DIATREME RESOURCES LIMITED

ASX:DRX

ASX Announcement

31 August 2009

CLERMONT COPPER PROJECT

(DRX 100%)

EXPLORATION UPDATE

Round Hill Prospect - discovery of a mineralised "diatreme"

The initial deep diamond drilling program at the Rosevale Porphyry Corridor (RPC) has now been completed, with final assay data being received and further geological interpretation in progress.

"Footprints" of a **potential major gold system** have been discovered at the Round Hill Prospect in the central part of the RPC. Consequently, a rigorous review of the structural, geological, alteration and assay data has been initiated in order to develop a second phase drilling program to help define a conceived gold rich core to the volcanic pipe system. In particular, dilational and other structural "trap" zones will be targeted, as they are likely to host significant gold mineralization if economically present.

A preliminary review of all drilling data highlights two separate zones of newly discovered low grade copper (Cu) – Molybdenum (Mo) mineralization (Elektra North and Hillview East), and together with a Cu-Mo zone discovered previously by the Company at the Red Dog Prospect, this style of mineralization has been intercepted over an area exceeding 1.5km by 0.7km. Additionally, and currently of greater interest, was the discovery of broad zones of base metal mineralization (zinc-silver-lead), along with zones of arsenic-silver-bismuth-copper-antimony-gold (typical Intrusion Related Gold System ("IRGS") geochemical signature) within a rhyolitic diatreme body at the Round Hill Prospect.

Analysis shows that the Round Hill Prospect bears geological and mineralization affinities to the Mount Leyshon IRGS. The Round Hill breccia pipe sits at the intersection of a local northeast trending structure, and a major northwest metallogenic trend, known locally as the Rosevale Fault. This style also encompasses the Twin Hills gold epithermal system and the world class Mount Leyshon breccia-hosted gold deposit, both located in north Queensland.

Diatreme Resources is an Australian based diversified mineral explorer with significant projects in heavy mineral sands, copper, base metals and gold.

The Company owns the zircon rich Cyclone HM Deposit in Western Australia, which is situated within the emerging world class Eucla Basin heavy mineral sands province, along with 30,000 sq km of underexplored ground prospective for heavy mineral sands.

The Board and senior personnel exhibit wide experience, ranging through the exploration and development phases of resource management.

Australian Securities Exchange
Code: DRX

Securities
Ordinary shares:
177,093,250
Unlisted 47c options (30 June 2011):
17,550,000
Unlisted 47c options (31 July 2011):
3,000,000

Board of Directors
Executive:
Tony Fawdon - Chairman/CEO
David Hall - Operations
Non-executive:
Lawrence Litzow
George White
Andrew Tsang
Company Secretary:
Lawrence Litzow

Key Projects:
- Eucla Basin Heavy Minerals Project
- Clermont Copper Project
- Anabama Copper Project
- Bellfield Base Metals Project

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Share Registry:
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Three diamond drill holes have now been drilled into the newly identified volcanic breccia pipe system which varies from being clast to matrix supported. Broad zones of base metal mineralization were intersected.

Round Hill B: ***29m*** @ ***0.13% Zn from 232m*** and ***192m*** @ ***0.11% Zn from 367m***. Additionally, a **7m** wide zone returned ***28.5g/t Ag from 212m***, including ***1m*** @ ***93.5g/t Ag from 214m***.

Round Hill North B: similar results to Round Hill B, including ***16m*** @ ***0.14% Zn from 57m, 52m*** @ ***0.19% Zn from 124m*** and ***51m*** @ ***0.11% Zn from 418m***.

Round Hill North A: near surface (from 14m down hole) base metal - manganese oxide veins carried ***5m*** @ ***38.5 g/t Ag***.

Additional to the wide base metal zones encountered, sporadic zones of highly anomalous arsenic-bismuth-silver-copper-antimony-gold were found and, along with the base metal zoning, certainly validate the typical geochemical signatures that often relate to Intrusive Related Gold Systems.

Diatreme considers this new discovery at Round Hill to be highly prospective for a major gold find. Combined with the previous mapping, field observations, drilling results and geophysical interpretation, results indicate that the three diamond holes drilled thus far have only intersected the edge of a much larger system at depth (possibly correlating to a large magnetic low to the south). Various researchers have postulated an association between deep seated Cu-Mo porphyry type intrusive systems at depth and the higher level gold mineralisation at Mount Leyshon. Hence, the local spatial correlation of the Round Hill diatreme to the existing Cu-Mo mineralization further highlights the potential for a major gold system within the RPC.

Future efforts will be focused toward defining the extent of the rhyolite/diatreme body, delineating and testing the deeper and more central parts of the mineralised system and defining zones of structural complexity and dilation that may host multi-million ounce gold orebodies.

