MATILDA MINERALS LTD
AILERON PROJECT
EL 25819 Aladdin’s Waterhole
FINAL REPORT for PERIOD ENDING 6TH October 2010

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SUMMARY

EL25819 was granted to Matilda Minerals Ltd on 15th February 2008. NuPower subsequently acquired an interest in the tenement on 17th March 2008 through being offered a package of tenements in the Aileron region for joint venture. NuPower was attracted to the Aladdin’s Waterhole property by its strategic position amongst NuPower’s own tenements of the Aileron Project.

The area is underlain by basement rocks of the Aileron Metamorphics of Division 1 of the Aileron Province. Early Proterozoic orthogneiss, gneiss and minor schist are mapped immediately north of the area. Palaeoproterozoic rocks of the Aileron Metamorphics consisting of mafic granulite but also including felsic granulite, migmatite, cordierite granulite, cordierite felsic granulite, quartzite and Mg-rich rocks underlie Mt Gorey and other outliers of the Marlgarra Range in the southern part of the area. Quaternary alluvial sands and gravels and aeolian sand, colluvium and scree, and clayey sandy soils and red earth underlie most of the flat areas.

The area formed part of the NuPower regional airborne electromagnetic (AEM) surveys in 2007 and 2008 for palaeochannels as hosts for sandstone hosted uranium in Cainozoic sediments and the Geoscience Australia-NTGS Central Arunta Gravity Survey (CAGS) that provided valuable data for the interpretation of basement structures as controls for other styles of mineralisation. The AEM survey consisted of 13.4 line kilometers representing <1% of the total survey. It was flown at a nominal survey height of 120m on 1km spaced lines. The gravity survey was carried out at 4km x 4km station spacings that were infilled to 2km x 2km spacings over this area by NuPower, providing 3 stations located on Aladdin’s Waterhole.

The AEM survey shows that basement is shallow under the northern part of the license area with no evidence of palaeochannels. The gravity survey shows that the area straddles a WNW trending regional structural zone that may be the focus for other basement styles of mineralisation including gold, carbonatites, rare earths and diamonds.

Base metal mineralisation of the Oonagalabi type has been discovered at several localities in the region including Red Rock Bore immediately west of the license. There is potential for this mineralisation to extend, under cover, eastwards into the license. This has not been tested.

On the basis of the results of the AEM survey in the northern part of the area and lack of radiometric anomalies over basement outcrop of Strangways Metamorphic Complex in the south, Nu Power has decided that the area is of no further exploration interest to the company, and intended to advise Matilda of its desire to withdraw the property from the J.V. However Matilda was in administration and there has been no contact between the companies. In the meantime the tenement was kept in good standing while Matilda’s situation was resolved.

Matilda came out of administration in October 2010 and resumed responsibility for management of EL 25819. After a literature review of the potential for base metal mineralisation and channel iron deposits Matilda decided to relinquish the tenement.

The bulk of this report covers uranium exploration previously reported by Warrick Rafferty of Nu Power Resources in year 1 and year 2. The year 3 exploration is reported by Matilda Minerals Limited.

For a full coverage of NuPower’s year 1 and year 2 explorations refer to NuPower’s reports for 2008 and 2009.
INTRODUCTION
The Nu Power Resources Ltd Matilda Minerals Arrente Joint Venture Project comprises three tenements;
EL 26103 Allungra Creek
EL 26071 Mt Gardiner
EL 25819 Aladdin’s Waterhole

This annual report is concerned with EL 25819 Aladdin’s Waterhole.

BACKGROUND
EL25819 Aladdin’s Waterhole was granted to Matilda Minerals on 15th February 2008. NuPower entered into a Heads of Agreement for a Joint Venture to explore three of their tenements in the Aileron region on 17th March 2008, including EL25819. Basement rocks of the Reynolds, Yalyirimbi and Strangways Ranges contain elevated background levels of uranium and thorium and have been explored for gold, base metals, rare earth elements and uranium. Success came with the discovery of elevated levels of rare earth elements hosted by massive fluorapatite in the Nolan’s Bore area by PNC Exploration (Australia) Pty Ltd in 1995 (Thevissen, 1995). This occurred during follow-up of an airborne radiometric anomaly as part of that company’s uranium exploration program along the Reynolds Range.
As far back as 1972 it was recognised that while these rocks may host primary deposits of uranium that they also provided a potential source of uranium for secondary uranium deposits. The products of the weathering and erosion of these rocks since the beginning of the Tertiary have accumulated in flanking basins as thick sequences of unconsolidated material and provided a host for the precipitation of uranium from solution in meteoric groundwaters sourced from the upstanding ranges and percolating through the basinal sediments.
Arafura Resources, working with this target model, also recognised the potential of the Tertiary basins in the Aileron region on the flanks of the uraniferous basement rocks for secondary sandstone-hosted uranium deposits and applied for and was granted a number of exploration licenses in the Aileron region. Some of these licenses, and the uranium exploration rights of others were transferred to NuPower during the demerger process from Arafura. NuPower recognized the strategic position of EL25819 amongst its own Aileron properties and proceeded to gain access to the tenement through the JV with Matilda to explore for uranium.
Although the area has been explored for gold and base metals it appears to have never been explored systematically for uranium.

