



DIATREME RESOURCES LIMITED

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Subsidiary Companies: Lost Sands Pty Ltd ABN 27 101 269 747

Chalcophile Resources Pty Ltd ABN 41 090 712 217

Regional Exploration Management Pty Ltd ABN 55 093 739 336



ASX Code: DRX

Exploration Activities Report Quarter ended 30 June 2008

Highlights

HEAVY MINERAL SANDS PROJECTS

- Aircore drilling was commenced, and continues, over the Ooldea Range in South Australia, northwest of Iluka's Jacinth/Ambrosia deposit.
- The "Wanna Lakes East" tenement, adjacent to the Cyclone Deposit (Inferred Resource of 60Mt at 3.1% HM), and the "Jubilee Lakes North" tenement are now granted.
- Aboriginal heritage clearances being conducted east of the Cyclone Deposit and other exploration areas.
- Marine sands identified in the Arckaringa Basin of South Australia, with potential for heavy minerals.
- Seven tenements in the Arckaringa Basin and three tenements on King Island are now granted.

COPPER, GOLD & BASE METALS PROJECTS

- The purchase of two tenements at the Anabama Copper Project completed.
- Two deep diamond drill holes completed at the Dooloo Creek Copper Gold Project.
- Ground exploration re-commenced over the Clermont Copper Project.
- Bellfield Joint Venture tenements now granted for five year terms.

GENERAL

- Exploration and evaluation expenditure for the quarter totalled approximately \$0.89 million with DRX holding \$6.33 million cash at end the quarter.

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EXPLORATION

Eucla Basin Mineral Sands (Zircon) Project – WA and SA (DRX 75%, Zircon Resources Ltd 25%)

Aircore drilling was conducted on the South Australian side of the Eucla Basin within EL's 3614, 3615 and 3616 (Figure 1). The scout drilling program, along graded roads developed after cultural clearance surveys, was designed to test the 200km long portion of the Ooldea Range, a palaeo barrier sand island of Tertiary age.

