Suite 1,16 Brodie Hall Drive
Bentley, WA, Australia, 6102.
PO Box 1067 Technology Park DC
Bentley, WA, Australia, 6983.
Tel: +61 8 6250 8100
Fax: +61 8 6250 8199

Anglo American Exploration Australia Pty. Ltd.
A.C.N. 006 195 982

EL23676 "Warramana East"
Second Annual Report
For the Period 26/06/2004 – 25/06/2005

Volume 1 of 1

Tenure Holder:	**Rio Tinto Exploration Pty Limited**
Tenement Operator:	**Anglo American Exploration (Australia) Pty Ltd**
Compiled By:	**Trudi Kennedy and Bronwyn Chalke**
Date:	**19th July 2005**

Distribution

Department of Business Industry and Resource Development, NT - (1)
Anglo American Exploration (Australia) Pty Ltd – Perth Office (2)
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SUMMARY

Exploration Lease 23676 "Warramana East" covers an area of 99.15km^2 and is located within the McArthur Basin near the Gulf of Carpentaria, Northern Territory, approximately 44 km northwest of Borroloola, on the Mount Young 1:250,000 map sheet. Rio Tinto Exploration Pty Ltd was granted the lease on 25th June 2003 for a period of six years.

During the first year of the lease, the Batten Trough Farm In and Joint Venture Agreement was entered into between Rio Tinto Exploration Pty Ltd (North Mining Limited and other Rio Tinto companies) and Anglo American Exploration (Australia) Pty Ltd. This Agreement was signed on 29 September 2003 and it has been lodged with the Department for registration. Under this Agreement, Anglo American Exploration (Australia) Pty Ltd is carrying out work on the licenses covered by the agreement. They now form part of a regional exploration project that Anglo American Exploration (Australia) Pty Ltd is undertaking in Joint Venture with Rio Tinto Exploration Pty Ltd (North Mining Limited) within the McArthur Basin. The other leases within the Project include EL7294, EL10103, EL10316, EL10317 and EL10329. There was little opportunity to undertake field work in 2003 due to the Joint Venture agreement with the Rio Tinto group being finalised late in the field season. 2004 field activities have been delayed until June due to an excessively long wet season; this fieldwork had originally been planned for April.

The exploration target is sediment hosted massive sulphide Zn-Pb deposits of the HYC type. Rio Tinto Exploration's previous exploration results in the area had confirmed the favourable geological setting and Zn-Pb prospectivity of the Batten Fault zone. The fault zone remains a quality "grassroots" exploration target that Anglo American Exploration (Australia) Pty Ltd intends to test as part of their larger Batten Fault Zone Project.

Exploration activity during the second year of the lease included inspection of diamond drill core from previous exploration and a TEM survey, which has not shown any bedrock conductor responses, which meet the exploration criteria.

Keywords
EL23676 Warramana East, Middle Proterozoic, McArthur Basin, Batten Fault Zone, Zinc, Lead, Base Metals, Emu Fault Zone, Wununmantyala Sandstone, Tawallah Group, Wuraliwuntya Member, Settlement Creek Volcanics, Wollogorang Formation, Warramana Sandstone, McArthur River (HYC) Zn-Pb-Ag deposit.

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1. INTRODUCTION

This report outlines the exploration activities conducted on EL23676 "Warramana East" during the period 26th June 2004 to 25th June 2005. Rio Tinto Exploration Pty Ltd was granted the lease on 25th June 2003 for a period of six years. During the first year of the lease, the Batten Trough Farm In and Joint Venture Agreement was entered into between Rio Tinto Exploration Pty Ltd (North Mining Limited and other Rio Tinto companies) and Anglo American Exploration (Australia) Pty Ltd. This Agreement was signed on 29 September 2003 and it has been lodged with the Department for registration. Under this Agreement, Anglo American Exploration (Australia) Pty Ltd is carrying out work on the licenses covered by the agreement. EL23676 now forms part of a regional exploration project that Anglo American Exploration (Australia) Pty Ltd is undertaking in Joint Venture with Rio Tinto Exploration Pty Ltd (North Mining Limited) within the McArthur Basin. The other leases within the Project include EL7294, EL10103, EL10316, EL10317 and EL10329.

