

The logo for Bondi Mining, featuring the words "BONDI MINING" in white, bold, uppercase letters inside a blue, horizontally-oriented banner with a slight curve and a dark blue outline.

# **BONDI MINING**

## **ANNUAL REPORT**

**EL's 25708, 25709 & 25710**

**MURPHY PROJECT – NT**

**November 2009**

**Report Period: 1/9/2008 to 31/8/2009**

**David Esser & David Stevenson**

**November 2009**

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## EXECUTIVE SUMMARY

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This annual report describes the work carried out in EL's 25708, 25709 & 25710 up to the 31st August 2009. EL's 25708, 25709 & 25710 are located over the western end of the Murphy Inlier, NT and are held by Murphy Uranium Pty Ltd, which is a wholly owned subsidiary of Bondi Mining Limited; (Bondi). These EL's have the potential to host unconformity style and sandstone hosted style uranium deposits, similar to those located in the Alligator Rivers Uranium Field at the northern end of the McArthur Basin and the Westmoreland deposit approximately 100km to the east of the project area, respectively.

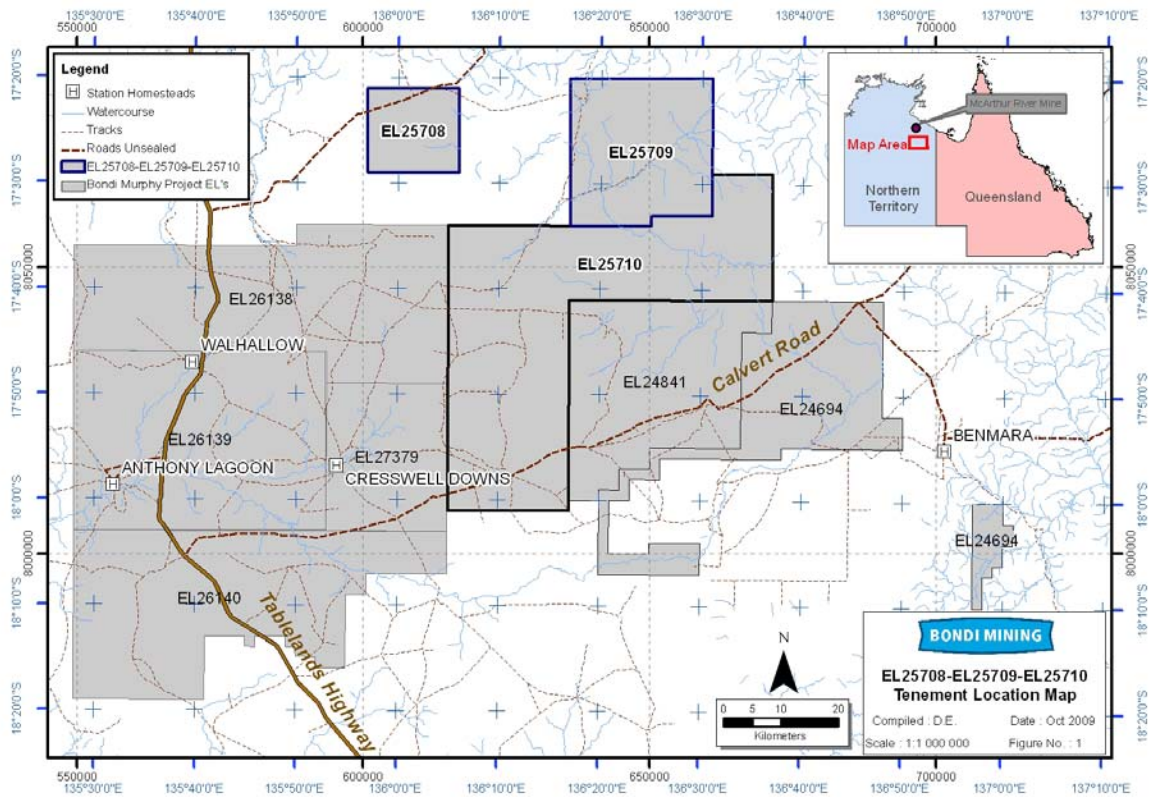
Work during this period comprised: Alpha track sampling on targets UC04, UC06, UC16ext, UC18ext, UC19ext, UC23 and UC23ext, geological mapping, geological interpretation of the 2007 airborne magnetic and radiometric survey, target generation, eight RAB holes testing phosphate potential (289m) and three RC / diamond drill holes for 553m on target UC17, testing strong geochemical and geophysical anomalies.

Results from exploration during the reporting period are summarized below:

- Alpha track sampling was carried out over newly defined targets and previous targets had sampling extended.
- Doug Haynes extended target areas for UC06, 18, 19 and 23 were altered based on the new interpretation.
- Eight RAB holes were drilled to a depth of approx 20 to 60m to test for phosphate mineralisation. The limestone thins to the east and did not contain significant P<sub>2</sub>O<sub>5</sub> values.
- RC / diamond drill holes MURD005, MURD006 and MURD007 at target UC17,

# 1 INTRODUCTION

Bondi Mining Limited, through its wholly owned Australian subsidiary Murphy Uranium Pty Ltd, is the holder of EL's 25708, 25709 and 25710. The licences are located west of the Westmoreland Uranium Field and forms part of Bondi's Murphy Project targeting uranium deposits about the Murphy Inlier in the Northern Territory. The Murphy Project currently comprises ELs 24694, 24841, 25708, 25709, 25710, 26138, 26139 and 26140 and ELA 27379. Refer to **Figure 1** for the location map.

