Annual Report
EL 27008
Katherine Region, Northern Territory

Fertoz Pty Ltd
19 Livingston Ave.
Baulkam Hills
NSW 2153

Katherine Project

1:100 000 Mapsheets: 5269 Fergusson River, 5268 Bowman, 5368 Manbulloo,
1:250 000 Mapsheet: SD5212 Fergusson River, SD5309 Katherine
Commodity: Phosphate

WA Jettner B.Sc (Geol.)
Minesite Services Australia
November 2010
Contents

1. Executive Summary
2. Contact Details
3. Introduction
4. Tenure
   a. Mining
   b. Real Property
5. Location and Access
6. Regional Geology
7. Licence Geology
8. Previous Exploration
9. Work Done in Year 1, (2009 - 2010)
   a. Field Work
   b. Desktop Surveys
   c. Exploration Targeting
   d. Prospect Generation
11. Expenditure Covenants
   a. Expenditure Report for Year 1, (2009 – 2010)
12. References

List of Figures

Figure 1. Location Map
Figure 2. Real Property Tenure
Figure 3. Licence Access
Figure 4. Regional Geology
Figure 5. Outcrop Geology
Figure 6. Historical Exploration Licences

List of Tables

Table 1. Historical Exploration Reports

List of Appendices

Appendix 1. Expenditure Report for Year 1, (2009 – 2010)
1. **EXECUTIVE SUMMARY**

In the latter part of October 2010 EL 27008 was purchased by Fertoz Pty Ltd from the previous titleholders FSL World Holdings Pty Ltd. The EL consists of 473 graticular blocks, (1558km²) located in the Katherine Region of the Northern Territory. The area of interest occurs within the boundary of the Daly Basin and the new titleholders consider the licence area to be favourable for the discovery of phosphate deposits of a similar nature to that found in the Georgina Basin to the south-east of this locality.

Fertoz Pty Ltd has commissioned Minesite Services Australia to report on this and other licences purchased as part of the newly purchased tenement package which consists of 17 granted ELs and 12 EL applications.

2. **CONTACT DETAILS:**

**Tenement Holder:**
Fertoz Pty Ltd  
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Baulkham Hills  
NSW 2153  
Contact: Mr James Chisholm  
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**Tenement Manager:**  
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**Geological Consultant:**  
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Rosebery NT 0832  
Contact: Mr Andrew Jettner  
Email: andrewjettner@yahoo.com.au
3. **INTRODUCTION**

EL 27008 was granted on the 3rd of September 2009 for a period of 6 years and this annual report covers work done in the first licence year (2009-2010). During this period there was effectively no field work done on the licence. Fertoz Pty Ltd has commissioned the author to do the desktop study that forms the basis of this technical report.

The licence consists of 473 graticular blocks and is located some 20km west and southwest of Katherine NT. It is located amongst the southern exposures of Cambrian carbonates of the Daly Basin. Phosphate assays of up to 1.5% P$_2$O$_5$ have been obtained by previous explorers in the project area.

This exploration licence along with ELs 26995 and 26997 form a total area of 4,118 km$^2$ for the Katherine Project Area.

![Figure 1. EL 27008 Location Map](image)
4. **Tenure**

a. **Mining**

Exploration Licence 27008 was granted to FSL World Holdings on 3rd of September 2009 for a period of 6 years, expiring on 2nd September 2015. Fertoz Pty Ltd purchased the licence in late October 2010. The exploration licence consists of 473 graticular blocks (930km²) and is located within the Fergusson River and Delamere 1:250 000 mapsheets.

b. **Real Property**

The licence is located within PL 525 “Manbulloo Station” which is owned by the Consolidated Pastoral Company Pty Ltd (Level 3, 54-58 Park St, Sydney NSW 2000), PPL 1037 “Scott Creek Station” and PPL 1038 “West Matheson Station”, both of which are owned by J & C McLoughlin (PO Box 696 Katherine NT), PL 735 “Florina Station” which is owned by Florina Station (NT) Pty Ltd (PO Box 147 Darwin NT 0801).