LOCATION AND ACCESS
Exploration License 25819 (Aladdin’s Waterhole) is located about 75km almost due north of Alice Springs, 60km SE of the Aileron Roadhouse, 17km due east of the Stuart Highway and 6km due east of the Sandover Highway and immediately east of the Alice Springs-Darwin railway, (Figure 1). The license also lies about 5km west of the Marlgarra Range, an outlier of the Strangways Range.
The license area is accessed by unsealed roads and station tracks from the Sandover Highway that passes through the northern most part of the area, (Figure 2
Figure 1 - Location of EL 25819 Aladdin's Waterhole, Pastoral Leases, NT.
TOPOGRAPHY AND DRAINAGE

The Aladdin’s Waterhole license lies on the edge of the Burt Plain. Much of the area is flat at an altitude of around 700m ASL. Mt Gorey, a prominent mountain, rises from the plain in the centre of the area to 874m ASL. There are no rivers but the area drains generally to the northwest. Aladdin’s Waterhole lies 2.5km northeast of the mountain, (Figure 2).
Figure 2 – 5819 Aladdin’s Waterhole, Location and Access
CLIMATE AND VEGETATION
The climate is typical of the central arid zone of central Australia. Summer seasons are long and maximum daily temperatures may exceed 40°C during the height of summer. Winters are short and cool when temperatures may retreat to less than 0°C with frosts. Mean maximum and minimum summer and winter temperatures, taken from the nearest Bureau of Meteorology
Weather Station at Territory Grape Farm, 65km northeast of Aladdin’s Waterhole are 37.6°C, 21.7°C and 22.3°C, 4.9°C, respectively. The average annual rainfall, derived from the Territory Grape Farm Weather Station, is 305mm. The heaviest rainfalls occur during the monsoon season from October to March from the effects of low pressure systems to the north but reasonable falls of rain can occur at any time of the year. Vegetation in the western part comprises tall open Mulga scrubland with open Woolybutt grassland understorey, passing to low open Ironwood and Whitewood woodland with an open grassland understorey in the east.

**TENURE**

**EXPLORATION LICENSE**

Exploration license (EL) 25819 was applied for by Matilda Minerals Limited on the 7th December 2006. The title was granted on 15th February 2008 for a period of six years. It comprises 13 blocks covering an area of 26.34 square kilometres, (Figure 3). As there was no requirement to relinquish ground at the end of the Year 1, Nu Power decided on behalf of Matilda Minerals Ltd not to voluntarily reduce the tenement area and retained all 13 blocks for Year 2.

Following the results of the AEM survey in 2008 that covered the northern part of the area, and a review of airborne radiometric data from NTGS, Nu Power has decided the EL25819 is of no further exploration interest to the company. It is NuPower’s intention to withdraw the license from the Joint Venture but since Matilda Minerals passed into administration there has been no contact with the company or its administrator. In the meantime it was Nu Power’s responsibility to maintain the tenement in good standing and a letter requesting a waiver of reduction was submitted to the Department on 12th February 2010.

Matilda minerals came out of administration in October 2010 and assumed responsibility for management of EL 25819. After a review of the base metal potential and channel iron potential Matilda decided to relinquish the tenement on 6th October 2010.
Figure 3 - EL 25819 Aladdin’s Waterhole Application
LAND TENURE
The exploration license straddles the boundary between two pastoral stations:
Aileron Station, NT Portion. 703, Perpetual Pastoral Lease 1097,
Yambah Station NT Portion 641, Perpetual Pastoral Lease 904

NATIVE TITLE
There is no Exploration Agreement in place between Matilda Minerals Ltd, holder of the
Exploration License, and the CLC on behalf of Traditional Owners.
There are no registered Native Title Claims over the area.
In the absence of an Exploration Agreement, Native Title issues are considered
according to Item 18 of the Schedule 2 Conditions provided during the grant process for
EL 25819 Aladdin’s Waterhole. Article 6a requires Matilda Minerals and Nu Power to convene a meeting with registered Native Title Claimants before commencing exploration activities unless the activity is of a reconnaissance nature. In the absence of any Native Title Claimants no such meeting has been held.

ABORIGINAL SACRED SITES
An inspection of the AAPA Register of Sacred Sites shows one registered site near Aladdin’s Waterhole and one recorded site on the boundary of the license in the northwest part on the area.
REGIONAL SETTING
The Aladdin’s Waterhole license EL25819 is situated in the Aileron Province of the Arunta Region in the southern part of the Northern Territory (Figure 4).

