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SUMMARY

Exploration License E24807 is part of the Ngalia Regional Project which immediately surrounds the Bigrlyi project (ERL’s 46 to 55 inclusive) located 390 kilometres (by road) northwest of Alice Springs. The Ngalia Regional Project is 100% owned by Energy Metals Limited and the Bigrlyi Project is a Joint Venture between Energy Metals Limited with 53.3% (operator), Valhalla Uranium (a subsidiary of Paladin Resources Ltd) with 41.7% and Southern Cross Exploration NL with 5%.

Uranium mineralisation was discovered at Bigrlyi by a joint venture managed by Central Pacific Minerals (CPM) in 1973. In the period 1974 to 1982 the project was subject to several major drilling campaigns, with some 413 holes (total 37,500m) completed. Subsequent to 1982 CPM completed metallurgical testing and resource calculations, with a global resource of 809,000 tonnes at 3.43 kg/t U₃O₈ for 2,770 tonnes of contained U₃O₈ delineated at Bigrlyi (note that these resources are not JORC 2004 compliant). Field activities conducted in the period 1983 to 2004 were limited to maintenance of the core shed.

In May 2005 Energy Metals acquired a 53.3% interest in, and assumed management of, the Bigrlyi project through the purchase of the interests of CPM and Yuendumu Mining Company NL. In September 2005 Energy Metals listed on ASX after raising $3m, primarily to fund exploration at the Bigrlyi and Ngalia Regional Projects.

Exploration undertaken in the period 14 August 2007 to 13 August 2008 on the Bigrlyi and Ngalia Regional Projects included:

- Re-establishment of the exploration camp at Bigrlyi
- Compilation of historical data
- Converting some historic data to digital format
- Clearing access to prospects and drill pads
- Surface prospecting, mapping and sampling
- Completion of some CLC notifications and aboriginal heritage surveys
- Completion of ~150 combination RC/Diamond drill holes for ~35,000m at Bigrlyi and east along strike of the Bigrlyi prospect into E24453.
- Acquisition of airborne magnetic and radiometric data

Expenditure for the period attributable to EL24807 was approximately $34,382.
INTRODUCTION

The Ngalia Regional project comprises ten 100% owned exploration licences (total area 2,840 km²) located in the Ngalia Basin, between 180 and 350 km northwest of Alice Springs in the Northern Territory (Figure 1 & 2). Seven of these tenements are contiguous and enclose the Bigrlyi project as well as containing a number of uranium occurrences including the Malawiri prospect (EME 52%) and the Walbiri prospect (EME 42%). The remaining 3 applications cover discrete uranium anomalies located southwest of the Bigrlyi deposits.

Figure 1: Location of the Bigrlyi/Ngalia Regional Projects (NT).
Four exploration licences, including EL24453 enclosing the Bigrlyi project, were granted in the March 2006 quarter, with EL24807 (abutting EL24453) granted in August 2006.

PREVIOUS WORK

Bigrlyi and Ngalia Regional Projects

Exploration on the Ngalia Regional and Bigrlyi Projects commenced in August 1971 with the granting of Authority to Prospect (A to P) 2677 valid for one year. This A to P was converted to Exploration Licence 605, and renewed annually to October 1977. Exploration on this property was managed by Central Pacific Minerals NL on behalf of various joint venture partners including Magellan Petroleum Australia Ltd, Agip Nucleare Pty Ltd, Urangesellschaft mBH & Co. and the Atomic Energy Commission.

Early exploration on the property involved airborne radiometric surveys in 1972 and 1974, radiometric ground traversing and geological mapping. The Bigrlyi Prospect was found in 1973 and in 1974 mapping and trenching located uranium mineralisation at a number of the 16 anomalies now comprising the Bigrlyi Project. These anomalies occur intermittently over a 11.5 km strike length within the Treuer Range and south of prominent strike ridge formed by the Vaughan Spring Quartzite.

In 1974, eight inclined diamond core drill holes totaling 506.6m were completed in the main surface occurrences of mineralisation (holes BPD1 to 8 incl.). In April 1975, eight vertical rotary percussion drillholes were drilled to test the Bigrlyi Anomaly 15 uranium
target; these were holes BPH1 to 8 incl., for 702m, testing below mineralized outcrop and subcrop. The results of the April 1975 drilling programme indicated a steeply dipping lens of uranium mineralisation extending to a depth of at least 50m and a length of 110m, with 4 of the holes intersecting significant mineralisation.

