



THIRD ANNUAL REPORT

On

EL 25354 'BOOTU CREEK'

Mt Hall Project

From 27 December 2008 to 26 December 2009

Holder: Brumby Resources Limited

Operator: Brumby Resources Limited

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January 2010

Distribution:

- o Department of Primary Industry, Fisheries and Mines
- o Brumby Resources NL

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MAP SHEET:	HELEN SPRINGS: SE 53-10 1:250,000 BRUNCHILLY: 5760 1:100,000
KEYWORDS:	MANGANESE, COPPER, LEAD, ZINC, HEM SURVEY, RC DRILLING
LOCATION:	Bootu Creek
DATUM:	GDA94 ZONE 53
AMG CO-ORDINATES:	8 243700N / 559600E

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VERIFICATION LIST (including digital Appendices)

FILE	DESC
AR2009_Bootu Creek.pdf	Report text incl figures
EL25354_2009_A_02_drillcollars.txt	Drill Collar Data
EL25354_2009_A_03_lithology.txt	Drill Geological Logging
EL25354_2009_A_04_assays.txt	Drill Assay Results
IGO_LITHCODES.pdf	Geological Legend

1.0 SUMMARY

EL 25354 'Bootu Creek' forms part of the Mt Hall Project. The tenement is situated 120 kilometres north of Tennant Creek in the Northern Territory (**Figure 1**). It was granted on 27 December 2006 and is registered in the name of Brumby Resources Limited (Brumby).

Exploration for manganese in the third year of tenure consisted of RC drill testing seven EM (electromagnetic) anomalies previously defined by Brumby in a helicopter supported geophysical survey. A total of 14 holes (BCRC001 – 014) were drilled for 993 metres.

Four holes intersected manganese mineralisation (max 1m@3.8% Mn) hosted within shales containing abundant wet clays. The source of the EM anomalies is attributed to the clays with minor manganese hosted within a predominantly shale sequence.

2.0 INTRODUCTION

EL 25354 'Bootu Creek' is located approximately 10 kilometers north of the operating Bootu Creek manganese mine and some 120 kilometers north of Tennant Creek in the Northern Territory (**Figure 1**). The OM (Manganese) Limited (a wholly owned subsidiary of OM Holdings Limited), Bootu Creek open cut mining operation is located approximately 20 kilometres east of the Stuart Highway and 50 kilometres east of the Alice Springs to Darwin railway line.

The tenement was acquired by Brumby in 2006 to explore for manganese and for base metals. This report describes exploration carried out by Brumby in the third year of tenure for EL 25354.

3.0 TENURE

EL 25232 was granted to Brumby Resources Limited and is shown on **Figure 2**. Tenement details are shown below in **Table 1**.