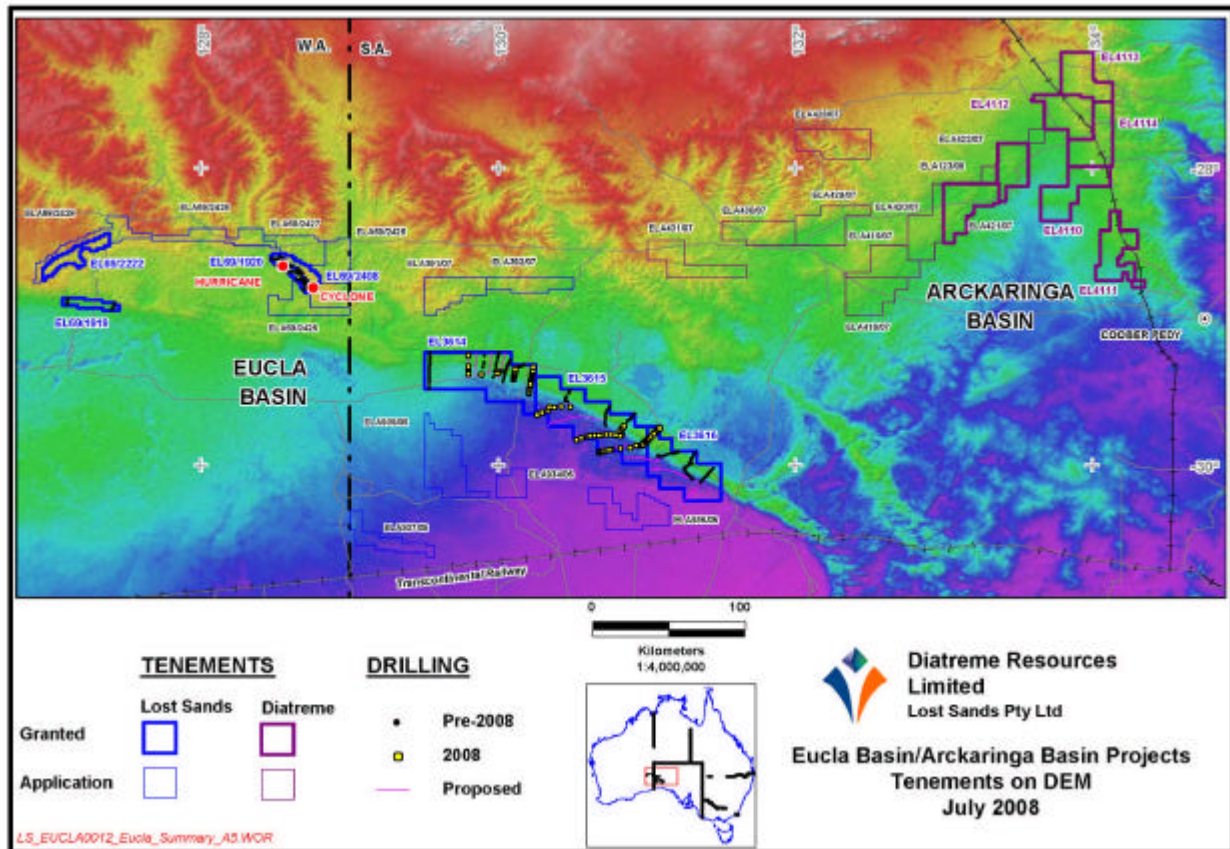


Figure 1: Eucla Basin/Arckaringa Basin Projects

Drilling during the quarter was hampered by operational difficulties with the rig thereby resulting in significantly less metres drilled than anticipated (refer Table 1).

	EL3614	EL3615	EL3616	TOTAL
Metres drilled	1,134	1,769.5	730.5	3,634
Holes drilled	36	49	13	98
Average hole depth (m)	31.5	36	56	37

Table 1: Summary of SA Eucla Basin drilling completed during the second quarter

The geology encountered during recent drilling is often complex and quite variable from line to line although similar features do occur along the strike of the Ooldea Range. The longest line in the program provides a cross-section from the back of the Ooldea Range well out into the continental dune field. Basement geometry appears to have had a strong influence on Tertiary sedimentation with basement highs seaward of the Range possibly creating beach barrier systems with associated estuarine or lacustrine environments between the barriers and the Ooldea Range. Palaeosurfaces are found in a number of locations, and at variable depths, throughout the tenements, with a degree of alteration which will be tested for base metals.



Interpreted beach facies, including well-developed foreshore/surf-zone/off-shore sequences were intersected in all lines except the western most line in EL 3614 (not tested due to abundant rock and insufficient drill depth). Samples have been submitted for analysis and assays are awaited.

Drilling in the South Australian sector is continuing, with the current program expected to be completed in early August. The rig will then relocate across the border into Western Australia where it will commence drilling the interpreted extensions of the Cyclone Deposit and the Hurricane Prospect within the recently granted "Wanna Lakes East" licence (EL 2408).

Arckaringa Basin Project - SA (DRX 100%)

Initial geological reconnaissance work was carried out on a number of the Company's licences in the Arckaringa Basin during the quarter. The licences are located in the north-central region of South Australia around the margin of the Basin and approximately 150km north and north-west of Coober Pedy (Figure 1). In total, 15 exploration licences are included within the project, seven of which are granted.

Previous exploration within the licence areas is limited to the construction of numerous seismic lines in the mid-eighties by Comalco Ltd and the completion of a regional program of stratigraphic mineral exploration holes (coal as primary target) along the seismic lines around the same time. A number of deeper oil exploration drill holes were completed by Comalco Ltd (around EL4113) in 1984.

The potential for heavy mineral sands has not been explored by historical drilling across the Company's licence areas.

Drilling over the recently granted licences will commence once the Company receives approval from all relevant statutory authorities.

King Island Mineral Sands Project - TAS (DRX 100%)

The three Tasmanian exploration licences (EL's 7/2008, 8/2008 and 9/2008) covering a total land area of 528km², were granted in June 2008 for five year terms (Figure 2).

These licences will principally be explored for heavy mineral sands but there may be gold, tungsten and tin in the basement which will also be tested. There are a number of known occurrences of mineral sands on King Island, including the Naracoopa Deposit which has periodically been mined since the 1970's. Exploration is expected to commence over the summer months following the drilling in the Eucla and Arckaringa Basins.