Figure 4 - Geological Regions of the Northern Territory, location of EL25819 (Ahmad & Scrimgeour 2004).
Deformed and metamorphosed Palaeoproterozoic orogenic rocks older than 1800 million years crop out as major tectonic units surrounded by younger rocks and essentially form the recognisable and inferred basement to the North Australian Craton. These Palaeoproterozoic rocks form the Pine Creek Orogen, Tanami Region, northern Arunta Province, and Tennant, Murphy and Arnhem Inliers. They include remnants of Achaean rocks, which have been dated at 2500 million years.

To the south, the rocks of the North Australian Craton pass into the Central Australian Mobile Belts of the Proterozoic Orogens of the Arunta Region and Musgrave Block, consisting of granulite and amphibolite facies, metamorphosed sediments and mafic volcanics intruded by granitoids. In the southern Arunta Province, episodic igneous activity took place between 1880-1050 million years and deformation included a series of major tectonic events, including retrogressive metamorphism in the Proterozoic and Palaeozoic. These basement rocks are exposed in the central to southern part of the area.

Proterozoic-Palaeozoic basins form part of the North Australian Platform Cover and comprise mildly deformed, largely unmetamorphosed predominantly sedimentary successions unconformably overlying the Proterozoic Orogens. This includes the Ngalia and Georgina Basins in the Aileron region. This license lies beyond the limit of the Ngalia Basin.

A system of major west-northwest trending and north-northeast dipping thrust faults and shear zones affects the Arunta Region and northern margin of the Ngalia Basin. The associated shear zones can be up to hundreds of meters in width, extend for several kilometres, and are thought to have formed during the 400-300 Ma Alice Springs Orogeny (Cartwright et al., 1999). The Palaeoproterozoic basement rocks of the Arunta Region have been thrust over the younger sediments of the Ngalia Basin along the Napperby and Yuendumu Thrusts, (Figure 5).
LOCAL GEOLOGY

Pre-Cambrian-Proterozoic
According to the web-site of the NTGS (December, 2004) basement rocks in the Aileron region comprise part of:

"... the Arunta Region, a complex basement inlier in central Australia that has undergone a prolonged history of sedimentation, magmatism and tectonism extending from the Palaeoproterozoic to the Palaeozoic. The Arunta Region can be subdivided into the three, largely fault bounded terranes with distinct geological histories: the Aileron, Warumpi and Irindina Provinces."
The Aileron Province comprises greenschist to granulite facies metamorphic rocks with protolith ages in the range 1865-1710 Ma. It forms part of the North Australian Craton and is geologically continuous with the gold-bearing Tanami and Tennant Regions to the north.

In contrast, the Warumpi Province comprises amphibolite to granulite facies rocks with protolith ages in the range 1690-1600 Ma, and is interpreted to be an exotic terrane that accreted to the southern margin of the North Australian Craton at 1640 Ma.
The Irindina Province in the Harts Range region comprises Neoproterozoic to Cambrian metasediments that formed in a major depocentre within the Centralian Superbasin. It underwent high-grade metamorphism and deformation during Ordovician (480 - 450 Ma).

The Aladdin’s Waterhole tenement is underlain by basement rocks of the Aileron Province (Figure 6). Because of the high grade of metamorphism and the relative paucity of continuous outcrop across the Arunta Province, a reliable stratigraphy has not yet been constructed for the metasedimentary sequences. Instead, the metamorphosed rocks of the area have been subdivided by Stewart (1981) into three “Divisions”, intruded by granites, on the basis of “broad lithological correlations”, Division 1 being regarded as the oldest and Division 3 as the youngest. Only rocks of the Aileron Metamorphics of Division 1 are preserved here.

Early Proterozoic orthogneiss (pЄg), gneiss and minor schist (pЄ), are mapped immediately north of the area, north of the Sandover Highway. Palaeoproterozoic rocks of the Aileron Metamorphics (pЄsy) consisting of mafic granulite but also including felsic granulite, migmatite, cordierite granulite, cordierite felsic granulite (mn) quartzite and Mg-rich rocks underlie Mt Gorey and other outliers of the Marlgarra Range in the southern part of the area.

