# ACACIA MINERALS PTY LIMITED

A.C.N. 127 419 729

Postal Address: PO Box 4156 Alice Springs. NT 0871

Phone: 08 8955 0329

# **EXPLORATION LICENCE 24112**

### **BOWERBIRD CREEK**

#### FOURTH ANNUAL REPORT

7th December 2007 – 6th December 2008

### LICENSEE:

Acacia Minerals Pty Limited

**AUTHORS**:

N. BYRNE & J.A. EARTHROWL January 2008

### TABLE OF CONTENTS

### **SUMMARY**

- 1 Introduction
- 2 Location
- 3 Tenure
- 4 Geology
  - 4.1 Regional Geology
  - 4.2 Local Geology
- 5 Previous Work
  - 5.1 By Previous Explorers
  - 5.2 By Current Tenement Holders
- 6 Work Done During the Year
  - 6.1 Open File Research
  - 6.2 Geophysics
  - 6.3 On Site Reconnaissance and Prospect Examination
  - 6.4 Rock Chip and Stream Sediment Sampling
  - 6.5 Existing Tracks Upgrade
- 7 Results
  - 7.1 Open File Research
  - 7.2 Reconnaissance and Prospect Examination
  - 7.3 Rock and Stream Sediment Sampling
- 8 Land Owner Liaison
- 9 Rehabilitation
- 10 Conclusions
- 11 Year 4 Expenditure Statement
- 12 Year 5 Program and Budget

### **FIGURES**

- Fig 1 EL 24112 "Bowerbird Creek" Location Plan showing Relinquished blocks
- Fig 2 EL 24112 "Bowerbird Creek" Location Plan with Topographic details
- Fig 3 EL 24112 "Bowerbird Creek" on BMR GEOLOGY
- Fig 4 EL 24112 Showing Location of all Sample Sites

#### **APPENDICES**

- Appendix 1 List of Open File reports from previous explorers
- Appendix 2 Assay Results of Helicopter Sampling Oct 2007. Samples 162086-162096
- Appendix 3 EL 24112 Field Sample Data sheet 2008. Samples 161408-161426
- Appendix 4A NTEL Assay Results Job No EL11680
- Appendix 4B NTEL Assay Results Job No EL11837

#### **SUMMARY**

Acacia Minerals Pty Limited ACN 127 419 729 (Acacia), a Territory based exploration company, purchased Exploration Licence 24112 from G. L. and S. M. Wood. The dealing was approved under Section 173 of the Mining Act on the 4th of December 2007.

Acacia is a wholly owned subsidiary of Adelaide River Resources Limited ACN 127 411 796, a public company currently preparing to list on the Australian Stock Exchange.

This Report covers the exploration work carried out during the fourth year of tenure, from the 7 December 2007 to the 6th of December 2008.

The tenement was reduced in area from 14 to 7 blocks during the year as per Fig1.

Work done includes:

- NTGS Open File Research
- On site Ground Reconnaissance
- Prospect Examination
- Existing Tracks upgrading
- Rock chip sampling
- Geochemical analysis

Additional work is recommended for Year 5.

#### 1. INTRODUCTION

Acacia Minerals Pty Limited ACN 127 419 729 (Acacia), a Territory based exploration company, purchased Exploration Licence 24112 from G. L. and S. M. Wood. The dealing was approved under Section 173 of the Mining Act on the 4th of December 2007.

Acacia is a wholly owned subsidiary of Adelaide River Resources Limited ACN 127 411 796, a public company currently preparing to list on the Australian Stock Exchange.

The EL has several significant prospects:-

- the Golden Valley prospect in the southwest of the EL where gold and now base metals are recorded
- the historic Bowerbird and Hollis prospects where base metals and now gold are recorded
- the Shamrock prospect where previous explorers and now Acacia Minerals have found gold.

Principal exploration targets on EL 24112 are, gold and copper-silver-lead.

This Report summarises the exploration work carried out during the fourth year of tenure from the 7th of December 2007 to the 6th of December 2008.

#### 2. LOCATION

Exploration Licence 24112 is situated approximately 50kms north of Pine Creek. The Licence area is on the southern boundary of the Mt Evelyn 1:250,000 scale map sheet SD5305.