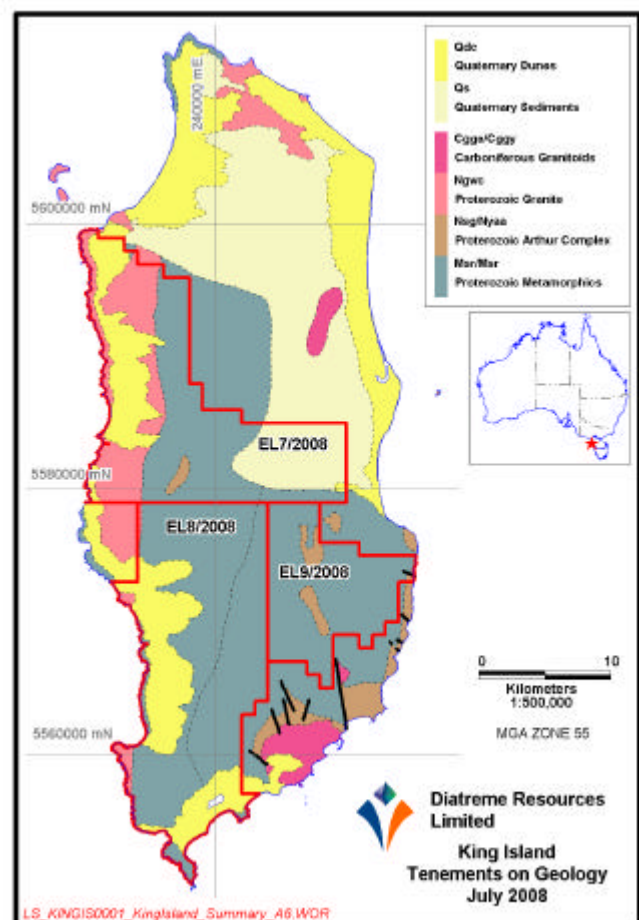


Figure 2: King Island Tenements on Geology



Shark Bay Mineral Sands Project - WA (DRX 100%)

Exploration Licence application (ELA 09/1518) covers an area of 575km². DRX's research and project generation has identified a significant arcuate high stand dune, which is forming an embayment contiguous with, and seaward of, the western boundary the Archean Yilgarn craton (Figure 3). The craton is considered to be a possible good provenance zone and source for heavy minerals. The main dune is approximately 60km in length, with smaller coalescing dunes and deep bays within the Archean paleocoastline.

Casterton Mineral Sands Project - VIC (DRX 100%)

The single exploration licence application is currently progressing through Victoria's native title regime. Ground exploration is not expected to commence until 2009.

Anabama Copper Project – SA (DRX 100%)

Exploration Licence No's 3548 and 3923 were assigned to the Company during the quarter. The licence areas contain the Anabama, Cronje Dam and White Rock copper prospects.

The project's principal lithological unit of economic interest is associated with the Boucaut Volcanics in the Adelaiddian sedimentary sequence. Previous licence holders over the area, Carpentaria Exploration Company Pty Ltd (CEC), Placer Exploration Limited (PEL), New Hampton Goldfields NL (NHG) and Goldrap Pty Ltd (GPL) all drilled and concentrated on the Anabama and White Rock prospects (EL 3548).

PEL was exploring mainly for gold. However, their attention shifted to the copper targets at the Anabama and White Rock prospects. Extensive exploration was completed, including RAB and soil geochemistry as well as 44 RC drill holes (5,308m) at the Anabama Prospect and 15 RC drill holes (1,285m) at the White Rock Prospect. This work found only patchy gold mineralisation but it defined low grade copper mineralisation. They considered the mineralisation to be below their requirements and optioned it to NHG, who completed the drilling of a further 22 infill RC drill holes (1,079m) at the Anabama Prospect and four RC drill holes (243m) at the White Rock Prospect.

In 2004, GPL drilled four RC holes (944m) at the Anabama Prospect. Two holes, each drilled to 288m, were designed to test the Induced Polarisation (IP) anomaly associated with the area of previous drilling (refer drill section in Figure 4 displaying drill hole ARC0401), whilst the remaining two tested an inferred "hanging wall" anomaly.

