ANNUAL REPORT ELRs 46-55

BIGRLYI PROJECT

PERIOD ENDING 17 NOVEMBER 2013

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SUMMARY

The Bigrlyi project comprises ten granted Exploration Licences in Retention (ELR's 46 to 55 inclusive) located 390 kilometres (by road) northwest of Alice Springs. The project is a Joint Venture between Energy Metals Limited with 53.3% (operator), Valhalla Uranium (a subsidiary of Paladin Energy Ltd) with 41.7% and Southern Cross Exploration NL with 5%.

Exploration work undertaken in the current reporting period 18 November 2012 to 17 November 2013 included:

- Geophysical Surveys – gradient array induced polarisation (GA-IP)
- Bulk Density Determinations
- Radiation Baseline Monitoring
- Environmental Baseline Studies

Expenditure on the ELR's for the current reporting period was less than the proposed expenditure covenant because of the present, depressed state of the uranium market; as a consequence, the joint venture partners experienced difficulties in raising/committing exploration funds to the project.

INTRODUCTION

The Bigrlyi uranium deposit is a sandstone-hosted uranium-vanadium deposit located on the northern margin of the Ngalia Basin approximately 400 km northwest of Alice Springs. The deposit was discovered in 1973 and drilling programs were conducted in the mid 1970s to define an initial resource. This exploration phase ended in early 1980s due to government uranium mining policies. Exploration was restarted by Energy Metals Ltd in 2005 and a JORC compliant resource of 9,600 tonnes of U_3O_8 for a 500ppm U_3O_8 cut-off grade was subsequently delineated (June 2011). The Bigrlyi project comprises ten contiguous granted Exploration Licences in Retention and is operated as a Joint Venture between Energy Metals Limited with 53.3% (operator), Paladin Energy Ltd with 41.7% and Southern Cross Exploration NL with 5%.

The Bigrlyi uranium–vanadium deposit is hosted in the Carboniferous-age Mt Eclipse sandstone. The host rock is an arkosic sandstone >siltstone>mudstone package composed of detritus derived from weathering and erosion of a granite-dominated source region. Mineralisation occurs mainly near the contacts between the informally-defined C unit, and the underlying D unit and the overlying B unit of the Mt Eclipse sandstone (Fidler et al, 1990).

There are three economic ore bodies at Bigryli which occur over a strike length of about 10km. From west to east these are termed Anomaly-2 (A2), Anomaly-4 (A4) and Anomaly-15 (A15). Deposit A2 contributes approximately 10% of the uranium in the project, while the other 90% is split approx. 2:1 between A4 and A15 respectively. All of the uranium in A2 is in a weathered zone which extends to at least 80 m below the surface, while 5-10% of the uranium in A4 and A15 is in weathered zones at depths <20 m. The lithologies of A2, A4 and A15 are similar, with the only significant lithological difference being weathered versus unweathered.

ELR's (formerly ERL's) 46-55 were granted on 18 November 1988 and were renewed in 2003 for a period of five years (Fig 2). The tenements were granted a further renewal term of 5 years in 2008. In November 2013, application for a further renewal was submitted to the NT Department of Mines and Energy.

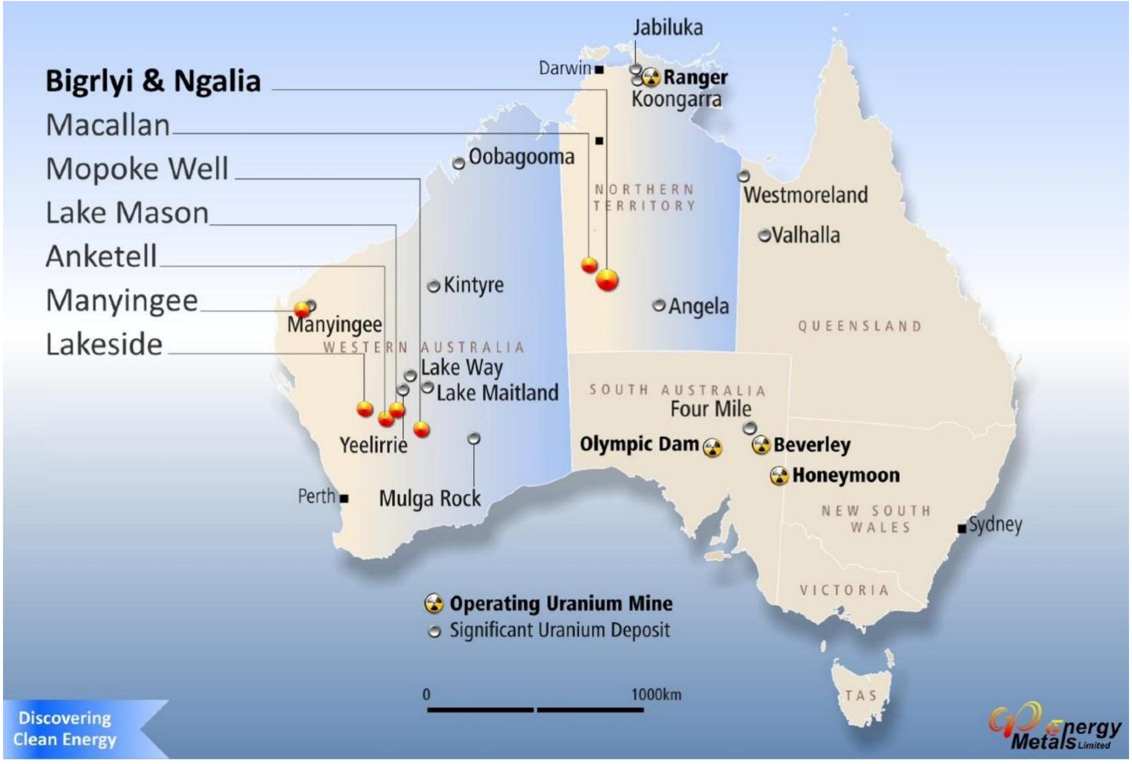

Figure 1: Location of the Bigrlyi Project (NT)

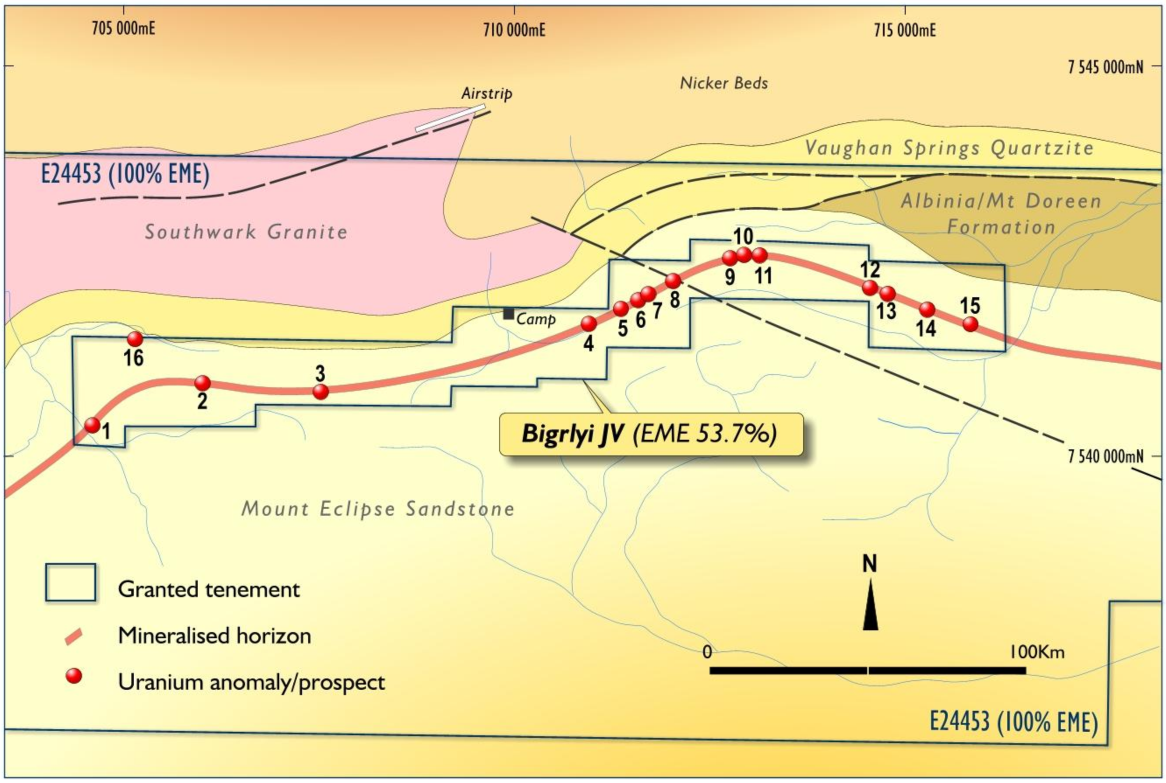

Figure 2: Bigrlyi Project (NT) comprising 10 contiguous ELR's 46-55.

HISTORICAL WORK (1974 - 2006)

Mineral Resource Estimates and Metallurgical Test Work

The Bigrlyi project was the subject of a sectional resource estimate by CPM in 1983 and a total uranium resource for Bigrlyi of 0.8 Mt averaging 3.43 kg/t U_3O_8 for 2,770 tonnes of contained U_3O_8 was delineated (Table 1). This included 127,000t averaging 4.19 kg/t U_3O_8 at Anomaly 15 and 420,000t averaging 3.53 kg/t U_3O_8 at Anomaly 15 extended (now collectively referred to as Anomaly 15).

Table 1: Summary of the Historical Uranium Resource Estimate

Uranium Resource (0.1 kg/t U_3O_8 cutoff)

Resource Classification	Tonnes (000's)	Grade (kg/t U_3O_8)	U_3O_8 (Tonnes)
Measured	587	3.72	2 180
Indicated	193	2.52	485
Inferred	29	3.61	105
TOTAL	**809**	**3.43**	**2 770**

Rounding may cause computational discrepancies

A geostatistical study of the Anomaly 15 mineralisation (including the former Anomaly 15 Extended prospect) was completed during 1997/1998 (Pope 1997, 1998). Geological block models were constructed for Anomaly 15, constrained to significantly mineralised horizons and ordinary kriging used for block grade interpolation.

The *in situ* uranium resource at Anomaly 15 was estimated at 623,400 tonnes at an average grade of 3.21 kilograms U_3O_8 per tonne based on a block grade cutoff of 2000ppm U_3O_8 (2.0 kg/t). The total resource was classified according to the JORC Code (at that time, AusIMM, 1996) into measured and indicated categories.

In 2005 and 2006, historical data and results from the re-assaying program were validated and incorporated into a new digital database, with resource consultants Hellman and Schofield ("H&S") providing independent advice on modeling methods, geostatistics and wireframe modeling of the mineralization domains.

Wireframe models were constructed using 100ppm U3O8 and 500ppm V2O5 contours. Resources estimated by H&S using ordinary kriging are summarised below at various cut-off grades:

Table 2: Initial Indicated and Inferred Mineral Resource Estimates

Cut Off (%)	Tonnes	U_3O_8 (%)	V_2O_5 (%)	U_3O_8 (Kt)	V_2O_5 (Kt)
0.20	655,000	0.33	0.28	2.15	1.80
0.15	1,067,000	0.27	0.25	2.86	2.71
0.10	**1,835,000**	**0.21**	**0.22**	**3.80**	**3.99**
0.05	3,763,000	0.14	0.17	5.6	6.3

The resources were estimated using ordinary kriging by Hellman & Schofield Pty Ltd ("H&S") and are shown at various cut-off grades. Energy Metals, however, considers that the 0.05% lower cut-off grade best approximates the economic cut-off grade considering the style (sandstone-hosted), comparison with other operations, and location of the resources. Most of the resources lie within 200m of the surface and are considered potentially accessible via open-pit mining.

The resource estimates were based on the interpretation of 459 historic drill holes consisting of 222 percussion and 237 pre-collared diamond holes. Drill holes are nominally spaced at between 20-50m along strike in the main resource areas of Anomalies 15, 2, 4 and 7 increasing to nominal 200m spacing in peripheral areas. Assays were derived from predominantly chemical methods (XRF) in significant ore zones, and calibrated radiometric methods in surrounding and less significant zones.