The general area is hilly, as shown in Fig 2, and has a wide ranging eucalypt woodland dominated by *Eucalyptus tetrodonta* and *Eucalyptus miniata* either singly or in combination. This forms a canopy for the understorey of smaller trees (*Erythrophleum chlorostachys*, *Terminalia ferdinandiana*, *T. grandiflora*, *Acacia* spp. and *Melaleuca* spp), as well as shrubs, herbs and vines

with dense growth of annual and perennial grasses. The invasive Gamba Grass, now declared a weed, is present in some areas of the tenement.

(Top End Native Plants – John Brock 1988).

Access to the Licence area from Pine Creek is north via the Kakadu Highway and then either east just before the Mary River crossing along an unsealed road created many years ago for access to the Bowerbird copper, lead, silver diggings or alternatively via the New Wandie Road that turns off to the south just past the Moline Camp as per Fig1.

Within the tenement old tracks put in by Cyprus Gold are still usable and lead off the New Wandie Road and then via Steele's Lagoon on to the Bowerbird Prospect and the Hollis Prospect. One branch then joins on to the Mt Diamond track that traverses the EL in the southeast.

#### 3. TENURE

Exploration Licence 24112 covering 14 sub-blocks (47.2 square kilometres) was granted to G. L. and S. M. Wood on the 7th December 2004 for a period of 6 years.

Acacia Minerals Pty Limited ACN 127 419 729 (Acacia), a Territory based exploration company, purchased Exploration Licence 24112 from G. L. and S. M. Wood. The dealing was approved under Section 173 of the Mining Act on the 4th of December 2007.

A waiver of the reduction requirements was allowed in 2007. A reduction of 7 blocks was made in 2008 as required and the retained blocks are shown in Fig 1.

The Licence is within NT Portion 649, being Mary River (east) Station, Perpetual Pastoral Lease 01134.

#### 4. GEOLOGY

#### 4.1 Regional Geology

Historically the Pine Creek Orogen has been the most prospective region of the Northern Territory for Gold.

EL 24112 is situated within the Pine Creek Geosyncline, a tight to isoclinally folded sequence of mainly pelitic and Lower Proterozoic with interlayered tuff units. All rocks in the area have been metamorphosed to low, and in places medium grade, metamorphic assemblages.

### 4.2 Local Geology

Government mapping, Fig 3, shows the tenement to be underlain almost entirely by the Early Proterozoic, Finniss River Group, Burrell Creek Formation. The South Alligator Group, Mt Bonnie Formation is present in the west and the Mt Davis Granite to the south.

The (Pfb) Burrell Creek Formation comprises phyllites, slates, siltstones, greywackes and rarely conglomerates and ironstones all deposited as flyschoid sediments. Quartz veining and stockworks occur throughout.

The underlying (Pso) Mt Bonnie Formation is petrologically similar to the Burrell Creek Formation but contains more ferruginous, carbonaceous and dolomitic varities as well as cherts and lithic tuffs.

The (Pgcv) Mt Davis Granite, part of the Cullen Batholith Suite, consists of pink, coarse porphyritic and equigranular biotite-hornblende granite and leucogranite.

A small stock of (Pew) Lewin Springs Syenite occurs on the southern boundary of the tenement.

The above sediments are all highly and tightly folded and generally near vertical. Metamorphic grade is greenschist facies with a hornfels halo near the granite intrusions,

Being within the Cullen Mineral Field vein and stockwork mineralisation of Au, Pb, Zn, Cd, Cu, Bi, Sn, W, and U are known and well documented, Within EL 24112 the Bowerbird (Pb,Ag,Cu,Au) and Hollis (Pb,Ag,Cu,Au) are examples.

#### 5 PREVIOUS WORK

### 5.1 By Previous Companies

A complete list of all companies that have been active in the vicinity of EL 24112 has been compiled with the assistance of the NTGS library staff. Those companies' Open File reports have been collated and read. A complete list of them is shown in Appendix 1

#### 5.2 By the Tenement Holders

Prior to December 2007 the tenement was owned by prospectors G.L. and S.M.Wood. Their successful gold prospecting activities have been reported on in earlier annual reports for the tenement.

In 2008 Acacia Minerals Ltd. staff visited the tenement several times and took various rock samples from the known base metal prospects as well as from gold prospects shown to them by the prospectors. Results of this earlier work has been reported in the Year 3 Annual Report.

In October 2007 N. Byrne and J. Fisher carried out a helicopter sampling programme over the tenement as reported in the Year 3 Annual Report. Assay results were not available at the time of writing their report. They are included in this report.

