PARTIAL RELINQUISHMENT REPORT
ON SUB-BLOCK RELINQUISHED
EFFECTIVE 28 AUGUST 2011

EL 25708
MURPHY PROJECT, NT

OCTOBER 2011

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October 2011
EXECUTIVE SUMMARY

This relinquishment report describes the work carried out on relinquished sub-blocks effective 28 August 2011 in EL 25708 being part of Bondi Mining Ltd’s Murphy Project area. EL 25708 is located over the western end of the Murphy Inlier, NT and is held by Murphy Uranium Pty Ltd; a wholly owned subsidiary of Bondi Mining Ltd.

Work carried out on the relinquished sub-blocks comprised a detailed airborne magnetic and radiometric survey, and a detailed geological interpretation.
1 INTRODUCTION

Bondi Mining Ltd, through its wholly owned Australian subsidiary Murphy Uranium Pty Ltd (ACN 053538613), is the holder of EL 25708. The license is located west of the Westmoreland Uranium Field and forms part of Bondi Mining Ltd’s Murphy Project targeting unconformity style uranium deposits within the Southern McArthur Basin in the Northern Territory. The Murphy Project is currently made up of ELs 24694, 24841, 25708, 25709, 25710, 26138, 26139, 26140, 27379, 27728, 27729 and 27730 (see Figure 1).

This relinquishment report covers all the exploration work carried out within the area of the relinquished sub-blocks effective 29 August 2011 in EL 25708. The work from date of grant until the effective date of relinquishment was directed at determining whether the covered region has the potential to host economic uranium mineralisation and the selection of target areas. Exploration activities involved an extensive review of previous exploration, an airborne magnetic and radiometric survey and detailed mineral assessment aimed at selecting uranium targets. Results of this work delineated one target area on EL 25708; UC Nine, this target is partially within the areas nominated for relinquishment.
EL 25708 is located approximately 130km west of the NT - QLD border and 170km south east of the McArthur River mine in eastern NT, see Figure 1. The license covers four 1:250,000 map sheets; Walhallow, Brunette Downs, Calvert Hills and Mount Drummond. Access is via the Barkly Highway from Mt Isa or Tennant Creek, to the Barkly Roadhouse and then via the Tablelands Highway, alternatively via the Creswell Downs–Calvert Hills road, which crosses the Qld – NT border near Wollogorang, access within the tenement is by the graded Calvert Hills Road and station tracks.

Figure 1 - Tenement Location Map
3 TENURE DETAILS

EL 25708 was originally taken out by Global Discovery Pty Ltd and was acquired from them by Canon Investments Pty Ltd (a wholly owned subsidiary of the Canadian company, Buffalo Gold Limited). In 2007 the Murphy project was acquired by Murphy Uranium Pty Ltd (a wholly owned subsidiary of Bondi Mining Ltd) who is the current operators of the license. Tenement details are shown below in Table 1, Table 2 and Table 3. Retained and relinquished sub-blocks are shown in Figure 2.

Table 1: Tenement Details

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<th>Exploration License No.</th>
<th>No. Blocks (Area km²)</th>
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<th>Expiry Date</th>
<th>Expenditure Commitment</th>
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Table 3: Tenement Details – Sub-Block Relinquished 2010

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Table 4: Tenement Details - Sub-Blocks Relinquished 2011

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<tr>
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Figure 2 - Sub Block Identification Map
4 REGIONAL GEOLOGY

The Murphy Project area is located on the western end of the Murphy Inlier. The inlier is referred to as the Murphy Tectonic Ridge and represents a belt of lower Proterozoic basement that separates the middle Proterozoic McArthur Basin to the north and the middle Proterozoic Lawn Hill Platform - South Nicholson Basin to the south. Refer to Figure 4. The oldest rocks in the region are the lower Proterozoic Murphy Metamorphics, which form the basal unit of the Murphy Inlier, and consist of isoclinally folded greenschist facies metasediments; typically quartz-feldspar-mica schist’s and gneiss with minor graphitic units. The Murphy Metamorphics form the core of the Murphy Tectonic Ridge and only outcrop in the NT portion of the inlier. The Cliffdale volcanics unconformably overlay the Murphy Metamorphics and are made up of a series of felsic volcanic and volcaniclastic rocks. The Cliffdale volcanics are only found at the eastern end of the inlier. Both the metamorphics and volcanics are intruded by granites and adamellites of the Nicholson Granite Complex which constitutes the majority of the rocks found in the inlier.