Wire frame models were digitized on north-south cross sections using an approximate 100ppm (U_3O_8) and an approximate 500 (V_2O_5) boundary to model multiple mineralised lenses outcropping at surface. The lenses generally occur on or near the boundary of Mt Eclipse Sandstone Units B and C and Units C and D within the entire prospect area. Up to 4 separate lenses have been modeled at individual deposit areas (Anomaly 4 and 7) - these lenses are generally narrow (true width 2-5m) and strike east west. Dips of the mineralised lenses are sub vertical to overturned and predominantly dip south at 70-88 degrees. The modeled block dimensions are 15m along strike, 15m down dip and 2m width. These have been chosen to best reflect the geometry of the mineralisation.

As already noted, the vanadium potential of the Bigrlyi project has been largely over-shadowed by that of uranium. However, routine analysis for vanadium carried out in the early part of exploration program and initial extraction tests that were done in 1976 and 1978 included vanadium. The 1978 program also included preliminary physical concentration testwork.

Despite no vanadium resources having been calculated at Bigrlyi, a review of the vanadium potential of the uranium resource was made in 1990 (Fidler, 1990). It was concluded that under the then prevailing economic conditions, vanadium was approaching being mineable in its own right (excluding non-economic complications). Extraction tests were completed in 1991, 1992 and 1993 (Fidler, 1992a & 1992b) together with leach-residue studies (Pope, 1994) and identification of vanadium and uranium distribution in minerals using the electron microprobe (Pope 1995).

In the primary zone, uranium was found to occur as uraninite and coffinite, whereas the vanadium occurs in montroseite and a similar Fe-Ti-V-oxide mineral occurring both as aggregates and cement, and a vanadium-bearing aluminium silicate that was tentatively identified as vanadium-bearing nontronite (an iron-rich, commonly green clay of the smectite group). A vanadium-bearing illite (roscoelite) was also identified. New samples are now routinely assayed for vanadium.

Regional Geophysics Datasets

Airborne magnetic and radiometric data covering the Bigrlyi project were gridded on a 100m grid for total magnetic intensity (TMI) and total radiometric count (TC). The grids were imported into ERMapper and displayed as pseudocolour images.

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. This work was compiled by Resolute Limited.

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 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.

Approximately 80 archive boxes of historical reports from Bigrlyi were retrieved from storage and catalogued, with all relevant drill hole data (459 holes) and geochemical assay data (7,398 records) validated and captured digitally. All radiometric logging data were entered and composited from 0.1m to 0.5m intervals; assay data were standardised and ranked to output preferred U_3O_8 assay; text geology was entered for all holes and detailed geology plans scanned.

Radiation Monitoring and Audit

In 2005, 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.

Surveying

Licenced surveyors BBS Surveys completed pick-ups of the ELR (formerly ERL) boundaries, drill holes and local grid to allow accurate transformations of historic data including drill holes and geological mapping.

Re-Assaying of Historic Drillcore

Core from drilling undertaken in the 1970 – 1980’s continued to be rehabilitated during the period prior to check assaying. By way of background most anomalous intervals from holes drilled in the period 1974 to 1975 were both geochemically assayed and surveyed in-hole using a radiometric probe to estimate uranium values (referred to as eU_3O_8 values). However post 1975 only high grade intercepts were routinely assayed with most uranium values estimated from downhole radiometric logging. This technique was unable to estimate the levels of vanadium present.

Moderately mineralised drill core (approximately 1,600 samples from 56 holes) not previously subject to geochemical assay was cut and submitted for analysis for both uranium and vanadium. Although the intervals are not completely identical the uranium assays recorded from this work compared very favourably with uranium levels previously estimated from radiometric logging (eU3O8 values) e.g.:

BPD-318	**2.0m @ 2.99% U_3O_8**	from 125.5m	(vs. 2.0m @ 2.14% historically)
BPD-320	**8.5m @ 2.17% U_3O_8**	from 132m	(vs.11.8m @ 0.99% historically)
BPD-321	**2.0m @ 4.00% U_3O_8**	from 135m	(vs. 2.9m @ 1.06% historically)
BPD-350	**5.0m @ 1.00% U_3O_8**	from 178.5m	(vs. 4.3m @ 0.99% historically)
BPD-395	**2.5m @ 1.80% U_3O_8**	from 142.7m	(vs. 3.3m @ 1.22% historically)

In addition the re-assaying program recorded significant vanadium values accompanying, and surrounding, the uranium mineralisation eg:

BPD-321	**40.0m @ 1.18% V_2O_5** from 112m
BPD-410	**9.5m @ 0.92% V_2O_5** from 61.5m
BPD-411	**25.0m @ 0.92% V_2O_5** from 150m

Preliminary metallurgical test work undertaken in the 1990's indicated that approximately 98-99% of the uranium and 70% of the vanadium can be recovered by acid leach. The extent of this zone of vanadium mineralisation needs to be further quantified; however it is likely that economically significant vanadium credits will be developed outside of the current resource envelope.

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 some core trays and blocks. 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.

In 2006, rehabilitation of the core shed area continued. A security fence was erected around the area and safety placards posted in prominent positions. A 25 person exploration camp comprising caravans and transportable units was established adjacent to the core shed, with both the core shed and camp plumbed to septic tanks.

Drilling

Some 58 aircore and RC holes were drilled at Bigrlyi from December 2005 to June 2006. These holes were drilled to test a variety of shallow targets located between Anomalies 3 and 15.

Thirteen angled hammer aircore holes (total 650 metres) were drilled at Bigrlyi mid-December 2005. Eleven holes (BAC-01 to BAC-11) were drilled as 3 traverses to test a radon geochemical anomaly located east of the Anomaly 15 deposit, with 2 holes (BAC-12 & BAC-13) collared on the northern edge of the deposit. Weakly anomalous uranium and vanadium values were recorded from two holes.

A further 45 RC holes (1,123m) were drilled in June 2006. This drilling was designed to test shallow targets (maximum hole depth of 43m) developed at Anomalies 3, 4, 7, 8 & 15, in areas where limited drilling has been carried out previously. Most holes were logged using a down hole radiometric probe with samples from anomalous intervals also submitted for geochemical assaying. Anomalous uranium values were recorded from 5 holes (see below):

Table 3 – Significant Intercepts from 2006 RC Drilling

DEPOSIT	HOLE	INTERVAL	INTERCEPT	eU_3O_8 (ppm) probe	U_3O_8 (ppm) assay	V_2O_5 (ppm) assay
3	BRC025	10 - 11m	1m @	1719	3090	300
	BRC026	22 - 24m	2m @	No Probe	212	152
	BRC028	38 - 41m	3m @	No Probe	600	250
4	BRC044	39 - 40m	1m @	No Probe	177	855
15	BRC045	3 - 9m	6m @	976	683	1116
	incl.	*3 - 5m*	***2m*** *@*	***2080***	***1513***	***2660***
		10 - 11m	1m @	517	200	718

Major differences between the uranium values estimated from down hole radiometric surveys (eU3O8) and geochemical assays from the same interval (U3O8) were common, suggesting there is significant radiometric disequilibrium in the near surface environment (0 to 30m vertical depth). Uranium is extremely mobile in weathered environments and the recognition of the potential for near-surface depletion (and supergene enrichment) at Bigrlyi has implications for exploration in the area.

Following completion of the resource calculations in July 2006, 16 RC holes and 28 diamond holes (26 with RC pre-collars) were completed.

PREVIOUS WORK 2006 - 2012

Site Works

Construction of the Bigrlyi exploration camp for 25-30 people occurred in 2006-2007. Transportable units were purchased by the company and positioned and wired up with underground power. The core shed and camp were plumbed into septic tanks and a drainage system designed to separate potentially uranium contaminated water was implemented. Subsequent improvements involved the acquisition of safety equipment (e.g. firefighting equipment) and increased focus on OH&S requirements.

Camp and core yard facilities have since been upgraded. A new ablutions block and dining/TV room demountable unit have been installed while the camp septic system was improved. The core yard facility has also been since been expanded to accommodate new drill core and re-house historical core, and a forklift and additional sea-containers have been acquired.

Resource Estimations and Economic Studies

The 2006 resource model was used to compile a preliminary scoping study on the economics of the deposits for uranium and vanadium mining and processing on site. Full data is included in the 2007 Annual Report.

Highlights of the Scoping Study include:

- Production of 8.43Mlb of U_3O_8 and 6.97Mlb of V_2O_5 over 8 year Mine Life from 2.73Mt ROM ore
- Conventional acid leach and solvent extraction

Assumptions used for the Initial Scoping Study include uranyl peroxide (U_3O_8) price of US$100 per lb, a vanadium pentoxide (V_2O_5) price of US$4 per lb and an Australian dollar rate of US$0.83. Other key assumptions include a treatment rate of 0.5Mt per annum and U_3O_8 and V_2O_5 metallurgical recoveries of 95% and 70% respectively.

Eight optimal pit shells were identified for pit design and associated physicals estimation. Scheduled ROM tonnages are estimated assuming dilution and recovery of 5% and 95% respectively. Due to the relatively narrow width of resource lenses a high degree of mining selectivity is envisaged in order to minimise dilution. In summary the consolidated open pits deliver total ROM ore of 2.08Mt @ 1,598ppm U_3O_8 and 1,658ppm V_2O_5, containing 7.33Mlb of U_3O_8 and 7.60Mlb of V_2O_5.

For the purpose of listing requirements of Joint Venture partner Paladin Energy Limited, an NI 43-101 first time resources document was produced by Hellman and Schofield Geological Consultants. Data is included in the 2007 Annual Report.

In 2011, independent consultants Hellman & Schofield Pty Ltd ("H&S") completed resource estimates for Bigrlyi incorporating the results of all drilling up. The resources were estimated at various cut-off grades using the Multiple Indicator Kriging (MIK) method to estimate uranium resources and Ordinary Kriging (OK) to estimate vanadium resources (Table 4).

At a cut-off grade of 500ppm U3O8 the Bigrlyi resource totalled 21.1 million pounds (Mlb) of U3O8 and 19.7 Mlb of V2O5, with 66% of the contained uranium metal (or 6,400t U3O8) now reporting to the Indicated Resource category, compared with 60% in the July 2010 MIK resource estimate.

Table 4. 2011 Mineral Resource Estimates at 500ppm U3O8 cut-off

Resource Category	Tonnes (Millions)	U3O8 (ppm)	V2O5 (ppm)	U3O8 (t)	V2O5 (t)	U3O8 (Mlb)	V2O5 (Mlb)
Indicated	4.7	1,366	1,303	6,400	6,100	14.0	13.4
Inferred	2.8	1,144	1,022	3,200	2,900	7.1	6.3
Total	7.5	1,283	1,197	9,600	8,900	21.1	19.7

Tonnes are metric (2204.62 pounds); figures may not total due to rounding.

The infill drilling has resulted in greater confidence in the geological model with the mineralised zones now better constrained. Compared with the July 2010 MIK estimate this has resulted in a reduction in both tonnes (16% lower) and contained metal (20% lower) reporting to the Inferred Resource category. The Indicated mineral resource tonnage is unchanged from 2010 with a 4% increase in uranium grade and contained uranium. Overall there is a 6% net decrease in total contained uranium but a small increase in grade compared to the July 2010 estimate.

The Initial Scoping Study assessed resource exploitation below conceptual pit designs using conventional decline access and stoping methodologies. The principal stoping methods chosen for Bigrlyi is Bench and Uphole Retreat stoping. A minimum mining width of 4m has been nominated.

Consolidated underground physicals for underground operations include: ROM ore hoist 648kt @ 1,078ppm U_3O_8 and 1,642ppm V_2O_5; and contained U_3O_8 and V_2O_5 of 1.54Mlb and 2.35Mlb.

