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Report prepared by
[International Geoscience logo]

On behalf of
UNIVERSAL SPLENDOUR INVESTMENTS
TENEMENT SUMMARY REPORT FOR THE PERIOD
NOVEMBER 23 2009 TO NOVEMBER 23 2010 FOR EL
27343

22 December 2010

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EXECUTIVE SUMMARY

Universal Splendour Investments (USI) hold exploration license EL27343 which is one of seven EL’s in the region collectively referred to as the Amadeus project area (Figure 1). This block of tenements is located in the southern portion of the Northern Territory, approximately 90km southwest of Alice Springs.

A desktop study was undertaken on the Amadeus project area (Lindsay-Park, 2010). This report contains a brief summary of the geology and previous exploration on the project area. This report builds on the previous report and refines the understanding of any potential mineralisation within the tenements.

Trace amounts of Mn are recorded throughout the region. The source of the Mn is unclear but early indications suggest that the Madderns Yard Metamorphic Complex and the Bitter Springs Formation.

A study of the geology indicates that conditions have existed for deposition of Mn in a shallow water environment where the anoxic conditions are disturbed during periods of marine transgression and regression. Both Mn oxide and carbonate mineralisation may be possible. A source of marine Mn is in the Palaeoproterozoic to Mesoproterozoic Madderns Yard Metamorphic Complex of the Arunta Block crystalline basement.

Support for this interpretation is provided by several Mn occurrences clustered within this Formation along strike to the east (eg: Fenn Gap (Figure 1). The Fenn Gap occurrence, averaging 39% Mn, is sub-vertical and consists of pyrolusite-stained brecciated dolostone. The mineralisation is limited to the surface and appears fault-controlled (Ferenczi, 2001).

There is high potential for uranium deposits in the Amadeus Basin.
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1 INTRODUCTION

Universal Splendour Investments (USI) hold exploration license EL 27343 is one of seven EL's collectively referred to as the Amadeus project area (Figure 1). This block of tenements is located in the southern portion of the Northern Territory, approximately 90km southwest of Alice Springs.

A desktop study was undertaken on the Amadeus project area (Lindsay-Park, 2010). This report contains a brief summary of the geology and previous exploration on the project area. The aim of this report is to refine the understanding of any potential mineralisation within the tenements.

The reason for selecting the Amadeus tenements was the close proximity to a known manganese occurrence at Fenn Gap (Figure 1). This occurrence is reported to average 39% Mn with a maximum of 50.9%.

In order to expand on the previous desktop study (Lindsay-Park, 2010) an assessment of the freely available geospatial data as well as an assessment of the geochemical data will be compared to potential mineralisation types expected in this region as well as the results of current explorers surrounding USI’s tenements. With this information, the potential prospective areas of interest can be identified.

To better assess the Amadeus project area for potential mineralisation a planned field visit (Phase 2) is required. The main aim of Phase 2 is to identify any potential Mn mineralisation with a secondary focus on other commodities, mainly uranium and Pb-Zn-Ag-Cu.
Figure 1: Location of USI’s tenements collectively referred to as the Amadeus project area. The Fenn Gap Mn mineralisation occurrence is indicated as a blue square. Base image is an Ortho-rectified image from Bing Maps.
2 GEOSPATIAL DATA COMPILATION

To compile all freely available geospatial data, the NT government was contacted and provided a large amount of data. In addition to the NT data, ortho-rectified images from Bing Maps (www.bing.com/maps/) were used. Below is a summary of the acquired geospatial data.

2.1 MAGNETICS

Several individual and regional magnetic airborne surveys cover the EL’s. These surveys consisted of the regional surveys, Amadeus Central, Amadeus West, Napperby-Hermannsburg and the Rodinga surveys. All were in grid format and were able to be imaged to produce the reduced-to-pole (RTP) total magnetic intensity (TMI) image (Figure 2) and the 1st vertical derivative (1VD) (Figure 3).

