ARGOLD HOLDINGS PTY. LTD.

ABN 52 191 636 484
Contract Geologists in Mineral Exploration and Mining.

PRINCIPAL OFFICE: Unit 5, 29 Point Walter Road, BICTON, 6157. Western Australia.
POSTAL ADDRESS: P.O. Box 257, MELVILLE, 6956. Western Australia.
PHONE/FAX AND E-MAIL: Telephone and Fax.(08) 9438 2741, E-mail. argold@westnet.com.au

FIRST AND FINAL REPORT EXPLORATON ON EL28823

Held equally by Argold Holdings Pty. Ltd. and Austasia Resources Pty. Ltd.

For the year

11 December 2011 to 10 December 2012

PART OF THE DUNDEE GLAUCONITE PROJECT.
"Bynoe" and "Fog Bay" 1:100,000 sheets

Exploration field work and reporting by

H.F.Girschik.
Argold Holdings Pty. Ltd.
Perth, Western Australia.

December 2012
Revised 8 March 2013 with corrected metadata/spreadsheets

SUMMARY

Nineteen widely-spaced reverse circulation holes drilled into the Cretaceous *Bathurst Island Formation* in the Dundee District of the Top End of the NT failed to intersect significant amounts of the green clay-like potassium-bearing mineral, glauconite. From the results of earlier nearby drilling, this mineral was known to be widely and fairly continuously distributed in the district. It is formed in shallow marine situations from the diagenetic alteration of biotite derived from granites and gneisses. However, the Cretaceous rocks on EL28823 are too thin to permit that process to have taken place there. No further work is warranted. The tenement has been surrendered.

TABLE OF CONTENTS.

EXPENDITURE REPORT

APPENDICES

1 LIST OF HISTORIC EXPLORATION LICENCES COVERING OR AROUND THE GROUND COVERED BY EL 28823 FOR WHICH THE OPEN FILE COMPANY REPORT WAS OBTAINED, EXAMINED AND SUMMARISED.
Follows Text

2 SUMMARIES OF THE OPEN FILE COMPANY REPORTS. Supplied as separate folder.EL28823_2013_A_05_crsummaries.

FIRST AND FINAL REPORT OF EL 28823, PART OF THE DUNDEE GLAUCONITE PROJECT.

Principally an account of the RC DRILLING ON EL28823. SEPTEMBER 2012.

INTRODUCTION.

Exploration Licence 28823 is held jointly by Argold Holdings Pty. Ltd. (Argold) and Austasia Resources Pty. Ltd. (Austasia). It is located to south west of Darwin in the Dundee district of the Northern Territory.

In 2007, the author supervised a program of shallow, reconnaissance air-core drilling for Uranex NL as part of an exploration program for uranium. The objective of that program was to identify the rock types and stratigraphic units occurring underneath the Cretaceous and Quaternary cover rocks.

The author was impressed but the substantial thicknesses of a bright-green clay-like substance which fitted the description of glauconite, an iron potassium aluminium silicate with maximum potassium content of 7% intersected in the drilling. Subsequent reading on the matter confirmed that this was most probably glauconite. It is a well-recognised as a unit in the Cretaceous in that part of the NT and is designated as a marker bed in the Groote Eylandt manganese mining operations in eastern Arnhem Land which are stratigraphically in the Cretaceous.

However, at the time there was no commercial interest in potassium. The green clay was not analysed for potassium.

The main use for potassium is as a fertiliser. Potassium, phosphorus and nitrogen are the three elements taken up from the soil by plants. The potassium in commercial fertilisers is usually in a water-soluble form such as the sulphate or the chloride. Non-soluble forms such as glauconite have been used as a form of slow- release fertiliser in cases where transport cost is not prohibitive.

In 2010 there was a marked increase in the price of potassium. Around that time, Potash West Ltd, an ASX listed company, was granted exploration tenements over a large part of the Perth Basin in Western Australia. The occurrence of greensands (a mixture of glauconite and sand) in the Perth Basin had been well documented for over 60 years.

While glauconite has never been considered a commercial source of potassium, Potash West Ltd. was investigating ways to convert the potassium fixed in the glauconite into a soluble form on a commercial scale. In 2012 they were reporting significant successes in this field.

Argold and Austasia applied for two Exploration Licences in the Dundee district to include the area of Quaternary rocks,(which presumably overlay the favourable Cretaceous) and which also not on freehold land or otherwise encumbered These two EL 28822 and 23323 are referred to as the “Dundee Glauconite Project”.

This report deals with EL 28823 only.

The objectives of exploration on EL 28823 were to confirm that the green clay was in fact glauconite, and to determine the areal extent and thickness of the clay on the tenement.

TENURE.