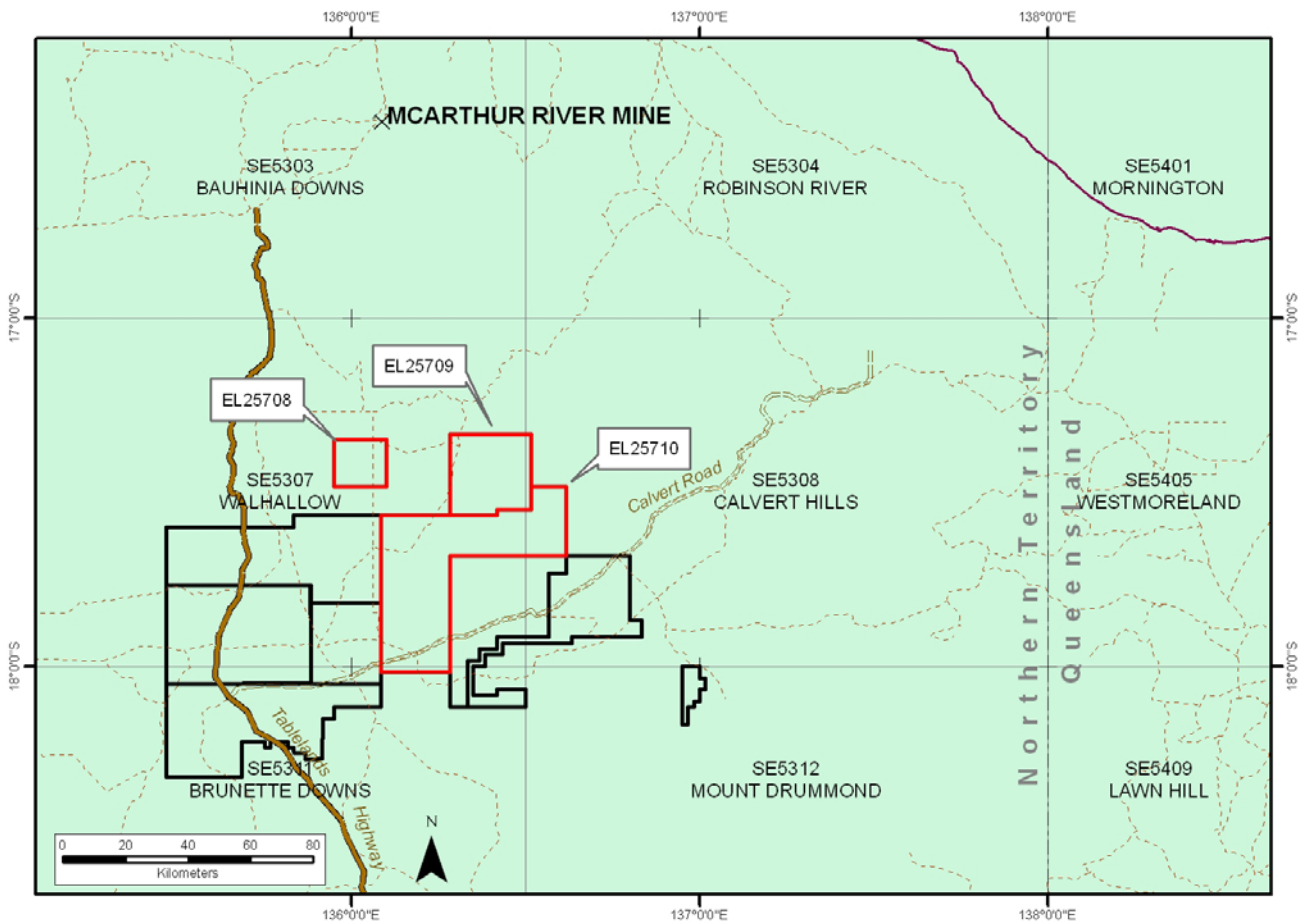


**Figure 1 - Location Map showing Murphy Project**

This annual report covers all the exploration work carried out within EL's 25708, 25709 and 25710 up to 31<sup>st</sup> of August 2009. Exploration activities during the reporting period included; wide spaced coverage of NW trending faults and the interpreted unconformity between Mid Prot. Westmoreland Conglomerate and Early Prot. Murphy inlier with alpha track cups (800 x 200m), RAB drilling and RC / Diamond drilling.

## 2 LOCATION & ACCESS

EL's 25708, 25709 and 25710 are located approximately 130km west of the NT - QLD border and 170km south east of the McArthur River mine in eastern NT, see **Figure 2**. The licence covers four 1:250,000 map sheets; Wallhallow, Burnette Downs, Calvert Hills and Mount Drummond. Access is via the Barkly Highway from Mt. Isa, to the Barkly Roadhouse, then via the Tablelands Highway to the Calvert Hills Road. Access around the project area is via graded station roads and tracks. An alternative access can be gained via Cape Crawford to the north via the Tablelands highway, or from the east by the Calvert Hills Rd which crosses the border near Wollogorang.



**Figure 2 - Tenement Location Map**

### 3 TENURE DETAILS

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Global Discovery Pty Ltd originally applied for EL's 25708, 25709 and 25710 and they were acquired from them by Canon Investments Pty Ltd (a wholly owned subsidiary of the Canadian company, Buffalo Gold Limited), and subsequently by Murphy Uranium Pty Ltd who are a 100% owned subsidiary of Bondi Mining Limited (Bondi). In December 2008 a Letter of Agreement was signed between Bondi and Japan Oil, Gas and Metals National Corporation (JOGMEC) wherein JOGMEC can earn a 51% undivided interest in the project by funding AUD \$3 million in exploration over four years. Bondi is the operator of the exploration program. Tenement details are shown below in **Table 1**. Exploration expenditure for this period totalled \$666,090. Refer to the Expenditure Report in **Appendix 1** for details.

**Table 1: Tenement details**

Exploration Licence No.	No. Blocks	Area (km <sup>2</sup> )	Grant Date	Expiry Date	Expenditure Commitment
EL 25708	74	(240)	1/8/2006	31/7/2012	\$ 100,000
EL 25709	190	(622)	1/8/2006	31/7/2012	\$ 100,000
EL 25710	500	(1637)	1/8/2006	31/7/2012	\$ 100,000

## 4 REGIONAL GEOLOGY

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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 3**. 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 schists 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 volcanoclastic 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



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 (**Figure 3**) 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 U<sub>3</sub>O<sub>8</sub>), the Junnagunna deposit (5,300t U<sub>3</sub>O<sub>8</sub>) and the Huarabagoo deposit (3,000t U<sub>3</sub>O<sub>8</sub>). 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 Clifdale 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.

## 5 SUMMARY OF PREVIOUS WORK

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A comprehensive review of previous mineral exploration was carried out and an outline is presented here. Important information gained from this review includes the following;

- 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 a ERL.
- An airborne GEOTHEM 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 area about EL 24841 is provided in **Table 2**.

**Table 2:** Previous tenements over EL's 25708, 25709 and 25710

<b>Licence</b>	<b>Company</b>
ATP 444	MIM
ATP 983	Carpentaria Exploration Company
ATP 3401	ESSO Australia
EL 122	Noranda Australia
EL 886 & EL 887	T.W. Cawley and R.A. Weston
EL 1339	AAR Ltd/Otter Exploration "Coolibah" JV
EL1427	Mines Administration/Otter Exploration "Bowgan Creek" JV
EL 1253	Mines Administration/Union Oil JV
EL1234	Mines Administration/ESSO Australia JV
EL 2232	Amoco Minerals
EL 4392 & 4438	Stockdale
EL 4352	Ashton Mining
EL 6836	Carpentaria Exploration Company
EL 7222 & 7223	MIM
EL 8997, 8998, 9163 & 9660	BHP

## **7 PREVIOUS EXPLORATION BY BONDI**

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### **7.1 Summary of Work Completed to August 2007**

In summary, the work completed up to 31 July 2007 consisted of;

- A comprehensive review and assessment of previous mineral and diamond exploration work.
- An airborne EM and magnetic survey.
- A mineral assessment and target selection by Douglas Haynes Discovery Pty Ltd comprising:
  - Compilation of public domain geological, geochemical and geophysical data;
  - An interpretation of the geological and structural data for the region;
  - A geophysical and geochemical interpretation of available data, incorporating the airborne EM survey.
  - Selection of potential target areas.

A detailed account and assessment of the 2007 work has been presented in the 2007 Annual Report by D. Hedger. This will not be repeated in this report.

### **7.2 Summary of Work Completed to July 2008**

In the 2008 period, Bondi carried out programmes designed to test some of the targets defined by the assessment of all the previous work to July 2007. Work comprised the following.

- Alpha Track Etch surveys
- RAB Drilling
- Downhole radiometrics
- Hychip Survey report

## 8 EXPLORATION IN REPORTING PERIOD

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### 8.1 Alpha Track Etch Survey

Alpha Track Etch detector cups are designed to measure radon gas, or emitted alpha radiation from buried, oxidising uranium ore bodies. The cups, which contain acetate strip sensitive to alpha radiation particles (radon gas), are buried 30 - 40 cm below surface for a period of at least 30 days before retrieval and despatch to the suppliers for 'counting' of the tracks.

Initially detectors were placed over target zones, along large scale faults, defined by aeromagnetics (Haynes, 2007). The line spacing was 800m and cup spacing 200m along the lines. If anomalous zones were identified infill lines were added at 400m spacing to better define the anomalism. A number of anomalies were identified using this method.

In the reporting period the sampling was extended along strike from NW to NNW trending targets UC04, UC06, UC16ext, UC18ext, UC19ext, UC23. and also along the interpreted NE trending Westmoreland unconformity, UC23ext, to comprehensively test all potential zones for uranium mineralisation.

Alpha Track Etch cup totals are as follows:

TARGET	TENEMENT	2007-2008 CUPS	2008-2009 CUPS	TOTALS:
UC08	EL25709	65		65
UC07	EL25709	177		177
UC04	EL25709		307	307
UC06	EL25710	259	102	361
UC16ext	EL25710		80	80
UC17	EL25710	169		169
UC18reg	EL25710		154	154
UC19ext	EL25710		81	81
UC23	EL25710		125	125
UC23ext	EL25710		199	199
<b>TOTALS:</b>		<b>670</b>	<b>1048</b>	<b>1718</b>

Refer to **Figure 4** for cup locations, and response ratio thematic map, and **Appendix 2** for the results.