At this stage of exploration, the magnetic data was not fully interpreted. More detailed exploration may be assisted by detailed interpretation of the data. Advanced processing of the magnetic data needs to be carried out to utilise the freely available data.
Figure 2: Compilation of airborne surveys (Amadeus Central, Amadeus West, Napperby-Hermannsburg and Rodinga). Reduced to Pole Total Magnetic Intensity (RTP TMI). Note the surveys have not been merged and levelled.
Figure 3: Compilation of airborne surveys (Amadeus Central, Amadeus West, Napperby-Hermannsburg and Rodinga). First Vertical Derivative (1VD) of the Reduced to Pole Total Magnetic Intensity (RTP TMI). Note the surveys have not been merged and levelled.
2.2 RADIOMETRICS

Radiometric data was available as grids of the potassium, thorium, uranium and total count. Figure 4 is a radiometric ternary image representing potassium, thorium and uranium as red, green blue respectively. Although the resolution of the data is not as high as the Landsat, ASTER or Bing Maps, it was useful for mapping the outcrop and transported material. Higher resolution radiometrics data may prove useful in later stages of exploration.

Figure 4: Compilation of airborne surveys (Amadeus Central, Amadeus West, Napperby-Hermannsburg and Rodinga). Radiometric ternary image representing Potassium, Thorium, Uranium as Red, Green, Blue. Note the surveys have not been merged and levelled.
2.3 LANDSAT

The NT government provided various forms of Landsat data including; merged grids, merged images, and individual tiles. To procure the best possible Landsat data other sources were also acquired. The Landsat bands were imaged to produce various composite images which best enhance the geology of the area. For this interpretation two images were most useful, these were 742 (Figure 5) and 741, which are represented by red, green and blue respectively.

Figure 5: Landsat image representing bands 7, 4, 2 as Red, Green, Blue.
2.4 ASTER

The NT government has ASTER data for a large portion of the state, although only 2 tiles were within the region of the EL’s (Figure 6). The ASTER data was processed to produce a 321 image which represents band 3, 2, 1 as red, green and blue respectively.

Figure 6: Two tiles of ASTER data representing bands 3, 2, 1 as Red, Green, and Blue.
2.5 ELEVATION

Due to the variable relief of the topography and the large amount of outcrop in the project area the elevation data provided by the NT government is a valuable dataset to map the stratigraphy and terrain. The regional SRTM (Shuttle Radar Topography Mission) elevation data is 90m resolution and was downloaded and mosaicked (Figure 7).

Figure 7: Regional SRTM elevation image.
2.6 GEOGRAPHIC

All geographic data was provided by the NT government. Figure 8 shows the main and minor roads, tracks, main and minor watercourses, airstrips and main and minor localities. This information will be useful for field planning. Any additional information acquired during field visits will be added to this geographic database.

Figure 8: Geographic data for the Amadeus project area. Base image is an ortho-rectified image from Bing Maps.
2.7 GEOCHEMICAL

A considerable amount of geochemical data was available for the Amadeus project area (Figure 9). A suite of elements was assayed and a preliminary assessment of the results has been included in the MINERALISATION section of this report. All samples with recorded Mn assays were extracted from the database and coloured from green to red to represent relatively low to high Mn values (Figure 10).

Figure 9: Geochemical samples for the Amadeus project area.
Figure 10: Manganese geochemical assay values for the Amadeus project area. Colour scale indicates relative high and low Mn values based on the distribution of the available data.
3 PREVIOUS EXPLORATION

One exploration company, Toro Energy Ltd, is undertaking work near EL27343 for uranium (Figure 11).

![Figure 11: Location of EL’s from other exploration companies near USI’s Amadeus project area.](image)

3.1 TORO ENERGY LIMITED

Toro Energy have been granted three EL’s abutting two of USI’s EL’s, two south of EL27799 and one to the east of EL27343. Toro maintains a 100% interest in the three tenements. Several other EL’s within the region are currently under application.

Toro’s exploration focus is uranium and specifically roll-front and structurally controlled sandstone-hosted deposits. Toro reports that “the tenements cover part of the mapped..."
Hermannsburg Sandstone which stratigraphically equates with Pertnjara Group comprising Upper Devonian – Lower Carboniferous fluvio-continental sediments. This sequence and its equivalents host the Pamela Angela uranium deposits south of Alice Springs and the Bigrlyi, Malawiri and Dingo’s Rest deposits of the Ngalia Basin to the north.” Toro also report that “in the vicinity of the Amadeus West tenement (ELs 25049 and 27183), there is exposure of an exhumed Tertiary palaeochannel with strong radiometric signature (Figure 12).”