Quaternary alluvial sands and gravels and aeolian sand (Qa), colluvium and scree (Qc) and clayey sandy soils and red earth (Qr) underlie most of the flat areas.
Figure 6 - Geology of Aladdin’s Waterhole (Alcoota SF53-10, Alice Springs SF53-14, 1:250,000 Sheets)
MINERALISATION

Base metals were explored at Red Rock Bore (also known as Coles Hill) 1km west of the license, at Red Rock Mountain on the western boundary of Aladdin's Waterhole, 1km west of Red Rock Mountain, at Red Rock Paddock 2.7km west of the boundary at Gillens Bore 9km west of the boundary and at a location half way between Gillens Bore and Red Rock Paddock.
PREVIOUS EXPLORATION

Planet Mining Co. Pty Ltd EL58, CR19740078, CR19750033.
EL58 covered most of Aladdin’s Waterhole. Early exploration by the BMR discovered secondary copper mineralisation at surface in the vicinity of Red Rock Bore. They completed gravity and airborne magnetics surveys and drilled 3 cored holes on a magnetic anomaly at the Bore. Planet realized that the surface copper mineralisation was often associated with magnetic anomalies and flew a magnetics and radiometrics survey that generated anomalies in the Red Rock Bore area for follow up. Barringer Geosurveys flew an Airtrace survey that detects traces of atmospheric base metals and mercury that produced Cu-Pb-Zn anomalies here. Planet completed soil sampling over a large area at Red Rock Bore over the magnetic anomalies and excavated 5 trenches on the basis of the soil sample results. An IP survey was also completed. The results showed a coincident IP and Cu-Pb-Zn soil anomaly at least 600m long. The BMR had split and assayed part of DDH 1 and Planet split and assayed the remaining two holes that identified broad zones of low grade base metal mineralisation:

- DDH1: 38m @ 0.40% Cu, 0.51% Pb, 0.95% Zn from 65.2m, (estim. true width 22.9m)
- or 54.9m @ 0.81% Cu, 0.52% Pb, 0.79% Zn from 65.2m. (estim. true width 30.5m)
- DDH2: 15.2m @ 0.41% Cu, 0.67% Pb, 0.53% Zn from 70.1m (estim. true width 12.2m.)
- DDH3: 23.8m @ 0.23% Cu, 0.51% Pb, 1.22% Zn from 59.7m, (estim true width 18.3m).

The mineralisation consists of disseminated chalcopyrite-galena-sphalerite associated with banded garnet (magnetite) quartzite and biotite (garnet) gneiss with lesser pyroxene granulite, anthophyllite gneiss, cordierite-garnet gneiss and amphibolite, interpreted as metamorphosed carbonates. The results from the 3 drill holes coincided with the results of the IP survey and 4 additional holes were recommended but never drilled.

Soil sampling and ground magnetics at Red Rock Mountain about 3km NE of Red Rock Bore in an area of copper mineralisation in amphibolite outlined several Cu-Ni anomalies coincident with a magnetic high. There was no follow up.

Dampier Mining Co. Ltd, EL1341, CR19770139.
This EL covered the Red Rock Bore prospect and extended eastwards to include other stratiform base metal occurrences in the Strangways Range associated with a distinctive assemblage of forsterite marble, magnetite quartzite amphibolite and rocks rich in magnesium and aluminium, containing anthophyllite, phlogopite, cummingtonite, spinel, enstatite and sapphire, referred to as “Oonagalabi”-type mineralisation. They completed numerous mapping and rock chip sampling traverses including the Red Rock Bore prospect. Sampling of the Planet costeans returned up to 1000ppm Cu, 2000ppm Pb, 1600ppm Zn. They decided that the mineralisation was low grade, very small in size and relinquished the area.

Amdex Mining Ltd, EL1889, CR19790057, CR19790161, CR1980009, CR19800095, CR9800151.
EL1889 covered all of Aladdin’s Waterhole and extended as far east as Mueller Creek. Amdex were targeting base metal deposits of the Oonagalabi style and acquired the ground for the occurrences at Red Rock Mountain, Red Rock Bore and Edwards Creek. Based on strong lithological and mineralogical similarities to important massive sulphide
deposits in South Africa, they suggested that large tonnages in the order of 100 million tons of up to 10% combined Cu-Pb-Zn, may be expected. In Australia, Precambrian deposits possibly related to Oonagalabi-type mineralisation are Pegmont-Mt. Isa district (13 Mt 8% Pb, 4% Zn, 15 g/ton Ag); Mt. Misery (6% Zn, 2-3% Pb, 100 g/ton Ag); the Einasleigh prospects - Georgetown district; and the Broken Hill Mine
Although grades are typically low (<3% combined Cu-Pb-Zn) strike lengths of the Arunta occurrences suggested potential for large tonnages, there has been some encouraging (>10% combined Cu-Pb-Zn) drill intersections including Red Rock Bore and Amdex were looking for higher grade unoxidised mineralisation at depth and along strike. Planet’s previous work was considered inadequate. The costeans failed to properly penetrate a calcrete layer so that little bedrock was exposed and therefore rock chip geochemistry was unreliable, the source of a BMR magnetic anomaly that was the reason for the initial drilling was not determined and although the IP generated anomalies the high surface conductivity made depth estimates unreliable and the strike extensions were not tested adequately.