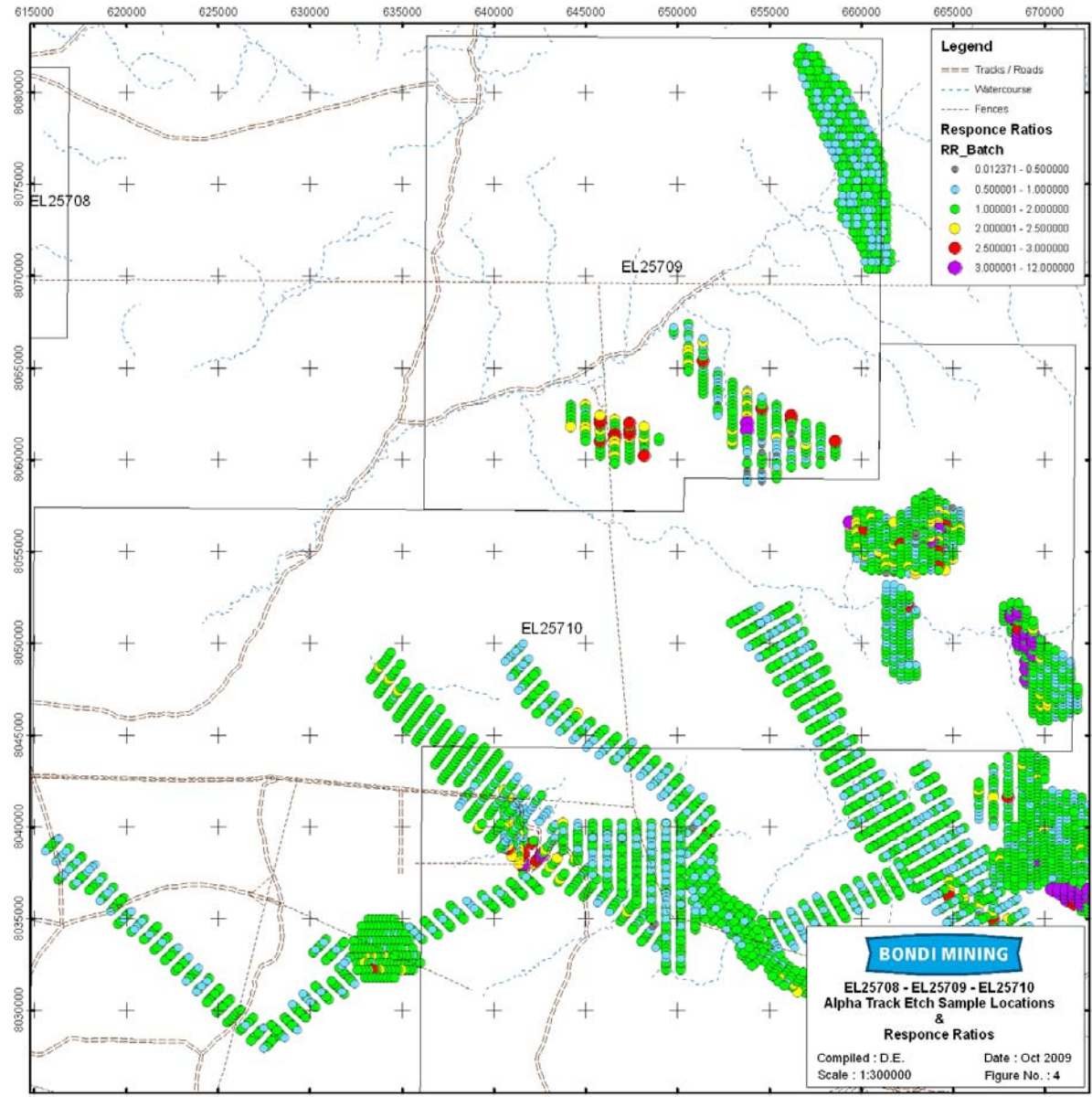


Figure 4 - Alpha Track Etch Sample Locations and Response Ratios- EL 24841

## 8.2 Ionic leach Soil Sampling:

Initial ionic leach sampling on target UC17, which straddles the Emu fault zone, was conducted in the last quarter of 2008 to follow-up an alpha track anomaly. The sampling was conducted on 100 x 400m spacing on the main alpha track anomaly and 100 x 800m spacing away from the core anomaly along the Emu fault. In June 2009 infill sampling was conducted at 100 x 100m spacing over the best uranium geochemical anomaly, covering an area 1.3 x 2.4km. Due to a large variation between the two soil batches, the data was interpreted by Darryn Hedger, a geochemist, to level and compare path finder elements (Hedger, 2009). Hedger identified a correlation between uranium, lead, lanthanum, cerium and yttrium and outlined a small but coherent anomaly on the Emu fault zone. Refer to **Figure 5** for a map of the levelled uranium geochemical anomaly with background grey scale magnetics.