#### 6 WORK DONE DURING YEAR 4.

#### 6.1 Review

Since the recent purchase of EL 24112 by Acacia, an extensive open file research program has commenced, including a review of the results achieved by previous explorers. To date all Open File reports from previous explorers, as supplied by the NTGS, have been checked. Appendix 1 lists those reports relevant to the current boundaries of EL 24112.

These reports show that the area has been subjected to several phases of systematic exploration for gold using stream sediment, rockchip and drill sampling. Most anomalies appear to have been followed up but not all of them adequately.

There has been insufficient exploration for base metals in spite of the presence of the Bowerbird and Hollis prospects that indicate lead, silver and copper mineralization.

### 6.2 Geophysics

Lindeman Geophysics Pty Ltd have been commissioned to carry out a detailed interpretation of NTGS and open file geophysics to see if there are any anomalies related to the old gold and base metal workings. No geophysical anomalies have been identified to date and this work will continue in Year 5.

### 6.3 On Site Ground Reconnaissance and Prospect Examination

Consultant/Contract Geologist John A. Earthrowl of SilDol Pty.Ltd spent three days in August 2008 on site El 24112 with Field assistant, C.M.Fox using a quadbike for transport. Part of this time they were accompanied by previous tenement holders G.L and S.M. Wood who guided them to various geological areas of interest as well as to the historic Bowerbird and Hollis Prospects.

### 6.4 Rock Chip and Stream Sediment Sampling

Fig 4 shows the location of all new and past samples collected by the tenement holders.

The assay results for the second phase of sampling carried out by Acacia Minerals by helicopter in 2007 are shown in Appendix 2

Whilst on site on 17th August 2008, Earthrowl collected 7 samples of rocks (Nos 161408 – 161416,161418) and one sample of stream sediment.(161417). The rock samples were composites from outcrop and suboutcrop plus one of probable rock chips(161418) from a previous explorers drill hole.

A single stream sediment sample was collected from a narrow wet season active channel in the vicinity of previous Chinese prospectors' activities.

Additional samples (161419-161426) were collected from the Bowerbird and Hollis prospects during Earthrowl's visit to those locations on 26th August 2008.

### 6.5 Existing Tracks Upgrade

The tracks put in by Cyprus Gold in the 1980s that give good access within the tenement were found to be well sited for access across the tenement. G.K. Fitzgerald Contracting Pty Ltd of Pine Creek, under the supervision of contractor John Fisher, were used to clear fallen trees and improve the existing tracks to a standard suitable for four-wheel-drive and quad bike use.

#### 7 RESULTS

#### 7.1 Open File Research

The one area of gold anomalism that does not appear to have been followed up by Cyprus Gold is reported in CR 1989- 0814 from their EL 6121.

Sample number 923 from approximately 132degrees12minutes East, 13degrees40minutes South (AMG66) returned a value of 0.47ppm Au. This is near the western boundary of (reduced) EL 24112, to the north of the Shamrock Prospect.

#### 7.2 Reconnaissance and Prospect Examination

At the time of the onsite quadbike reconnaissance, not all of the tenement was accessible due to dense gamba grass infestation around dangerous breakaway country. The Bowerbird and Hollis prospects were located and examined as were several sites of successful nugget prospecting by the Woods.

The Bowerbird and Hollis prospects had been visited by the Byrne/Fisher helicopter team in October 2007. Earthrowl and Woods revisited these prospects by quadbike in August 2008.

At the Bowerbird Prospect, old workings consist of several shafts, pits and costeans, probably from several vintages of activity. A southeast trending shear zone up to 150m long comprised of brecciated greywackes and siltstone of the Burrell Creek formation. Lead and copper mineralization is evident as limonitic boxwork gossan veins with partly oxidized galena and some minor malachite/azurite and possibly brochantite. Samples 161423-161426 were taken.

At the Hollis Prospect, old workings consist similarly of pits and shafts but not as extensive as at Bowerbird, The host lithology is altered limonitic greywacke/siltstone with minor visible malachite/azurite again within a steeply dipping shear zone. Samples 161419-161422 were taken.

### 7.3 Rock and Stream Sediment Sampling

Appendix 2 gives the results of samples collected in 2007. Several have returned anomalous gold, silver and base metal assays. Of special note are samples 162091 and 162093 from a previously untested gossan.

Details of samples collected in 2008 are shown in Appendix 3 and their map location, along with samples collected in earlier years, on Fig 4. Assay results are listed in Appendices 4A and 4B.