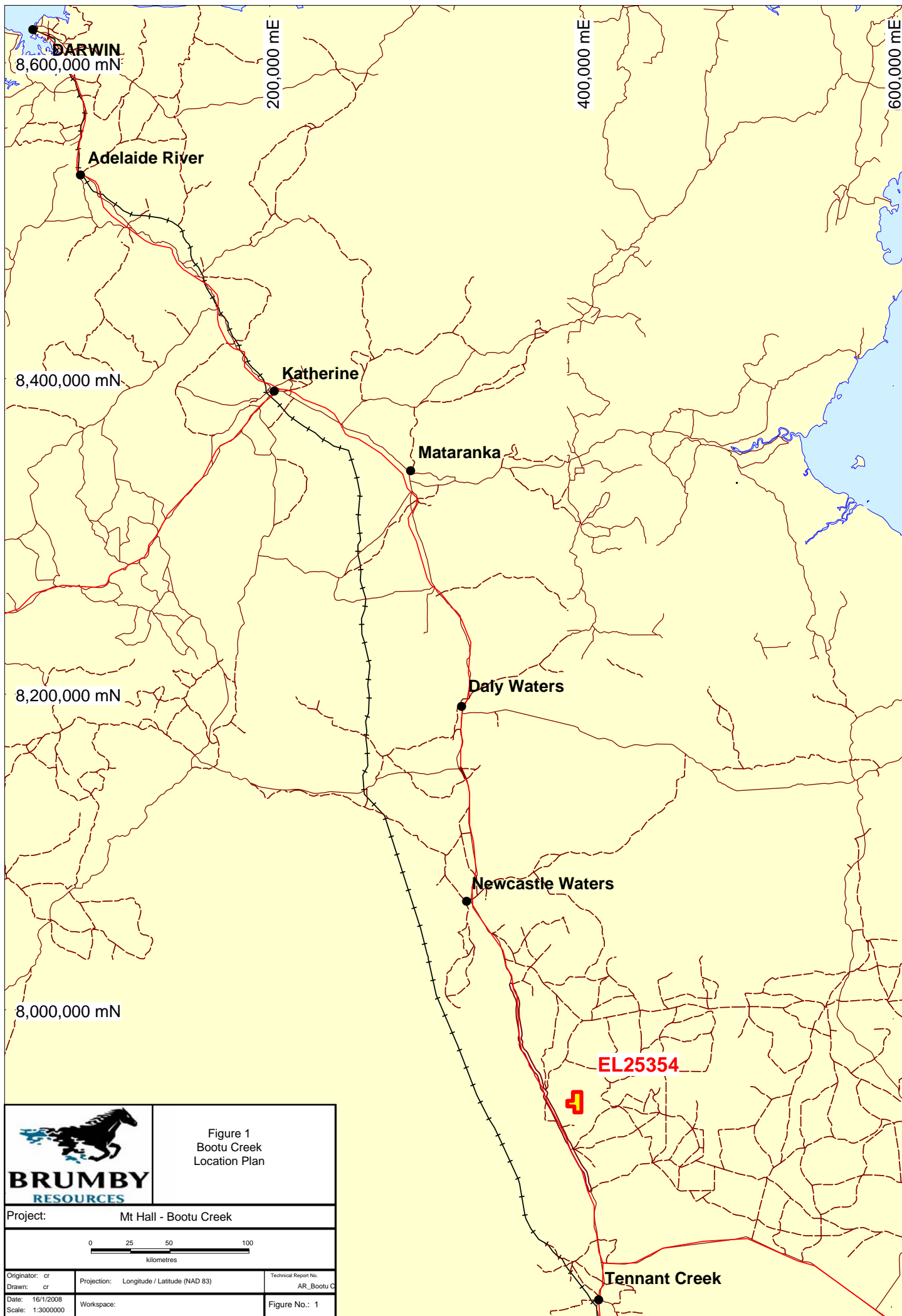
Table 1: Tenement Details

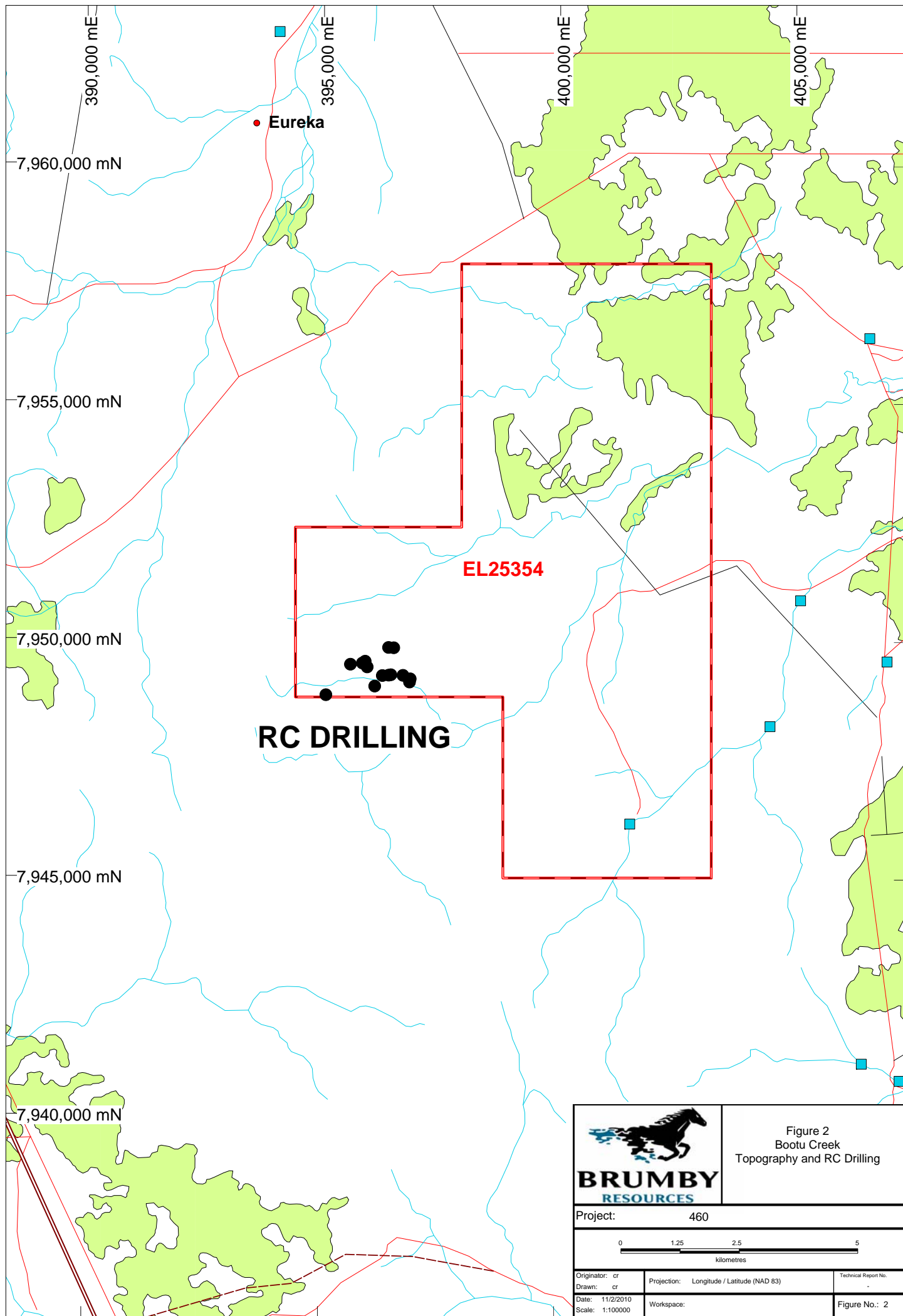
Tenement	Tenement Name	Area (km ²)	Grant Date	Expiry Date	Commitment
EL 25354	Bootu Creek	77.7	27 Dec 2006	26 Dec 2012	\$213,300


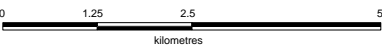
A waiver of tenure reduction was approved in December 2009.