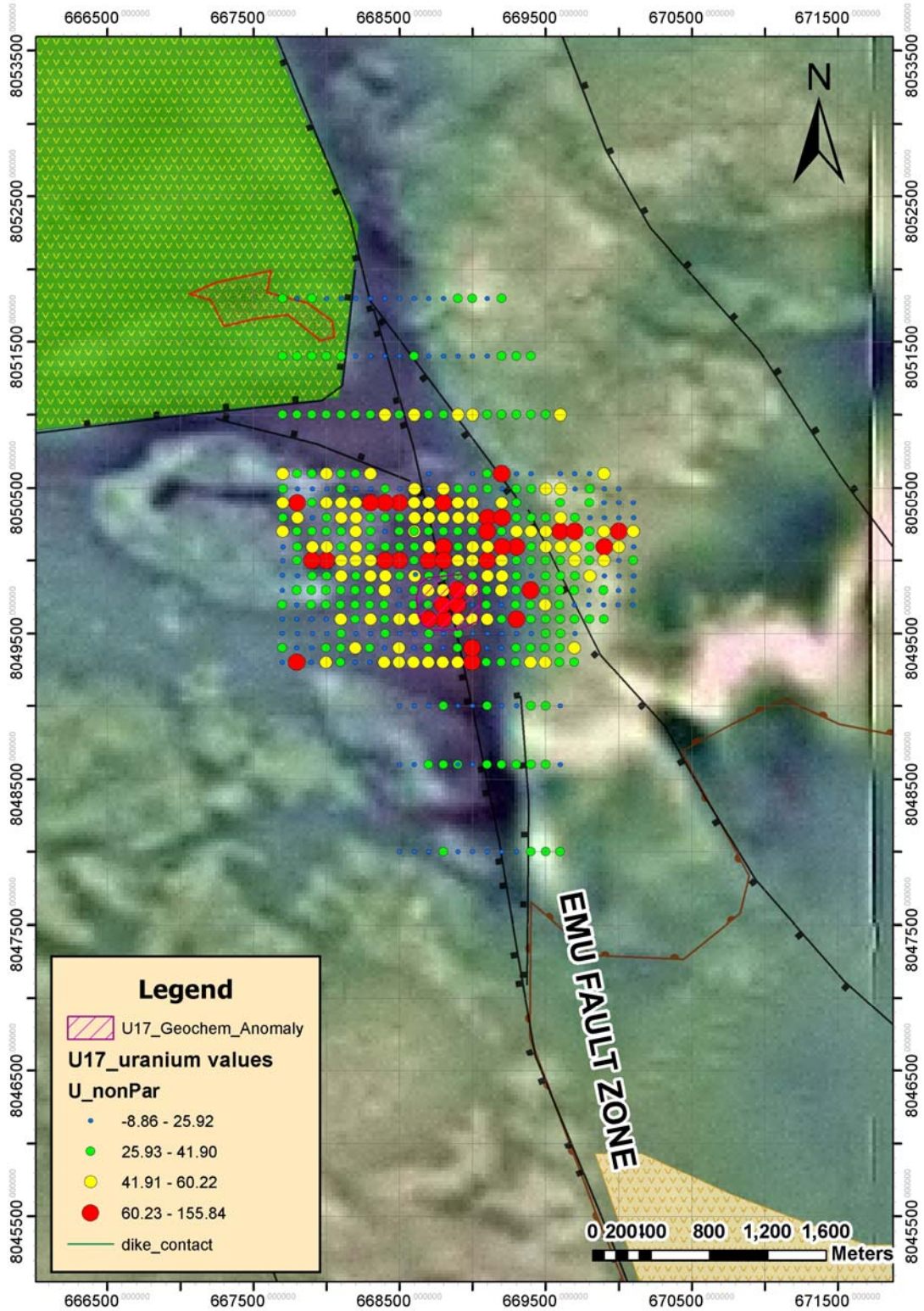
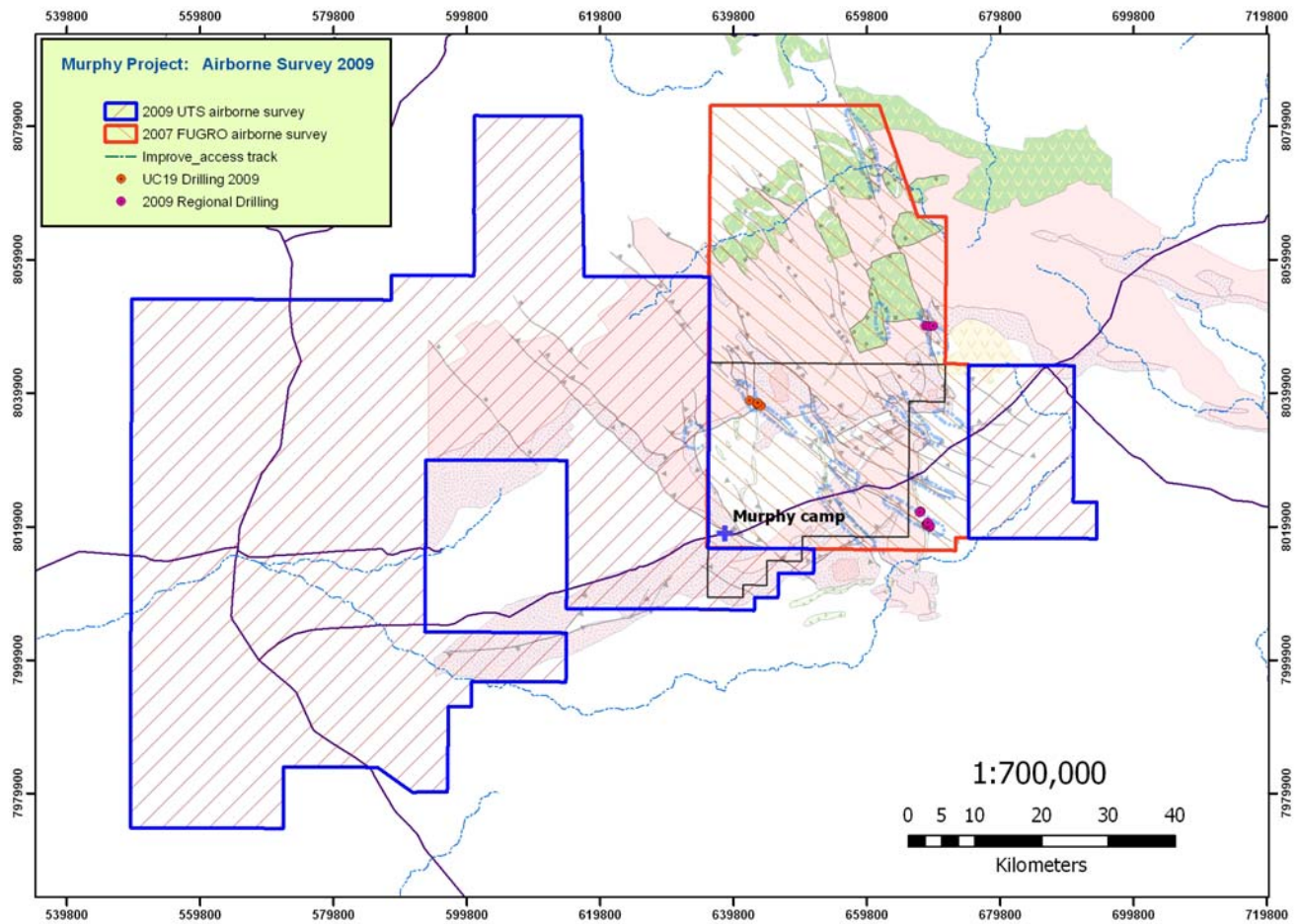


Figure 5 - Ionic Leach soil locations and uranium results in ppm.

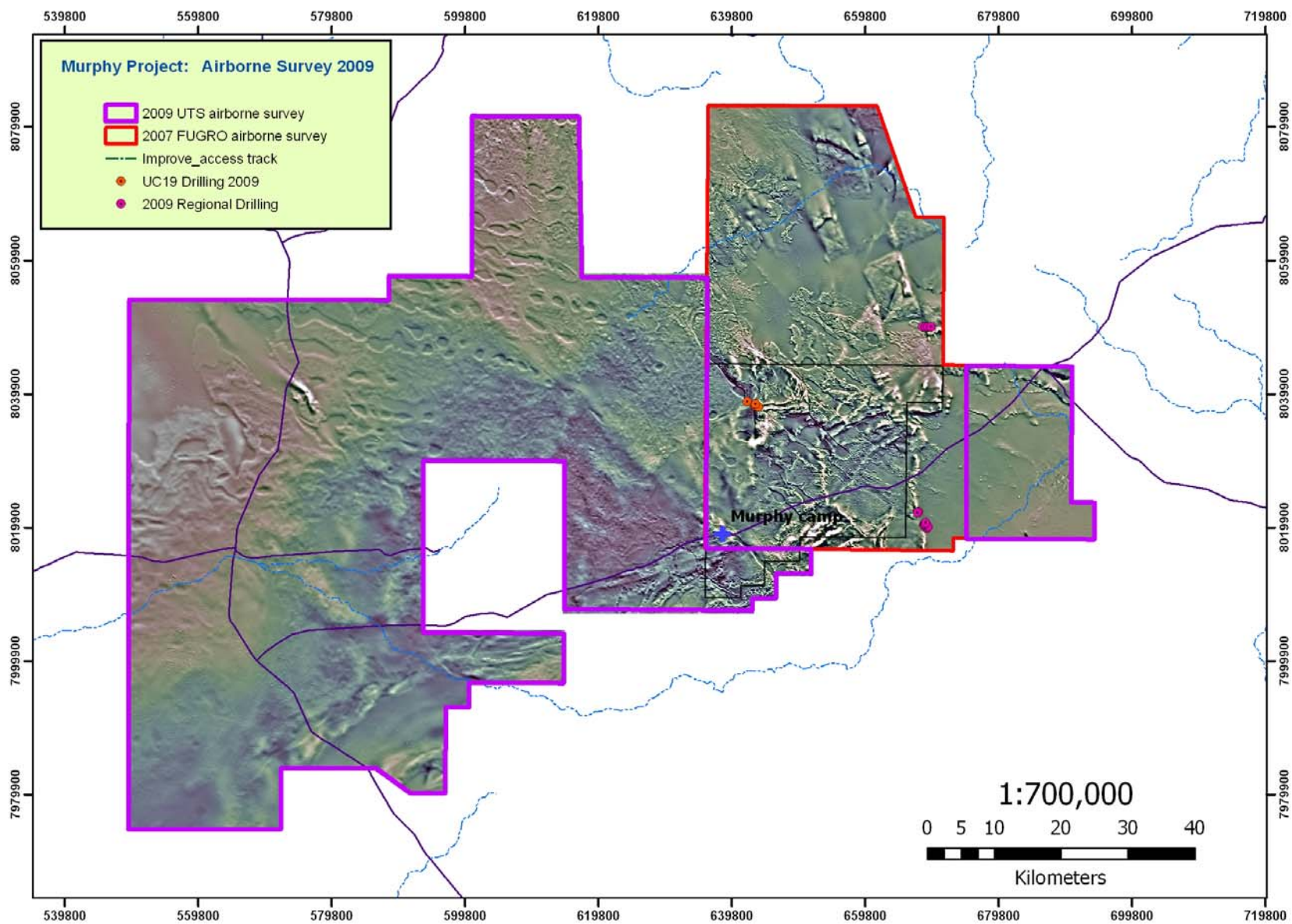
### 8.3 Airborne Magnetic Survey:

In March 2009 UTS geophysical contractors commenced an airborne magnetic and radiometric survey which covered all of EL's 25708, 26138, 26139, 26140 and the western portion of EL 25710 and the eastern portion of EL 24694 within the Murphy project. The aim of the survey was to obtain higher resolution magnetic and radiometric data which would assist in a geological interpretation and ultimately help to define potential drill targets for testing.