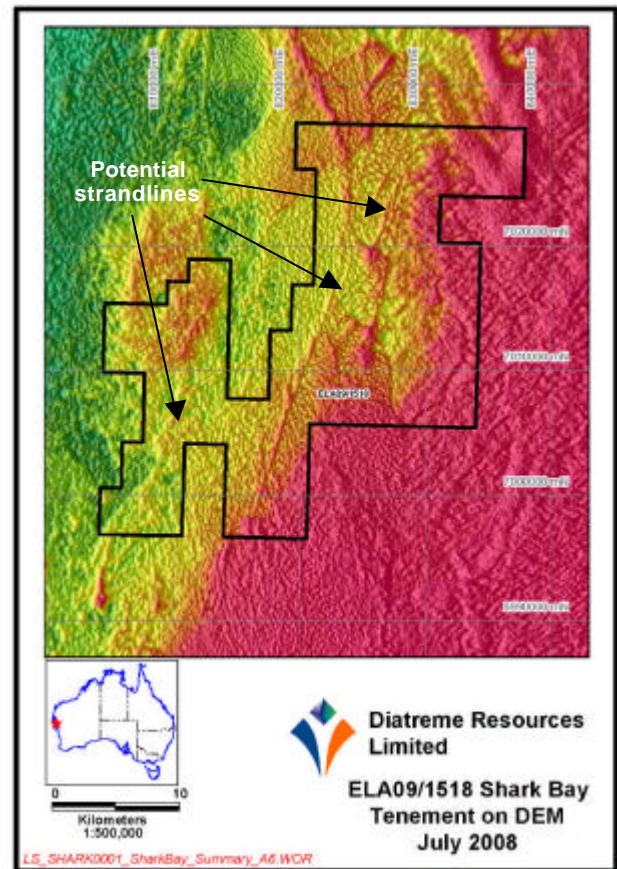
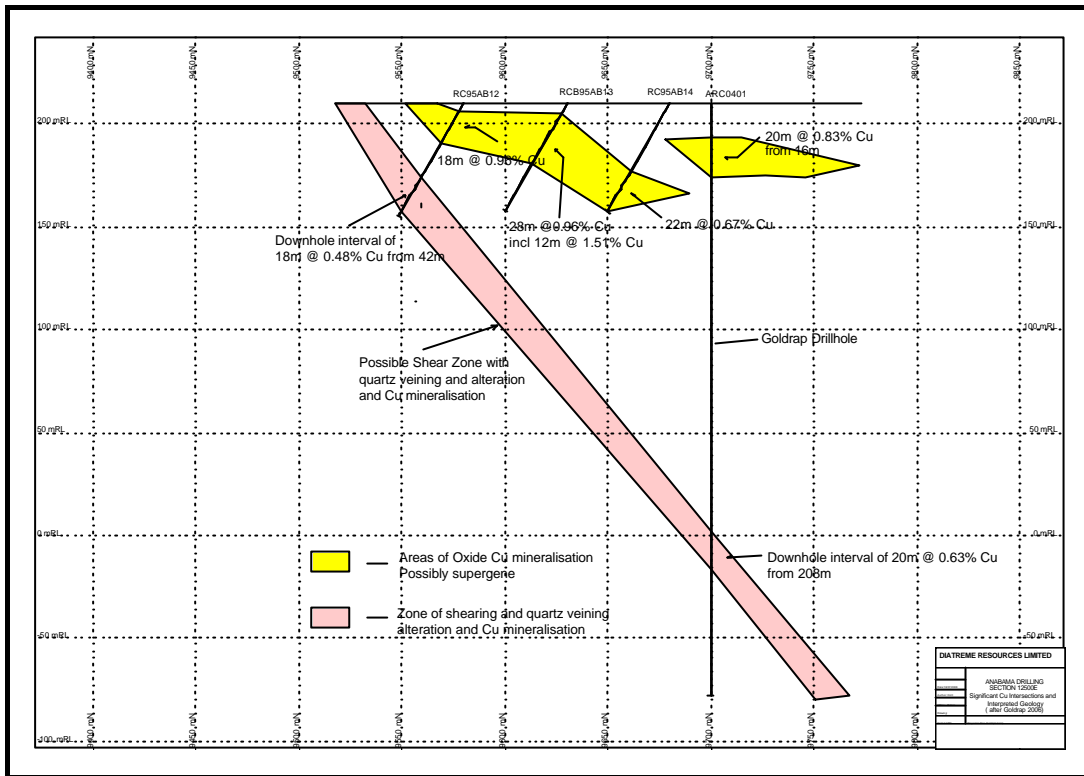


Figure 3: ELA09/1518 Shark Bay Tenement on Digital Elevation Model



Based upon historical exploration by PEL and NHG in the early 1990's, the Anabama Copper Prospect is reported to host an oxide copper target. An internal DRX review of all existing historical drill data relating to the Anabama Prospect continues, as part of the plan to develop strategic sites for future definition drilling and metallurgical testing. Figure 5 summarises previous exploration over the prospect including historical drill holes, surface copper distribution and IP surveys lines.