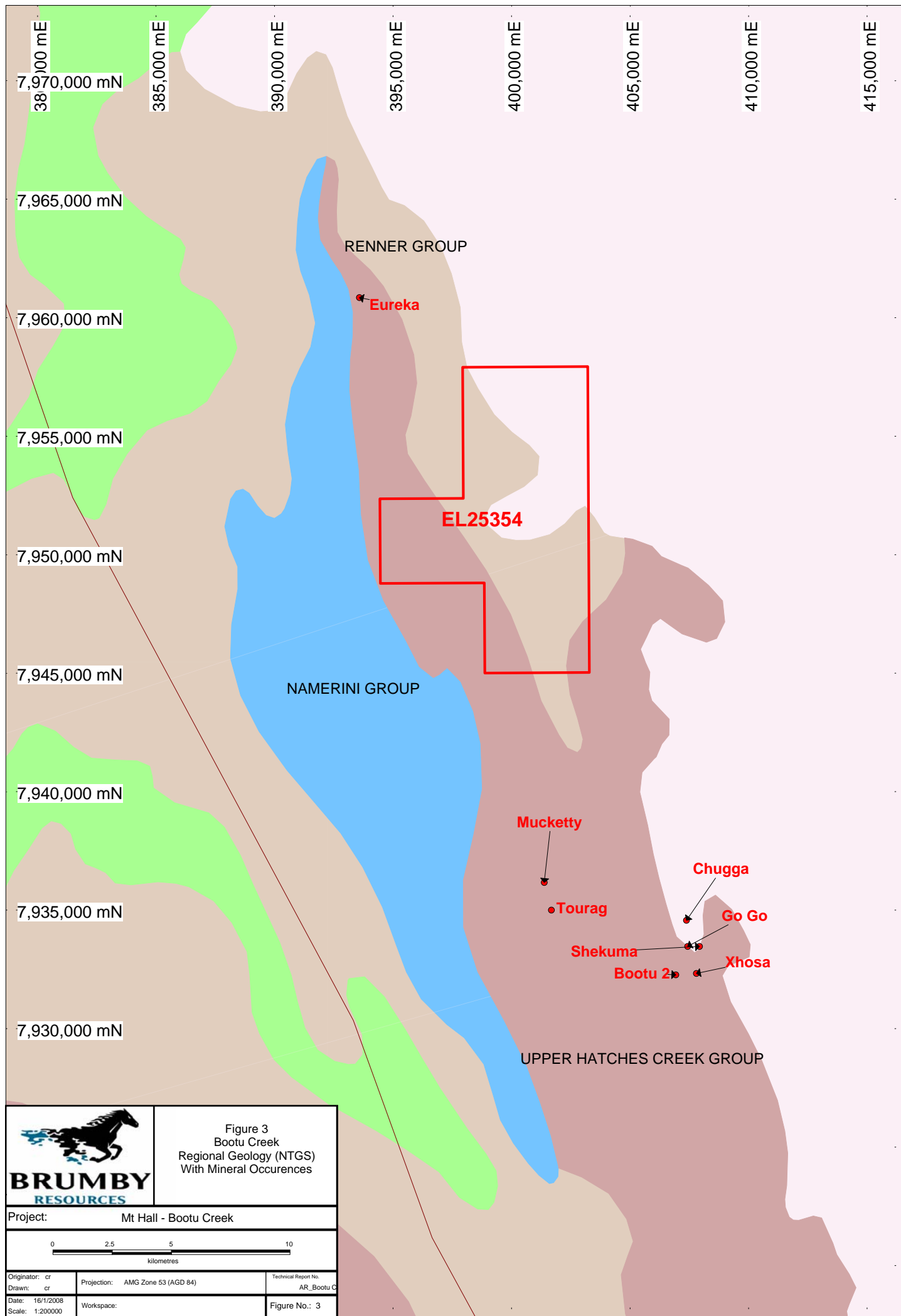
4.0 GEOLOGY AND MINERALISATION

EL 25354 Bootu Creek is situated at the northern end of the Tennant Creek Inlier in the central Northern Territory. The regional geology is shown on **Figure 3**. The regional geology is described in Ferenczi, 2001.





 BRUMBY RESOURCES		Figure 2 Bootu Creek Topography and RC Drilling	
Project: 460			
			
Originator: cr	Projection: Longitude / Latitude (NAD 83)	Technical Report No. -	
Drawn: cr	Workspace:	Figure No.: 2	
Date: 11/2/2010	Scale: 1:100000		



Manganese mineralisation within the Tennant Creek Inlier occurs at **Bootu Creek** and at **Renner Springs**, see Ferenzi, 2001. EL 25354 lies approximately 10km along strike north of the 700,000tpa Bootu Creek manganese operation in the same geological-structural corridor.