EL 22823 was applied for jointly (each at 50%) by Argold and Austasia on 25 May 2011. It was granted on 11 December 2011 for a period of 6 years. It consists of 49 graticular blocks in an irregular shape. Total area is 155.69 square kilometres. Annual rental is $1519.

LOCATION.

The EL is located approximately 55 kilometres directly south west of Darwin or 127 kilometres by road southwards along the Stuart Highway and then west along the Dundee road.

ACCESS

Access around the EL is via a network of station tracks, generally in very good condition.

TOPOGRAPHY

The area of the EL is flat to gently undulating. Tributaries to the Finniss River, a major stream to the south of the EL, form low swampy areas in the western part of the EL. In the west there are also some ranges of low hills oriented northwest – southeast.

VEGETATION

Vegetation consists of paperbark trees around the swamps and dry, stunted eucalypt forests elsewhere separated by extensive areas of grasslands.

CURRENT LAND USE

The EL is entirely within Pastoral Lease of Finniss River station, being Crown Leases 567 and 1663, partly cleared for grazing.

Grazing cattle is the only agricultural activity on the station

At western end of the EL there is an Extractive Industries Permit viz. Ml 1982 of 258.8 hectare issued to Bioresource Management. Also, there are applications for an additional 9 Extractive Industry Permits. These permits and applications relate to the extraction of peat-rich soil for agricultural purposes.

GEOLOGY

Basement rocks are the Proterozoic *Two Sisters Granite* and the *Welltree Metamorphics* including the *Depot Creek Sandstone Member*. The *Depot Creek Sandstone* is the only outcropping Proterozoic rock, and it does so sporadically in the western apart of the EL. In the northern part of the EL, the Proterozoic rocks are overlain by the *Darwin Member* of the Cretaceous *Bathurst Island Formation* which consists of clays, silt, fine sands, biotite rich beds and glauconite. The glauconite is considered to be a product of the degradation by diagenetic processes of the biotite which was derived from the underlying and nearby granites and biotite schists. Outcrops of Cretaceous are fairly rare, as it is usually overlain by a widespread blanket of Quaternary sand and clay, including layers of partly to completely cemented iron and manganese pisolite, locally referred to as pindan.

Archaean rocks, including the biotite rich granites of *the Rum Jungle Complex* occur some 50 kilometres to the east in the headwaters of the streams,(including the Finniss River immediately to the south of the EL), which discharge into the ocean on this part of the coast.

PREVIOUS EXPLORATION

The Dundee district was extensively explored from the mid 1970's through to 2008 with the work being directly related to uranium in the basement Proterozoic rocks. In particular, there was a lot of shallow drilling to the base of the Cretaceous to determine the nature of these basement rocks and to obtain a sample of same to establish their geochemistry.

The author examined the records of that drilling and noted that a very large number of these holes intersected green clay. Sometimes this was qualified as "bright or apple green", sometimes "yellow or lime green", and still again "khaki". However the term glauconite was never used to describe these clays, and there were only a few assays for potassium.

The location of the holes showing green (and its variants) clay and the depth and thickness of the clay in those holes were plotted onto a plan. The result showed that the green clay was widespread, 26 metre at thickest, commonly 6 to 10 metre but not a continuous sheet. The thickest sequences were immediately east of EL28823.

There was also a substantial amount of geophysical work conducted by way of aerial and ground radiometric and magnetic surveys, and gravity surveys.

Deep diamond and percussion holes were also drilled to test geophysical and geochemical targets. These were not of great interest to the current exploration.

Five such holes were drilled on EL28823

A summary of the tenements held by the various explorers and the work they conducted is given as Table 4 in the Appendices. (EL 28823_2013_A_5_crsummaries.)

CURRENT EXPLORATION

WORK CONDUCTED

Nineteen RC holes were drilled on the southern E.L.28823 only between September 16 and 19 2012. Total metres drilled was 575.

This work was conducted by Cheyne Drilling of Berry Springs using a Desco track mounted multi-purpose rig coupled to an auxiliary air compressor. The drilling proceeded rapidly without significant problems. Only minor flows of water were encountered.

The aims of the drilling were to obtain samples of the “green clay”, reasonably assumed to be glauconite, intersected nearby in drilling conducted by previous explorers, and also to determine the lateral extent and thickness of this glauconite

The location of the proposed drilling was planned on Google Earth images which showed that there was a good access throughout EL 28823 via a network of station tracks. No earthworks or vegetation clearing were required.

The location of the holes is shown on the accompanying plan

Drill sites were selected so as to give reasonably regularly-spaced intersections throughout the EL.

The location of the sites was changed slightly as the drilling progressed to accommodate the results of that drilling and changes in ideas about the relationship between surface features and the underlying geology.