Later in 1975 a further 127 holes (BPH9 to BPH135), for a total of 11,232.53m, were drilled, testing the prospective horizon at Anomalies 1 to 10 and 12 to 15 inclusive. Some encouraging results were recorded, for example for Anomaly 4 the best result recorded was in hole BPH155 reporting 10,600ppm U3O8 (10.6 kg/tonne) and 8333ppm vanadium, by analysis, from 7m to 13m, which compares with the result of converting the down-hole gamma logging counts, which resulted in a uranium grade of 5645ppm eU3O8 from 2.0m to 11.5m.

In 1976 some 123 holes (BPD136 to BPD258) for 9,901.86m, were drilled at Bigrlyi to follow up the better drilling results of the 1975 programme. The drilling concentrated on testing Anomalies 2, 4, 8 and 15. This programme extended at depth the uraninite mineralisation of Anomaly 4 and Anomaly 15 with the mineralisation of Anomaly 15 shown to pitch westerly over a length of 200 metres and remaining open at depth.

Shallow reconnaissance drill testing of the uranium bearing Unit C horizon easterly under cover from Anomaly 15, was carried out on 10 traverse lines each approximately 250m apart. On four of these lines from 900m to 2,200m east of Anomaly 15, weak [200 to 700 ppm eU3O8] uranium mineralisation was intersected over narrow widths down-hole. Typically only one to two holes were drilled on each of these widely spaced traverses.

In 1977 a further 104 holes were drilled in the Bigrlyi Project, comprised of 31 diamond core holes (3516.26m) and 81 (including precollars) percussion holes (4964.11m). The core holes were drilled to test known mineralisation at Anomalies 2, 3, 4, 6, 7, 8, 14 and 15, whilst the percussion drilling was used to test these anomalies and Anomalies 1, 5 and 16. During this programme all uranium grades were calculated from logging the natural gamma radiation with a few check analyses carried out by AMDEL. This programme extended the known and better grade uranium mineralisation at Bigrlyi and the extent of the mineralisation calculated for Anomalies 2, 4, 8 and 15. The bulk of the mineralisation was contained within Anomaly 15.

In 1977 Exploration Licence 605 expired and an application for EL 2710 (Wanyilpa) over 793 square kilometers was made to cover the Bigrlyi Project and surrounds, by the Central Pacific Minerals managed joint venture, now composed of Agip (Australia) Pty Ltd, Urangesellscraft (Aust) Pty Ltd and Offshore Oil NL. This tenement was granted on 15 July 1981 and field exploration recommenced during 1981 and 1982.

During 1981 and 1982 a programme of drilling was undertaken focused on testing Anomaly 15 and Anomalies 4 and 5. During these two years 43 holes totally 5211.95m were drilled of which 1321.55m was rotary percussion (frequently as precollars) and 3890.4m was diamond core drilling. Drilling was initially small diameter coring which was subsequently upgraded to larger NQ core size (diameter 47.6mm). Core recoveries were reported as being rarely less than 95%.

All completed holes were geophysically logged and uranium grades calculated as eU3O8 values for the mineralized intervals. The testing of Anomaly 15, whilst slightly increasing
the extent of the mineralisation, was predominantly directed to increasing the level of certainty of the known mineralisation, by closer spaced drilling.

Previous testing of Anomaly 4, an area lacking good rock outcrop, had indicated that uranium mineralisation occurring in Unit C (at the contact with Unit D) was of secondary importance to previously little-known mineralisation in a narrow white rock band within Unit D. During the 1982 programme, drilling increased the extent of the uranium mineralisation at Anomaly 4 and tested Unit D mineralisation.

The northern margin of the Ngalia Basin and the Arunta Inlier basement to the north have been the focus of substantial regional exploration since the discovery of uranium mineralisation in the region in the early 1970’s. Exploration has been for a wide variety of mineralisation, particularly uranium, in both the Ngalia Basin sediments and the Arunta Inlier granites and metasediments and for diamonds, gold and base metals in the Arunta Inlier.

The following summarises the more significant programmes of exploration for uranium near to or along the northern margin of the Ngalia Basin covered by Energy Metals exploration licence E24453.