EL23676 is located approximately 44km northwest of Borroloola in the Northern Territory on the Mount Young (SD53-15) 1:250,000 map sheet and the Tawallah Range (6066) 1:100,000 map sheet. The Carpentaria Highway is located to the south of the project area. The Yalco prospect area is accessed via the Roper Bar Road 20km west of Borroloola then by unsealed tracks from Cow Lagoon Community. The Fandango (Warramana) prospect area is accessed by following the Carpentaria Highway 30km north of Borroloola (toward Bing Bong) and then turning west along the track leading to Bone Lagoon Community. Established dirt tracks lead from the community to the prospect area.

Rio Tinto Exploration Pty Limited's previous exploration results in the area had confirmed the favourable geological setting and Zn-Pb prospectivity of the fault zone. The fault zone remains a quality "grassroots" exploration target that Anglo American Exploration (Australia) Pty Ltd intends to test, in Joint Venture with Rio Tinto Exploration Pty Ltd, as part of it's larger Batten Fault Zone Project.

2. TENURE

Figure 1 shows the Lease Plan and the table below shows the 30 sub blocks, on the Mount Young 1:250,000 map sheet, that comprise the lease.

Block	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
Roper 3287			X	X	X			X	X	X			X	X	X			X	X	X			X	X	X
Roper 3288	X	X	X			X	X	X			X	X	X			X	X	X			X	X	X		

Table 1. Sub-blocks that comprise EL23676.

3. EXPENDITURE

Expenditure for the current year is included in Appendix 1.

4. REGIONAL GEOLOGY

EL23676 “Warramana East” is located within the Middle Proterozoic McArthur Basin of northern Australia. The McArthur Basin is an approximately 5-15 km-thick platform cover succession of mostly unmetamorphosed sedimentary rock sequence, with a minor volcanic component, deposited on the North Australian Craton between ≅ 1815-1450 Ma (Plumb, 1979). A recent study by Rawlings et al., 2004, has shown that the main tectonic elements that controlled sedimentation and deformation within the McArthur Basin are the meridional-trending, 50-80 km wide and > 150 km-long structural corridors known as the Walker and Batten Fault Zones, which bisect the northern and Southern McArthur Basin respectively. These two fault zones being separated by the east-west-trending Urapunga Fault Zone. The Batten Fault Zone is a 70 km wide north-trending fault zone that is defined to the east by the Emu Fault Zone. Seismic data suggests that the palaeogeography was that of a gently east-dipping carbonate ramp at McArthur Group times, with third order sub-basins generated along the Emu Fault at specific time intervals (Rawlings et al., 2004). The seismic profile east-west across the Batten Fault Zone is dominated by a series of west-dipping faults interpreted by Rawlings et al., (2004) as part of a major thrust belt which propagated to form a forward-breaking imbricated duplex set. The McArthur Group sediments within the Batten Fault Zone are comprised of the Batten and Umbolooga Subgroups and are approximately 4.5km thick. The onlapping Younger Roper Group sediments obscure the western margin.

Cainozoic sand, silt, clay and minor calcrete, silcrete and ferricrete cover much of the lease area with little outcrop of the underlying Tawallah Group. The Wununmantyala Sandstone of the Tawallah Group, as mapped on the Mount Young 1:250,000 map sheet (SD 53-15), predominantly represents the Proterozoic; a red-brown to purple quartzarenite and sublitharenite, containing syneresis cracks, with thin red-brown mudstone interbeds. Other Proterozoic units include the Wuraliwuntya Member, a fine-grained and rarely medium-grained sandstone and mudstone. These are overlain by Settlement Creek Volcanics (minor outcrops), represented by reddish-brown to dark grey, massive to amygdaloidal basaltic –doleritic lavas. Red, flow-banded and aphanitic rhyolite lava and auto breccia also occurs. The Proterozoic Wollogorang Formation consists of two units; the first consists of mainly dololutite, sometimes pyritic or stromatolitic with flat pebble breccia, mudstone, which is sometimes

carbonaceous and pyritic. Rare coarse-grained dolomitic sandstone and rare red aphanitic, flow banded or vesicular rhyolite lava also occurs. The second unit is an interbedded fine-grained flaggy sandstone and red-brown mudstone, micaceous and dolomitic and white, fine- to coarse-grained, thin- to medium-bedded, lithic and feldspathic sandstone and rare basal polymict conglomerate. The Warramana Sandstone is also represented by a lower red hematitic medium- to thick-bedded litharenite separated from upper white thin- to medium-bedded sublitharenite and minor litharenite by a thin ferruginous interval, or rarely by pisolitic and massive ironstone.