The Bootu Creek area contains numerous manganese occurrences including the abandoned Mucketty mine. They lie within the lower Bootu Formation. This unit is folded around the Bootu Syncline, which plunges gently to the north-northwest. The manganiferous horizon can be discontinuously traced for 24 kilometres around the syncline as a series of black ridges and knolls. Manganese oxides, predominantly as amorphous and massive cryptomelane, occur as epigenetic lens and vein replacements in a dolomitic siltstone bed. An overlying scarp-forming sandstone bed is also mineralised, as is a stromatolitic dololite bed above the hanging wall sandstone, which has been pervasively replaced by manganese oxide (Ferenzi, 2001).

5.0 PREVIOUS EXPLORATION

5.1 Year 1

Exploration for manganese and base metals in the first year of tenure for EL 25354 consisted of open file research, remote sensing, an HEM survey and helicopter supported reconnaissance sampling (Rohde, 2008).

5.1.1 Review of Historic Exploration

The area of EL 25232 has been explored in the past by several companies. All available exploration carried out previously was reviewed in detail and is listed in **Table 2**.

Table 2: List of Reviewed Previous Exploration Data in the Bootu Creek Area

Year / Period	Project Name	Company / Owner	Tenements	Commodity
1986-1987	-	Ashton Mining	EL 4802	diamonds
1989-1993	Banka Banka	Ben Hall, MIM	EL 6401 (EL 6400)	Mn, Cu, Pb, Zn
1992-1997	Carmilly Creek	D Ward BHP	EL 7948	Cu, Pb, Zn
1995-1997	Helen Springs	BHP	EL 9024 (EL's 9022, 9023, 9025, 9325, 9326, 9327, 9570)	Cu, Pb, Zn
1996-1998	Helen Springs	BHP	EL 9326 EL 9570	Mn, Cu, Pb, Zn

The main focus of exploration has been on manganese or base metals. The Muckatty manganese deposits were discovered in the early 90's and are being mined now by OM (Manganese) Limited. Only minor base metal exploration was completed on EL 25354 and no previous drilling data could be found.

5.1.2 Remote Sensing

A regional geological evaluation of the Bootu Creek and Renner Springs manganese province was completed. Regional Landsat data were acquired from Earthscan Pty Ltd including the Bootu Creek area.

The Bootu Creek manganese occurrences lie around the southern margin of a north trending syncline and are hosted within the Bootu Creek Formation. The northern half of this syncline has multiple sinuous block faults trending NNW and is transacted by secondary northerly faults.

The evaluation defined 18 targets prospective for manganese mineralisation within EL 25354. The targets lie essentially at the fault block margins and at fault intersects within the Bootu Creek Formation.

5.1.3 HEM Survey

Geoforce Pty Ltd carried out a Helicopter Electromagnetic (HEM) survey over the Bootu Creek North project in November 2007. The survey included a total of 330 line km in the survey area and 44 line km of infill. The flight line spacing was 200m and infill line spacing was 100m.

The survey was designed to further investigate the 18 previously identified Landsat anomalies, which were considered to be prospective manganese targets at Bootu Creek from a regional and geological evaluation of the Bootu Creek and Renner Springs manganese province.

5.1.4 Reconnaissance Sampling

A ground inspection of Bootu Creek Landsat and preliminary HEM anomalies was carried out by helicopter in early December 2007. A helicopter had to be used due to access problems, eg rough terrain, no access tracks.

All individual Landsat targets were inspected. Obvious black brown ridges were noted and sampled. On closer inspection, most of the black brown ridges were comprised of massive manganoan ironstones / gossans. A thin veneer of manganese was common in most sites inspected and sampled. No massive manganese or any manganese like the outcropping Bootu Creek (Muckattys) manganese to the south was located during this preliminary first pass sampling programme.