A RRMIP and ground magnetic geophysical survey at Red Rock Bore identified a strongly magnetic poorly polarised conductor, 200 metres wide, extending at least 700 metres in an east-west direction across the prospect. Flanking this conductor to the north and south were strongly chargeable relatively resistive and weakly magnetic zones up to 150 metres wide. The major conductor lay under or within a sequence of vertically foliated biotite-sillimanite-quartz-feldspar gneiss with local amphibole and/or garnet-rich variants.

The southern chargeable zone was approximately 700 metres long, and coincided with a mafic granulite unit composed of massive to thinly banded amphibole-magnetite-garnet-feldspar gneiss and thin pegmatite layers and occasional quartzite horizons. The northern chargeable zone corresponded on the surface to a variable sequence of felsic gneisses commonly garnet bearing, which graded south into amphibole and/or pyroxene bearing quartz-garnet-hematite-magnetite gneiss.

Soil and bedrock chip samples defined a strongly anomalous zone with up to 385ppm Cu, 1538ppm Pb, 1160ppm Zn along strike from the drill-tested mineralised zone. The chargeable zones flanking the magnetic anomaly were considered priority targets. Two drill holes were completed. DDH4 intersected the same mineralized horizon about 110m below the BMR intersections with similar grades as previously; DDH4: 11m @ 0.42% Cu, 0.47% Pb, 1.69% Zn, 6.3 g/t Ag, 0.03 g/t Au from 213m, (estim true width 9m).

DDH5 drilled to test the northern chargeability anomaly encountered no significant mineralisation and the anomaly was attributed to disseminated pyrite.

**MacMahon Construction Pty Ltd, EL5267, CR19890057**

McMahon took up EL5267 that covered a large area of the western Strangways Range, that included the Red Rock Bore and Harry’s Creek prospects, to test the areas for large concealed base metal deposits of the Oonagalabi style. They bulldozed in grids and carried out EM37 geophysical surveys but found no massive sulphide targets. Anomalies at Harry’s Creek were superior and drill tested (no results given) but failed to intersect sulphides. There was only one significant anomaly at Red Rock Bore but since it was inferior, it was not drilled. Three shallow costeans were dug at the Bore to test for disseminated sulphides that might be present along with quartz lodes but none were found. The area was relinquished.

**White Range Gold NL, EL6832, CR19910603.**

EL 6832 covered the Red Rock Bore Prospect and extended west as far as the Stuart Highway. White Range Gold was attracted to the area by an airborne magnetic anomaly over the Red Rock Bore occurrence in quartz-hematite-magnetite rocks with evidence of secondary base metal mineralisation at surface and similar occurrences of secondary mineralisation at Red Rock Mountain to the northeast. There was only a brief
reconnaissance trip to the area. They located evidence of the secondary mineralisation at Red Rock Bore (referred to by them as Coles Hill instead) and at Red Rock Mountain. From the extent of the magnetic anomaly they thought that these occurrences formed part of a continuous magnetic body beneath the intervening sand plain.
and therefore there was potential for a larger target. Mapping and ground magnetics were proposed but not carried out.

**Roebuck Resources NL, ELs 8320, 8125, CR19940827, CR19950821, CR19960171, CR19960201**

EL8320 was a small license that covered part of the northern part of Aladdin’s Waterhole and extended west to the Stuart Highway. The license covered a large magnetic anomaly similar to the anomaly also detected by the BMR at Red Rock Bore and interpreted as a fold repeat of it, 5km to the south. Reconnaissance samples of magnetic lag taken from tracks leading north of Red Rock Bore were weakly anomalous in base metals, tin and gold, of the same order of magnitude of the Bore geochemistry and were thought to be derived from a source to the north associated with the magnetic anomaly. EL8125 covered the southern two thirds of Aladdin’s Waterhole and included the Red Rock Bore prospect. Rock samples from here assayed 0.6% Cu, 0.68% Pb. A massive magnetite-chalcopyrite gossan was located 3.5km north of Red Rock Bore that assayed 0.7% Cu, 56ppb Au and copper in amphibolite was located 3km NE of Red Rock Bore that assayed 2.9% Cu, 39ppb Au.

Magnetic lag sampling from the Red Rock Bore prospect identified a WNW trending Pb anomaly extending beyond the area previously drilled with weak irregular arsenic, irregular tin and detectable gold and a distinct copper anomaly, with irregular tin and detectable gold associated with the magnetite-chalcopyrite gossan. The properties were then joint ventured with Pasminco.