Figure 12: Regional radiometric (uranium channel) showing the strong signature of exhumed Tertiary palaeochannels and the Mereenie Sandstone of the Amadeus Basin (after Toro Energy).
4 REGIONAL GEOLOGY

The majority of the geological information was sourced from Warren and Shaw (1995) unless otherwise indicated.

The regional geology surrounding the Amadeus project area consists of three main tectonostratigraphic subdivisions; a Palaeoproterozoic to Mesoproterozoic Arunta Block in the north (Figure 13); a Neoproterozoic to mid-Palaeozoic Amadeus Basin in the central and south (Figure 13) and a veneer of intra-cratic Permian and Tertiary to Quaternary sediments.

The Arunta Block is divided into three Provinces (Northern, Central and Southern), only the Central and Southern lie within the Amadeus project area. The Central and Southern Provinces are separated by the WNW trending Redbank Thrust Zone (RTZ). The RTZ is a high-strain zone of anastomosing shears that separate granulite-facies rocks of the Central Province from amphibolite-facies rocks of the Southern Province.

The Amadeus Basin represents a relic of sediments that covered central Australia from the Neoproterozoic to the end of the Devonian. It consists of a basal unit of Heavitree Quartzite with an overlying Bitter Springs Formation. Unconformably overlying these basal units are the Areyonga, Pioneer and Pertatataka Formations. These units are then unconformably overlain by the Arumbera Sandstone. Several units of clastic and carbonate rocks have been deposited from the Cambrian through to the Devonian.

The Heavitree Quartzite was deposited on the eroded surface of the Arunta Block. It forms a prominent ridge marking the northern edge of the basin.

The Bitter Springs Formation consists of carbonates, evaporates and fine-grained clastic sediments. This formation has been developed due to a deepening of the basin and a rapid decline in the supply of terrigenous sediment under anoxic conditions and progressing to high-stand sediments.

The overlying Areyonga Formation consists largely of diamictite and was deposited on the eroded surface of the Bitter Springs Formation. Clasts in this unit were derived from the Arunta basement, Heavitree Quartzite and Bitter Springs Formation.

The Pioneer Sandstone is a shallow-marine to tidal unit confined to the central part of the Amadeus Basin. It rests unconformably on the Areyonga and Bitter Spring Formations.

The Pertatataka Formation was originally thought to consist of two clastic units separated by a dolomitic layer but now only the lower clastic unit is mapped as Pertatataka Formation. The dolomitic layer now belongs to the Julie Formation and the upper clastic unit to the Arumbera Sandstone.

The Arumbera Sandstone represents a prograding delta and marine deposit within elongated troughs. It consists of two coarsening-upwards sequences of siltstone and sandstone. Conflicting information places this unit within the base of the Cambrian Pertaoorrta Group.

4.1 DEFORMATION

Structurally the region is divided into three tectonic events; the formation and cratonisation of the Arunta Block, the development of the Amadeus Basin and the deposition of cover material and deformation of the Arunta Block and Amadeus Basin.

The formation of the Arunta Block ended with the emplacement of the Teapot Granite Complex and the emplacement of the Stuart Dykes. This period of deformation involved several events, the most important of which were the Chewings Orogeny (1600 Ma) and the Anmatjira Uplift Phase (1500-1400 Ma).
The Chewing Orogeny imposed a regional, predominantly east-west, pervasive foliation in the Southern Province. This event was responsible for forming the Chewings High-Strain Zones, which are characterised by highly schistose and mylonitic amphibolite-facies rocks.

The Anmatjira Uplift Phase formed the high-strain zones of the RTZ and shows north-over-south sense of shear and represents a Mesoproterozoic thrusting episode.

The development of the Amadeus Basin began with subsidence at about 1080 Ma. Subsequent development was influenced by episodes of compression and block tilting. The basin closed with the start of the Alice Springs Orogeny.

The Alice Springs Orogeny was a major compressional event involving folding, thrusting and overall uplift. It affected both the Arunta Block and the Amadeus Basin.