A total of 7 samples were taken and submitted to Genalysis for assaying. Two samples (4 and 5) displayed some gossanous boxwork textured features contained within finely laminated sediments. The best rock chip result yielded 253ppm manganese. However the rock chip sampling has returned anomalous zinc, up to 1610ppm in sample BCR6 and anomalous lead and copper, up to 257ppm and 682ppm respectively, in sample BCR3.

5.2 Year 2

Exploration for manganese and base metals in the second year of tenure for EL 25354 consisted of interpretation of the HEM survey, geological mapping and drill planning (Rohde, 2009).

5.2.1 HEM Survey Interpretation

Interpretation of the HEM data by Southern Geoscience Consultants Pty Ltd delineated seven conductors, which in some cases are located adjacent to a number of the previously defined Landsat targets. Interpretation of the data indicates that the conductors are up to 1.3km in length and range in width up to approximately 50-75 metres.

A drill programme is planned to test these seven EM (electromagnetic) anomalies.

5.2.2 Geological Mapping

Regional project mapping was carried out over EL 253546 during April 2008 by Coffey Mining. Its purpose was to map the geology, the structure, and co-incident EM anomalies on the ground, to collect rock-chip samples and to determine access to the tenement from the Stuart Highway.

The Bootu Creek Formation rocks are exposed in an erosional window in the Western section of EL 25354. The Bootu Creek Formation as mapped comprises thinly bedded sandstone, siltstone and silicified dolomitic rocks (locally stromatolitic). Similar rock types host the Bootu Creek OM holding manganese deposits ten kilometres to the south.

The mapped rock sequence is cut by North-Westerly trending faults whose surface expression is manifested in a series of linear scarps and valleys. No significant outcropping manganese was observed during the mapping programme.

A total of 53 rock samples were collected in conjunction with the mapping programme. Rock chip samples taken throughout the mapped area returned highest individual results including of 490ppm Cu, 45.82% Fe, 3576ppm Mn, 4657ppm P, 59ppm Pb and 1189ppm Zn.

The results support the HEM data interpretation that has modelled the targets as being between 20-40 metres below surface. Whilst anomalous base metal results have been obtained, these are not worthy of further follow up at this stage.

6.0 EXPLORATION COMPLETED YEAR 3

In preparation for the planned drill program Brumby undertook a heritage survey in September 2009, focussing on the access route, such that a track could be formed to gain access to the target areas.

The first pass drilling program of 14 holes (BCRC001 – 014) for 993m of Reverse Circulation (RC) drilling was commenced on 6 December and completed just prior to Christmas by Underdale Drilling (Figure 2 and Figure 4). The program was designed to test seven EM (electromagnetic) anomalies previously defined by Brumby in a helicopter supported geophysical survey. All drill hole and assay data are included in the digital appendix.

The anomalies occur about 10 kilometres along strike from OM Holdings Bootu Creek open cut manganese mine and were considered to be within the same geological and structural setting to