The northern extension of the Emu Fault Zone cuts through the eastern portion of the lease. Dolomite and mudstone units of the Batten Subgroup (of the McArthur Group) crop out south of the lease along the Emu Fault.

Government mapped geology is included as Figure 2.

5. EXPLORATION RATIONALE

Rio Tinto Exploration's previous exploration results in the area had confirmed the favourable geological setting and Zn-Pb prospectivity of the Batten Fault zone. The target sought is sediment hosted massive sulphide Pb – Zn deposits similar to those that occur at Mt Isa, Century (within the Lawn Hill Formation) or the McArthur River mine. The fault zone remains a quality "grassroots" exploration target that Anglo American Exploration (Australia) Pty Ltd intends to test as part of their larger Batten Fault Zone Project.

Significant thicknesses of black pyritic Barney Creek Formation shale were identified from drilling on adjacent lease EL10103 prior to RTE's program of exploration in 2002. Elevated base metal geochemistry was also noted in these shales in previous exploration. Drilling at Yalco (now held as EL10317 and EL10329 by North Mining Limited and part of this Joint Venture project) had also previously identified elevated base metal geochemistry in areas of prospective stratigraphy i.e. Barney Creek Depositional Sequence (BCDS).

6. PREVIOUS EXPLORATION

CRA Exploration Pty Ltd held EL881 in 1973 (see CR1974-0076); this lease covered the eastern half of EL23676 now held by Rio Tinto Exploration Pty Ltd. Geosearch Pty Ltd on behalf of Rio Tinto flew an aeromagnetic/radiometric survey over the area. Aeromagnetic contours showed a steep east west gradient in the south of the area flown probably reflecting the northern continuation of the Emu Fault Zone. The radiometric results were not considered helpful in interpreting the geology.

Western Mining Corporation held the western half of EL23676 (Rio Tinto), as part of its larger lease EL1710, from 1978 to 1983 (CR1979-0108, CR1980-0153, CR1981-0161, CR1982-0216 and CR1983-0111). However most of their exploration effort was conducted outside of the ground now held by AAEA as EL23676. The exploration target was for base metal deposits of the "HYC" or Tynagh type and stratabound copper. An extensive geochemical program (49 reconnaissance soil lines for 36.71 km) was carried out in 1978-79 and reconnaissance IP (15 traverses over 12.88km) and INPUT EM (four traverses) surveys were conducted. In 1979-80 Geoterrex flew a combined INPUT EM and aeromagnetic survey over the northern and southern parts of the lease. A total of 500-line km was flown and this was followed up with ground surveys of 19 INPUT anomalies. During 1980 48 percussion holes were drilled over a selection of the ground geophysical anomalies and gossanous outcrops to a total depth of 1881m. A further program of 50 km of 100m dipole IP was commenced in 1981. 17.7line km of surface ironstone and rock chip sampling was conducted during 1981/82 in the northeastern portion of EL1710, to the northwest of the current EL23676. A further 12 percussion holes for 1026m were drilled during 1981 to test remaining targets. A stratigraphic diamond drill hole (RD1) was drilled but encountered considerable drilling difficulties. The diamond drill hole was drilled outside of AAEA's lease EL23676, in the northwest of EL1710, in an area covered by a considerable thickness of Cretaceous sand. The upper units encountered were tentatively correlated with the Barney Creek formation to 187.7m. Brecciation and bleaching/oxidation of unit 4 from 187.7-191.2m made identification difficult while it is suggested that Unit 5, from 191.2m to end of hole at 204m, could be assigned to the Coxco Member.

The Shell Company of Australia Limited – Metals Division conducted exploration at Bing Bong Creek (EL1728) during the 1980's. EL1728 covered the eastern half of the current EL23676. This exploration targeted Pb-Zn mineralisation of the HYC type and included IP and gravity surveys, airphoto and Landsat interpretation, mapping, rock chip sampling and diamond drilling. The Shell Company of Australia Limited drilled three holes on the eastern margin of EL23676 (DDHBB2, DDHBB3 and DDHBB4). Mara Dolomite was encountered during drilling with elevated copper values to a maximum of 520ppm obtained from sludge samples collected between 81 and 139m. 182 RAB holes were drilled on EL1728 however the geochemical response of the subcropping Barney Creek Formation was very low.