From the end of the Devonian onwards, central Australia has remained stable, with gentle warping and small-scale fault movements. Late Permian sediments were trapped in a depression, probably fault-controlled, at the northern edge of the RTZ. In the Mesozoic and Tertiary, tectonic movements, which generally reactivated earlier faults, caused uplift and gentle tilting.
Figure 13: 1:2.5 million interpreted geology map from the NTGS digital data. The legend has been modified from the original digital data to correlate with the explanatory notes.
4.2 EL 27343 and 27799

The geology of EL 27343 and 27799 consist of two anticlines within the Amadeus Basin (Figure 14). The western anticline (EL 27799) plunges to the east whereas the eastern anticline (EL 27343) plunges to the west. Although it is not indicated in the 250K digital data the two anticlines must be separated by a relatively open syncline.

Within the axial trace of EL 27343 one dry petroleum well (HB2) was drilled to a depth of 914 meters.

Quaternary cover is relatively minor within the EL’s and only constitutes approximately 10-20% of the surface area.
Figure 14: Geology map for ELs 27799 and 27343 derived from the NTGS 250K HENBURY digital data
5 MINERALISATION

The Amadeus project area is currently being investigated by exploration companies surrounding USI’s ELs for uranium and manganese. In addition to these commodities, Pb-Zn-Cu-Ag mineralisation as well as Cu and Gypsum also appear to be present within and surrounding USI’s ELs (Figure 15).

**Figure 15:** Mineral occurrences from the NT database throughout the Amadeus project Area.

5.1 MANGANESE

The NT geological survey has an extensive database of geochemical data including rock chip samples, whole rock samples, soil samples and stream sediment samples across the Northern Territory. In addition to this extensive database are 8 samples by Northern Mining Limited which were analysed using XRF method.

Although the Amadeus project area does not have any producing manganese mines in the area there are some encouraging results and potential for follow-up within USI’s EL’s.
5.1.1 EL 27343, 27799, 27800, 27801 and 27805

Mn occurrences are recorded throughout the southern EL in the Amadeus project area (Figure 16).

The stream sediment values within and surrounding EL 27799 and 27343 appear to be within the core of an anticline which forms a topographic high in the area. This limits the source of the Mn to a very limited area and effectively identifies the Larapinta Group as the source within the ELs, most likely the Pacoota Sandstone. The assay values are not considered anomalous and therefore these tenements are not recommended for further work with respect to Mn mineralisation.

Several rock chip samples within EL 27801 and 27805 appear moderately anomalous with assay values as high as 2.5% Mn but these values are too low to warrant investigation of these areas. The southern parts of these EL’s do not contain any assay results and therefore still may be prospective.

Northern Mining Limited released XRF values (high of 15.6% Mn) for several samples located between EL 27800 and EL 27805. The samples appear to have been taken within the Inindia Beds, which consists of Siltstone, shale, limestone, dolomite, chert, chert breccia and sandstone interbeds. The report by Northern Mining state that the “manganese appears to replace carbonate, sandstone and breccia units”. This extends west into the northern and central part of EL 27800 and east into the southern part of EL 27805. It is unclear on the controls of the mineralisation and further investigation is highly recommended for theses tenements.
Figure 16: Geochemical assay values of Mn for rock chip samples, whole rock samples, stream sediment samples and XRF samples from Northern Mining. Assays are over the Ortho rectified imagery (Top) and 250K digital geology (Bottom).
5.2 URANIUM

The Amadeus project area is currently being investigated by two exploration companies (Toro Energy Limited and Crossland Uranium Mines) (Figure 17). The Teapot Granite Complex is the most likely source for any potential uranium deposit in the area as it displays a high radiometric signature compared to any of the other lithologies in the area (Figure 4).

Figure 17: Location of Sandstone Uranium occurrences relative to the Teapot Granite Complex and other Uranium exploration companies.
6 SUMMARY OF MINERALISATION POTENTIAL

Manganese

Trace amounts of Mn are recorded throughout the region (Error! Reference source not found.). The source of the Mn is unclear but early indications suggest that the Madderns Yard Metamorphic Complex and the Bitter Springs Formation.