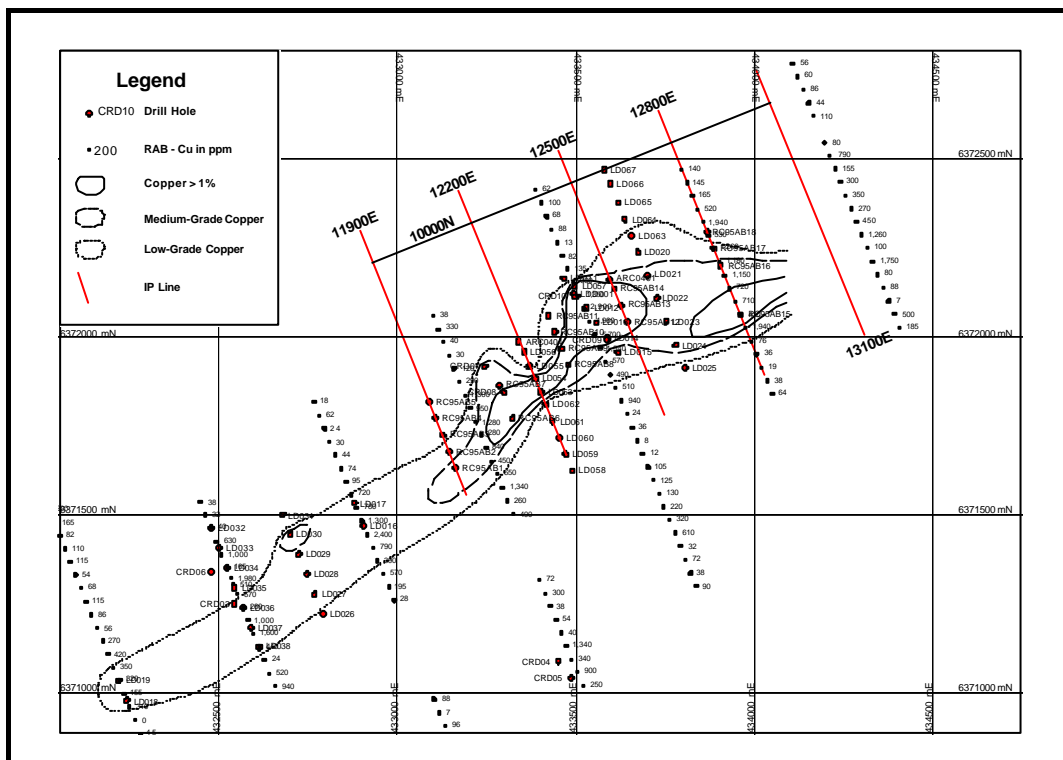


Figure 5: Anabama Prospect – Drill holes, surface copper distribution and IP Survey lines (EL 3548)



Results from the helicopter borne Versatile Time-Domain Electro-Magnetic (“VTEM”) survey reveal additional potential conductive targets to the north of the Anabama and Cronje Dam prospects. Detailed interpretation is ongoing with reconnaissance field work planned for late 2008.

Clermont Copper Project – QLD (DRX 100%)

Exploration at the Peak Downs Prospect has outlined a 2,500m long anomalous copper zone (>400ppm Cu). This oxidized mineralization zone has been drilled to a depth of 50m and has been poorly tested outside of the Straits Mining Pty Ltd 1990’s drilling around the Peak Downs mine workings (central zone). Further infill and extension drilling is proposed to test for copper mineralization over the anomalous copper zone.

In 1995, Straits Mining Pty Ltd reported a shallow copper oxide resource, in the central zone of the prospect, of 1.5Mt @ 0.53% Cu (Measured), 1.5Mt @ 0.37% (Indicated) and 1.2Mt @ 0.47% Cu (Inferred). Following reviews and modeling, and based on all existing drill data, DRX has an exploration target of potentially 7 to 10 Mt @ 0.5 to 0.7% Cu in the shallow oxidized zone. This target expresses a conceptual size and grade and to date there is insufficient exploration to define a Mineral Resource of that target size or grade. It is uncertain if further exploration will result in the determination of a Mineral Resource.

Copper prospects, VTEM survey areas and targets (numbered), ground magnetic survey areas, and stream sediment/soil sample locations are shown on Figure 6.