Indicative mine scheduling based on likely mining fleet capacity and target mill throughput suggests a mine life of 8 years. Key features of this schedule include:

- Life-of-Mine ROM ore production of 2.73Mt @ 1,474ppm U_3O_8 and 1,654ppm V_2O_5, of which 76% is sourced from open pit operations;
- Achievement of treatment plant name plate throughput in the second year of mine operations; and,
- Commencement of underground development and completion of open pit activity in the third and fifth years of mine operations respectively.

A reduction in treatment throughput occurs in the sixth year of mine life with transition to plant feed sourced from underground operations only. The report envisages up to five open pits being mined concurrently. Achievement of material movement rates will require a flexible mining fleet and detailed attention to mine scheduling.

Historic metallurgical testwork has indicated the amenability of the Bigrlyi ore types to sulphuric acid leaching at fine grind sizes. The Initial Scoping Study assumes that acid leaching will be employed, followed by conventional solvent extraction and precipitation of yellow cake (U_3O_8) and vanadium pentoxide (V_2O_5) products. The limited metallurgical test work undertaken so far indicates high acid consumptions which have been incorporated into the scoping study costs.

Site capital costs (determined to a nominal accuracy of ±30%) are estimated by MPC to be in the order of $70 million. This includes the treatment plant, tailings handling and EPCM costs but excludes mine development capital and surface mining infrastructure.

In 2012, Resource Estimations of the Anomalies 2, 4, 7, 9 and 15 were undertaken during the year. The Resources estimate was not significantly different to the 2011 estimate. Overall there was a minor reduction in the grades and an increase in the global tonnage resulting in similar contained Uranium and Vanadium. The 2012 estimate has not been released as the data used was based on a significantly different database. Until the validity of this database in confirmed, the estimate is being considered preliminary. A Resource estimate was undertaken by Paladin Energy for the Anomaly 2 deposit. This estimate also returned a very similar overall grade, tonnage and contained metal as the current 2011 estimate.

Portable XRF Elemental Analysis

Extensive XRF elemental analysis of selected sample pulps and RC cuttings occurred in the period 2007-2010 using a portable NITON XL3t 800 series analyzer.

In 2011, mineralised intervals of diamond core submitted for metallurgical testwork purposes were analysed every 50cm downhole for 32 elements. This information was used to assist in the compilation and interpretation of the chemistry of the metallurgical core prior to determing how the metallurgical samples are composited.

While the Niton results can be regarded as quantitative for heavy elements such a U, analysis of light elements such as Ca are best regarded as providing a semi-quantitative indication of the levels present only. In addition, the small analytical volume analysed by the Niton (about 1 cubic centimeter) may not necessarily be representative of the core as a whole. Consequently, Niton data for drill core has not been subject to rigorous QAQC.

Drilling

A total of 52 holes for 11,508.5m were drilled in 2006, comprising 5,839m RC and 5,669.5m of NQ2 diamond core. Diamond drilling includes tails and holes from surface where access was restricted. Numerous anomalous and significant intervals of mineralisation were intersected. These intercepts extended known resources and gave the company a better understanding of the geology. Main drill targets investigated included the important Unit C/D contact and B/C contact. A significant increase in resources was estimated in early 2007 (see "Previous Work (1974 – 2006)" Section).

For the 2007 field season one RC and one diamond rig were mobilised to site in April. At the completion of the field season (early December 2007), some 279 holes for 53,999.2m were drilled on the Bigrlyi Project. This total comprised 42,827m of RC and 11,172.2m of diamond drilling. Approximately 75% of the holes drilled in the 2007 program intersected anomalous or significant mineralisation.

The database was subsequently updated in preparation for the updated resource modelling and estimation in 2008.

The 2008-9 RC and diamond drilling program was designed to both extend shallow resource positions and test depth extensions at the A4 and A15 deposits. A total of 67 RC holes for 8118m were drilled, targeting;

- C/D horizon west of A4 – 20 holes for 1,830m
- "Grade control" pattern at A15 – 10 holes for 1,260m
- "Grade control" pattern at A4 – 3 holes for 306m
- Follow-up drilling at A3-A4 defined zone – 13 holes for 1,293m
- Potential mineralised horizons between A10 and A15 - 11 holes for 2436m
- RC precollars for metallurgical testwork - 10 holes for 993 m

In addition, 9 diamond holes for 750m, including 5 wedges, were drilled for metallurgical sampling. Parent holes were of HQ diameter while tails were NQ.

In 2009-10, a total of 27 RC holes for 6152m were drilled:

- Targeting mineralised positions defined late in 2009 and potential extensions to the previously defined scoped pits – 16 holes for 4,164m
- Hydrology – 7 holes for 1,422m
- RC precollar for Underground Geotechnical – 2 holes for 196m
- RC precollar for An4 pit extension – 1 hole for 319m
- RC precollars for metallurgical testwork - 1 hole for 51 m

In addition, 22 diamond holes and diamond tails for 3,589m, were drilled for metallurgical sampling, geotechnical investigation and testing the extension of predesigned pits. Geotechnical and metallurgical holes were of HQ diameter while tails were NQ.

- Metallurgy – 5 holes for 388m
- Geotechnical – 10 holes for 2043m
- Exploration tails– 7 holes for 1157m

In 2010-11, a total of 116 holes were drilled, including RC, RC precollar with diamond tail, and diamond core holes from surface. RC drilling totaled 13,789m and diamond drilling totaled 4,629m during the reporting period. In summary there were:

- 65 RC holes for exploration purposes (resource extension and infill drilling) totaling 11,429m

- 19 RC pre-collars to diamond core holes for a total of 2,360m (note: tails on 3 precollars were not drilled before the end of the reporting period).
- 9 NQ Diamond core holes for exploration and underground resource extension purposes totaling 2,001m.
- 18 HQ Diamond core holes for metallurgical (variability) and geotechnical testwork totaling 1,329m.
- 21 PQ Diamond core holes for metallurgical (pilot plant) testwork totaling 1,299m.

In 2011-12, a total of 19 drill holes for 3,144.8m, including 2,342m RC and 4 diamond tails for 802.8m were drilled on Anomalies 2, 3 and 4 during the reporting period. This work comprised:

- Anomaly 2 - Four RC holes for 417m testing the eastern extent of mineralisation (BRC11162 to BRC11165)
- Anomaly 3 - Eight infill RC drill holes for 872m (BRC11154 to BRC11161)
- Anomaly 4 - Three RC holes with diamond tails (499m precollar and 379.8m tails for 878.8m) (BRC11150 & BRC11151, BRC11153) as part of geotechnical studies
- Anomaly 15 – Three geotechnical holes (RC precollar with diamond tails) for 814m (391m precollar and 423m tails (BRC11146 & BRC11147, BRC11149). And one infill hole (BRC11148) for 163m; diamond tail yet to be drilled.

All RC drilling (5¼ inch diameter) was carried out by Arrinooka Drilling Pty Ltd using a Schram T685 rig while the HQ diamond tails were completed by Hodges Australia Drilling Pty Ltd using a Vickers Keough VK600.

All holes were gamma probed and if warranted, geochemically sampled (ecluding the geotechnical holes). Digital data for this drilling including Gamma Logging and chemical assay were included in Appendix 1 of the 2012 Annual report.

Routine Downhole Gamma Probe Surveying

Downhole in-rod and in some cases open-hole gamma probing was carried out on all RC and diamond holes. Rod attenuation factors have been previously determined and all probes used for this work were calibrated at the SA Department of Water (Science, Monitoring and Information Section) Glenside, South Australia. The gamma probe data was processed by consultant geophysicist David Wilson of 3D Exploration Pty Ltd to produce down-hole eU_3O_8 values. These eU_3O_8 values were checked by chemical assay of drill spoil samples.

In general, downhole in-rod and in some cases open-hole gamma probing is carried out on all RC and diamond holes.

Routine Uranium and Vanadium Assaying

Mineralised RC drill spoils and diamond core half-samples were submitted to ALS Laboratory Brisbane for geochemical analysis of uranium and vanadium principally by the XRF pressed-powder method. Highly mineralised samples containing >1% U and >0.1% V were analysed by the four-acid digestion/ICP-OES method. Mineralised RC metre intervals and diamond half-metre intervals were selected on the basis of gamma log 100ppm eU_3O_8 cut-off values. Generally the interval selected for assay was 5m or 10m above and below mineralization. This data is used as a check of the downhole eU_3O_8 gamma probe values.

Mineralised RC metre intervals and diamond half-metre intervals are selected on the basis of gamma log 100ppm eU_3O_8 cut-off values. Generally the interval selected for assay is 5m above and below the mineralised contact. This data is used as a check of the downhole eU_3O_8 gamma probe values.

Samples are submitted to ALS Laboratory Brisbane for geochemical analysis of uranium and vanadium principally by the XRF pressed powder method. Highly mineralised samples containing >1% U and >0.1% V were analysed by the four-acid digestion/ICP-OES method. The QAQC scheme involves the insertion of one internal standard for every 20 field/RC samples and one blank and duplicate for every 20 RC samples.

A total of 47 RC drill spoil samples were submitted for analysis during the 2012 reporting period.

Digital Photography and DEM Generation

A digital aerial photographic survey over the Bigrlyi project area was undertaken by Fugro Spatial Solutions Pty Ltd in July 2011 at a pixel resolution of 10cm. A survey crew accurately located control points in the area in August 2011. Colour balanced aerial photographic imagery in GIS format and a series of DEMs at various resolutions were subsequently supplied to Energy Metals 2011.

The digital photography and DEM data was provided in the 2011 Annual Report.

Scoping Studies

A Scoping Study was conducted by JV partners Paladin Energy Ltd in 2008. The study was conducted by mining engineer Andrew Hutson from Paladin Energy and was based on the enlarged resource announced by Energy Metals in March 2008.

Assumptions used in the study include a uranium (U_3O_8) price of US$75 per lb, a vanadium ($V_2O_5$) price of US$4 per lb and an Australian dollar rate of US$0.75. Other key assumptions include a treatment rate of 0.5Mt per annum, U_3O_8 and V_2O_5 metallurgical recoveries of 90% and 50% respectively and a 5% gross royalty. Energy Metals considers the assumed recovery rates to be reasonable based on the results of independent metallurgical test work as detailed in the ANSTO leach test report.

For the purposes of the study, a mine plan involving six open pits at three deposits (A2/3, A4 and A15) was chosen. These pits range in size from 0.8Mt to 74.7Mt. The open pits included in the scoping study deliver a total of 4.93Mt to the Run-of-Mine (ROM) stockpiles at an average grade of 1,537 ppm U_3O_8 and 2,529 ppm V_2O_5, recovering 15.0M lbs U_3O_8 and 13.7M lbs V_2O_5 over ten years.

Scheduled ROM tonnages are estimated assuming dilution and recovery of 5% and 95% respectively. The open pit operations are quite robust to changes in most costs, although the narrow nature of the resource lenses will require mining selectivity.

The study also assessed underground resource exploitation below conceptual pit designs using conventional decline access and stoping methodologies (principally Bench and Uphole Retreat stoping) with a minimum mining width of 4 metres. Utilising these parameters one underground mine was designed at A15, producing 0.48Mt ROM at 1,214 ppm U_3O_8 and 1,496 ppm V_2O_5 to recover an additional 1.2M lbs U_3O_8 and 0.8M lbs V_2O_5 over two years.

Pre-Feasibility Studies

In 2011, Energy Metals completed a Pre Feasibility Study (PFS) that identified, on a conditional basis, the technical viability of the Bigrlyi project. Because the PFS includes market sensitive financial modelling details a copy this report has not been provided with this annual report but many of the relevant consultant's studies have been provided under separate headings.

As part of the PFS a pit optimisation study was completed in early 2011 and used for the mining study. The PFS confirmed that mining the Anomaly-4, Anomaly-15 and Anomaly-2 deposits using a combination of open pit and underground mining and processing ore through a relatively simple acid leach circuit could provide positive cash flow over a mine life of approximately 8 years. The PFS used a base-case uranium oxide price of $US80/lb and an exchange rate to $US of 0.85.

The capital cost for the processing plant, camp, tailings storage facility and associated infrastructure is estimated to be $181M, including $20M contingency. The total operating cost is estimated at $160/t consisting of a processing opex of $93/t and a mining opex of $67/t of ore processed.