The northern margin of the Murphy Inlier is unconformably overlain by the Westmoreland Conglomerate, which is the oldest unit in the middle Proterozoic Tawallah Group, and marks the base of the southern portion of the McArthur Basin. The Westmoreland Conglomerate is made up of four sub-units;

(i) A basal volcanic derived (sourced from the underlying Cliffdale volcanics) conglomerate - breccia that grades up into a pebbly quartz sandstone;

(ii) An upward fining, coarse to medium grained ferruginous sandstone;

(iii) A coarse polymictic conglomerate and minor pebbly sandstone, which can be reverse faulted directly on the Cliffdale Volcanics; and

(iv) A porous, crossbedded, coarse grained quartz sandstone, with minor conglomerate bands and laminated tuffaceous siltstone in the lower part.

The Seigal Volcanics lie conformably on top of the Westmoreland Conglomerate and consist of massive and amygdaloidal tholeiitic basaltic lavas with minor interbedded siltstones and sandstones. A thin shale bed is commonly found at the base of the Seigal Volcanics and marks the hiatus between deposition of the Westmoreland Conglomerate and the start of volcanism. The middle to upper Tawallah Group consists of interbedded sediments and volcanics. Sediments and volcanics of the McArthur Group lie unconformably over the Tawallah Group.

The southern margin of the Murphy Inlier is unconformably overlain by several belts of Lawn Hill Platform in addition to sediments of the south Nicholson Basin, which unconformably covers the Lawn Hill Platform successions. A thin unit of coarse sandstone and conglomerate, the Wire Creek Sandstone, marks the base of the Lawn Hill Platform in places and is conformably overlain by the Peters Creek Volcanics; a massive sequence of alternating basalt, rhyolite and rhyodacites with minor sediments. Both units can be found lying unconformably on the Murphy Inlier and are considered equivalents to the Tawallah Group in the McArthur basin. The Peters Creek Volcanics are unconformably covered by the Fickling Group, a sequence of conglomerates, sandstones,
siltstones and dolomites. The Fickling Group belongs to the Lawn Hill Platform and in the area of
the Murphy Inlier is unconformably covered by shallow marine sediments of the South Nicholson
Basin referred to as the South Nicholson Group. This group is also found lying unconformably
over the western end of the Murphy Inlier or over the Benmara Beds, which can lie unconformably
between the South Nicholson Group and the Murphy Metamorphics. The Benmara Beds are also
a middle Proterozoic Tawallah Group equivalent and consist of a mixed rhyolite, trachyte,
sandstone and conglomerate package.

Figure 3 - Simplified Regional Geology

Phanerozoic cover consists of mostly early to middle Cambrian sediments and basalts, and
Cainozoic sediments. Outcropping of Proterozoic rocks in the project area suggests that within
EL’s 25708, 25709 and 25710 the Phanerozoic cover is not thick, although the airborne magnetics
suggest that the Cambrian Georgina Basin limestone and Antrim Plateau Basalt become thicker to
the west.

Structurally, the region is cut by a dominantly NW trending series of faults and joints paralleling the
Calvert fault. Possible NNW trending extensions of the Emu Fault also pass through the west side
of the region under the Phanerozoic cover. A second set of NE trending faults can also be seen
paralleling the structural trend of the Murphy Tectonic Ridge. Both sets of faults commonly consist
of high angle normal and reverse faults whose intersection appears to form structural blocks
displaying horizontal movement and/or tilting. Lateral movement is also common in the NW
trending structures. Numerous mafic, commonly doleritic, dykes parallel the faulting and are thought to be cogenetic with the mid Proterozoic volcanics of the Tawallah Group.

Small stratabound disseminated lead – zinc ± copper occurrences, associated with carbonaceous units are found within both the McArthur and Lawn Hill Platform – South Nicholson Basins. Copper mineralisation occurs as unconformity related and breccia pipe occurrences in the region. The latter deposit type forms sub-economic deposits in the Redbank area which were mined on a small scale in the post war era. Minor tin occurrences have also been found around the Nicholson Granite Complex.

The region is best known for the uranium deposits at Westmoreland (Refer to Figure 3); notably the Redtree deposit (12,600t U₃O₈), the Jannagunna deposit (5,300t U₃O₈) and the Huarabagoo deposit (3,000t U₃O₈). Mineralisation in these deposits occurs as sandstone hosted uranium within the upper sandstone unit of the Westmoreland Conglomerate, directly below the contact with the Seigal Volcanics, and shows a strong association with fault hosted mafic dykes and sills. Minor mineralisation is also found within other units of the Westmoreland Conglomerate and in shear zones at the unconformity between the Cliffdale Volcanics and Westmoreland Conglomerate. Clusters of minor uranium occurrences area can be found to the west and east of the Westmoreland area, along the northern margin of the Westmoreland Conglomerate. To date only minor unconformity type uranium mineralisation has been found at the unconformity between the Murphy Metamorphics and the Westmoreland Conglomerate.