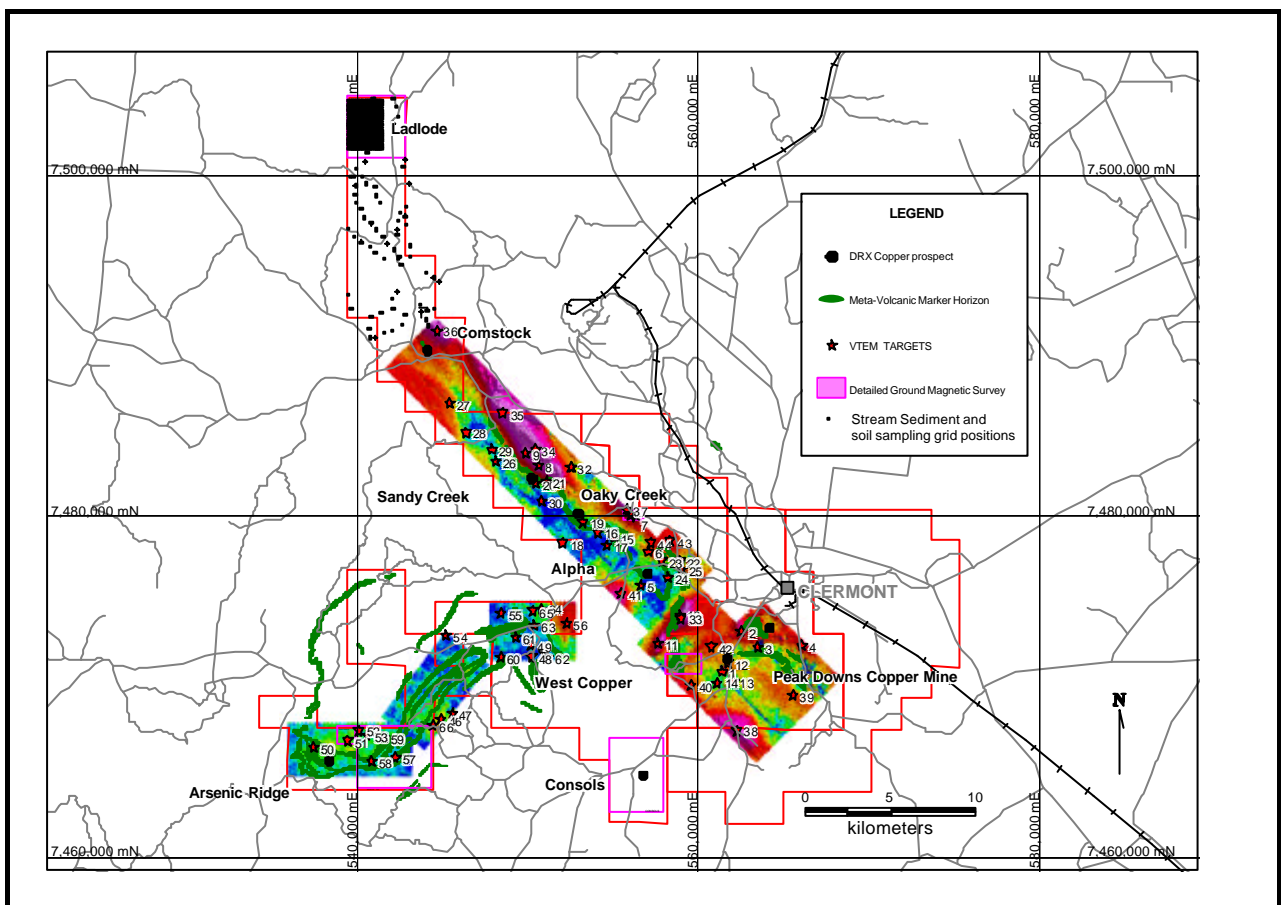


Figure 6: Clermont Project – Copper prospects, VTEM survey areas and targets (numbered), ground magnetic survey areas, and stream sediment/soil sample locations (EPMs 14026, 15250 & 15400)



Investigation of the numerous geophysical targets identified from the VTEM survey is continuing. A number of “late channel” anomalies indicate deeper buried conductors and warrant drill testing.

Ground follow-up of the helicopter borne Versatile Time-Domain Electro-Magnetic (“VTEM”) survey targets is continuing. Investigation of several VTEM targets has resulted in:

- a close spaced ground magnetic survey and soil sampling grid being established over targets 37 and 7, north of the Alpha Prospect,
- follow-up, close spaced ground magnetic surveys being conducted over target 57, southeast of the Beefwoods Prospect, and
- several targets being downgraded following field investigations.

A regional stream sediment sampling program has been conducted over the northern section of EPM 14026. In addition, a soil sampling grid was completed over the Ladlode Prospect. No significant results have been returned.