The mining is planned to be staged and has been scheduled to allow a constant mill feed rate of 0.5Mt per year, achieved by operating several open pits at the same time as underground development is progressed. The overall open pit cut-off grade is estimated to be 400ppm U_3O_8, while the underground cut-off grade is 1,000ppm U_3O_8.

The mining evaluation indicates there is additional upside potential resulting from favourable geotechnical conditions confirmed by this study. These include the use of steeper pit wall angles, which allow the open pits to be mined to a deeper level; and use of bench down underground mining or long hole open stopes, both lower cost mining methods.

The PFS has confirmed the following;

- Excellent metallurgical recoveries (>95%)
- Reasonable acid consumption (60kg/t)
- Excellent geotechnical conditions that could allow overall pit wall angles (excluding ramps) to be steeper than 55° (the PFS used 45°)
- Good underground conditions that could enable large open stopes and therefore lower mining costs
- Process and potable water located only 20km SE of the project
- In pit tailings storage allowing a lower environmental footprint
- Initial baseline studies identified no environmental impediments to development
- Capital Costs of $181M for the processing plant and associated infrastructure, including $16M for tailings storage and $89M for mining (including pre production and sustaining capital)
- Processing operating costs average $93/t of ore processed
- Mining costs average $67/t of ore mined
- Total cash flow of $121M from a total revenue base of $979M (based on a US$80/lb U_3O_8)
- A mine life of approximately 8 years, producing around 10Mlb U_3O_8 over the life of the project.

A peer review of the study (excluding all financial considerations), undertaken by Paladin Energy's technical team, determined that the technical aspects of the study are essentially valid.

One key finding was that a substantial increase in the resource base that underpins the project, especially if those resources are amenable to open pit mining, is essential to improve project economics. Work is ongoing in the BJV tenements and regionally with the aim of increasing the resource base and also to advance the long lead items for a more detailed feasibility study.

Database Validation

In 2012, a review of historic drilling data from the late 1970's and early 1980's was completed in conjunction with JV partner Paladin Energy, including validation of the assay and downhole gamma data.

Data for some 1,144 drill holes was revisited, with emphasis on holes within the Anomalies 4 and 15 resources.

Geotechnical

As part of the initial economic study, some preliminary analysis, by Peter O'Bryan & Associates, was completed to provide geotechnical assumptions for pit optimisation and underground design work. A report is included in the 2007 Annual Report.

A further assessment of underground and open pit mining at Anomalies 4 and 15 was undertaken in 2011, again by Peter O'Bryan and Associates.

The later report provides pit wall design parameters for Anomalies 4 and 15 and was submitted in 2011 Annual Report. Rock mass conditions were considered to be favourable for longhole open stope underground mining operations.

Extensive geotechnical logging of diamond core from within the resources has been carried out.

METALLURGICAL TESTWORK

Metal recoveries and acid consumption rates used in the Initial Scoping Study were based on historic metallurgical testwork which recorded recoveries of up to 95% uranium and 70% vanadium on finely ground ore with relatively high acid consumption (approximately 70% of total consumable costs). Most of this testwork was undertaken on samples from the Anomaly 15 deposit (comprises 28% of the current Bigrlyi resource); with no testwork undertaken on the Anomaly 4 deposit (comprises 58% of current resource).

All metallurgical testwork was conducted at the Australian Nuclear Science and Technology Organisation (ANSTO) at Lucas Heights Technology Centre, Sydney.

A 200kg sample of crushed, mineralised material from Anomaly 4 was submitted to (ANSTO) early 2008. Mineralogical analysis on this sample confirmed that major uranium bearing minerals are uraninite and coffinite, and the major vanadium bearing mineral is nolanite. ANSTO further prepared the sample to obtain 3 size fractions (grind sizes) for leach testing viz. fine (P_{80} -76 microns), medium (P_{80} -173 microns) and coarse (P_{80} -285 microns).

Dilute leach tests on pulverised samples determined the upper limits of extraction under typical plant leaching conditions as 99% for uranium and 78% for vanadium, whilst base case acid leach tests (pH 1.5, 50ºC, 50 wt% slurry, ORP=500mV, fine grind) recorded extraction rates of 98% uranium and 59% vanadium.

A number of tests were conducted using a range of variables (grind size, acid addition, pH, and ORP and leach time) to optimise acid leach conditions. Important observations from this work include:

- Uranium extraction was rapid under all conditions tested, with leaching essentially complete within 8 hours;
- The rate of uranium extraction was largely independent of leach acidity over the range of conditions tested, whereas acid consumption decreased markedly at higher pH;
- Leaching at a lower pH increases vanadium extraction;
- Leaching at a lower controlled ORP (low oxidant consumption) did not significantly decrease the extraction of uranium or vanadium;
- A coarser grind decreases acid consumption considerably, without a decrease in uranium extraction. However much of the vanadium is locked in gangue minerals and not accessible without fine grinding.

Based on this analysis optimum leach conditions (pH 1.8, 50ºC, ORP=450 mV, coarse grind size) yielded extraction rates of **94-95% uranium and 45% vanadium**.

The viability of alkaline leaching as an alternative process route was also investigated. Alkaline leaching (24 hours) on fine grind sizes extracted 93% of uranium but only 21% of vanadium. ANSTO notes that the higher cost of alkali versus acid reagents necessitates maximum recovery by recycling, which can result in the build-up of contaminants and issues with water balance. There is also greater potential for vanadium contamination of the uranium product in an alkaline flowsheet. In conclusion, this metallurgical testwork has confirmed conventional acid leaching as the favoured process route at Bigrlyi.

Initial testwork to investigate the feasibility of applying Continuous Vat leaching (CVL) to process Bigrlyi ore was completed in 2010. The testwork comprised “Dry Attack, MnO2 oxidation” (24 hours) followed by standard bottle roll tests at 4 fractions ranging from coarse (-6.3+3.35mm) to very fine (-0.075mm). Results were very encouraging with >70% uranium metal recovery achieved after 48 hours of bottle roll tests across all size fractions, with moderate vanadium recoveries also achieved. There was strong correlation between the size fraction and the leaching rate, especially for vanadium, with only minor fragmentation of particles during the bottle roll tests (see 2010 annual report for details).

A pulsed column leach test using a larger sample to confirm the economic viability of the Continuous Vat Leaching (CVL) process was completed during 2010, the results from the pulsed column tests were disappointing and recoveries appear to be low due to the high acid consumption that the sample required, the bottle roll tests showed very low acid consumption.

Assessment of Acid versus Alkaline Leaching (ANSTO)

An acid versus alkaline leach testwork program was initiated in October 2010 with the final report received by Energy Metals in January 2011 (see Annual Report 2011).

The primary objective of the program was to decide whether the Bigrlyi ore is best processed by alkaline or acid slurry leaching. A bulk representative composite was made up from three drillhole composites. The Ca content of the bulk composite was 3.2% and the inorganic C content was 0.95% both greater than those used in the 2008 study. The composite was ground to a range of size distributions for acid and alkaline leach tests.

The results for the diagnostic acid tests showed that the uranium minerals were readily soluble under typical acid leach conditions with 99% extraction achieved at 50°C and pH 1.8 after 24 hrs.

Most of the uranium was leached in the first 4-8 hrs. Alkaline leaching (with and without oxidant at 90°C) yielded ~ 96% uranium extraction after 48 hrs. The leach liquor assays show that the rate of uranium leaching was slower under the alkaline conditions, with extraction increasing for the duration of the leach.

As Bigryli ore is amenable to both acid and alkaline leaching, a key outcome of the testwork is that a good understanding of the carbonate content or the ore and its likely variations should be developed, so that a realistic estimate of the acid requirement can be obtained. The acid requirement will most likely be the key factor in deciding between acid and alkaline leaching.

In 2012, further evaluation of the suitability of acid or alkaline leaching for treatment of uranium ore was undertaken. A trade-off study was completed by HydroMet Pty Ltd and concluded that treatment with acid is the most cost effective. No new data was collected nor were samples analysed for this comparative study however the mass balance through a hypothetical processing facility was evaluated to determine the most viable leach methodology.

Leach Optimisation and Bulk Leach Testwork (ANSTO)

A series of 1kg sub samples of a composite of core drilled during 2010 were used for leach testwork. The optimal conditions were determined to be P_{80} = 105 micron, 30-35C, 550 mV, FA = 3 g/L, slurry density 55-60 wt% for 12 hours. These conditions were used in the bulk leach testwork. A single bulk leach (30kg) sample of ore was crushed and milled at ANSTO and the leach was conducted at optimal conditions specified above. Results of the leach testwork were considered to be positive and resulted in a residue uranium grade of between 30 – 50ppm U3O8, from the head grade of around 1500ppm, or a leach recovery of around 96 – 97%.

Helicopter Electromagnetic (EM) survey

With the availability of the GPX helicopter in the region small RepTEM survey was completed over the tenements. This EM survey (70 line km) was designed to test the applicability of this technique to locate similar structures and ore horizons beneath the transported cover.

Details of this survey, raw data and images are attached in the 2008 Annual Report. An interpretation of the data was undertaken by independent geophysicists Southern Geoscience Consultants.

Environmental baseline studies

The initial development of the environmental baseline studies for the project was completed with engagement in 2009 of independent consultant Environmental Earth Sciences as project manager. These impact studies covered radiation, air quality, flora/fauna, soil, archaeological/heritage and groundwater. Installation of a remote weather station and scoping visits by various consultants was undertaken.

Collection of data from air quality monitoring equipment installed on site was completed by late 2010. An initial flora and fauna baseline surveys was completed in June 2010. In late 2010 a desktop review and initial report on the soil, ground water and surface water surrounding the project was received. The preliminary findings of these studies were positive with no major impediments to development identified to date.

Rehabilitation

Rehabilitation of all drill sites was completed by end 2012 to the extent that only several collars remain. These collars lie within resource areas and are currently being preserved for further work (e.g. drilling of diamond tails) and/or possible grouting. A rehabilitation audit was begun in 2011 at Anomaly 4 and continued into 2012 until all areas were assessed; drill sites were inspected, assessed and photographed, and gamma radiation levels were documented.

In 2012, rehabilitation of all drill sites in accordance to the Department of Resources guidelines and the company's Mine Management Plan was completed.

All sumps have been backfilled and sites have been leveled so as to allow the regrowth of vegetation. In addition, plastic spoils bags have been removed, compacted and are being stored within the core yard until a viable disposal method can be developed.

Drill programs are now designed so as to avoid the use of plastic bags altogether, resulting in the burial of only biogegradable calico bags.

A comprehensive rehabilitation report was submitted to the Department in March 2013.

Socio-Economic Study

A final report on the socio-economic conditions of Aboriginal people likely to be affected by the proposed Bigrlyi mine project, was prepared by Stanley Consultants Pty Ltd, and was included in the 2011 Annual Report.

GEOLOGICAL RESEARCH

Structural Geology

Fop Vanderhor of Davis & Vanderhor Geological Consultants completed a brief study into the structural geology at Bigrlyi. The study looked at a small selection of core both recent and historic at the Bigrlyi core yard over a 10 day period. Data is included in the 2007 Annual Report.

Mineralogical and Geochemical Study

A detailed mineralogical and geochemical study was carried out by Dr Paul Ashley of the University of New England in 2009.

The objectives of the project were to:

- Understand the nature of the U-V mineralisation, its controls and possible genesis.
- Obtain robust mineralogical data on the deposit that could assist ore processing strategies.
- Assess possible exploration vectors.

