnetics would help map out shallow magnetic zones.
Figure 1. EL28836 Bundey River West. Elkedra airborne geophysical survey (lines) and gravity station plot (crosses). Magnetic data is background image.
Figure 2 GEMPART (NT) PTY LTD geologic map (Reference Gempart (NT) Pty Ltd)
Figure 3. EL28836 Bundey River West. Magnetic image with 10nT contours. Areas of joint patterns (ellipse symbols) and fault(s) are shown (reference Gempart (NT) Pty Ltd).
Figure 4. EL28836 Bundey River West. RTP Magnetic image. Areas of joint patterns (ellipse symbols) and fault(s) are shown (reference Gempart (NT) Pty Ltd).
Figure 5. EL28836 Bundey River West. RTP vertical derivative magnetic image. Preliminary modelled depths indicated.
Figure 6. EL28836 Bundey River West. Preliminary magnetic anomalies.
Figure 7. EL28836 Bundey River West. Digital terrain model (5 meter contours) and preliminary magnetic structure.
Figure 8. EL28836 Bundey River West. Potassium-uranium-thorium composite image. Magnetic structure and published fracture zones are annotated.
Figure 9. EL28836 Bundey River West. Potassium concentration(%). Blue circles annotate total count highs. Green circles annotate potassium lows (published fracture zones).
Figure 10. EL28836 Bundey River West. Total count. Blue circles annotate total count highs. Green circles annotate potassium lows (published fracture zones).
Figure 11. EL28836 Bundey River West. Uranium concentration (0.5ppm contour interval). Blue circles annotate total count highs. Green circles annotate potassium lows (published fracture zones).
Figure 12. EL28836 Bundey River West. Thorium concentration. Blue circles annotate total count highs. Green circles annotate potassium lows (published fracture zones).