The survey comprised a total of 68,303 line kilometres with line spacing at 100m, flying height at 50m and line direction 000° to 180°. Refer to **Figure 6, 7 and 8** for a map of the survey area, a grey scale, reduced to the pole, first vertical derivative, magnetic image and a U radiometric image respectively. The logistics report by UTS, containing survey specification, equipment description and processing procedures is contained within **Appendix 9**.



**Figure 6 - Location of Airborne Magnetic Survey**



**Figure 7 - Colour TMI, 1VD, reduced to the pole, magnetic image of the 2009 airborne survey**

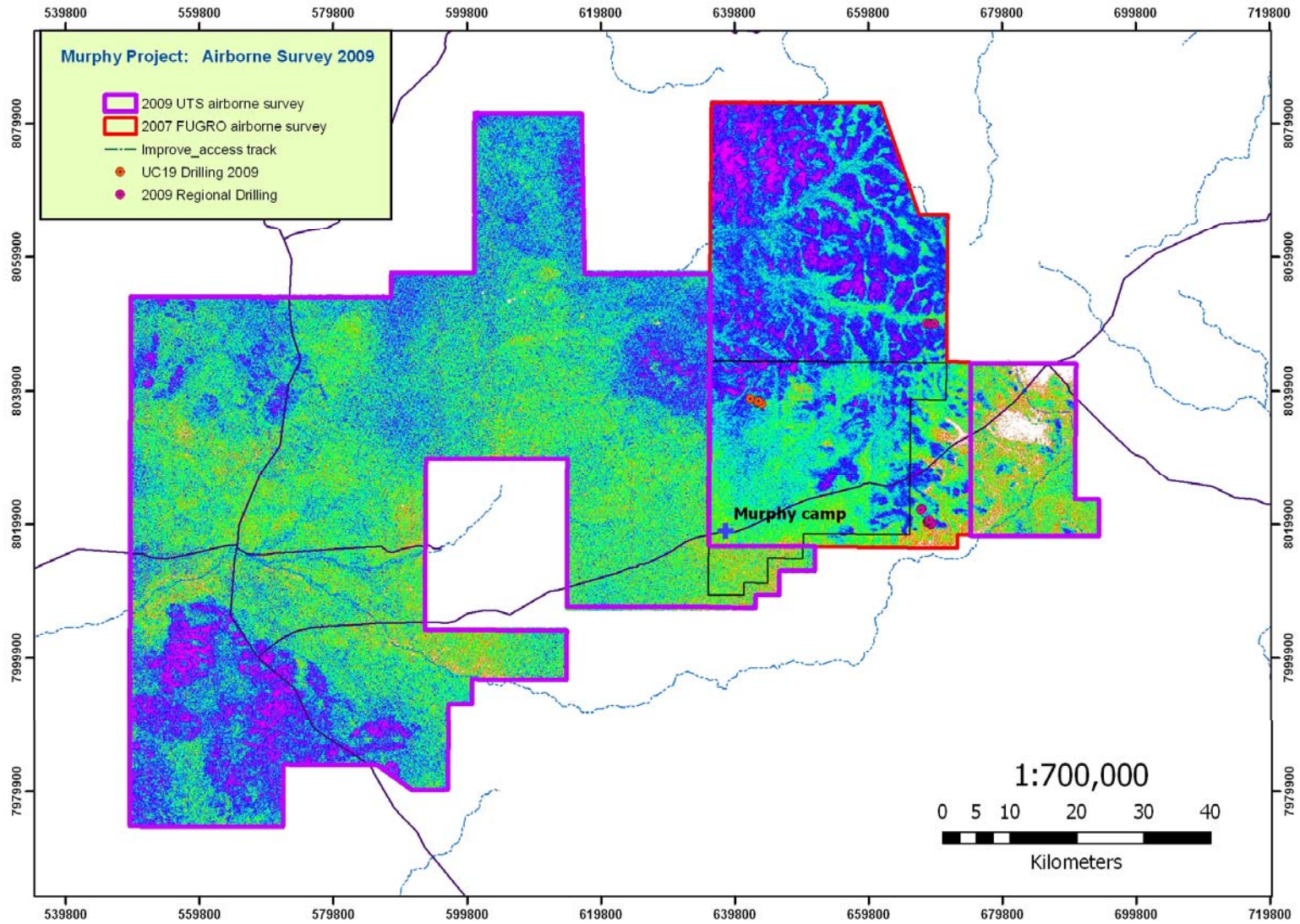


Figure 8 - U<sup>2</sup>/Th radiometric image of the 2009 airborne survey

### 8.4 Geological Interpretation of Airborne Magnetics

A review of 2008 exploration data at Murphy and re-interpretation of the geology was completed by Douglas Haynes. Three new targets, UC24, 25 and 26 located on NW trending faults along strike from UC19 (UC25 and 26) and UC16 (UC24) were defined. Other pre-existing targets were altered to reflect the new geological interpretation. Refer to **Figure 9** for the target locations.