![Figure 4 - Stratigraphy of Murphy Inlier Region](image-url)
4.1 Structure and tectonics

Cratonisation of the northern Australian orogenic domains during the Barramundi Orogeny was accompanied by the establishment of a fundamental framework of deep-seated NW, NNW to NNE and NE-trending crustal structures (Etheridge et al., 1987). It is widely speculated that these structures were reactivated and became the major controlling influence on the depositional geometry of succeeding basin phases and the localisation of subsequent deformation (e.g., Plumb, 1979; Etheridge and Wall, 1994; Rogers, 1996). The majority of models for the evolution of the McArthur Basin promote extensional tectonics, in which specific fault orientations acted as normal or ‘growth’ structures and others acted as accommodation or transfer structures during various stages of basin formation. The most influential aspect of McArthur Basin geology that has driven extensional models is the presence of significant volcanic and coarse grained clastic rocks at the base of the basin succession (Rogers, 1996).

The igneous rocks of the Westmoreland region are markedly bimodal with respect to silica content, a typical feature of intracratonic rifting. No rocks older than the Murphy Metamorphics are known east of the Westmoreland area, implying that the detrital sediments of the Tawallah Group were derived from either within or west of the Murphy Tectonic Ridge. The Tawallah Group is dominated by shallow-water marine sediments deposited on a regionally extensive platform.

Subsequent contractional reactivation of earlier ‘extensional fault systems’ is thought to have occurred at least three times during and after basin development (Plumb, 1994; Rogers, 1996).
5 EXPLORATION PHILOSOPHY

Bondi Mining Ltd believes that the covered regions about the western end of the Murphy Inlier have not been adequately explored and have the potential to host high grade uranium mineralisation. The uranium mineralisation is envisaged to be either;

(i) unconformity type uranium deposits located at the lower Proterozoic, mid Proterozoic uniformity between the Murphy Metamorphics and Westmoreland Conglomerate, similar to those found in the Alligator Rivers Uranium Field, NT; or

(ii) sandstone hosted uranium deposits associated with the upper unit of the Westmoreland Conglomerate, below the contact with the Seig al volcanics, similar to those found in the Westmoreland uranium deposits, QLD.

6 SUMMARY OF PREVIOUS WORK

A comprehensive review of previous mineral exploration was carried out and an outline is presented below. Important information gained from this review are;

- First recorded work in the area was by Mount Isa Mines in 1956 and consisted of crude airborne radiometric surveys. The results of this work located the Westmoreland deposits and most likely all of the significant outcropping occurrences.

- There was a distinct hiatus in exploration between 1963-1970, reflecting a slump in the global demand for uranium; the post war proliferation of nuclear weapons had slowed and the nuclear power industry was still in its infancy.

- A second wave of exploration commenced in the 1970’s as the demand for uranium for use in nuclear power stations increased. Many of the companies were also operating in the Alligator Rivers region, at the northern end of the Pine Creek fold belt, and much of their focus was on this area after the discovery of significant deposits at Jabiluka, Ranger, Nabarlek and Koongarra. The similarity between the two areas was known, however at this time the nature of the Alligator Rivers deposits was poorly understood and exploration was targeted toward roll front and sandstone hosted uranium deposits in both areas. By the time unconformity type uranium deposits were understood, uranium exploration restrictions were in place and work did not resume in the area until recently.

- More detailed radiometric surveys have been carried out. This work has revealed many outcropping anomalies related to brecciation, quartz veining (silicification) and iron-metasomatism (ferruginisation) associated with faulting in the Nicholson granite and Murphy Metamorphics. None of these anomalies appear to warrant follow-up work, however they indicate that processes associated with the formation of unconformity type uranium deposits have been active in the early Proterozoic basement.

- The region has been explored for gold, basemetal (sedex type deposits) and kimberlite hosted diamonds by several major companies. No significant gold or basemetal discoveries were made. A large number of diamonds were recovered from Ashton’s Creswell prospect outside the licence and the area is currently under an EL.

- An airborne GEOTEM survey carried out by BHP targeting unconformity U- Au- PGE deposits indicated the usefulness of input EM surveys in targeting unconformity uranium deposits under cover. In particular the ability to locate basement conductors related to graphite in fault zones or clay alteration. Part of the BHP survey covers the current EL.
The western covered region of the Murphy Inlier has the potential to host an unconformity type uranium deposit at depth

A list of the ATPs and ELs previously covering EL 25708 is provided in Table 3.