The reconnaissance samples collected by Earthrowl in 2008 returned no anomalous gold values except for the stream sediment sample, 161417, from the vicinity of the historic Shamrock prospect which returned 34ppb Au.

However all the samples collected from the Bowerbird and Hollis prospects returned gold values, indicating gold mineralization is associated with the base metals at those prospects. Of special note are samples 161420 (0.27ppmAu) and 161425 (0.159ppmAu)

#### 8. LANDOWNER LIAISON

Prior to commencing field work, phone contact is made with the pastoralist to advise of the Company's activities.

#### 9. REHABILITATION

Rock-chip sampling did not create significant disturbance.

No field work was carried out by the Company on the Project Area during the year which requires any rehabilitation measures.

#### 10. CONCLUSIONS

The Golden Valley gold prospect is still considered to be highly prospective, because of the previous workings in the area, the nuggets found in the area by G. L. & S. M. Wood, and an apparently untested quartz haematite gossan occurring over about 200 metres, found by the Acacia Minerals team in 2007. Two samples from that gossan returned highly anomalous results:

162091 5.5% Arsenic, 1.7 ppm Gold

162093 3.7% Lead, 68.8 ppm Silver.

Cumulatively these results indicate that follow up field work is warranted

This year's work has revealed the untested Cyprus Gold anomaly from Open File research. As this is in the vicinity of the Shamrock Prospect from where sample 161417 was taken, this area warrants follow up exploration for gold mineralisation.

The Bowerbird and Hollis base metal prospects continue to be regarded as prospective because of the existing relatively untested workings and the gossanous material identified by Acacia Minerals along strike in 2007 as well as the gold values returned from 2008 sampling.

#### 11. YEAR 4 EXPENDITURE

Proposed expenditure for the Fourth year of tenure was \$92,400.

Actual expenditure was as follows:

1.	Open file research and interpretation	\$3,000
2	Geophysical interpretation (ongoing estimate to date)	\$1,500
3	Preliminary field reconnaissance	\$3,500
4.	Existing tracks upgrade	\$3,200
5.	Anomaly locating and rock-chip sampling	\$4,500
6	Geological consulting	\$5,500
7.	Geochemical analysis (estimated)	\$4,500
8.	Administration and overheads	\$3,800
	Total	\$29,500

#### 12 YEAR 5 PROGRAM AND BUDGET

Proposed work and expenditure for the Fifth year of tenure is:

1.	Assessment of all open file data and work carried out to date	\$3,500
2.	Ground electromagnetic survey	\$6,000
3.	EM equipment hire	\$4,000
4.	Geophysical interpretation	\$3,000
5.	Detailed geological mapping	\$3,000
6	Auger hire	\$3,500
7.	Soil sampling	\$4,500
8	Rotary Airblast (RAB) drilling	\$3,000
9	Geochemical analysis	\$10,000
10	Overheads and supervision	\$4,800
	Total	\$45,300