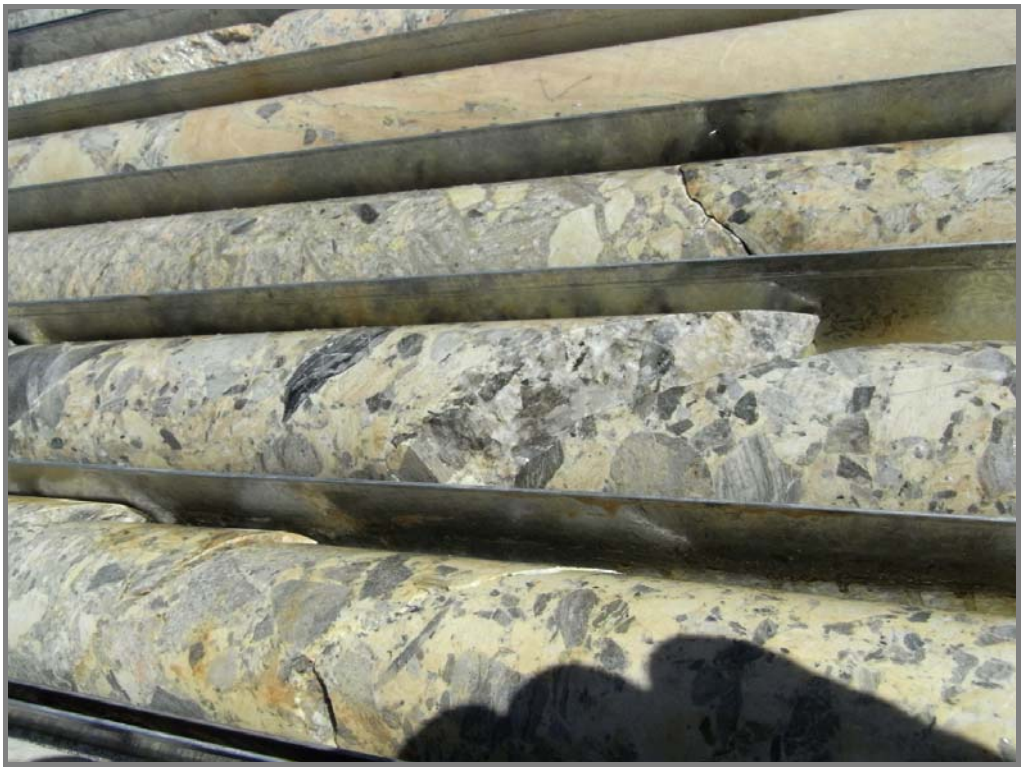

Figure 1: Clast rich rhyolitic diatreme. The clasts are dominated by sub-rounded to angular fragments of schist, quartz monzonite porphyry and quartz. Occasional splashes of Cu-oxide are found within the clasts, and occasional sulphides replace clasts and form the matrix.

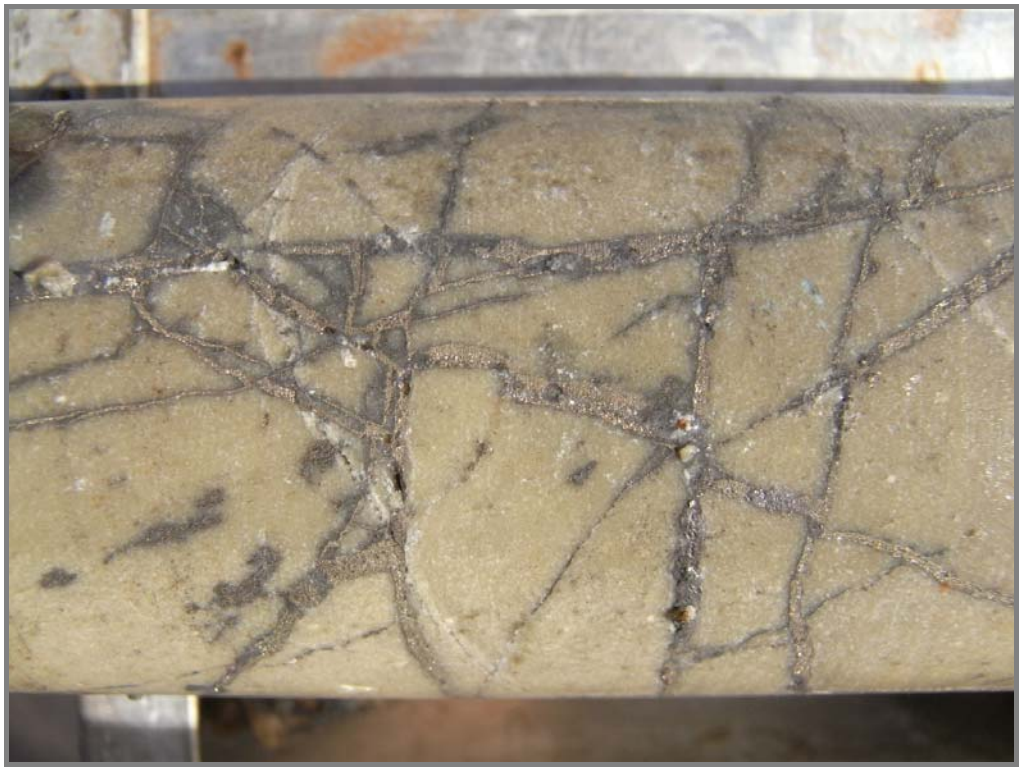

Figure 2: Typical stockworking sulphide veins from drillhole Round Hill North B (at 54m depth).

Anthony J Fawdon
Executive Chairman/CEO

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Competent Person Statement

The information in this report, insofar as it relates to Exploration Results and Mineral Resources is based on information compiled by company personnel under the supervision 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.