**Pasminco, EL8125, CR19960920, CR19970471, CR19970779.**

Pasminco compiled all previous exploration data and completed 12 traverses totaling 15 line kms of ground magnetics at Red Rock Bore, Gillens Bore, Red Rock Paddock, Line 370A and Red Rock West that stretch over 9km from west to east. They carried out an orientation lag sampling program over Red Rock Bore, Gillens Bore, Line 370A and Red Rock Paddock that showed that Cu, Pb, Zn were the most useful elements. A conventional orientation soil sampling program showed that Cu, Pb, Zn and Au were the most useful elements and that the profiles showed a geochemical asymmetry, unrelated to topography, that was thought to be related to asymmetry in the primary mineralisation. Orientation MMI sample assays showed enhanced response ratios compared to the conventional samples but the anomaly profiles were similar. A few orientation stream sediment samples were taken but showed no anomalies. The airborne magnetics was reprocessed and ground magnetic surveys carried out that showed that the mineralisation is at or very close to the body responsible or the magnetic anomaly implying that the mineralisation is at the stratigraphic or structural contact or that magnetite is part of the alteration system. Drill core from DDH1, 4 was reassayed that showed good correlation with the previous assays.

They drilled 23 RC holes to test the extent of the soil anomaly at Red Rock Bore and extended the lode strike length to 1km from the previous 260m defined by Amdex. They also drilled 4 RC holes at Red Rock Paddock 1km south of Red Rock Bore. The drilling intersected patches of disseminated to stringer sphalerite with minor galena and chalcopyrite within a weakly mineralised quartz-garnet envelope at Red Rock Bore with intervals typically of 4-24m of 2% combined Cu, Pb, Zn containing short intervals of higher grades including:

- RRK006: 4m @ 6% combined Pb, Zn,
- RRKO12: 4m @ 5% combined Pb, Zn,
- RRK032: 0.4m @ 15.25% combined Cu, Pb, Zn, compared with
DDH3: 3.65m @ 4% combined Pb, Zn.
There was one intersection of 2m @ 10.8% Zn.
They also drilled 3 poorly recovered RAB holes in saprolite at Gillens Bore, 10 RAB holes at 370A that intersected mafic gneisses and quartz-muscovite schists with weakly anomalous base metals,
12 RAB holes at Red Rock Paddock that intersected mafic gneisses also with weakly anomalous base metals and 3 RAB holes at Red Paddock Bore that intersected mafic gneisses again with anomalous base metals.

They drilled 2 holes with diamond tails at Red Rock Bore showing that patchy late sulphide stockworks disseminations and veinlets of sphalerite±galena and chalcopyrite mineralisation are hosted by quartz±garnet, diopside, hedenbergite, wollastonite, calcite and magnetite assemblages. Textures indicate that the skarn and mineralisation are undeformed, and retain some mineralisation-related vughs and porosity. The mineral assemblages and textures have some similarities to Broken Hill, but it appears that massive sulphide ores are absent. Although the mineralized zones are locally thick the grades were sub-economic and Pasminco withdrew from the JV.
EXPLORATION ACTIVITIES BY NUPOWER COMPLETED IN YEAR 1

NuPower researched the open file reports and found that most of the previous work was for base metals in the Red Rock Bore region. Parts of the area were covered as part of a larger regional airborne electromagnetic (AEM) survey in 2008 that formed Phase 2 of AEM surveys carried out in 2007 and 2008 to cover the prospective parts of NuPower's Aileron Project group of tenements for sandstone hosted uranium in Cainozoic palaeochannels that included the northern half and southern tip of Aladdin's Waterhole. The results of that survey were reported previously, (Rafferty, 2009).

The northern half of Aladdin's Waterhole was also included in the Geoscience Australia-NTGS Central Arunta Gravity Survey (CAGS) completed at 4kmx4km station intervals where NuPower contributed to the survey by paying for in-fill stations at 2kmx2km. Results for Aladdin's Waterhole were also reported previously, (ibid).

EXPLORATION ACTIVITIES BY NUPOWER COMPLETED IN YEAR 2

There was no on ground exploration work on the area this period.

EXPLORATION ACTIVITIES BY MATILDA MINERALS COMPLETED IN YEAR 3

Matilda Minerals came out of administration in October 2010 and assumed responsibility for management of EL 25819. During the year Matilda recognized the potential for channel iron deposits on EL26071 which was also in the Arrente Joint Venture. An online search of the Geological survey database of the Northern territory Department of Resources was encouraging as it appeared from the frequent mention of iron bearing host rocks described on this site that the area may host enough iron rich rocks to contribute to detrital or channel deposits. Matilda was encouraged by both the indications of base metal potential in VMS deposits and channel or detrital iron ore deposits as a result of this online search. EL 25819 has similar geology and weathering history to EL 26071 so it was decided to carry out a literature review of past exploration and other available reports to determine the prospectivity of EL 25819 for detrital or channel iron deposits.

Similarly a literature review of the potential for volcanogenic base metal deposits was made because of previous exploration which highlighted the potential for Kuroko style volcanogenic base metal deposits.