Drilling at Clermont is scheduled to re-commence in August with a number of individual programs designed to concentrate on the Peak Downs, Comstock, Sandy Creek, Oakey Creek and Consols prospects.

Dooloo Creek Gold-Copper Project – QLD (DRX 100%)

The Dooloo Creek Prospect is interpreted to resemble the upper part of a Mount Morgan style mineralisation system having similar host rock age, lithologies, sulphide geochemistry and mineralisation styles. It is represented on surface by a large area (4km x 2km) of anomalous gold-copper mineralisation, previously established by North Ltd.

Following on from the 2007 RC drilling program, DRX has completed a two hole, HQ diamond drilling program at the Dooloo Creek Prospect (Table 2). The program aimed to establish geological controls on the existing gold-copper targets, by intersecting, at depth, the feeder zones reflected in the surface mineralisation.

After initial rain delays, a vertical diamond hole, DCDH07 was completed to 384m and a second diamond hole (angled -60 degrees), DCDH08, was initially completed to 404m. However, it was decided to extend the second hole to 427m as geological logging indicated an epidote-carbonate-magnetite altered breccia zone from 389 to 400m.

Drill Hole	Completed	Easting MGA	Northing MGA	AZMITH (deg)	DIP (deg)	TD (m)
DCDH07	May 2008	311 778	7 280 934	0	-90	384
DCDH08	July 2008	311 847	7 281 409	315	-60	427
Total Metres						811

Table 2: Completed Diamond Holes

The core is quarter sawed and samples composited every 2m. To date, a total of 197 samples have been dispatched for gold and multi-suite element analyses.

DCDH07 was designed to intersect a surface mapped chalcopyrite-rich zone exposed approximately 200m to the south of the drill hole position. Due to the low topographic drill site (being the lowest area accessible in the Dooloo Creek Prospect), it also aimed to test the depth extent of the volcanoclastic sedimentary pile underlying the prospect. Recovered core indicates that the sedimentary pile remains open at depth, however, with no visible mineralisation.



Visual geological logging shows no strong alteration zoning or strong mineralisation intersected and visible sulphide mineralisation was logged as mainly disseminated zones of pyrite. However, this was also the case in DCRC04, drilled by the Company in 2007, which returned 12m @ 1.38 g/t Au.

DCDH08 intersected three alteration zones in the geological log, associated with either faulting and or shearing, in a thick sequence of volcanoclastic sediments of the Lochenbar Beds formation. The alteration is mainly epidote and carbonate flooding, with minor (< 2%) amounts of sulphide mineralisation (mainly pyrite with trace chalcopyrite). Several zones of magnetite skarn were logged; these lithologies were previously reported by North Ltd as potentially gold mineralised zones at surface.

Only one further RC drill hole will be completed this year. Detailed structural data collected from the orientated diamond holes will assist in the interpretation and compilation of all drilling results, once assay data is available.

Bellfield Base Metals Project – QLD (Joint Venture - DRX 50%, Minerals Corporation Ltd 50%)

During the quarter and after an extended period of delay, EPMs 12868 and 12888, constituting the Bellfield Joint Venture, were granted for five year terms. The two permits form a roughly rectangular area 65km long by 17km wide (1,100km²) centred approximately 100km south of Georgetown. The project is targeting Mount Isa style copper-lead-zinc mineralisation under shallow Mesozoic cover rocks.

Geophysical interpretation of the Company's already completed helicopter borne Versatile Time-Domain Electro-Magnetic ("VTEM") continues. Figures 7 and 8 broadly show the extent of the Mesozoic cover rocks and potential buried conductive targets in the survey area. Helicopter surveying has also assisted in establishing ground access information and general field conditions in this remote area, ahead of initial ground exploration later in the year.

Drilling is not expected to commence over the project area until the 2009 field season.