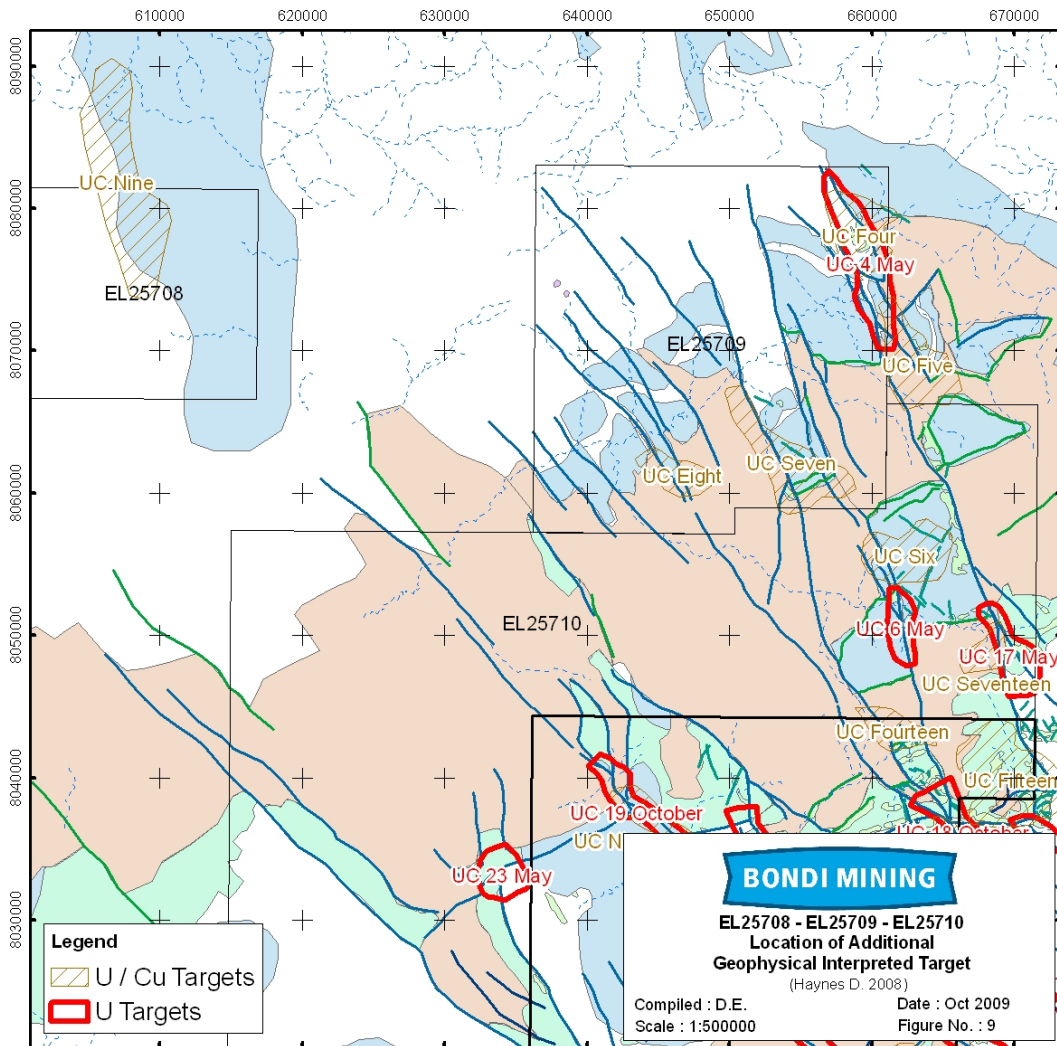


Figure 9 - Location of new targets by Haynes

#### **8.4 RAB drilling**

A joint venture agreement was signed between Bondi Mining Ltd and WCP Resources to explore for phosphate on the Murphy tenements. A widely spaced RAB drilling program comprising 26 holes for a total of 1214 m was completed over Bondi Mining Ltd's Murphy tenements in August 2008, designed to investigate the potential of the Georgina Basin limestones to host phosphate mineralization.

A total of eight drill holes were located on EL's 25708, 25709 & 25710.

Holes MPRB022-024 were drilled on EL25709 at approximately 8 kilometer intervals along existing property tracks. Holes MPRB024 intersected limestone between 2 to 14m.

Holes MPRB009, 010, 011, 020, 021 and 025 were drilled on EL25710 and intersected mudstone and quartzite to 19m in MPRB002 and 10m of limestone, 10m of basalt and then 15m of quartzite to 25m in MPRB004. Refer to **Figure 10** for the location of drill holes and **Appendix 4** for the Drill lithology logs.

Although the Shapiro test (for detecting Phosphate) indicated that the limestone sequence contained anomalous phosphate, drill assays were not significantly anomalous and no further work was planned. Refer to **Appendix 5** for the assay results.