Energy Metals engaged CSA Global Pty Ltd in mid-2010 to determine the key geological controls on the uranium-vanadium mineralisation at the Bigrlyi project. The conclusions from this work are:

- The Bigryli mineralisation appears to be on the flank of a regional palaeohigh defined by the regional geology, which implies that basinal brines/gases may have been involved in mineralisation;
- The sandstone hosting the Bigryli deposit may have been deposited in a braided river system. This suggests that the host facies may comprise a series of permeable channel units that are vertically and laterally stacked and form discrete compartments with little connectivity between them;

- Key minerals in the mineralised stratigraphy that are probably related to deposition of uranium are hematite, calcite and the reduced phases of pyrite and carbonaceous material.
- Both diagenetic and alteration hematite are present, but their relative timing is not clear. The role of calcite in forming trap-sites for mineralisation is potentially critical but not understood at present and the precise nature and origin of the carbonaceous material is unknown;
- The stratigraphic setting of the uranium at the scale of the resources is poorly known at present. The criteria used by Central Pacific Minerals to define their stratigraphic units confuse lithology and haematite alteration.
- The previous mapping is general and does not provide enough detail on the facies and their relationships to assess and understand the setting of the mineralisation;
- The age of mineralisation is unknown and is a key to understanding the origin and potential controls on mineralisation.

Mineralogy and Geometallurgy

The following work was completed during 2011-2012 reporting period in collaboration with Paladin Energy.

Interpretation and analyses of 5,000 Hychips spectra from 25 RC holes and 1,929 spectra from 7 diamond holes was completed by AusSpec International during the reporting period. This work addressed shortcomings in the interpretation of results from the CSIRO-JSU Ngalia Basin mineral systems study in 2010 (see Appendix I).

A number of mineral characteristics (oxidation, white mica and its relative proportions to kaolinite, carbonate and gypsum) were noted which may be useful to plot up spatially and perhaps delineate changes in the mineralisation system at Bigrlyi.

A further 22 samples were submitted to CSIRO Adelaide for quantitative mineral abundance by XRD, and the results were compared to previous infra-red spectroscopy (IR).

Results suggest that IR is more limited quantifying the abundance of carbonate, though it could be a cheap and rapid method for assessing bulk uranium mineralogy. The frequent detection of gypsum could be significant if alkaline processing route is adopted.

In addition, a revision of data from 3 uranium ore composite samples was completed. These samples were originally submitted to ALS/Ammtec for Quantified Automated Mineralogical Analysis (QAMA) in 2009 (Report MIN259).

The aim of these investigations was to characterise the quantitative mineralogy, the deportment of the uranium and vanadium and the liberation of uranium-bearing minerals, with emphasis on possible vanadium-bearing silicate minerals. The names of some mineral groups were also changed. The AMA mode of measurement was PMA (Particle Mineralogical Analysis).

The samples were taken from the contacts between Units C and D at Anomalies 4 and 15 and Units B and C at Anomaly 4.

The samples were found to have a very similar bulk composition. The quartz and feldspar content is about 70% and 15% with chlorite, biotite, muscovite and kaolinite accounting for about 15%. The main uranium-bearing minerals are coffinite, uraninite and carnotite while vanadium occurs as montroseite and carnotite. Although the liberation of the uranium minerals increases towards finer-grained fractions, the uranium minerals are generally poorly liberated from the host rocks.

Geochemical Domaining Study

Geological and geochemical studies have indicated that there are substantial variations in the proportion of calcium carbonate cement present in Bigrlyi ore zone sandstones along strike, with depth into the ore zones and within each Anomaly. Previous mineralogical and geochemical studies have shown that essentially all of the Ca in the Mt Eclipse Sandstone is hosted in the form of calcium carbonate (calcite). Previous work at ANSTO showed that inorganic carbon correlates with %Ca with a regression coefficient >0.99. Because other carbonate minerals such as dolomite are not significant mineralogical components of the sandstone, Ca content can be used as a proxy for carbonate content.

Ore zones in the Bigrlyi deposit (400ppm U_3O_8 cut-off) have an average Ca content of about 2.5 wt% Ca (3.5% CaO), however, there are large variations. To better quantify this variation, in August 2011 pulp samples from 217 drill holes covering the three main anomalies (A2, A4 and A15) - amounting to over 2,500 historical pulps plus over 180 standards - were analysed for a suite of 33 elements at ALS Brisbane Laboratory by the four-acid digestion/ICP-OES method. This data was examined spatially and several chemical domains based on Ca content were defined in the ore bodies as follows:

<u>Anomaly-2</u>
- Low Ca (<2.5% Ca) weathered/oxidised ore (note: all of the A2 ore is significantly weathered to at least 80m depth)

<u>Anomaly-4 Weathered</u>
- Low Ca (<2.5% Ca) near-surface, weathered/oxidised ore (<20m depth)

<u>Anomaly-4 Unweathered</u>
- High Ca (>2.5% Ca) ore near the unit C/D contact (mainly upper levels of the main A4 pit and at the pit base and within underground workings)
- Low Ca (<2.5% Ca) ore near the unit C/D contact (mainly middle levels of the main A4 pit and satellite pits to the northeast)
- High Ca (>2.5% Ca) ore near the unit B/C contact (mainly located outside proposed mining areas to the northeast so not a significant ore contributor)
- Low Ca (<2.5% Ca) ore 4 near the unit B/C contact core (mainly located in satellite pits northeast and southwest of the main A4 pit)

<u>Anomaly-15 Weathered</u>
- Low Ca (<2.5% Ca) near-surface, weathered/oxidised ore (<20m depth)

<u>Anomaly-15 Unweathered</u>
- Low Ca (<2.5% Ca) ore near the unit C/D contact (mainly within the main A15 pit)
- High Ca (>2.5% Ca) ore near the unit C/D contact (mainly within proposed underground workings below the main pit)

The multielement geochemical data was provided in 2011 Annual Report.

CSIRO-JSU Ngalia Basin Mineral Systems Project

A total of 13,126 meters of Diamond core and 27,015 meters of RC chips were logged by the CSIRO Hychip/Hylog unit as part of the CSIRO-JSU Ngalia Basin mineral systems study in mid-2010. The final report of this study was received in August 2011 and included the processed Hylog data. As NTGS was a co-sponsor of this project this data (which is of a significant size) it is already available to the NT DME.

CSA Report on Geological Controls

Energy Metals engaged CSA Global Pty Ltd in mid-2010 to determine the key geological controls on the uranium-vanadium mineralisation at the Bigrlyi project. As the final part of this project, petrographic descriptions of 21 thin sections were undertaken by Roger Townend & Associates in late 2010. A copy of that work is provided in Appendix 2. A copy of the 2010 report was previously provided with the 2010 Annual Report.

Geological Mapping

A program of geological mapping both at the deposit scale and at the outcrop scale was undertaken in 2011 in conjunction with joint venture partners Paladin Energy. The purpose of the program was to assist in development of a detailed ore deposit model for Bigrlyi and to target new areas of prospective mineralisation. Previous detailed mapping dates back to the 1970's and was not based on modern sedimentological concepts and does not provide enough detail on the facies and their relationships to assess and understand the setting of the mineralisation.

One outcome of the project is the recognition of a prominent nodular carbonate horizon that appears to be a key stratigraphic marker. The final report including 1:2000 scale maps is due in early 2012.

In 2012**,** a mapping program was initiated to define the sequence stratigraphy and a 3D geological model of the Bigrlyi deposit was developed.

All previous geological studies have identified that two sequences in the historic informal stratigraphic sequence are, from a sedimentological perspective, the same. Current logging practice separates a reduced unit ('C') from the oxidised package. But Unit C is a reduced equivalent of Unit D; Unit C is defined by alteration, not lithology, and is of highly variable thickness.

Recent outcrop mapping and examination of drill core led to the identification of eight distinct sedimentary sequences ('S1 to S8'), across the main mineralised trend. Resistivity logging appears to confirm these subdivisions. These sequences are not defined by their oxidation state and are considered quite traceable along strike.

Stratigraphic marker beds may well be very useful for targeting uranium mineralisation. For example, a unit with abundant coarse nodular carbonate was noted to occur in a well-defined stratigraphic position.

A lithological and fault map was prepared, incorporating a regional 3D model previously generated by CSIRO in 2010 (JSU Ngalia Basin Uranium Mineral System Project), recently acquired aerial photography and airborne geophysics. Ground truthing was subsequently carried out.

Geological Modelling

In 2012, the geological model for the mineralisation at Bigrlyi was further refined with the controls of mineralisation now being discussed between the technical teams of Energy Metals and Paladin Energy. Both geological models are quite distinct from the model suggested by the CSIRO JSU study. Energy Metals believes that the primary control on mineralisation is the role of the reduced stratigraphy and pre-diagenetic fluid flow through more permeable channels within the stratigraphic sequence. There would be minor secondary remobilization of uranium within the weathered horizons, some of the weathering is locally deepened by late stage brittle faults that are interpreted to be dominated by steeply dipping, high angle to stratigraphy (possibly transverse faults) to the major thrust faults observed to the north of the deposit at the base of the Ngalia Basin. These late faults are interpreted as associated with the last stages of the Alice Springs Orogeny (the Eclipse event).

Paladin Energy's model for mineralisation is characterised by a structural control to the mineralisation with the faults dominated by moderately dipping lower angle (to stratigraphy) faults. Their interpretation results in a dominant plunge being due to the intersection between the reduced horizon and the faults. Energy Metals has not observed any evidence in core or geological mapping that suggests there are moderate (west dipping) structures.

Both geological models result in a similar overall orientation to the mineralization, that being that there are plunging shoots of mineralisation that plunge steeply (approximately 60 degrees) to the west).

Geological models of Anomalies 2, 4 and 15 were prepared by JV partner Paladin Energy with the Leapfrog Mining software package, using 250, 500 and 1500 ppm U_3O_8 cutoff grades.

The models clearly assist with the visualization of the mineralised trends. Drilling to date testing the projected ore shoots based on these models has generally proved successful.

Spectrometer and Ground Magnetic Surveys

In 2012, ground radiometric and magnetic surveys were carried out in conjunction with JV partner Paladin Energy over Anomalies 2/3, 4 and 15. The surveys covered an area of 1.67 km2 at roughly 20-50m line spacing, using an RS-230 BGO spectrometer and a G-859 geometrics magnetometer combined with a G-856 base station.

Significant radiometric expressions were followed up with detailed spectrometer point line sampling and rock chip sampling, with the aim of integrating surface data into wireframe projections of known drill intercepts. The magnetic data was of limited use, imagery produced was noisy with no magnetic contrast between stratigraphic units.

Although further similar work was recommended, it was concluded that drilling is still necessary to test the mineralised Bigrlyi trend. Widespread surface anomalism was noted but considered misleading, as a massing effect from eroded outcrop and scree may lead to high background values, while mineralisation at depth may not have any surface expression.

ENVIRONMENTAL BASELINE STUDIES

Radiation Baseline Study

An ongoing radiation baseline study over areas proposed for open pit mining, tailings storage, plant construction and other proposed mine infrastructure was commenced in the latter part of 2011 and will be reported in the section 'Work completed during the current reporting period'.

Air Quality and Dust Monitoring Study

SLR Consulting Australia Pty Ltd completed a preliminary Air Quality Assessment (AQA) study for the Bigrlyi Project in 2010. This final report was included in the 2011 Annual Report.

Baseline air quality monitoring was undertaken across the project site using one high volume air sampler (HVAS) for PM_{10} monitoring, and four dust deposition gauges (DDG). The results indicate that annual average PM_{10} criterion is likely to be exceeded for the Bigrlyi Project from background sources alone, without the additional emissions from the proposed operations. No exceedances of the PM_{10} 24-hour average criterion were detected for any of the monitoring days. Monitored background dust deposition levels were high during the monitoring period at 2.3 g/m^2/month.

Flora and Fauna Initial Baseline Study

An initial flora and fauna baseline survey (cool weather) was completed in June 2010, and the final report was received in January 2011. This report was included in the 2011 Annual Report.

The study gives baseline information on the surrounding landscape and flora and fauna of the site at the time of the survey. Colder than expected weather resulted in little lizard activity and few lizard captures but small marsupial mammals continued to be active and good information was obtained from captures and tracks. Good seasonal conditions resulted in considerable bird activity but few species were present. No species of conservation significance were found to be restricted to the site or would be significantly impacted at a species conservation level by activity on the lease.

A warm weather survey has been planned for some time but is yet to take place; this survey is intended to provide baseline information on reptile and amphibian fauna as well as rodent presence.

Preliminary Mine Water Supply and Pit Dewatering Investigation

A preliminary hydrogeological investigation was conducted in 2010 at the Bigrlyi project area to ascertain pit dewatering requirements and locate a suitable source for mine water supply for processing and potable supply. This report was included in the 2011 Annual Report.