During 1984 -1986 BHP Minerals Limited conducted exploration on EL4240 that covered the far eastern margin of EL23676. An aeromagnetic survey, ground TEM survey and a gravity survey were conducted however this work did not indicate any areas warranting stratigraphic drilling.

MIM Exploration Pty Ltd conducted exploration, for base metals of the HYC style, on EL6808 (that covered the eastern half of EL23676) during 1991 – 1996. This work included geochemical soil sampling, two airborne QUESTEM surveys, a

PROTEM sounding survey, two gravity surveys, rock chip sampling, pisolite sampling, mapping and a photo lineament study. In 1992 eight diamond drill holes and six percussion holes for a total of 2337.40m. Near-surface ferruginous clays and laterite with minor ground water component explained most of the conductors. LD10-11 and LP14-15 intersected minor disseminated pyrite in dolostone, most probably of the Lynott Formation. A Pb isotope study of the diamond drill core, by CSIRO, indicated that isochron age of all samples indicated a much younger source compared to the HYC mineralisation. During 1993 three diamond drill holes were drilled on SIROTEM targets. LD22 intersected anomalous Cu in breccia near the base of the hole (up to 0.11% Cu over 1m). LD25, an inclined hole (to 353.6m) drilled in 1994, intersected 12m at 0.38% Cu and 0.21% Pb from 297m. In 1995 eight combined percussion and diamond drill holes (for 2070.2m with 1122.2m of core) gave a best result of 1m at 0.5% Zn in LD26.

From 1994 to 1997 an Ashton Mining and BHP Minerals Pty Ltd Joint Venture explored for diamonds and base metals respectively, on EL8097, which again covered the eastern half of EL23676. BHP Minerals conducted 24 PROTEM soundings and collected 18 stream sediment samples, which were assayed for base metals. This work did not produce any anomalies worthy of further exploration.

7. EXPLORATION CONDUCTED

7.1. Ground TEM survey

Introduction

The Batten Trough project is located in the McArthur Basin region of the Northern Territory targeting McArthur style sediment hosted Pb Zn deposits adjacent to the Emu fault within the Barney Creek Formation and Caranbirini member of the Lynott Formation.

The project tenements form a NS trending belt located along the Emu fault zone centred on the McArthur River Pb Zn deposit and EL23676 is shown in Figure 3. The project area contains several A Ranked target areas generated in the regional targeting exercises. The targets were prioritized after a review of open file data and the TEM program was conducted over the highest-ranking targets.

Exploration in 2004

A ground TEM program consisting of 40 lines of TEM with a total of 129 line Km was acquired over the Batten Trough project area between the 25th June and the 1st October 2004. The survey was conducted within tenements: EL23635,

EL23676, EL10317, EL10329, EL10316 and EL10103. The TEM line locations (4 km) for EL23676 are shown in Figure 3.

The TEM program was designed to identify bedrock conductive responses in high priority target areas. EM was chosen as the exploration method because the McArthur style of mineralisation is conductive and produces a strong EM anomaly. The target size was expected to be quite large due to an association with a large alteration halo with a footprint size of >2Km. The McArthur deposit is visible in both airborne and ground TEM data.

Aussam Geotechnical Services Pty Ltd was contracted to collect the TEM survey data. A 200m In Loop and a 200m offset loop survey configuration were used with 200m moves over most of the project area. A small amount of 100m loop data was acquired in areas requiring infill data. The TEM data was collected using Sirotem composite window times and a frequency of 4.1667Hz. The TEM data was acquired using the AAEA ZT30 Transmitter with a bank of 8 12V batteries and the AAEA Smartem receiver with the BA receiving coil and an offset loop.

Solo Geophysics was contracted to acquire a small portion of the survey in the Caranbirini area to ensure the survey would be completed before the end of the field season. The Solo data was acquired using a Sirotem system and an offset loop configuration.

Production

The Batten Trough survey was acquired over a large geographic area; with a total of 100Km distance between the northern most survey line to the southern most survey line. The planned lines were widely distributed over this area. Topographic conditions varied greatly through the survey area. The north of the project area was wet and swampy in places while the central portions of the survey area contained obstacles such as cliffs and steep break away's which led to several lines needing to be relocated.