Figure 1: EL 24112 "Bowerbird Creek" Location Plan showing Relinquished blocks

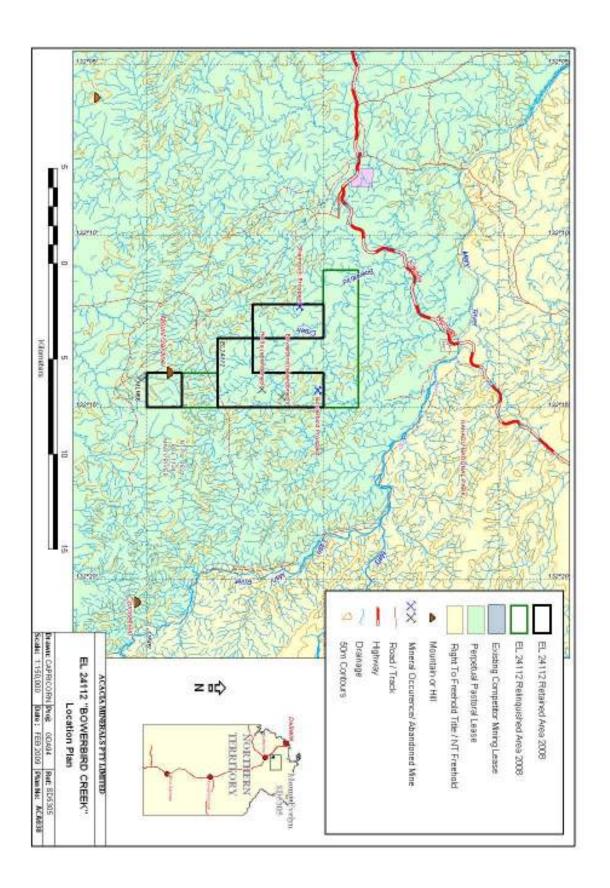


Figure 2: EL 24112 "Bowerbird Creek" Location Plan with Topographic details

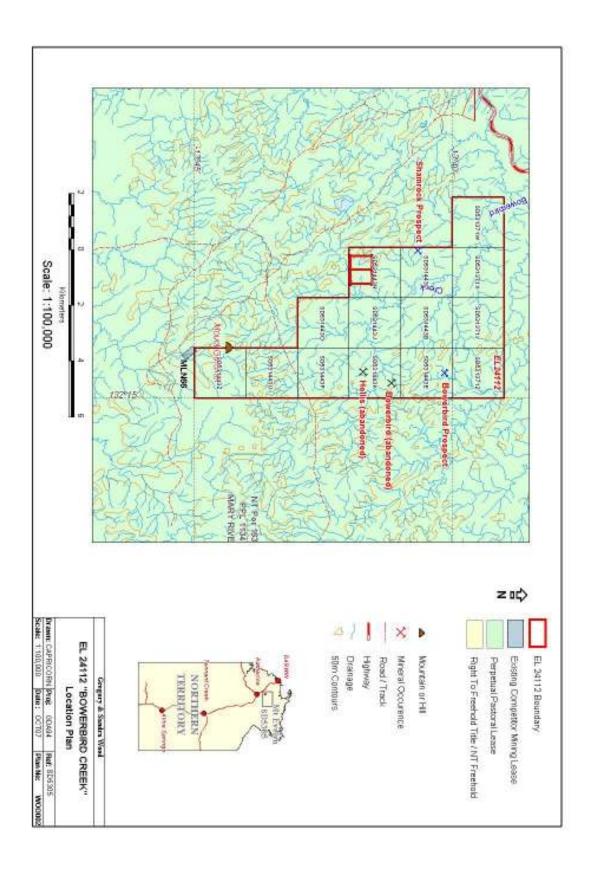


Figure 3: EL 24112 "Bowerbird Creek" on BMR GEOLOGY

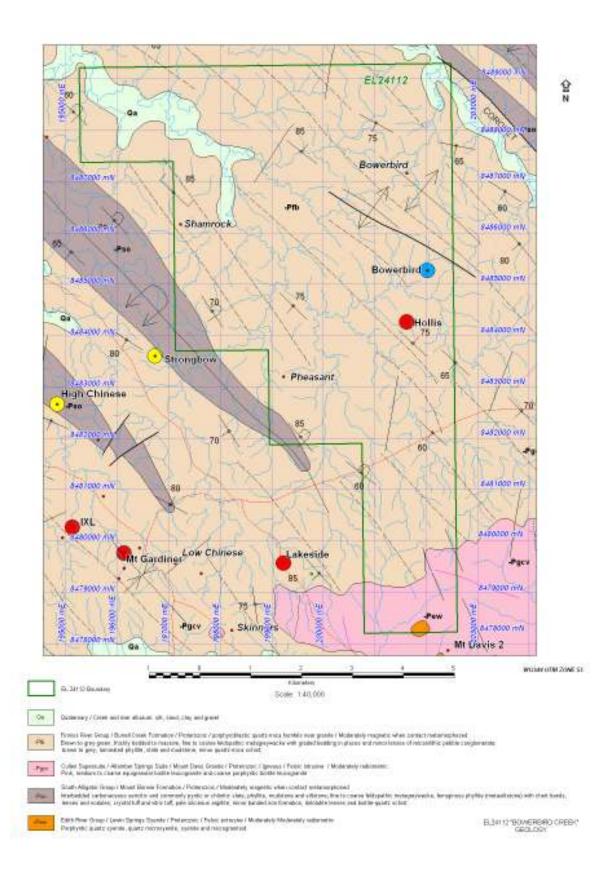
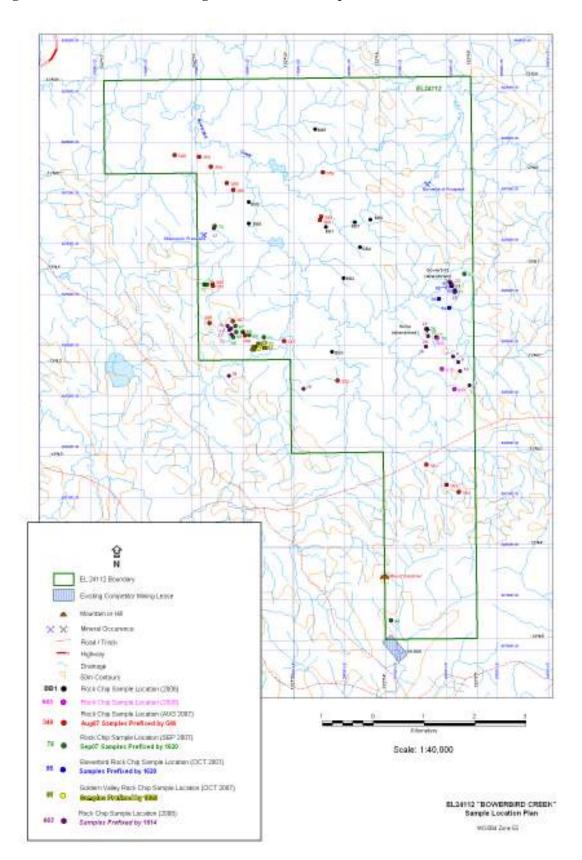