In 1979 Afmeco Pty. Ltd. carried out a programme to test the extent of uranium mineralisation in the basal unit of the Mount Eclipse Sandstone at the Dingo’s Rest North and Dingo’s Rest South uranium prospect. Dingo’s Rest is located approximately 20 kilometres southeast of the Bigrlyi uranium deposit and extends over a 3 kilometre north-south striking basal section of the Mount Eclipse Sandstone. Afmeco drilled, 8 percussion (2,504.1m) and 9 diamond core holes (4,153.1m) within an area 3 kilometres by 6 kilometres, westerly and down-dip from Dingo’s Rest. The best result recorded by Afmeco was recorded in hole DIN12 where from 312.8m to 313.4m a mineralised sediment assayed 1,760ppm uranium and 1,130 ppm vanadium.

In 1990 Lachlan Resources Limited carried out a drainage geochemical survey of 313 samples over the basal sector of the Ngalia Basin and immediately underlying Arunta Inlier rocks from the Dingo’s Rest location north and westerly to Waite Creek, a distance of approximately 100 kilometres. Samples were analysed for copper, lead, zinc, arsenic, silver and gold. Four weakly anomalous areas were located.

In 1999 Rio Tinto Exploration reported on the results of a 3 year programme undertaken on a 1,497 square kilometre exploration licence that covered the northern flank of the Ngalia Basin and extended over the Arunta Inlier to the north. The tenement covered the Bigrlyi Project and the Dingo’s Rest Prospect.

Rio Tinto concluded that their Anomaly 44 was the only anomaly containing visible secondary uranium mineralisation, as torbernite, which was concentrated along the contact between granite and a quartz vein, with a semi-continuous anomalous zone over 1 kilometre. Sampling of the sporadic high grade zones returned a maximum of 3.95 kg/tonne uranium. Rio Tinto concluded that the potential for a large, high-grade, continuous zone of mineralisation was very low.

Regional Geophysics Datasets

Rio Tinto carried out programmes of airborne radiometrics and magnetics with ground follow-up, soil and rock geochemistry, magnetics and gravity surveys. Rio Tinto drilled 7
RC holes (528m) and 2 diamond core holes, testing potential kimberlite diatremes by RC drilling and magnetic targets by core drilling, without success.

The 4,500 line kilometre radiometric survey identified four zones of anomalism including the Bigrlyi Project Area and the outcropping Mount Eclipse Sandstone of the Patmungala Syncline. A third zone was associated with a younger megacrystic granite 10 kilometres north of the Patmungala Syncline. From initial inspection of the radiometric data the strongest anomalies in the fourth zone were located in an area where the eastern closure of the Patmungala Syncline is in contact with the strongly faulted and quartz veined, uranium enriched, young megacrystic granite, the Yarungayi Granite. Fifteen anomalies were identified and six followed up by ground investigations.

Database Compilation

Compilation of a drillhole and assay dataset for the Bigrlyi project was initiated in 1997 as part of the geostatistical study of the Anomaly 15 deposit. This dataset has been progressively expanded with drillhole collar and assay data for Anomaly 4/5 compiled during 2002; data from Anomaly 6, 7 & 8 added during 2003 and data from the intervening drilling between Anomaly 8 (in the west) and Anomaly 14 (in the east) entered in 2004.

Drillhole collar locations were recorded in prospect grid coordinates and prospect relative level (a detailed survey will be required to tie the prospect grid to the GDA datum). Drillhole collar attitude, depression and azimuth (grid) were recorded together with the drillhole total depth information. Most drillholes had been surveyed downhole during drilling and the drillhole attitudes were recorded by depth in a survey file.

To date a total of 301 drillholes, 584 survey records, 725 assays and more than 180 radiometric grades have been compiled. All the data files were imported into a spreadsheet format for future use.

Energy Metals assumed management of the Bigrlyi project in May 2005 following the purchase of a 53.3% interest in the project. Work completed by Energy Metals in the period May to November 2005 included compilation and digital capture of historical data, establishment of radiation management procedures for future work and rehabilitation of the core shed area at Bigrlyi. Access tracks were refurbished and a water bore at Anomaly 6 was cleaned out and tested ahead of drilling programs planned to commence late 2005. A water sample was also submitted for analysis.

Drilling programs at Bigrlyi conducted by Energy Metals Limited since November 2005 include:

- 13 aircore drill holes for 650m
- 278 RC and/or diamond drill holes for 54,000m
Compilation of Historical Data

Energy Metals received the first tranche of exploration data from previous managers CPM (mainly comprising geological plans and the drillhole database referred to above) in May 2005. These data were reviewed, 1:2,000 and 1:500 scale geological plans were scanned and digitised and GDA coordinates for a number of holes were located in the field using a conventional GPS (accuracy 5-10 metres), enabling historical data (local grid base) to be merged with previously acquired regional datasets. Most data captured was pertaining to the Bigrlyi prospect with the regional geophysical datasets compiled for E24453.