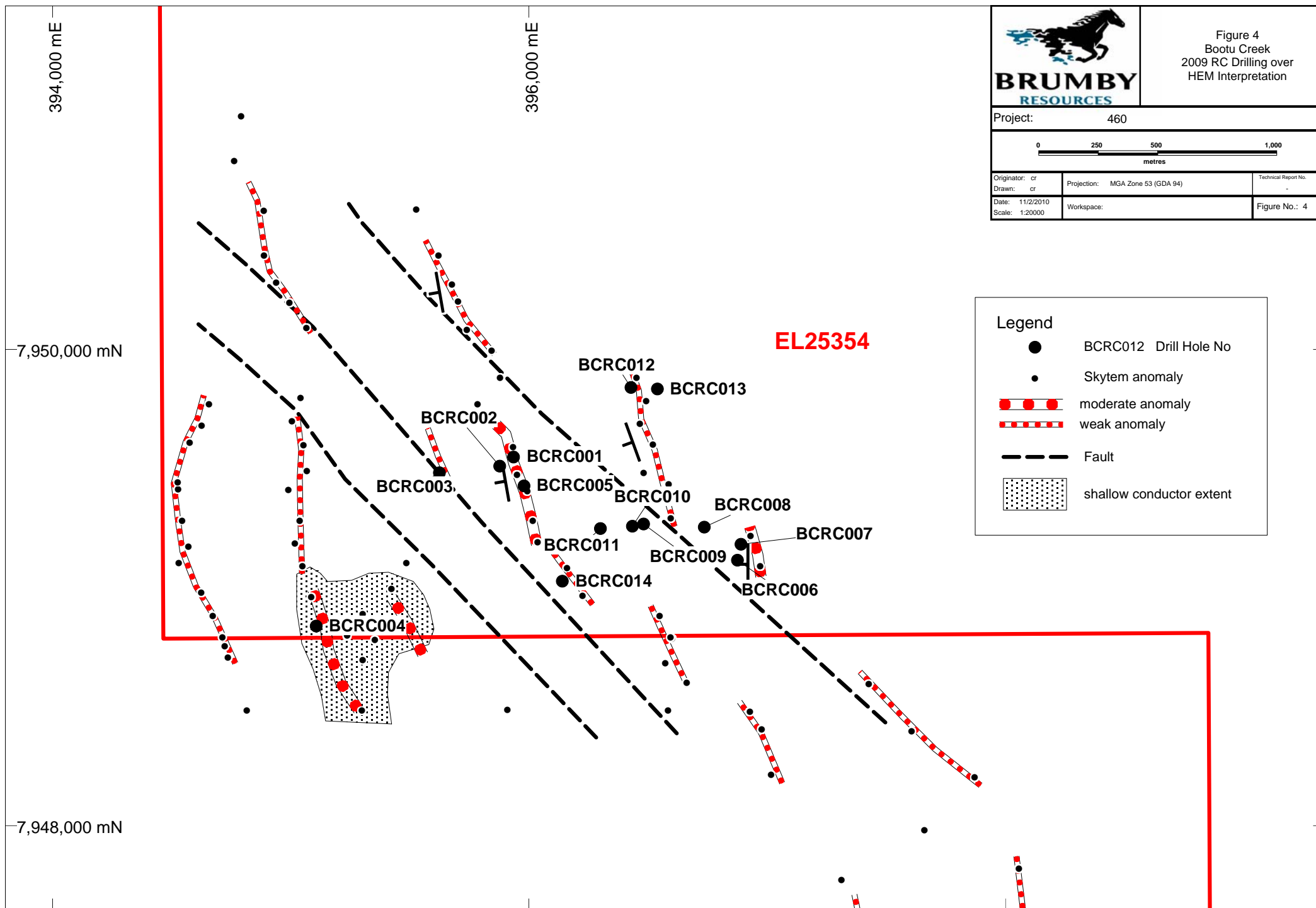


Figure 4
Bootu Creek
2009 RC Drilling over
HEM Interpretation

Project: 460		
0 250 500 1,000 metres		
Originator: cr	Projection: MGA Zone 53 (GDA 94)	Technical Report No. -
Drawn: cr	Workspace:	Figure No.: 4
Date: 11/2/2010		
Scale: 1:20000		

- Legend**
- BCRC012 Drill Hole No
 - Skytem anomaly
 - moderate anomaly
 - weak anomaly
 - Fault
 - shallow conductor extent

those hosting the OM Holdings manganese deposits. The Bootu Creek Formation was interpreted as an inlier.