Literature review suggest there is some potential for the extension of the Red Rock Bore Kuroko style base metal mineralisation to extend eastward into the EL 25819. Host rocks are Proterozoic metamorphics which have a number of reported Kuroko style massive volcanogenic sulphide occurrences trending east west from adjoining tenements. The Red Rock Bore occurrence is on the western border of EL 23819 and previous exploration indicates an east west trend into EL 25819. Base metals were explored at Red Rock Bore (also known as Coles Hill)
1km west of the license, at Red Rock Mountain on the western boundary of Aladdin’s Waterhole, 1km west of Red Rock Mountain, at Red Rock Paddock 2.7km west of the boundary at Gillens Bore 9km west of the boundary and at a location half way between Gillens Bore and Red Rock Paddock.

A sequence of exploration campaigns discovered significant but generally low grade Cu PB Zn mineralisation with the mineralized zones locally thick the grades were generally sub-economic.

**Review Of Base Metal Potential From Previous exploration**

The following is a summary of exploration activity within or adjacent to EL25819 which highlighted the potential for Kuroko style volcanogenic base metal mineralisation within EL 25813 but failed to delineate any significant resources.

The past explorers included Planet Mining, Dampier Mining, Amdex Mining, Mac Mahon Construction, White Range Gold, Roebuck Resources and Pasminco.

Amdex Mining Ltd, held EL1889 which partly covered EL 25819 and completed significant reconnaissance drilling. Amdex were targeting base metal deposits of the Oonagalabi style and acquired the ground for the occurrences at Red Rock Mountain, Red Rock Bore and Edwards Creek. Based on strong lithological and mineralogical similarities to important massive sulphide deposits in South Africa, they suggested that large tonnages in the order of 100 million tons of up to 10% combined Cu-Pb-Zn, may be expected. In Australia, Precambrian deposits possibly related to Oonalgalabi-type mineralisation are Pegmont-Mt. Isa district (13 Mt 8% Pb, 4% Zn, 15 g/ton Ag); Mt. Misery (6% Zn, 2-3% Pb, 100 g/ton Ag); the Einasleigh prospects - Georgetown district; and the Broken Hill Mine.

Amdex concluded that although grades are typically low (<3% combined Cu-Pb-Zn) strike lengths of the Arunta occurrences suggested potential for large tonnages, there has been some encouraging (>10% combined Cu-Pb-Zn) drill intersections including Red Rock Bore and Amdex were looking for higher grade unoxidised mineralisation at depth and along strike.

Pasminco, EL812

Pasminco compiled all previous exploration data and completed 12 traverses totaling 15 line kms of ground magnetics at Red Rock Bore, Gillens Bore, Red Rock Paddock, Line 370A and Red Rock West that stretch over 9km from west to east. They carried out an orientation lag sampling program over Red Rock Bore, Gillens Bore The airborne magnetics was reprocessed and ground magnetic surveys carried out that showed that the mineralisation is at or very close to the body responsible or the magnetic anomaly implying that the mineralisation is at the stratigraphic or structural contact or that magnetite is part of the alteration system.

They drilled 23 RC holes to test the extent of the soil anomaly at Red Rock Bore and extended the lode strike length to 1km from the previous 260m defined by Amdex. They also drilled 4 RC holes at Red Rock Paddock 1km south of Red Rock Bore. The drilling
intersected patches of disseminated to stringer sphalerite with minor galena and chalcopyrite within a weakly mineralized quartz-garnet envelope at Red Rock Bore with intervals typically of 4-24m of 2% combined Cu, Pb, Zn containing short intervals of higher grades. Although the mineralized zones are locally thick the grades were sub-economic and Pasminco withdrew from the JV.

**DoR website Search**
A search of the Geology Survey “Strike” website highlights the potential for Volcanogenic massive sulphide of the startabound Kuroko style in metamorphosed Proterozoic terrains. The Redrock bore occurrence is described as a stratabound massive sulphide occurrence. The Coles Hill prospect which occurs about 1 kilometer west of EL 25891 is described as a VMS prospect with Cu,Pb mineralization. Values of up to 1.56 g/t Au were reported from this locality (Fruzzetti, 1969b). Host rock consists of banded quartzite and BIFs. The Baldiseri occurrence which is approximately 20 kilometers south east of EL 23891 is described as a volcanogenic massive sulphide. Assays up to 8.4 % Cu obtained. The lode is composed of quartz-magnetite-hematite and is strongly magnetic. It appeared from the common mention of iron bearing host rocks described on this site that the area may host enough iron rich rocks to contribute to detrital or channel deposits. Matilda were encouraged by both the indications of base metal potential in VMS deposits and channel or detrital iron ore deposits as a result of this online search.