WORK COMPLETED DURING THE CURRENT REPORTING PERIOD

The following activities were carried out during the reporting period;

- Geophysical Surveys – gradient array induced polarisation (GA-IP)
- Bulk Density Determinations
- Radiation Baseline Monitoring
- Environmental Baseline Studies

Geophysical Surveys – Gradient Array IP

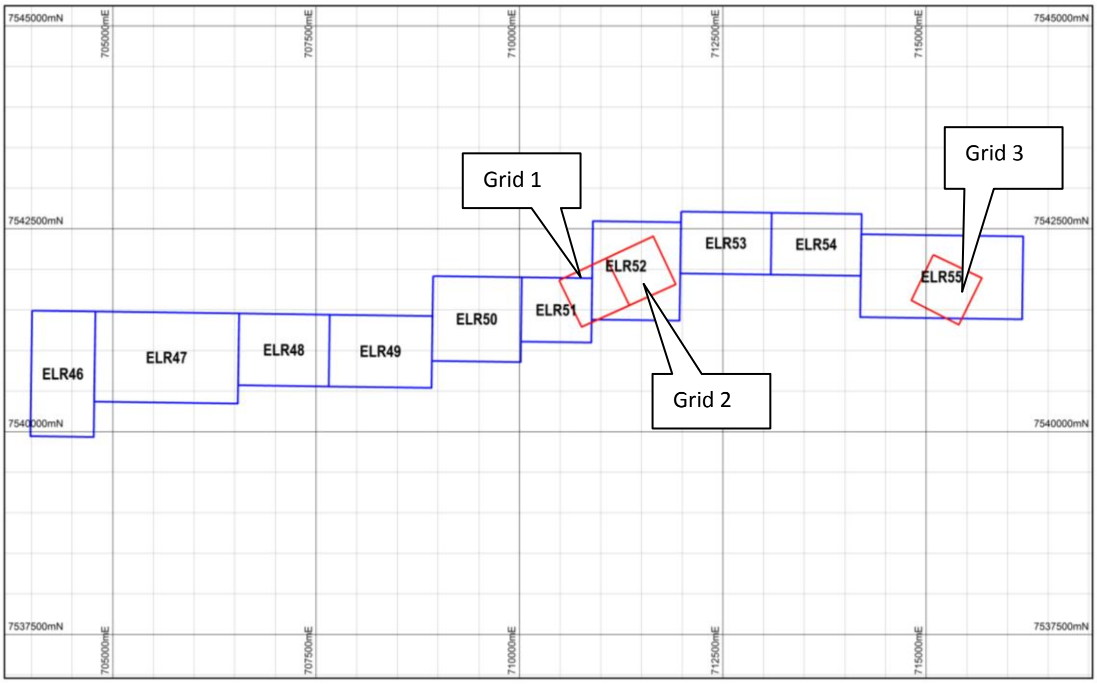

Figure 3: Location of gradient array IP survey grids at Bigrlyi (Blue boxes show Bigrlyi ELRs).

Gradient array induced polarisation (GA-IP) surveys at Bigrlyi were undertaken by consultants Zonge Engineering and Research Pty Ltd. The surveys were orientation surveys carried out over the A4 and A15 uranium deposits with an aim of determining the chargeability and resistivity signature and characteristics of known Bigrlyi-style ore bodies. Parts of the orientation survey included areas of buried outcrop to test the suitability of the method to “see through” overburden (in this case mostly a few metres of sand cover). The data was processed by Southern Geoscience Consultants to produce imagery of the chargeability and resistivity responses. It is estimated that the GA-IP technique in this area is capable of sensing to a depth of at least 50m and that the steep, near-vertical dip of the beds would act to enhance the signal from stratigraphically-constrained features.

A total of three grids were completed with two grids at A4 (Grids 1 & 2) and one grid at A15 (Grid 3) (Fig. 3). The survey specifications used for the gradient array IP grids were:

- 25m station spacing (50m or 25m dipole spacing)
- 50m line spacing
- 600m line length
- 600m grid width
- Tx pole separation 1200m.

The results show that high chargeability values correspond with Unit C reduced sandstone at A4 and with both Unit C and partly reduced (“redox mottled”) parts of Unit D at A15; there is a strong contrast with adjacent oxidised units which correlates well with geological mapping and drilling results (Figs 4, 5). In addition, Unit C reduced sandstone buried under sand cover is revealed by its IP response (Fig. 4); the method can therefore be used to target prospective areas where there is no outcrop. The chargeability is considered anomalous at values >3-10 times background and is associated with disseminated pyrite observed in drill chips and drill core (Unit C or reduced mottles in Unit D). Resistivity highs are associated with zones of stronger carbonate cementation and these zones tend to stratigraphically underlie mineralisation at the A4 deposit (Fig. 5).

While this geophysical method is useful in targeting reduced stratigraphic zones and redox contacts, uranium mineralised sandstone does not appear to have a particular chargeability and resistivity signature and so direct targeting of mineralisation is not possible. Nevertheless certain coincident characteristics such as a high chargeability response associated with a high resistivity response in the immediately underlying stratigraphy appear to be favourable characteristics for uranium occurrence.

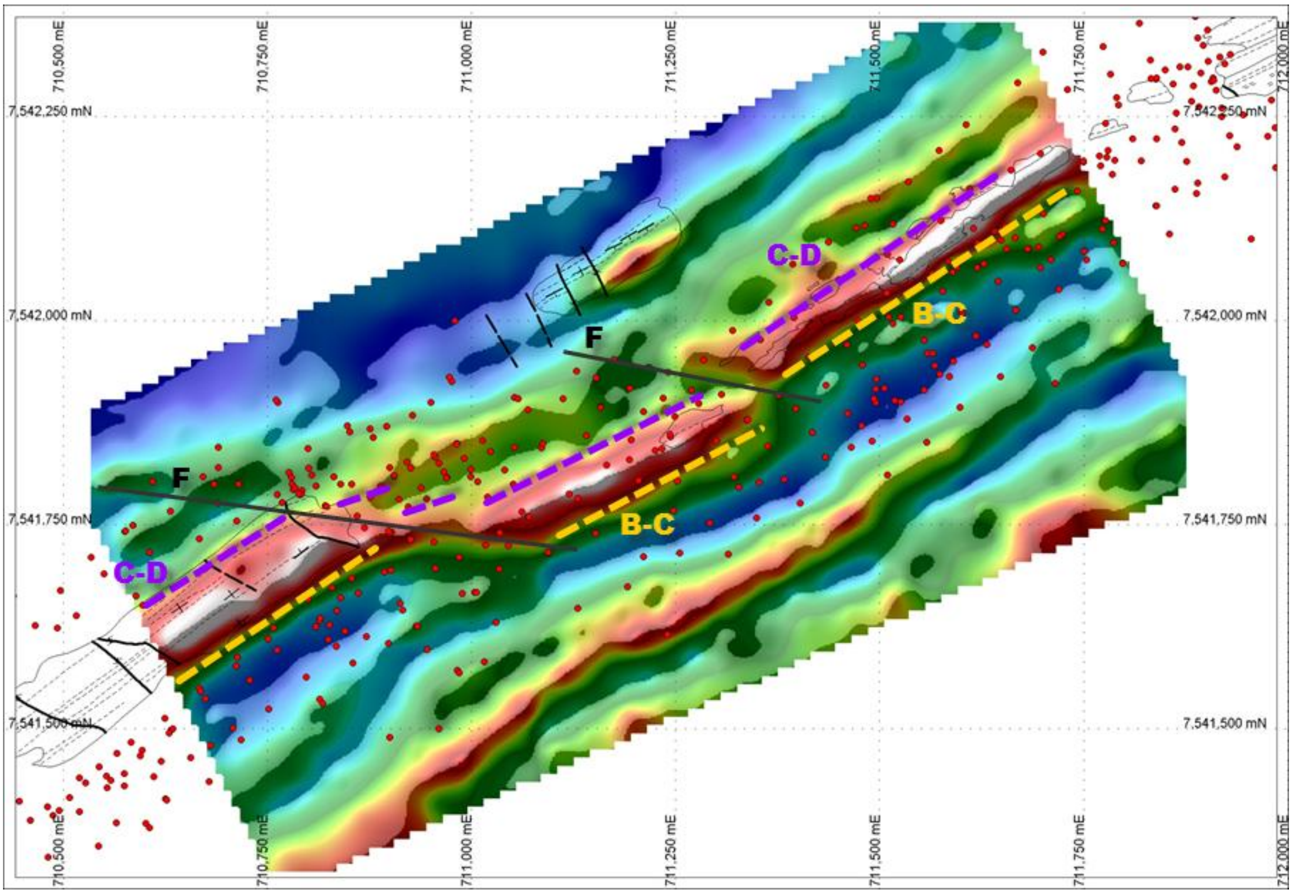

Figure 4. IP Chargeability response for Grids 1 & 2 (combined image with linear stretch & northwest shade; range is 0.4mV/V to 5.4mV/V) over the A4 deposit showing (a) elevated chargeability corresponding with outcropping and buried Unit C (reduced sandstone) and (b) sharp boundaries at the contacts between Units B & C ("B-C") and between Units C & D ("C-D") which correspond to mineralised redox boundaries in the Mt Eclipse sandstone. F = inferred faults. Red dots = drill hole collars. Black outlines = outcropping Mt Eclipse sandstone.

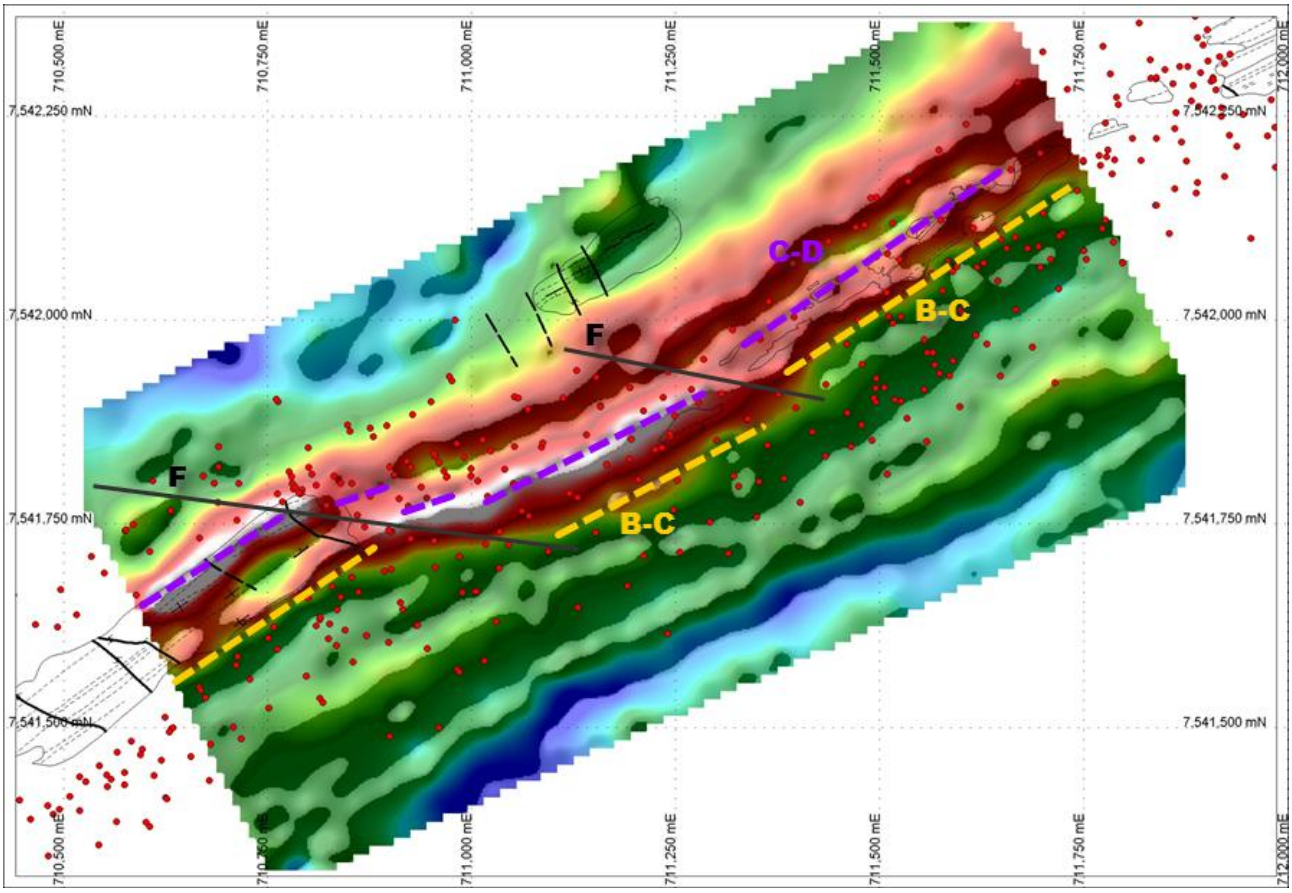

Figure 5. IP Resistivity response for Grids 1 & 2 (combined image with linear stretch & northwest shade; range is 20 Ohm*m to 370 Ohm*m) over the A4 deposit showing high values just stratigraphically below the highest chargeability response from the Unit C reduced sandstone (cf. Fig. 4). The high resistivity corresponds to zones of most intense carbonate cementation near the Unit C - Unit D ("C-D") contact. F = inferred faults. Red dots = drill hole collars. Black outlines = outcropping Mt Eclipse sandstone.