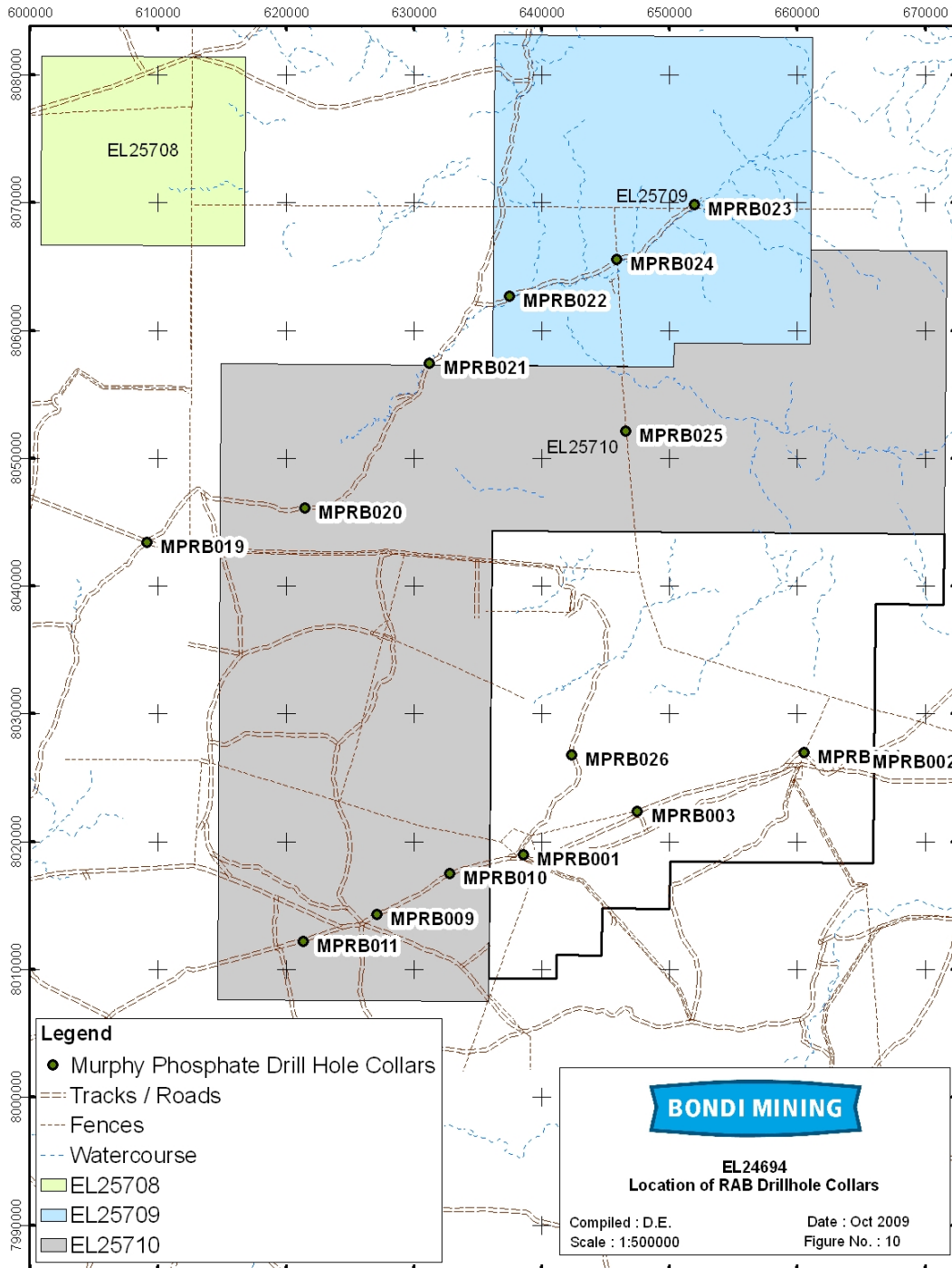


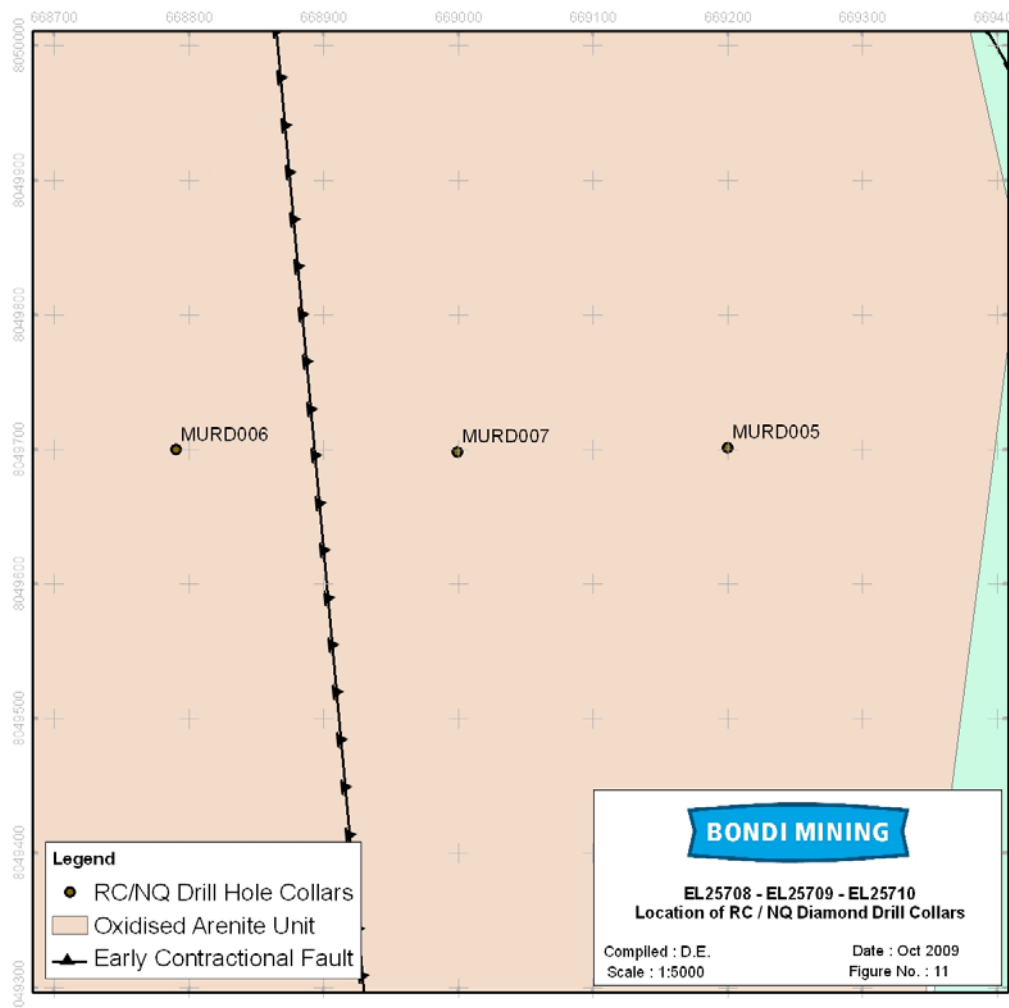
Figure 10 - Location of Phosphate Drillhole Collars

### 8.5 RC and Diamond Drilling

Drilling at UC17 comprised an E-W fence of vertical RC/ diamond holes across an Ionic Leach geochemistry anomaly and coincident track etch anomaly situated on the NNW trending Emu Fault Zone, over favourable lithologies of interpreted Westmorland Conglomerate, and Siegal Volcanics. A total of three holes were drilled for 265m RC, 244.8m NQ, and 43.2m HQ for a total of 553m. Refer to **Figure 11** and **12** for the drill hole locations, and drill section and **Table 4** for the drilling statistics. This program was partially funded by a \$90,000 Collaborative Drilling grant from the Northern Territory Government.

**Table 3: UC17 Drilling Statistics**

TARGET	HOLE No.	RC(m)	HQ(m)	NQ (m)	Total(m)
UC17	MURD005	102			102
UC17	MURD006	66	7.6	165.9	270.5
UC17	MURD007	66	35.6	78.9	180.5
<b>TOTALS</b>	<b>.</b>	<b>234</b>	<b>43.2</b>	<b>244.8</b>	<b>553</b>



**Figure 11 - Location RC / Diamond UC17 drill collars**

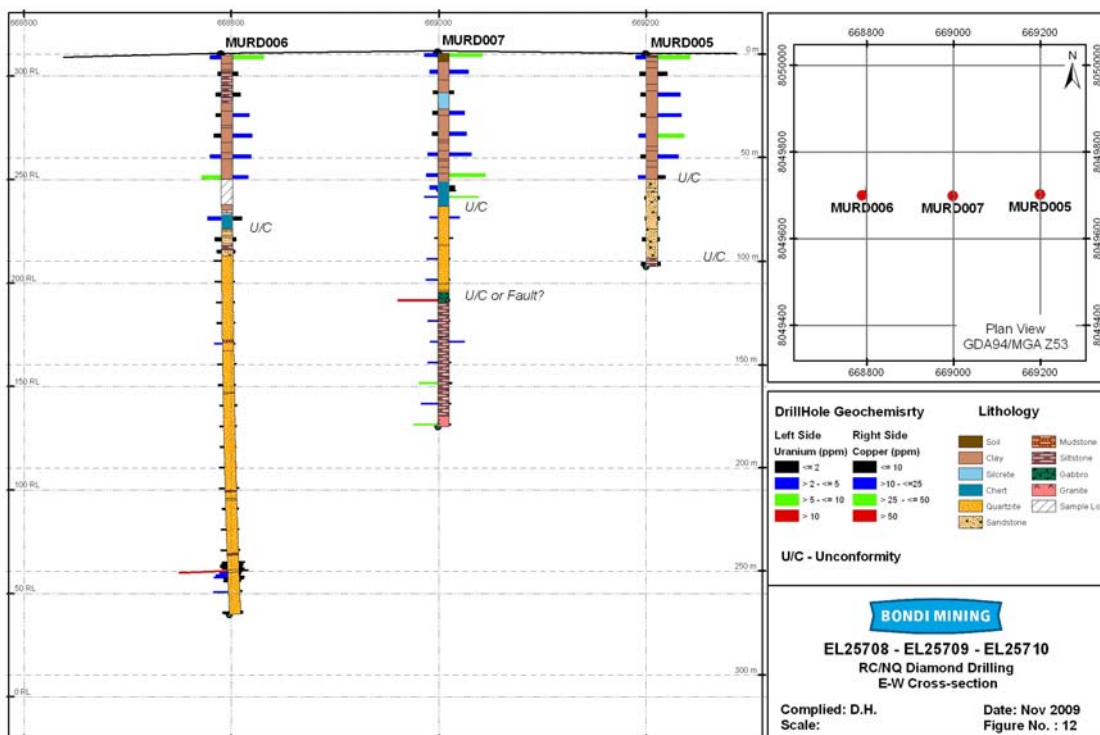


Figure 12 – RC/NQ Diamond Drilling E-W Cross-section

## **8.6 Drilling Results**

### **8.6.1 Geology**

**MURD005** was planned as a shallow RC only hole targeting the eastern side of the Emu Fault Zone, and was to double as a water bore for further UC17 Diamond drilling. Lithologies intersected include: Cenozoic mudstone to 60m; and sandstones, possibly from the Westmorland Conglomerate, to 102m. Alteration consisted of weak hematization. **MURD006** was planned to test the centre portion of the Ionic Leach soils geochemistry anomaly on the Western side of the Emu Fault Zone. This hole was drilled to a final depth of 270.5m comprising RC to 97m, HQ to 104.6m, and NQ to 270.5m. Lithologies intersected in MURD006 include: Cenozoic mudstone, siltstones, and chert to 84m; and Westmorland Conglomerate quartzites, with interbedded siltstone, and mudstone to 270.5m. Notable alteration included moderate, to strong hematization with minor chlorite in sandstones of the Westmorland Conglomerate.

**MURD007** was planned to test the Ionic Leach soil geochemistry anomaly proximal to the Western edge of the Emu Fault Zone. This hole was drilled to a final depth of 180.5m, consisting of a RC precollar to 66m, HQ collar to 101.6m, and NQ to 180.5m. Lithologies intersected include: Cenozoic mudstone, and chert to 111.5m; Westmorland Conglomerate quartzite, and mudstones to 115.5m; gabbro(?) to 120.3m, dark grey siltstone to 175.3m (originally logged as basalt), and coarse grained hematitic granite to 180.5m. The unconformity, between the Meso - Proterozoic Westmoreland Conglomerate and the Palaeo-Proterozoic metasediments is at approx 120m between the gabbro and the siltstone as the bedding is at a very low angle to core axis of  $<10^0$  in the siltstone. This hole intersected substantial faulting, to brecciation between 115m and 137m which is probably due to the Emu Fault Zone.

Refer to **Appendix 6** for the RC / diamond drill hole lithology logs

### **8.6.1 Down hole Radiometrics**

A down-hole 27mm gamma probe, winch and accessories was hired from AUSLOG to probe all the drill holes. Full logs and profiles showing gamma response, total count and SP were prepared and are attached as in **Appendix 7**. Holes MURD005, 006 and 007 were surveyed.