The Anmatjira Uplift Phase formed an uplifted area subjected to erosion prior to the development of the Amadeus Basin with subsidence at about 1080 Ma. The Heavitree Quartzite was deposited on the eroded surface of the Arunta Block. It forms a prominent ridge marking the northern edge of the basin. The Bitter Springs Formation overlies the Heavitree Formation. Later deposition indicates periods of marine transgression and regression with erosion of the Bitter Springs surface subsequent to the deposition of the Areyonga Formation on the eroded surface of the Bitter Springs Formation.

The Bitter Springs Formation consists of: dolostone, minor sandstone, siltstone, shale, gypsum and halite clasts. This formation has been developed due to a deepening of the Amadeus Basin following the regression and a rapid decline in the supply of terrigenous sediment under anoxic conditions and progressing to high-stand sediments. These conditions provide an environment suitable for deposition on Mn in a shallow water environment where the anoxic conditions are disturbed during periods of marine transgression and regression. Both Mn oxide and carbonate mineralisation may be possible. A source of marine Mn is indicated in the Palaeoproterozoic to Mesoproterozoic Madderns Yard Metamorphic Complex of the Arunta Block crystalline basement.

Support for this interpretation is provided by several Mn occurrences are clustered within this Formation along strike to the east of EL 27542 (eg: Fenn Gap (Figure 1). The Fenn Gap occurrence, averaging 39% Mn, is sub-vertical and consists of pyrolusite-stained brecciated dolostone. The mineralisation is limited to the surface and appears fault-controlled (Ferenczi, 2001).

Uranium

The potential for uranium in a roll front uranium in the Amadeus Basin is clearly demonstrated by the discovery of the Angela (Pamela) deposit. The Angela deposit, 25 km south of Alice Springs was discovered in 1973 and extensively drilled by Uranerz Australia in 1989, under a Uranerz-MIM joint venture. It has about 11,500 tonnes of U₃O₈ at 0.13%, spread over several kilometres in sandstone. The deposit is sometimes referred to as "Pamela".

The uranium deposit lies above the aquifer from which Alice Springs draws its town water supply. This has resulted in extensive opposition to mining by present owner Cameco and Palladin. The proximity to Alice Springs, road and railway corridors and relatively easy mining techniques made this an attractive prospect. However, the proximity has also created a strong opposition group supported by those who fear for Alice Springs water supply.
APPENDIX

Review of Previous Exploration and Work Proposal
Universal Splendour Investments
Amadeus Basin Project
Northern Territory, Australia

By

Karl Lindsay-Park

20/1/10
Introduction

Universal Splendour Investments (USI) Amadeus Basin Project consists of seven exploration licences located in The Alice Springs Region of the Northern Territory, see figure 1. The details of which are shown below. The licences were applied for by USI and once granted will be owned by them 100%. Figure 2, shows the location of the licences and their identity number.

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An Aboriginal Areas Protection Authority clearance has been requested and should be available shortly.

Location, Landform and Climate

The exploration licences can be divided into two groups. EL’s 27371 and 27542 are located approximately 160 Km west of Alice Springs with access via Namatjira Drive. The Glen Helen Resort, located 20 km to the east of the licence area can be used to provide accommodation.

Figure 3 is the latest Google satellite image of the two western tenements. The image shows the area to be extremely rugged, with steep hills and boulder-filled creeks. Only a few tracks, shown in green and in unknown condition could be recognised in the area. Helicopter support might be required to effectively explore these licences.

The second group of 5 licences are located approximately 100km south of Alice Springs. Access is provided via the Stuart Highway and the Ernest Giles Road. The southern group will require the field party to initially base out of Alice Springs.

Figure 4 shows the licence areas superimposed on the latest Google image. The Ernest Giles road runs to the west through the southern part of the licences. A few station track of unknown quality have been highlighted in green and indicate that vehicle access to the licences is possible. In the southern three licences the Google image indicates the area is
open and vehicle access should be easy. This is not the case for the northern two licences in this group.

The climate in the southern Alice Springs region consists of hot (+40deg), generally dry summers and cold dry winters. Rainfall is uncommon but can occasionally be very heavy and poses a significant hindrance to exploration.