The GA-IP digital data has been included in Appendix 1.

Bulk Density Determinations

Bulk density measurements were carried out on 946 core samples with a dry weight average of 834 g ranging from 201 g to 1809 g. Core samples were selected from 22 diamond drill holes spread across uranium deposits A4 and A15 (Fig. 6). Selection of core samples was based on a range of rock types, textures, alteration assemblages and mineralisation grades. The depth range of samples spanned 3.57 m to 548.9 m. In general samples were selected every 3-5 m outside ore zones and every 0.5-1.0 m interval within ore zones.

Equipment used is listed below:

- Welded framework with a top shelf (for scales) and bottom shelf (for water bin)
- Scales - CBK Precision Balance 8kg x 0.1g + weigh below hook (accurate to +/- 0.2g)
- Core cradle and chain – hangs from weigh below hook straight into the water bin below
- Water bin – 68L polyethylene crate
- Chinagraph pencils
- Conventional oven – trial only (see below)

- Hairpsray coating – trial only (see below)
- Stainless steel calibration weights (500g, 1kg)

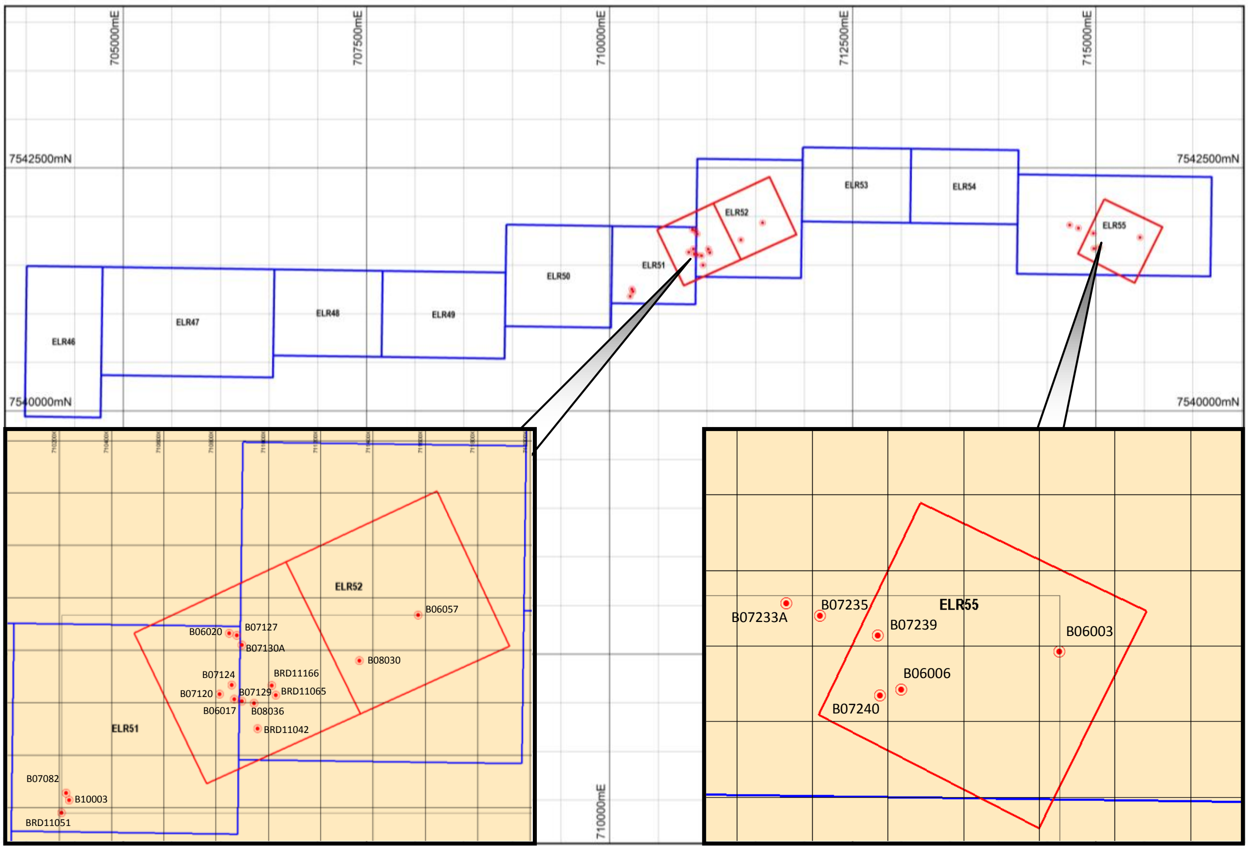

Figure 6: Location of 22 diamond drill holes which were sampled for bulk density determinations (Blue boxes show Bigrlyi ELRs). Red boxes are gradient-array IP survey areas.

The bulk density calculation used was $\frac{dry\ weight\ (g)}{(dry\ weight\ (g) - wet\ weight\ (g))}$ assuming a water density factor of 1g/cm^3 or 1,000kg/m^3.

Bulk density measurements were trialled for 51 core samples from drillhole BRD11042. Core samples were dryed in a conventional oven for minimum 60min at 150° to remove any additional moisture. Weights were recorded prior to oven drying and after oven drying with random differences of <4g. Wet weights were recorded with no application of hairspray or wax coating; the core samples were then placed back in the oven and repeated later with a thin hairspray coating in case of permeability and/or porosity effects. The wet weight difference between coated core samples and non coated core samples was randomly <5g. These differences were negligible and had no effect on the calculated specific gravity/bulk density value therefore it was decided that there was no significant internal moisture within the core or significant permeability/porosity effects therefore oven drying and coating the core with hair spray was not needed.

A total of 946 core samples returned an average bulk density of 2.60 with minor differences between sandstones, siltstones and shales. Approximate specific gravity of sandstones (arkosic and arenitic) ranged between 2.51-2.68 with mineralised sandstones averaging 2.60, siltstones averaged 2.64 and shales ranged between 2.65 and 2.71. Any results outside the parameters of 2.5-2.7 were flagged and rechecked.

Whilst oven drying and core coating wasn't essential for the fresher, less permeable and porous nature of the A4 and A15 deposits, it's recommended that a new trial is carried out for core from the

A2 deposit and other regional prospects. A2 lithology differs from the A4 and A15 deposits, a deeper weathering profile through the ore zones will likely need a different approach to obtaining bulk density measurements.

Standard calibration weights were introduced into the SG procedure at the end of 2013 for QAQC purposes.

Refer to Appendix 1 for a listing of the Bulk Density data.

Routine Gamma Logging

As there was no drilling carried out for the reporting period, there was no gamma probing of drill holes except for routine downhole measurements of Energy Metal's test hole (B06056).

Radiation Baseline Monitoring

Provided economic factors are favourable, Energy Metals Bigrlyi project is likely to progress to a mining operation in the near future. Prior to approval of mining leases, an Environmental Impact Statement (EIS) needs to be submitted and approved; a key component of the EIS is a baseline, i.e. pre-disturbance, radiation survey. The purpose of the radiation survey is to provide the context for assessing the potential radiation impacts that the project might have on the environment and persons residing or working within proximity to the project area (including the public and workers). The information provided in the survey will be used to determine areas of potential radiological significance in managing the site, local sources of radioactivity, methods of managing radiation and radioactivity on-site, and also baseline data against which to monitor and assess any changes that may happen to the radiological environment in the project area.

In late 2011 consultants Radiation Professionals were employed to undertake such a radiation monitoring baseline study; the report for the period 2011-2013 has now been finalised and was received by EME in November 2013. The following paragraphs outline the work conducted and resulting conclusions.

The baseline monitoring was designed, taking into consideration the requirements from both the federal Code of Practice and Safety Guide for Radiation Protection and Radioactive Waste Management in Mining and Mineral Processing (ARPANSA) and international guidelines (which are almost entirely adopted into the Australian guidelines).

In September and December of 2011, Radiation Professionals consultants were onsite at the Bigrlyi facility to conduct radiological monitoring implement ongoing radiation monitoring. The monitoring survey consisted of measurements of:

- Absorbed (radiation) gamma dose rates in air
- Alpha activity in airborne dust
- Radon and Thoron concentrations in air
- Equilibrium levels between radon and radon progeny
- Radon Flux measurements from soil
- Radionuclides in soil
- Radionuclides in water
- Biota sampling and analysis

The monitoring of Absorbed (radiation) gamma dose rates in air, Equilibrium levels between radon and radon progeny, radon flux, Radionuclides in soil, and Biota sampling were completed during the visits as a once off measurement. The monitoring of Alpha activity in airborne dust and Radon and Thoron concentrations in air was ongoing over at least a 12 month period to account for seasonal variations.

The monitoring of Absorbed (radiation) gamma dose rates in air of the mining locations were completed during the visits as a once off measurement. Gamma radiation levels were measured using a Mini Instrument, type 6-80, serial number 2250, equipped with a Probe MC-71, serial number 1196 and a Radeye GX, serial number 00513, equipped with a Probe MC-71, serial number 09011. The Mini Instrument has been calibrated against ^{137}Cs at the Australian Radiation Services facility in Victoria for air kerma (i.e. initial kinetic energy of primary ionising particles in µGy/h). It was calibrated on 24/10/2011. The Radeye GX has been calibrated against ^{137}Cs by the manufacturer Thermo Scientific on 02/09/2011 for Photon Dose Equivalent (H_x). The results of the gamma survey conducted indicate an overall range of 0.07-0.82 µGy/hr. with an average of 0.15 ±0.02 µGy/hr. the maximum results of 0.82 was obtained on a ridge and it is suspected that it is a natural outcrop of radioactive material. The result were not repeated or simulated at any of the other monitoring locations. These results give a good indication of the background radiation levels and can be used during the mining and rehabilitation phase to ensure no contamination of areas occur. Action levels will be developed based on these results and work area classification developed to ensure employee exposure levels are controlled. It is recommended that the gamma dose rate in air survey of the proposed transport route is also conducted.

Alpha activity in airborne dust was monitored utilising 8 dust deposition gauges deployed around the Bigrlyi site. These were analysed for total deposited solids (TDS) and gross alpha concentration. The monitors were deployed for 12 months of four month intervals to allow for quarterly and diurnal fluctuations of the dust concentrations in air. The results are typical of background dust and the alpha concentrations show that this is surface dust with no mineralisation. Note: That based on the average TDS and αdps, the deposited solids are less than 0.2Bq/g, consistent with background windblown soil (confirmed by the radionuclide in soils results). The following trends are shown in the data: The TDS levels are generally higher in summer than in winter (as expected) and this is reflected in the αdps results; no locations show consistently higher or lower TDS or αdps results

Alpha track-etch Radon and Thoron monitors were deployed at 8 locations around the Bigrlyi site. The monitors were deployed over 4 intervals to allow for seasonal and diurnal fluctuations of the radon and thoron concentrations in air. Higher Radon and Thoron concentrations were observed in the summer months and were (as expected) slightly elevated in areas that “trap” air or have decreased airflow due to their geometrical location. No one location is consistently higher than the others, however the proposed camp and process plants do appear consistently lower than the others, as expected as these are upwind (to the east) of the anomalies and out in open areas that would not be expected to “trap” air. The levels observed are typical background levels as encountered on similar sites and locations.