Prior to commencing the drilling, all sites were photographed to record the environment at the time. .

Collar positions etc. are given in a Table 1 SL1 “Surface point locations” EL28823_2013_ A _02_Drillcollars.xls “

RESULTS.

Fifteen holes in the current drilling encountered Proterozoic basement rocks, either the *Two Sisters Granite* or the *Welltree Metamorphics*, at relatively shallow depths rather than the Cretaceous.

Yellow-green clay, with small fragments of “apple-green” clay assumed to be at least partly glauconite, was encountered in the 7 holes along the northern boundary and in the central part of the EL.

The thickest intersection was 8 metre (with traces at a lower level) from DGRC19, and another intersection in DGRC 9 was 8 metre. Other holes from which clay of various shades of green was intersected are DGRC’s 7 (3 metre), 18 (1 metre) 13 (1 metre) 6 (1 metre) and 5 (2 metre)

This yellow-green clay may or may not be glauconite. A similar looking clay was noted (and sampled) at a depth of a few metre below surface in a road cutting into a partially lateritised granite at one end, and *Welltree Metamorphics* at the other. The *Welltree Metamorphics*, being much higher in ferromagnesian minerals than the granite, tend to weather into much darker grey-green clay.

Hole DGRC20 was drilled within 30 metre of Uranex's RAB Hole 211 which intersected 7 metre of green clay, yet it intersected only coarse river sand.

All holes were sampled for their full length as 4 metre composite samples, except that in some cases the basement granite or gneiss was not sampled, and as described below.

Where the cuttings were clay showing a shade of green, they were sampled at one metre intervals.

Samples from the holes showing green clay as mentioned above were submitted to Intertek-Genalysis laboratories in Darwin. Sample from holes which did not show green clay were also delivered to Intertek-Genalysis but with the intention that they will only be assayed if the results from the other samples show promise.

Small samples were also collected of all 1 metre intervals as described above. These have been retained for metallurgical testing.

Drill logs are given in file DL1 "Downhole Lithological Logs" EL28823_2013_A_03_lithologs.xls
and assay results are given in file "Downhole Geochemistry"
EL28823_2013_A_04_DownholeGeochem.xls

Note that there was no QA/QC work done on this relatively small batch of samples.

COMMENTS ON THE CURRENT DRILLING AND OTHER MATTERS.

The shallow depth-to-basement in all holes except those drilled along the northern boundary suggests that there is a basement ridge running east west across the middle of the EL, which has a low point or embayment in the middle of its east-west extent. Here, the minor amounts of the greenish clay which were noted in DGRC's 13, 6, 5 and 9.

On this ridge, which marked the southern coastline of the Cretaceous Sea, there are embayments such as can be seen on modern coastline in the South West of WA. Further, streams have cut across the Cretaceous tidal flats and scoured out deep channels which have removed the glauconite and have subsequently been filled with a coarse, angular quartz sand of granite origin as seen in DGRC 20. This hole was drilled within 30 metre of a hole drilled by Uranex which intersected a 7 metre of green clay,

The estuary on the Cretaceous Finniss River, if it existed, was very small and not likely to have an extensive area of glauconite.

CONCLUSION.

The drilling failed to intersect significant green clay. At best, pellets of light green clay were noted in the yellow clays in the Cretaceous. However the quantity of these pellets was such that, even if they had been glauconite, they would not have had a significant influence on the potassium values of the one metre sample.

While there are a number of high potassium values in the assays, these relate to zones with high biotite content.

Even where the glauconite is present, it is at best thin and does not form a continuous stratigraphic unit due high points (islands or shallow parts) in the Cretaceous sea floor. Also, the glauconite unit may have been locally eroded by subsequent streams.

There is little potential for finding commercial quantities of glauconite on EL28823.

However, EL28822, the northern EL, remains a valid target for glauconite exploration on the basis that the Cretaceous, being further from shore, is expected to be a thicker. However islands, high points in the basement and scouring cannot be ruled out.

RECOMMENDATIONS

EL 28823 has little, if any, potential to host commercially significant amounts of Glauconite, and should be surrendered.

H.F.GIRSCHIK.

Geologist.

APPENDICES

APPENDIX 1

LIST OF HISTORIC EXPLORATION LICENCES COVERING OR AROUND THE GROUND COVERED BT EL 28823 FOR WHICH THE OPEN FILE COMPANY REPORET WAS OBTAINED, EXAMINED AND SUMMARISED

EL NUMBER	REMARKS
1407	
3167	
3673	INCLUDES 1926, 3168,3169,3170,3593 &3673
4773	
5447	
6972	
6973	SAME AS 6972
23070	
23419	
23917	
24684	
25406	SAME AS 2640 AND 27512