Radiation Monitoring and Audit

Radiation expert Mark Sonter was engaged to undertake an audit of the Bigrlyi project (in particular the core shed and surrounding area, and to provide specialist advice on radiation management. Early November 2005 Mr Sonter conducted a site visit and installed monitoring equipment and inducted field personnel as well as preparing a Radiation Management Plan (RMP) outlining procedures to minimise radiation risk at Bigrlyi. These procedures have been adopted and utilised for all exploration activities on the Bigrlyi and Ngalia Regional Projects.

Site Works

Rehabilitation of the core shed area commenced on receipt of the RMP and installation of radiation monitoring equipment. Work completed during the period included disposal of degraded percussion samples and pulps and remarking of core trays and blocks. Cutting of mineralised intercepts not previously subject to conventional geochemical assay (i.e. the uranium content was estimated using a radiometric probe), commenced mid November 2005 with the first batch of samples submitted for analysis for uranium and vanadium early December 2005.

The area surrounding the core shed was cleared to allow installation of security fencing. The major access tracks at Bigrlyi were also graded late in the period.

WORK COMPLETED FROM 14TH AUGUST 2007 TO 13TH AUGUST 2008

Site Works

Reference is made to the Bigrlyi Project due to its proximity to E24807. Any exploration of the lease will be based from the Bigrlyi camp.

The camp continued to undergo a significant upgrade during the reporting period, and can now accommodate about 25 persons. Although these costs have not been allocated to EL24807, they represent considerable expenditure.
Geophysics

A regional radiometric and magnetic aerial survey covering the whole of Energy Metal Limited’s tenement package was completed during the reporting period, in collaboration with other mineral exploration companies (see Figure 3).

GPX Airborne flew low-level 100m spaced north–south lines, as per the following specifications;

1. Mobilisation and demobilisation to and from the survey area.
2. Accommodation, crew expenses and fuel
3. Crew
   - Experienced Survey pilot
   - Experienced Electronic Technician/operator
   - Data Processor for field QC
4. Aircraft and Equipment
   - Cessna 210
   - AGIS Acquisition System.
   - Magnetometer stinger mounted.
   - Spectrometer (32 litres crystal).
   - Radar Altimeter.
   - DGPS Receiver
   - Base Station Magnetometer.
   - Field Processing Computer and printer.
5. Data Processing and Products

The following data was supplied at the completion of the survey. All digital data was supplied on CD as follows (see Appendix 1)
   - Final Levelled and Corrected Point Located Data
   - Line Number.
   - Fiducial Number.
   - Differentially Corrected GPS Position.
   - Raw Magnetometer Data.
   - Reduced and Corrected Magnetic Data.
   - Base Station Magnetometer Data.
   - Raw Total Count, Potassium, Uranium, Thorium & Cosmic
   - Final Total Count, Potassium, Uranium & Thorium.
   - Raw 256 channel Radiometrics
   - Energy calibrated 256 channel Radiometrics.
   - Radar Altimeter Data.
   - GPS Height.
   - DTM derived from Radar and GPS heights.

The following grids were supplied in GEOSOFT format.
   - Total Magnetic Intensity.
   - Total Count.
   - Potassium.
   - Uranium.
   - Thorium.
   - Digital Elevation.
The following map products were supplied in colour.

- Flight Path Maps.
- Total Field Magnetic Image.
- Reduction to the pole Image.
- Magnetic Derivative Image.
- Ternary Radiometric Image
- DTM Image.