Equilibrium studies between Radon and Radon Progeny were carried out utilising air sampling pumps along with alpha counting equipment. Personal air sampling pumps were used to sample the air, according to AS 3640:2004 – *Workplace atmospheres, Method for sampling and gravimetric determination of inhalable dust*, for a duration of 15 minutes. The filter papers were then collected and 1.36 minutes later analysed in a portable alpha drawer assembly for the gross alpha content and 5 hours later analysed again for gross alpha. This would allow for the calculation of both Radon Progeny (RnP) and Thoron Progeny (TnP) concentrations in air according to the Kusnetz and Rolle methods outlined in the Department of Mines and petroleum, 2010. *Managing naturally occurring radioactive material (NORM) in mining and mineral processing - guideline. NORM-3.4 Monitoring NORM - airborne radioactivity sampling.* All the Thoron progeny results showed below the minimum detectable level of 10Bq/m^3 EEC.

Radon Flux measurements were taken using flux drums with Electrets. These were conducted at 11 locations around the site, with higher flux rates observed in the vicinity of mineralised anomalies. The results range from 0.02 to 4.64 $mBq/m^2/sec$. The highest flux rates were observed in the immediate vicinity of the Anomaly 4 (to the East), Anomaly 7 (to the West, in proximity to the East of Anomaly 4) and Anomaly 15 (North West) mineralisation zones. This is consistent with the expectation that flux rates would be higher due to elevated radionuclide levels in soil in these areas. Further short term radon and radon progeny data will need to be obtained to draw any significant conclusions about the equilibrium levels between radon and progeny for the site. It is recommended that at least 9 more data sets are obtained, using electronic real time integrating radon monitoring equipment.

Twenty-one soil samples were also taken at strategically identified locations around the Bigrlyi site and analysed for elemental uranium and thorium (U and Th) as well as Radium 226 and 228 (226Ra and 228Ra). The derived Bq/g Uranium 238 and Thorium 232 results show that the parents (238U, 232Th) are in equilibrium with their respective radium progeny, however further equilibrium analysis of the soils sampled from other locations is recommended. The Uranium and Thorium results are consistent with world average backgrounds of approximately 3ppmU and 10ppm Th respectively; except for sample EMA4B which has somewhat elevated Thorium levels at 51ppm Th and EMA2B with Uranium at 23ppm U. EMA4B is to the south west of anomaly 4 while EMA2B is to the west of anomaly 2/3.

The maximum value obtained for each radionuclide was used to conduct an ERICA (Environmental Risk from Ionising Contaminants: Assessment and Management) tier 1 assessment (using the ERICA ASSESSMENT TOOL).

Water monitoring was conducted by on-site personnel (following measurement procedures provided) as a once off. It is recommended that quarterly samples are taken so seasonal variations can be taken into account for the baseline data.

Based on the radionuclide assessments of soils from the various locations taken during the site visits, a desktop ERICA analysis was conducted to determine the need (or lack of) for Biota sampling. The maximum radionuclide concentration obtained was used in the ERICA assessment to demonstrate a “worst case scenario”. A Dose Rate screening value of 40 µGy/h for terrestrial animals and 400 µGy/h for terrestrial plants were used. As stated by IAEA1992, USDOE2002, UNSCEAR1996, it is extremely unlikely that any measurable population effect below these values of chronic exposure would occur. All values are below the 40 or 400 µGy/h screening dose rate therefore no further assessment past tier 1 level is required.

Wipe tests were conducted on plants at the same locations as the dust deposition gauges to ascertain if there was any deposition of airborne contamination onto plants in the region. The test returned results below the MDL of $0.002Bq/cm^2$. This indicates that there is no significant surface deposition/contamination on the plants in the area.

Baseline radiation monitoring will continue to be ongoing over areas proposed for open pit mining, tailings storage, plant construction and other proposed mine infrastructure. Radiation monitoring points around camp, core yard, fuel farm and turkeys nest areas are routinely monitored on the 15th of each month.

Refer to Appendix 1 for Radiation Baseline Monitoring data.

Environmental Baseline Studies

Environmental baseline monitoring continued on for the reporting period with no new systems set in place. Baseline air quality monitoring was undertaken across the project site using one high volume air sampler (HVAS) for PM_{10} monitoring, and four dust deposition gauges (DDG). Water samples from six station water bores within the general Bigrlyi area were submitted to NTEL, Darwin for hydrochemistry on 05/11/2013, only one water bore is located on ELR's 46-55 (TURKEY'S NEST, Fig. 7), however, the other bores are all located in the drainage catchment or drainage outflow area of the Bigrlyi project area and will be subject to regular monitoring (sse Fig.7).

Refer to Appendix 1: Environmental Baseline Studies - Dust Monitoring Data, Bore Water Hydrogeochemical Data

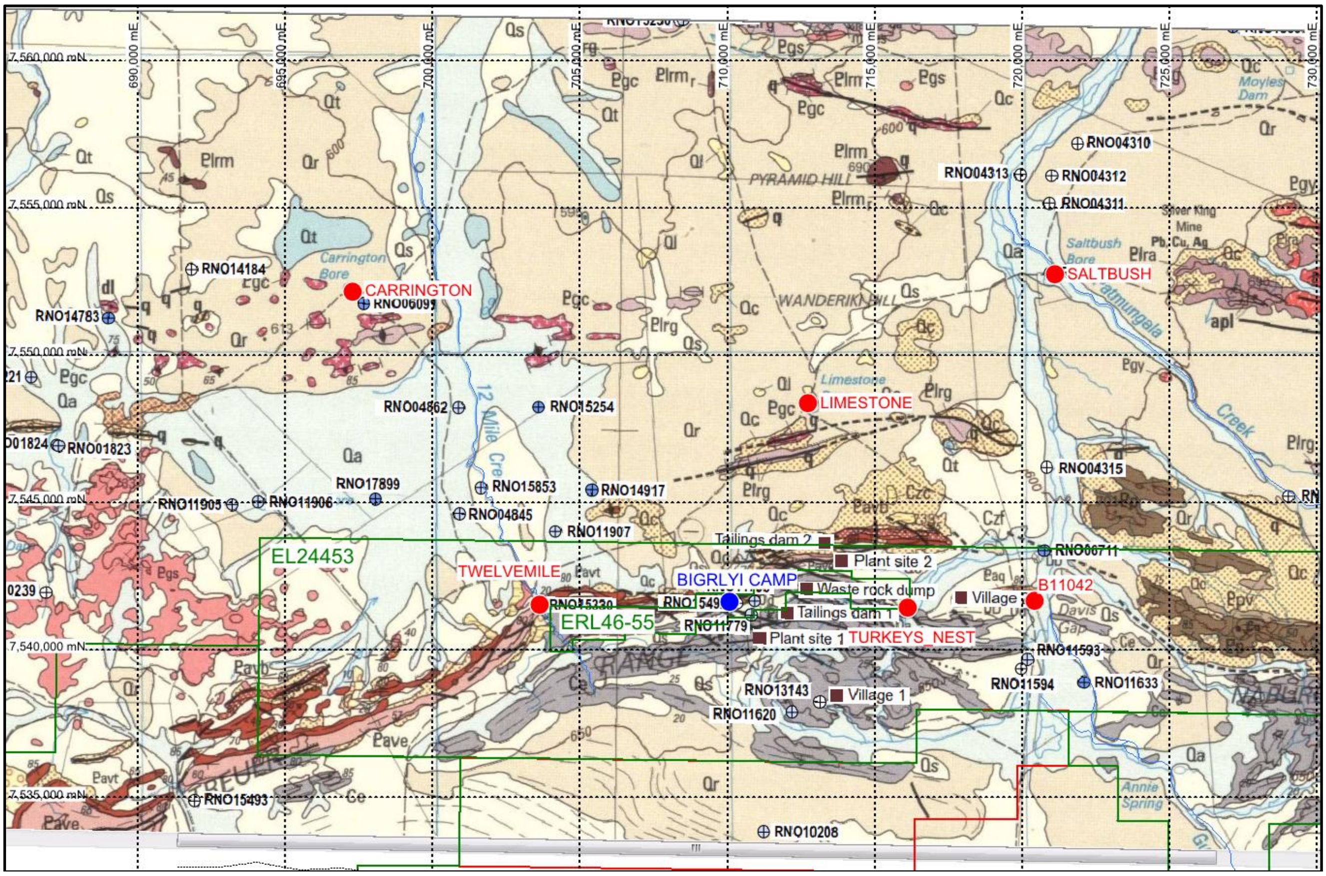

Figure 7: Location of water bores (in red) monitored in the environmental baseline program.

Camp Maintenance

Camp maintenance was ongoing to ensure all employees & contractors were satisfactorily housed according to EME's OH&S standards, procedures & guidelines. Maintenance included:

- Upgrade of field communications- New long range RT/two-way radios at base camp
- Vehicle washdown bays on ELR54 (Turkey's nest) & ELR50 (camp)
- Core facility upgrade - New core racking & pallet storage racks
- Historical core re-stacked & re-organised
- Update of First Aid supplies

Flora and Fauna

EME representatives met with consultant Dr Bill Low of Low Ecological Services on the 27th October 2013 to discuss the continuous improvement of Environmental Baseline Studies at Bigrlyi. EME also discussed the possibility of conducting a warm weather Flora and Fauna survey to add to the environmental data-set; it is intended to progress this work in 2014.

Drilling

No drilling was carried out for the reporting period.

Chemical Assaying for Uranium and Vanadium

No chemical assaying or sample submission was carried out for the reporting period.

Resource Estimations

No resource estimations were carried out for the reporting period.

Geological Modelling

No geological modelling was carried out for the reporting period.

Metallurgy

No metallurgy was carried out for the reporting period.

Surveying

No surveying was carried out for the reporting period.

Rehabilitation

Rehabilitation was complete in 2012; no further rehabilitation was required for the reporting period.

WORK PROPOSED FOR 2014

Activities planned for 2014 include:

- (i) Formulation of a joint venture budget in accordance with the JV agreement.
- (ii) Bulk density measurements at the A2 uranium deposit.
- (iii) Detailed rock chip point line sampling using a DGPS over resource areas to integrate and assist with wireframe projections.
- (iv) Ongoing baseline radiation monitoring.
- (v) Ongoing environmental baseline studies.
- (vi) Ongoing camp maintenance.

These projects are subject to approval by the Bigrlyi joint venture partners.

CONCLUSIONS AND RECOMMENDATIONS

Due to the present, depressed state of the uranium market and consequent limitations on the JV budget, exploration work undertaken in the current reporting period was set at minimum levels by the JV partners. Nevertheless a gradient array induced polarisation (GA-IP) survey was undertaken over the A4 and A15 ore bodies as an orientation trial to determine whether the technique would be useful in targeting prospective Mt Eclipse sandstone under cover. The survey yielded promising results for detection of reduced sandstone units and redox boundaries under thin sand cover and the technique was applied to nearby prospects on the adjacent EL24453 in 2013 with some success. Additional work undertaken during the period included collection of bulk density data and on-going radiation and environmental baseline studies.

If uranium market conditions allow an increase in the JV budget, then it is planned in the short term to undertake a program of resource expansion drilling mainly at the A2 and A15 deposits, together with optimisation of various technical aspects of the project including metallurgy, pit design and geotechnical investigation; these studies will build on the Bigrlyi Project Pre-Feasibility Study of March 2011. Positive results from this work combined with improved market conditions will lead to a decision to go to a Definitive Feasibility Study (DFS) in 2015/16.

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