The survey data was acquired with the Smartem Rx set up in the centre of the loop with the LTS or BA coil syncing to the Tx. All other geophysical equipment was setup in the back of an AAEA 4WD fitted out to work in remote areas with 16ply tyres. The AAEA vehicle was used along the survey lines, a quad bike was used to move the loop cables and the Aussam vehicle was also used for transport from the camp to the survey lines.

Data Processing

Full time series data was recorded for each line collected by Aussam and Amira format Sirotem data was provided by Solo. The TEM data was acquired using gain settings of 1 and 100 with each reading repeated at every station. After

processing the data was merged and stored in a Geosoft array database. The Maxwell software program was used to view the profile data and Profile Analyst was used to create profile plots of the data. Emax software was used to produce Conductivity Depth Images for each line of TEM. The merged TEM profiles with Emax CDI Sections are shown in Appendix 2 along with the digital data.

Interpretation

McA38A/B (High Priority)

A small sub basin to the east of the Emu fault and a NS trending unit of the BCDC near structures splaying off the Emu fault formed the target in this area (see Figure 3). TEM lines were planned away from previous drill testing in areas where previous EM survey coverage was broadly spaced or ineffective

Two lines of TEM were acquired over this target area:

L8257100 recorded a weak overburden response over a resistive basement and L8255200 shows a double peaked response in the early time channels matching the AEM data over the same location. No late time response was recorded.

Conclusion

The key decision point to move to drill follow-up phase was confirmation of a large coherent bedrock conductor (>1km2) at explorable depths (<300M). The TEM survey has not shown any bedrock conductor responses, which meet these criteria.

Previous exploration in the Batten Trough project has shown mineralisation in the area is conductive. The TEM collected in 2004 is considered to have been an effective test technique.

7.2. Field Reconnaissance and Drill Core Inspection

A three-week field trip to Borrolooa and Darwin was completed during June 2004. The principle aim of this trip was to inspect diamond drill core from a number of stratigraphic holes drilled within, and adjacent to EL23676. The aims of the drill core inspections were to:

- observe the types of lithologies, sedimentary structures, lateral facies variations and contact relationships in each of the lithological units;
- study the different alteration assemblages encountered in drill holes;
- predict the stratigraphic units and depths;
- construct interpretive cross-sections based on the drill hole observations.

Twelve diamond drill holes (approximately 4260 metres of core) were inspected. The stratigraphic units observed in the twelve holes were:

Lynott Formation	Hot Spring Member
	Caranbirini Member
	Reward Dolomite
Barney Creek Formation	HYC Pyritic Shale Member
	Cooley Dolomite Member
	W Fold Shale Member
Teena Dolomite	Coxco Dolomite Member
	lower undifferentiated Teena Dolomite
Emmerugga Dolomite	Mitchell Yard Member

The following drill holes were examined at the NTGS core library in Darwin and McArthur River mine site: LD11, LD25, DDHMcA16, DDHMcA17, DDHMcA18, BB2, BB4, BB5, BB6, DDHMcA4, DDHMcA5 and BCD001. Four target areas for further consideration were defined from this study.

8. PROPOSED FUTURE EXPLORATION

This lease is being explored as part of the major Batten Trough Project and hence exploration conducted in Year 3 will be contingent on the overall Project results. A presentation by the Anglo American Principal Geologist, Mr Stuart Mills, and our tenement advisor, Mr Ross McColl, was made to DBIRD personnel in Darwin in early May 2005, and it was explained that exploration work on the entire Batten Trough Joint Venture package of licences, plus other 100% Anglo American owned licences in nearby areas, will be reviewed and modified depending on results of drilling activities currently underway in the southern part of the joint venture ground. Pending these results and the future availability of suitable drill rigs, further work will be undertaken in the joint venture ground over the next few months.

9. CONCLUSION

EL 23676 is being explored for Zn-Pb deposits of the Mt Isa, Century (within the Lawn Hill Formation) or the McArthur River mine type. Exploration activity during the second year of the lease included inspection of diamond drill core from previous exploration and a TEM survey, which has not shown any bedrock conductor responses, which meet the exploration criteria.

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