The stratigraphy of the area incorporates the Tomkinson Creek Group of the Bootu Formation that occurs as an inlier in the west of the tenement and is overlain by the Jeromah Formation and the Carmilly Formation consisting of sandstones and minor silicified dolomitic units. The uppermost units of the Carmilly Formation are lithic to quartz arenites, conglomerates and sandstones, which dip flatly to the west. The underlying Jeromah Formation was mapped and showed easterly dips to about 24 degrees, while the Bootu Formation had generally SW dips ranging averaging 45 to 55 degrees.

All of the geophysical conductors were interpreted to be either flat dipping or having a slight dip to the west.

Holes BCRC001 to 3 were drilled into the best conductive target and a short intersection of manganiferous clay was intersected in BCRC002. However after completion of BCRC003, where the hole bottomed into lithic arenites, it became clear, that the inlier was not Bootu Creek Formation but Carmilly Formation. Further drilling identified all of the tested conductors as moist clay beds presumably within lower Carmilly Formation rocks. This was confirmed in BCRC0012 and 13, where a lithic arenite was intersected at depth in BCRC012 and even deeper in BCRC013.

The lithic arenites could be interpreted as potentially rocks of the Jeromah Formation, which overly the Carmilly Formation, but could also belong to the Bootu Creek Formation as a basal litharenite, which has been identified by the NTGS on the Helen Springs 1: 250,000 geological map.

BCRC013 stopped in a deep lithic arenite and if this unit is the basal litharenite of the Bootu Creek Formation dipping to the west, then most of the drilling of the conductor targets was restricted to the upper units of the Bootu Creek Formation. Given the lack of graphitic shale in all the drill holes, plus the intersection of manganese in four holes at depths interpreted as being due to a conductive layer, any potential host rocks for Bootu Creek type of mineralisation would be at greater depths, and thus uneconomic under present manganese prices.

Assay results have been received with anomalous manganese intersection identified in 4 holes. The anomalous results are recorded in Table 4.

Table 3: Bootu Creek Manganese Intersections

Hole	From	To	Int.	Mn %	SiO ₂ %	P ₂ O ₅ %	Fe ₂ O ₃ %	Al ₂ O ₃ %	LOI %	Comment
BCRC002	68	69	1	3.70	65.15	0.15	16.43	2.81	8.32	
BCRC005	70	72	2	2.63	75.19	0.21	10.58	3.03	5.21	Incl. 1m @ 3.8% Mn
BCRC009	18	25	7	0.68	69.91	0.12	6.28	6.74	6.87	Incl. 1m @ 1.6% Mn
BCRC011	26	31	5	1.91	74.32	0.11	6.81	8.00	3.38	Incl. 1m @ 3.8% Mn

Notes: 1. Assay Laboratory: Genalysis Laboratory Services Pty Ltd

2. Assay Method: Fused Disk preparation followed by XRF Spectrometry analysis.

Field logging of drill chips revealed that the anomalous manganese results were hosted within shales containing abundant wet clays. The source of the EM anomalies is attributed to the clays with minor manganese hosted within a predominantly shale sequence.

7.0 BIBLIOGRAPHY

Ferenczi, P., 2001. Iron Ore, Manganese and Bauxite Deposits of the Northern Territory, Report 13, Northern Territory Geological Survey.

Plumb, K.A., Ahmad, M., and Wygralak, A.S., 1990. Mid-Proterozoic Basins of the North Australian Craton – Regional Geology and Mineralisation. *Geology of the Mineral Deposits of Australia and Papua New Guinea*, pp 881-902.

Brumby Resources Limited, 2007. Company Quarterly Reports and ASX Announcements.

Rohde, C., 2008. First Annual Report on EL 25354 'Bootu Creek' Mt Hall Project from 27 December 2006 to 26 December 2007. Unpublished report by Brumby Resources Limited.

Rohde, C., 2009. Second Annual Report on EL 25354 'Bootu Creek' Mt Hall Project from 27 December 2007 to 26 December 2008. Unpublished report by Brumby Resources Limited.