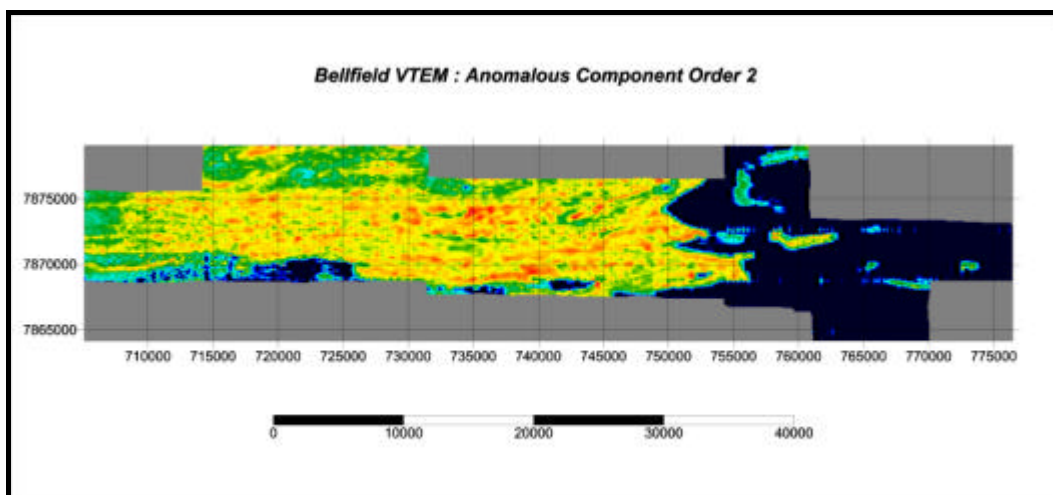


Figure 7: VTEM interpretation to show the extent of the Mesozoic cover rocks (yellow/green areas) to the west

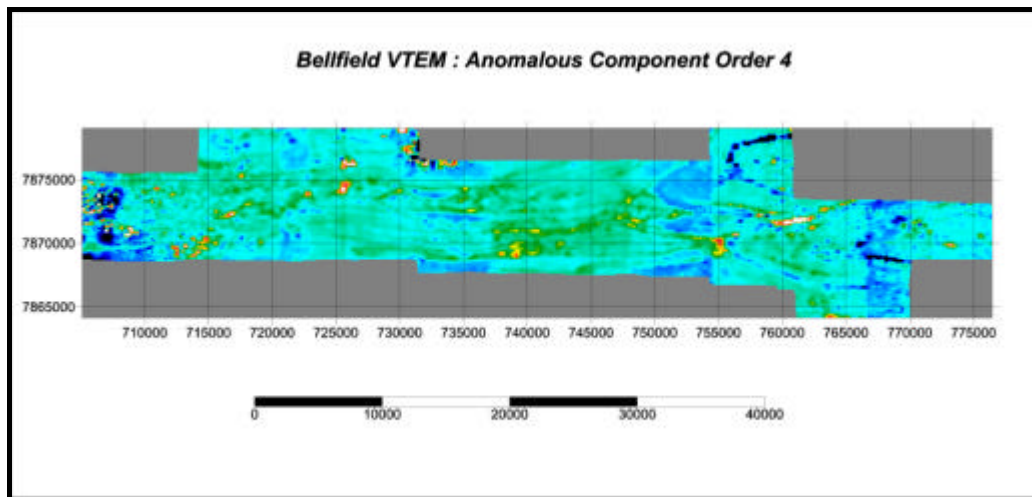


Figure 8: VTEM interpretation to show potential conductive targets (yellow/red areas) below Mesozoic cover rocks

CORPORATE AND FINANCE

General

- Exploration and evaluation expenditure for the quarter totaled \$889,000. The Company held \$6,329,000 cash at the end the quarter.
- 1,271,187 ordinary shares were issued to Huntley Custodians Limited at 23.6 cents per share in satisfaction of the purchase of the Anabama Copper Project (South Australia) comprising two exploration licences.
- 4,100,000 options exercisable at 47 cents on or before 30 June 2011 (unlisted) were issued to directors under the Company's approved Employee & Officers Option Plan 2006 following ratification at the AGM.

Dated 31 July 2008

Anthony J Fawdon
Executive Chairman/CEO

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The information in this report, insofar as it relates to Exploration Results and Mineral Resources from the Company's mineral sands projects, is based on information compiled by Mr David Jelley, of David Jelley Pty Ltd, who is a Member of the Australasian Institute of Mining and Metallurgy. Mr Jelley has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he has undertaken to qualify as a Competent Person as defined in the 2004 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Jelley consents to the inclusion in the report of the matters based on the information in the form and context in which it appears.

The information in this report, insofar as it relates to Exploration Results and Mineral Resources from the Company's copper and base metal projects, is based on information compiled by Diatreme Resources Ltd staff and reviewed by Mr Henning Coetzee, a fulltime employee of the Company, who is a Member of the Australasian Institute of Mining and Metallurgy. Mr Coetzee has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he has undertaken to qualify as a Competent Person as defined in the 2004 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Coetzee consents to the inclusion in the report of the matters based on the information in the form and context in which it appears.