**Review of channel iron Potential Deposits**

**Economic importance**

Channel iron deposits are an important source of iron ore, with the deposits at Yandi and Robe River accounting for approximately 47% of iron ore mined from the Hamersley Iron province. While the potential of CID.s was first recognized in the Hamersley more recent exploration has highlighted the potential for similar channel and detrital iron ore deposits in ancient landscapes developed on iron rich sequences in the Yilgarn and the Gwarler Craton of south Australia. CID ores differ from the classic bedded ores derived from the Brockman and Marra Mamba Iron Formations having a pisolithic texture, made up of rounded haematite ‘pea-stones’, usually less than 5mm in diameter, and rimmed with hydrated iron oxides (goethite and/or limonite) cementing the ore together. These CIDs are generally well preserved throughout the Pilbara region and are variably
referred to as the Robe Pisolite (Panawonnica/Robe River), Marillana Formation (Yandicoogina) and the Poondanoo Formation (Pilbara Craton).

The CID deposits relative lack of consolidation and proximity close to the surface in most cases renders them liable to bulk mining with little or no need for drilling and blasting. This then is a significant cost saving to miners, who can offset a lower revenue from Fe percentages in the ore via the ease of extraction. Also, in most cases, beneficiation can increase the in-situ iron grade several percent by washing out the majority of clay, carbonate and hydrous limonite cements.

The key economic criteria for channel iron deposits are, firstly tonnage and location relative to infrastructure similar to other bulk commodities. Thereafter, the nature of the cement is important, particularly in the cases of carbonate cements containing magnesite, as magnesium is a problem. Rare channel iron deposits are rendered uneconomic because of a silica cement proving too durable for easy mining and crushing. The water content of channel iron deposits (quoted as Loss on Ignition) is from 7% to 12%, which is the highest of all iron ore types, generally due to the presence of goethite-limonite. Phosphorus, aluminium and sulfur levels are another concern, typically being above normal levels in-situ although if the phosphorus and aluminium are hosted in a weak cement, they can often be washed out during beneficiation. Most channel irons are upgraded via washing of the pisolite gravels to remove the cements and matrix.

**Exploration Rationale**

The most recent exploration has focused on much wider areas of iron rich metamorphic terrains where amphibolites and iron rich gneisses have weathered to produce hematite goethite rich detritus which has concentrated in paleochannels and has formed largely unconsolidated lenticular deposits of lower
grade than those mined in the Hamersley. These deposits can be easily mined and upgraded to shippable products with simple mechanical means and show significant promise as a future source of iron ore.

Matilda noted the potential for CID and DID during a review of data from the Aileron JV with Nu Power. Included in this JV was EL 26106 where there are a number of iron occurrences recorded on the NT Gov. website and a review of past exploration has highlighted the potential for more widespread iron deposits.

Reported iron ore and manganese occurrences appear to be largely superficial enrichments but they are widespread and the magnetic data signatures suggest that iron occurrences are more widespread along the Range.

With a well developed tertiary drainage the conditions exist for accumulations of hematite gravels as channel deposits draining the Gardiner range. EL 25819 was investigated by Matilda to determine if it had potential to host CID and DID.

The exploration targets are large tonnage, easily extractable maghemite deposits in shallow palaeochannels close to public-access rail and road.
CONCLUSIONS AND RECOMMENDATIONS
Channel iron deposits have recently become an object of exploration in many iron rich terrains where hematite geothite rich weathered rocks have eroded from surficial deposits produced by prolonged weathering of ancient surfaces not affected by glaciations. EL 25819 hosts some magnetite in heamatite magnetite rich schists and has a sufficiently ancient weathered surface to accumulate iron rich detritus which may have accumulated in paleodrainage. The review of the geology, paleodrainage and iron occurrences has significantly downgraded the potential for channel iron deposits in EL 25819
Despite numerous campaigns of exploration for volcanogenic base metals of the Kuroko style and a number of encouraging intersections no significant resources were defined. While previous exploration highlighted the potential for volcanogenic base metal deposits within EL 25819 drill intersections showed the occurrences to be low grade and show rapid variation along strike and were discontinuous.
Matilda concluded that the prospects for large tonnage volcanogenic deposits as indicated in these reports was not sufficient to warrant further exploration.
Matilda decided to relinquish the tenement on 6\textsuperscript{th} of October 2010
GROUND RELINQUISHMENT
EL25819 Aladdin’s Waterhole was granted to Matilda Minerals on 15th February 2008. Relinquishment is not required at the end of the first year and it was decided to retain all 13 blocks for the second year. Matilda Minerals came out of administration in October 2010 and assumed control of the management of EL 25819 and after reviewing the project area for its base metal and iron ore potential decided to relinquish the tenement. on 6th of October 2010.

APPENDIX 1  EXPENDITURE STATEMENT

Roger Hobbs
BSc MemAusIMM, 6th Feb 2011
REFERENCES

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