### **8.6.2 Sampling and Assaying**

#### ***RC and core sampling:***

A 12% split of the total sample (approx 1.5 – 2 kg) from each metre drilled was composited over 2m throughout the RC precollar. The first 2m of the hole, and one 2m sample every 10m, was collected down the hole regardless of whether the total counts were two times background or not. For example the following intervals were collected: 0 – 2m, 8 – 10m, 18 – 20m. If the samples were two times background, or approximately 400 cps (counts per

second) a 2m composite sample was collected. The 2m composite samples weighed between 3 – 4 kg.

Core sampling was conducted every 10th metre down the hole whether gamma log values were anomalous or not, however in areas of high gamma log values and also intense carbonate – chlorite – hematite alteration sampling was more intensive.

#### ***Duplicates and Standards:***

Duplicate samples of the RC were collected every 20<sup>th</sup> sample. For example BOM00020, -040, -060. No duplicate samples of the core were collected as that would mean all the core from that interval would be consumed during the analysis. Blanks were inserted into the batch every 50<sup>th</sup> sample, adjacent to the standards.

The standards used were prepared by Ore Research and Exploration Pty. Ltd.

#### ***Analysis:***

A total of 268 samples were submitted to ALS in Mt Isa, road freighted to Townville where they were dried, crushed and pulverised (80% less than 75 micron). The pulps were then air freighted to Brisbane where they are being analysed by 'total' or four acid digest with an ICP AES finish (method ME - ICP61) for a suite of 30 elements. Using the same digest uranium will be analysed by ICP MS (method ME - MS62) with a detection limit of 10 ppb U.

### **8.6.3 Assay Results**

Three batches comprising a total of 376 samples (TV09083790, TV09084325 and TV09096788) were received in August and September. These include sampling from holes MURD005 to 007, which were drilled on tenement EL 25710 and holes MURD008 to 010 which were drilled on EL 24694. Refer to **Appendix 8** for assays results from batches TV09083790, TV09084325, TV09096788; and **Table 4** for the best assay results from MURD002.

**MURD005** did not return anomalous geochemical. The highest U in this hole was 2.8ppm in the surface sample at 0-2m. This is probably due to the presence of iron pisolite (nodules) in the top 2m.

**MURD006** located a small zone of anomalous uranium (up to 12.8ppm) in hematite altered quartzite between 249m-254m. This zone also displayed elevated arsenic, lead and lanthanum. A zone of elevated uranium (up to 5.1ppm) with anomalous zinc (710ppm) was also located higher in the hole at 58m and corresponded to a ferruginous zone just above the Cainozoic unconformity. This thought to be a redox zone in the younger sediments which is scavenging base metals and uranium.

**MURD007** intersected a zone of elevated U (up to 10.5ppm), with coincident high Lanthanum, at 119m in brecciate and hematite/chlorite altered quartzite (possible an altered gabbro dyke). This zone may represent the basement unconformity or fault zone. The hole terminated in siltstones which contain U varying between 4 and 6ppm. A strong ferruginous zone in the Cainozoic at 69m (just above the Cainozoic unconformity) returned anomalous zinc (2030ppm) and lead (310ppm). Like the similar zone in MUR006 this thought to be redox zone which is scavenging base metals.

**Table 4** : Best uranium and copper assays, with Fe%

<b>HOLE</b>	<b>FROM</b>	<b>TO</b>	<b>INTERVAL</b>	<b>U PPM</b>	<b>Cu PPM</b>	<b>Fe%</b>	<b>Lithology</b>
MURD005	0	2	2	2.8	34	13	Pisolite
MURD006	249	250	1	12.8	10	5.4	Sandstone
MURD007	119	120	1	10.6	1	8.7	Unconformity

## 9 CONCLUSIONS

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### **Alpha Track Sampling:**

Large scale testing of major NW and NE trending faults and unconformity was conducted within the tenement using alpha track cups buried on a 200 x 800m spaced grid. Apart from UC19 no other significant alpha track anomalies were identified on EL 24841. A strong alpha track anomaly over UC22 was not supported by a follow-up alpha track sampling and orientation Ionic Leach soil sampling. No follow-up is planned.

### **Ionic leach Soil Sampling:**

Ionic leach soil sampling was conducted at target UC17 to help confirm and define an alpha track anomaly adjacent to the north – south trending Emu Fault Zone. Although the uranium anomaly was somewhat ‘irregular’, multi-element analysis showed a correlation between uranium, lead, lanthanum, cerium and yttrium and outlined a small but coherent anomaly near the Emu Fault Zone.

### **Airborne Magnetic Survey:**

In March 2009 UTS geophysical contractors commenced an airborne magnetic and radiometric survey which covered all of EL's 25708, 26138, 26139, 26140 and the western portion of EL 25710 and the eastern portion of EL 24694 within the Murphy project. The aim of the survey was to obtain higher resolution magnetic and radiometric data which would assist in a geological interpretation and ultimately help to define potential drill targets for testing. Further work is planned on the airborne magnetic targets.

### **Geological Interpretation and mapping:**

No new targets were defined by Doug Haynes, however existing target areas UC4, 6, 17 and 23 were altered, or extended based on the new geological interpretation.

### **RAB drilling for Phosphate:**

A widely spaced RAB drilling program comprising 26 holes for a total of 1214 m was completed over Bondi Mining Ltd's Murphy tenements in August 2008, designed to investigate the potential of the Georgina Basin limestones to host phosphate mineralization. A total of eight drill holes were drilled on the EL's in these combined reporting tenements in the reporting period, three holes in EL 25709 and 5 holes in EL 25710. Although anomalous in phosphate the P<sub>2</sub>O<sub>5</sub> values were not high enough to warrant follow-up.

### **RC and diamond drilling at UC17:**

An RC / diamond drill program comprising three drill holes for a total of 553m at target UC17 was completed in August 2009, to test strong geochemical soil anomalies, alpha track cup anomalies, and conceptual geology:

MURD005 intersected Cenozoic mudstone to 60m; and sandstones, possibly from the Westmorland Conglomerate, to 102m. Alteration consisted of weak hematization. The only significant uranium occurred between 0 – 2m assaying 2.8ppm U in iron pisolite and shallow soil.

MURD006 intersected Cenozoic mudstone, siltstones, and chert to 84m; and Westmorland Conglomerate sandstone, with interbedded siltstone, and mudstone to 270.5m. Notable alteration included moderate, to strong hematization with minor chlorite in sandstones of the Westmorland Conglomerate. The interval 249 – 250m returned an assay of 12.8ppm U, within sandstone.

MURD007 intersected Cenozoic mudstone, and chert to 111.5m; Westmorland Conglomerate quartzite, and mudstones to 115.5m; gabbro(?) to 120.3m, dark grey siltstone to 175.3m, and coarse grained hematitic granite to 180.5m. The unconformity, between the Meso - Proterozoic Westmoreland Conglomerate and the Palaeo- Proterozoic metasediments is at approx 120m. Substantial faulting, to brecciation was intersected between 115m and 137m which is probably due to the Emu Fault Zone.

## 10 FUTURE WORK

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Follow-up work on the uranium targets could include:

- Review and follow-up of Ionic Leach soil sampling at UC17
- Re-interpretation of the RAB drilling geochemistry and geology
- Detailed ground magnetic survey at UC17 (25 – 50 m line spacing) for approx 200 line kilometres.
- Identify targets for surface geochemical sampling and / or drill testing from the airborne magnetic and radiometric data.
- Review geological interpretation and target model in light of the new airborne magnetic data.

- Appendix 1: Expenditure statement – zip file attached**
- Appendix 2: Alpha Track Results – zip file attached**
- Appendix 3: Geological Mapping Report – zip file attached**
- Appendix 4: RAB drilling lithology logs – zip file attached**
- Appendix 5: RAB drilling Assay Results – zip file attached**
- Appendix 6: RC / Diamond Drilling Lithology Logs – zip file attached**
- Appendix 7: RC / Diamond Drilling Gamma Log profiles – zip file attached**
- Appendix 8: RC / Diamond Drilling Assay Results – zip file attached**
- Appendix 9: UTS Airborne Magnetic Survey**  
(Provided on DVD – Hand delivered)