Figure 4: EL 24112 Showing Location of all Sample Sites



### **Appendix 1** List of Open File reports from previous explorers

# ACACIA MINERALS LIMITED EL 24112 "BOWERBIRD" NTGS LIST OF OPEN FILE REPORTS

```
Pre 1982 Reports (CD #1) Various Companies
   1966-0043
   1967-0048
   1968-0064
   1969-0071, 0073, 0078.
   1970-0097
   1971-0131, 0146.
   1973-0017, 0018, 0019, 0020.
   1978-0062, 0092.
   1979-0061.
   1981-004, 0225.
Greenbushes / Cyprus Gold / etc (CD#2)
   1982-0320
   1983-0250
   1984-0271
   1985-0124
   1986-0119
   1987-0069, 353.
   1988-0203, 0244
   1989-0424, 0814.
   1990-0587, 0588.
Mineral Resources / Aardeau / RGC /etc (CD#3)
   1984-0092
   1985-0050
   1986-0095
   1989-0043, 0171, 0172
   1990-0014, 0584, 0597.
   1991-0162, 0580
Dominion / Territory Gold / Barnjarn /etc
   1994-0564
   1995-0624
   1996-0126, 0128, 0221, 0223, 0224, 0375, 0377-0389, 0398
   1997-0150
   1998-0065, 0819
  2000-0150.
```

### Appendices 2 & 3 – Attached

## Appendix 2 Assay Results of Helicopter Sampling Oct 2007. Samples 162086-162096

### Appendix 3 EL 24112 Field Sample Data sheet 2008. Samples 161408-161426

### Appendix 4A NTEL Assay Results Job No EL11680

IDENT UNITS SCHEME	Job number	Project code	Au ppb FA25_MS	Au_R ppb FA25_MS
161408	EL11680	EMAIL 19/08/08	<1	
161409	EL11680	EMAIL 19/08/08	<1	
161410	EL11680	EMAIL 19/08/08	<1	
161411	EL11680	EMAIL 19/08/08	<1	
161412	EL11680	EMAIL 19/08/08	<1	
161413	EL11680	EMAIL 19/08/08	<1	
161414	EL11680	EMAIL 19/08/08	<1	
161415	EL11680	EMAIL 19/08/08	<1	
161416	EL11680	EMAIL 19/08/08	<1	
161417	EL11680	EMAIL 19/08/08	29	34
161418	EL11680	EMAIL 19/08/08	<1	

### Appendix 4B NTEL Assay Results Job No EL11837

			Job	
Au	Au	Project code	number	IDENT
ppm	ppb			UNITS
FA_GEN_AAS	FA25_MS			SCHEME
	63	EMAIL 04/09/08	EL11837	161419
0.27	307	EMAIL 04/09/08	EL11837	161420
	23	EMAIL 04/09/08	EL11837	161421
	28	EMAIL 04/09/08	EL11837	161422
	10	EMAIL 04/09/08	EL11837	161423
	68	EMAIL 04/09/08	EL11837	161424
	159	EMAIL 04/09/08	EL11837	161425
	3	EMAIL 04/09/08	EL11837	161426