**Accommodation**

The initial fieldwork undertaken in the western two licences will be based from the Glen Helen Resort located about 20km to the east of the licences. Alice Springs or possibly the Erldunda roadhouse will serve for accommodation during the initial exploration of the southern licence areas.

**Geology**

The two exploration licences located to the west of Alice Springs, (EL’s 27371 and 27542) cover the geologically complex thrust contact between the Arunta Block and the Amadeus Basin, figure 5. The northern half of the tenement area is comprised of rocks belonging to the Southern Arunta Province, a suite of gneisses and granites. The gneissic, Glen Helen Metamorphics have been derived from volcanics and sediments and now consist of banded migmatitic quartzofeldspathic gneiss, gneissic granite and calc-silicates.

Intruding the Palaeoproterozoic aged, Glen Helen Metamorphic is the Mesoproterozoic aged Teapot Granite. The Teapot Granite is described as porphyritic granitoid, migmatite and quartzofeldspathic gneiss. The teapot granite is easily recognised in the regional radiometric data and is considered to be a good source rock for the development of Tertiary sedimentary uranium deposits.

In the area of the exploration licences the southern Arunta Province is separated from the Amadeus Basin by the Ormiston Thrust Zone. Amadeus Basin sediments range in age from Neoproterozoic to Devonian. The Neoproterozoic Heavy Tree Quartzite and the Bitter Springs Formation are the most widely distributed units of the Amadeus Basin stratigraphy in the licences. The Heavy Tree Quartzite is described as sandstone with some granular conglomerate whilst the Bitter Springs Formation is comprised of Dolostone with some sandstone, shale and evaporates.

The geology of the southern group of five tenements is dominated by a series of anticlines that have caused the older portions of the Amadeus Basin stratigraphy to be exposed, figure 6. In the core of the Gardener Range Anticline the Neoproterozoic Bitter Springs Formation is exposed however, for most of the tenement area Cambrian to Ordovician aged sediments abound. The Cambrian and Ordovician aged sediments are typically red to brown sandstones, some shales and limestone. Conglomerate lenses, fossiliferous and evaporate horizons are common.

Overlying both the Arunta Block and the Amadeus Basin sediments are extensive areas of Tertiary and Quaternary cover. The Tertiary and Quaternary are represented by conglomerate, sandstone, laterite, calcrite and ferricrete. Evaporite, sand dunes and broad sheet wash alluvial areas are also present. On a very short (2 hour) trip to the area in 2008 a few manganese and iron-manganese outcrops were noted by the author.

**Geophysics**

**ELs 27371, EL27542**

The available NTGS geophysical data is of limited use in the Amadeus Project Area. For the western two licences, EL’s 27542 and 27371 the airborne magnetic image shows the distinction between the Arunta Block in the north and the Amadeus Basin sediments in the
south. Several major faults are visible but the significance of these with respect to mineralisation is unknown at this time.

In the south east of the area of interest there is a small series of discrete magnetic anomalies. These are of interest due to their position within the Amadeus Basin stratigraphy. In the same stratigraphic position but much closer to Alice Springs is a mineral occurrence known as Fenn Gap. The NTGS mineral occurrence database describes Fenn Gap as: "Mn-rich zone is several km long. Seven chip samples by NTGS (1970) averaged 39 % Mn (with a max. of 50.9% Mn)." The existence of the Fenn Gap mineralisation was the main driving force behind selecting the current tenements.

The radiometric data available over the western tenements appears to respond to outcrop, stratigraphy and the Teapot Granite. The teapot Granite is clearly recognisable due to its high back ground uranium content. The gravity data has been collected at very wide sample spacing and is no help at a prospect scale.

ELs 27343, 27799, 27800, 27801, 27805

The geophysical imagery for the southern licence areas is useful for distinguishing stratigraphy and outcrop. No anomalous responses have been isolated.

**Previous Exploration**

**ELs 27371, EL27542**

There has only been a minor amount of exploration activity within the area of interest. Prior to the first modern explorers the only activity would have been prospectors looking for obvious, outcropping mineralisation. The prospectors located four very small areas of base metal mineralisation. These are very small vein-style deposit hosted by the Glen Helen Metamorphics. The deposits are known as Glen Helen 1 to 3 and Stokes Yard. Mineralisation of this style has very little potential to develop minable deposits.