Figure 3: Ngalia Airborne Survey – Radiometrics and Magnetics

Southern Geoscience Consultants were commissioned to interpret the results (see Figure 4). This work will be incorporated into the existing datasets.
Figure 4: Regional Magnetics - Radiometrics Interpretation (Sheet 2 of 3)
WORK PROPOSED FOR 2008/09

Planned work includes:

(i) Compilation of newly acquired regional geophysical data with existing data;
(ii) Further heritage surveys of prospective locations;
(iii) Scoping, budgeting, planning and sourcing equipment for prospecting, additional geophysical surveys, drilling and sampling;
(iv) First pass aircore or RC drilling in prospective areas;
(v) Further digitising of historic exploration data;
(vi) Calculation of a new geological resource model and a subsequent scoping study for development of the Bigrlyi deposit may have implications on EL24807, due to its location directly along strike;
REFERENCES


Vanderhor Fop, Dr., 2007: Notes on the Geological Setting of the Bigrlyi Uranium Deposits.
APPENDIX 1

GPX Ngalia Survey 2007
(Located data)

Regional Geophysical Interpretation Data
(Images)
README DOCUMENT

SUPPORTING INFORMATION FOR ENERGY METALS LTD –BIGRLYI PROJECT – REGIONAL MAGNETICS - RADIOMETRICS INTERPRETATION
SOFTWARE FORMAT: MapInfo (8.5) Layers organised in a workspace (.WOR)
PROJECTION: DATUM: GDA 94
ELLIPSOID: GRS 80
GRID: AMG ZONE 52S
SCALE: 1: 100,000
REQUIREMENTS: Memory - 7 MB of free space

The files have been deflated for easier transportation (EnergyMetals_Bigrlyi_100k.zip). Use WinZip or pkunzip to inflate, preserving the directory pathing. The MapInfo project is dependent on the path to the files.

Mappers and layouts have been created to organise the layers in the best viewing order. The workspaces need only be opened as mappers and layouts are already set up. The workspaces are named: EnergyMetals_Bigrlyi_100k.WOR
File naming may appear a little confusing therefore the file name and its description (layers name) is as follows.

REGIONAL MAGNETICS - RADIOMETRICS INTERPRETATION
MapInfo Layer Description
Adela_NeoproSed Undifferentiated Adelaidian/Neoproterozoic sediments. Includes Vaughan Springs Quartzite and Mt. Doreen Fm.
Anno Annotation
Axes Inferred fold axes [antiformal or synformal]. Partly from published mapping
blank_win Blanking Window
BORD_Energy_Birgrly_100k Energy Metals Ltd Bigrlyi 100k border
Boundary Boundary of project
Copper Copper occurrences
Drain Magnetic or radiogenic drainage, laterite, sheetwash
frac_zone Inferred mylonite, fracture or alteration zone
IsoMg Isolated magnetic feature: noise, culture, possible intrusive or alteration
Lead Lead occurrences
Legend Legend
Logo SGC Logo
Mag_contact Magnetic contact
Mag_trend Magnetic trend or minor magnetic unit. Stratigraphy or drainage
Maj_fault Inferred major fault or fracture zone. Hatching indicates inferred dip direction
MgBase_BelowSed Magnetic basement at depth below Palaeozoic sediments
Mg_Intr Inferred, late, magnetic intrusive or alteration
MidProtero Inferred granitic intrusive at depth or intermixed metamorphics and granitoids. Mid Proterozoic.
Min_fault Inferred minor fault or fracture zone
ModMgProtero Moderately magnetic 'stratigraphic' horizon within the lower-mid Proterozoic basement.
NonMg_Intr Inferred, late, non-magnetic intrusive or alteration
Norm_Dyke Normally magnetized dyke ± fracture zone
Rad_Anom Anomalous or elevated uranium channel radiometric anomalies
Rad_contact Radiometric contact.
Rad_trend Radiometric trend or minor magnetic unit. Stratigraphy or drainage
Sec_fault Inferred secondary fault or fracture zone
Strat_trend Reversely or weakly magnetized dyke ± fracture zone
StrMgProtero Strongly magnetic 'stratigraphic' horizon within the lower-mid Proterozoic basement.

Tenements Mt Doreen Tenements
Uncom Unconformity
UndifCamb Undifferentiated Cambrian ± Ordovician sediments
UndifDevon Undifferentiated Devonian ± Ordovician sediments
UndifPalaSed Undifferentiated Palaeozoic sediments. Mostly under Cainozoic cover
Uranium Uranium occurrences
WkMgProtero Weakly magnetic 'stratigraphic' horizon within the lower-mid Proterozoic basement. Includes xenoliths in granitoids.
WkNonMgProtero Undifferentiated, weakly to no magnetic mid to lower Proterozoic basement metamorphics and granitoids.
Wk_NonMgGranIntr Inferred weakly to non-magnetic, granitic intrusive. May contain substantial gneissic-metamorphic component. Mid Proterozoic.

You may come across some problems with the symbol types used. If you do not have the same symbol sets, please choose a relevant symbol for that layer.