**Table 3:** Previous tenements over EL25708

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<td>Carpentaria Exploration Company</td>
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<td>ESSO Australia</td>
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<tr>
<td>EL 122</td>
<td>Noranda Australia</td>
</tr>
<tr>
<td>EL 886 &amp; EL 887</td>
<td>T.W. Cawley and R.A. Weston</td>
</tr>
<tr>
<td>EL 1339</td>
<td>AAR Ltd/Otter Exploration “Coolibah” JV</td>
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<tr>
<td>EL 1427</td>
<td>Mines Administration/Otter Exploration “Bowgan Creek” JV</td>
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<tr>
<td>EL 1253</td>
<td>Mines Administration/Union Oil JV</td>
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<tr>
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<td>Mines Administration/ESSO Australia JV</td>
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<td>EL 7222 &amp; 7223</td>
<td>MIM</td>
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<tr>
<td>EL 8997, 8998, 9163 &amp; 9660</td>
<td>BHP</td>
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7 WORK COMPLETED BY BONDI

7.1 Summary of Work Done

Work completed since the acquisition of the tenement area and up to the 31 July 2010 consisted of:
- A comprehensive review and assessment of previous mineral and diamond exploration work.
- Ground and helicopter reconnaissance
- An airborne magnetic and radiometric survey.

7.2 Assessment of Previous Exploration

A summary of this review is provided above in Section 6. As part of this review the limited drilling in the area was used to map out a rough depth to basement. The results indicate that Proterozoic basement is at a relatively shallow depth in the licence with the potential for the occurrence of Murphy Metamorphics. In addition, a review of BHP “Bowgan” airborne GEOTEM survey (1997 open file report CR97/260 & 97/325) showed that input EM could be used to map conductive units in the Murphy Metamorphics corresponding to graphitic schists.

7.3 Ground and Helicopter Reconnaissance

No previous ground exploration was conducted over large portions of the area now covered by EL 25708. In July 2008 a ground reconnaissance survey, using a four wheel drive vehicle, was conducted on the EL to see if alpha track sampling was feasible and to explore access to these areas. Access was limited to station tracks along fence lines with some rough tracks.

In early September 2008 a Bell Jet ranger 206 helicopter was chartered to determine if all the target areas were inaccessible. This air reconnaissance revealed that, although difficult in places, two field crews with one experienced field assistant in each four wheel drive vehicle could negotiate access for alpha track sampling over most of the targets.

7.4 Airborne Magnetic and Radiometric Survey

A large airborne magnetic and radiometric survey, which covers all of EL 25708, was flown in March - May 2009. The survey which was flown north - south at a 100m line spacing, and a height of 50m was designed to provide high quality magnetic and radiometric data which can be used to interpret stratigraphy, faults and potential mineralisation under cover. Refer to Figure 5 - Area of 2009 Magnetic / Radiometric Survey, for the location map of the survey area. This data has been supplied to the department as Appendix 10 in the 2009 annual report for EL’s 25708, 25709 and 25710.

The radiometric data was rather noisy, however the magnetic data has been processed and various images have been produced. These help to highlight stratigraphic units with different magnetic susceptibilities, faults and zones of magnetite depletion and addition, which may represent alteration. An interpretation of the magnetics and radiometrics was completed by a consulting geophysicist by the end of March 2008. There are no anomalies over the portion of the
EL which is being relinquished. Anomalies outlined over the retained part of the EL have been reported on in the body of the Annual report.

![Figure 5 - Area of 2009 Magnetic / Radiometric Survey](image)

7.5 Geological Interpretation

In 2009 Douglas Haynes completed a re-interpretation of the magnetics and radiomagnetics flown in 2007, along with data from the 2009 survey. The aim of the interpretation was to define units prospective for hosting uranium mineralisation, and the position of the Murphy Inlier – Westmoreland Conglomerate unconformity. Haynes also defined target areas which were ranked based on a number of criteria including host rock, redox state and structural setting. The report by Haynes is not included within this report as it covers current tenement areas which are still being explored by Bondi Mining Ltd. The target designated UC Nine is partially within the relinquished area of this report (Figure 6).

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EL 25708 - PARTIAL RELINQUISHMENT REPORT 2011
8 CONCLUSIONS

Results to date indicate that the potential for locating uranium mineralisation is limited in the areas covered by the western and eastern portions of the and further work is not warranted. It was decided to relinquish the sub-blocks covering these areas. Work will continue in the remaining part of the tenement.
Appendix 1  Airborne Magnetic & Radiometric Survey Data
(Held by NT Department of Primary Industries, Fisheries and Mines)