The only modern exploration completed in the area was undertaken by Gutnick Resources who were exploring for gold using an exploration model based on the Witwatersrand. They collected over 400 stream sediment samples. The samples were sieved to -2mm and assayed via BLEG technique for gold. The samples were collected from the active stream channel without digging. A finer-grained split was taken from each sample and assayed for base metals, iron and manganese. All of their results were disappointing and no further work was undertaken.

The stream sediment sampling program completed by Gutnick Resources was flawed in the selection of the sample fraction collected. -2mm in a Central Australian creek represents sand, most of which is derived from windblown dunes. More useful and representative material can be found by sampling finer-grained overbank flood material. Another problem encountered when sampling most recently active drainage material in Central Australia is that most of the significant rainfall occurs as thunder storms. Thunder storms typically only cover a small area and the material found on the surface of a creek may only represent a small part of the total catchment area.

In the north eastern part of the area of interest an iron (?) altered arc shaped lineament was discovered. The feature has been highlighted in red on figure 3. The feature is considered to be a fault in which iron oxides have formed. The presence of fault controlled iron alteration in the Teapot Granite is considered to be a good site for the development of uranium mineralisation.

ELs 27343, 27799, 27800, 27801, 27805

Despite several companies having prospection authorities or exploration licences over parts of the current tenements very little work has been done. The only significant work was undertaken by Le Nickel who were interested in base metals and particularly copper.
They completed detailed stream sediment sampling over all of the Cambrian to Devonian aged rocks exposed by the large anticlines in the area. Their work was unsuccessful from their point of view and whilst several geochemical anomalies were delineated no follow up work was done. Their reports present the data in plan form which could be captured if felt necessary. It is unlikely USI could improve on the sampling work done.

Other companies have looked at the diamond potential of the area without success.

**Conclusions**

*ELs 27371, EL27542*

The office based exploration that has been completed on licences 27371 and 27542 has provided some encouragement. The previous exploration has only consisted of stream sediment and very minor rock chip sampling. The stream sediment sampling as done would only provide a partial test of the area. A few discrete magnetic anomalies have been identified in the south east of the licence area and an iron (?) altered fault zone has been defined.

*ELs 27343, 27799, 27800, 27801, 27805*

No work of any real significance to manganese exploration has been undertaken in the area despite the presence of some outcrops. Le Nickel in one or their reports mention encountering Manganese layers but rock chip sampling wasn’t undertaken.

**Proposed Exploration**

*ELs 27371, EL27542*

To complete the first phase of exploration in ELs 27371 and 27542 two tasks are required. Firstly, it is proposed to visit the sites identified from the review of the past exploration, geophysics and Google satellite imagery. Secondly a float mapping exercise is required for all of the significant drainages running from the Arunta Block out into the Amadeus Basin. The purpose of the mapping will be to identify iron or manganese oxides in the creeks. Both minerals, due to their hardness tend to survive in the drainage. The target of this work will be manganese mineralisation similar to that described by the NTGS as occurring at Fenn Gap.

*ELs 27343, 27799, 27800, 27801, 27805*

Due to the lack of previous exploration completed in the area of interest it is proposed to undertake a number of prospecting and rock chip sampling traverses across the area. The aim of the work is to identify the manganese outcrops or layers referred to by Le Nickel and to take sufficient samples to get an idea of the grade of the material present. Float mapping of the drainages exiting the rugged hilly areas will be used to identify manganese occurrences in the catchment areas.

To assist in the evaluation a spectrometer will be used to see if there are any unusual radiometric responses present.

**Timing and Budget**

Field work in the Northern Territory is always heavily dependent on the weather. Normally the summer months in the Central region are dry (average annual rainfall 225mm) but this year an ex-tropical cyclone has passed through the area and caused some flooding. It is hoped that the area will be sufficiently dry by March to allow the field work to proceed. Ideally the first phase of sampling will be completed by March so that any follow-up work can be undertaken this year.
A tentative budget has been prepared to cover the cost of the proposed exploration program.

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8 REFERENCES