![Figure 2. Real Property Tenure](image-url)
5. **LOCATION AND ACCESS**

EL 27008 is located some 40km to the west and southwest of Katherine, lying astride the Victoria Highway and to the north of it. Access is via the Victoria Highway to the south east corner of EL 27008 thence on station tracks throughout the licence. In this area the licence is located primarily on Scott Creek Station, a well developed station with good internal access and large tracts of cleared land.

The northern part of the EL is accessed via Florina road onto Florina Station. This area consists of rugged terrain with fewer roads and fencelines.

![Figure 3. EL 27008 Access](image-url)
6. **REGIONAL GEOLOGY**

Exploration Licence 27008 is located to the west of Katherine in the Daly Basin, a Cambro-Ordovician sedimentary basin resting unconformable on Lower Proterozoic basement and consisting of the stratigraphy listed below.

**CAINOZOIC**

**Quaternary**

- **Alluvium**: Sands, silts and clays that occur in drainage channels
- **Unconsolidated Sands**: Sands and silts occurring in major river channels
- **Colluvium**: Sheet wash deposits in the head waters of drainage systems

**TERTIARY-QUATERNARY**

- **Regolith**: Skeletal soils developed in non active erosion and drainage areas
- **Laterite**: Remnant laterised cretaceous sediments

**MESOZOIC**

**Cretaceous**

**MULLAMEN BEDS**

- Sandy claystone, siltstone, sandstone covers large areas of EL 26995, forms an upland with incised windows caused by the King River in this area.

**REGIONAL UNCONFORMITY**

**CAMBRIAN - ORDIVICIAN**

**Daly River Group**

- **Ooloo Dolostone**: Ooid and stromatolitic dolostone, dolomitic sandstone
- **Jinduckin Formation**: Dolomitic-siliciclastic siltstone, dolostone, dolomitic quartz sandstone
- **Tindal Limestone**: Bioclastic, onkoid and stromatolitic limestone, minor mudstone, basla maroon siltstone
- **Antrim Plateau Volcanics**: Massive basalt valley fill flows which pinch out against basement highs

**REGIONAL UNCONFORMITY**

**MIDDLE PROTEROZOIC**

**Katherine River Group**

- **Komblogie Formation**: Medium to coarse grained arenites containing rare interbeds of siltstone and the two Volcanic Members below
- **McAddens Creek Volcanic Member**: Chloritised andesite and basalt, minor tuff
- **Henwood Creek Volcanic Member**: Amblygoidal andesite and basalt.
As can be seen from the map below the licence covers a section across the Daly Basin to the north of EL 26997. The map also shows the three ELs that form the Katherine Project and how they all fit together. The target mineralisation locations are along the ancient Cambrian shorelines that are represented by the basin margins and also by basement highs within the basin itself. These highs in effect act as basin margins and may act as loci for the deposition of phosphorite under favourable conditions.

Figure 4. Regional Geology
7. **Licence Geology**

EL 27008 covers the central part of the Daly Basin in the area to the south and west of Katherine. The skeletal soils of the EL are underlain by sediments of the Mullamen Beds which consist of siltstone, sandstone and conglomerate and represent shallow marine fluvial and terrestrial conditions in the Cretaceous.

These unconformably overlie the Cambrian Daly River Group. This sequence forms the majority of the Cambrian sediments in the Daly River Basin. The Daly River Group consists of the Cambro-Ordovician Jinduckin Formation which conformably overlies the Cambrian Tindal Limestones which in turn overlies the Early Cambrian Antrim Plateau Volcanics which unconformably overlies the Middle Proterozoic Katherine River Group.

The target formation in this area is the Tindal Limestone which is a massive grey crystalline limestone, containing minor flaggy chert and banded limonitic fine limestone containing fossiliferous intervals.

The Tindal Limestone in the Daly Basin is slightly phosphatic (generally less than 1% $P_2O_5$) but may contain up to 2%+ $P_2O_5$, the successful conclusion to this exploration program will be the location of a site where conditions were suitable for the concentration of this phosphorite into an economic accumulation. The Tindal Limestone forms the basal unit of the Daly Basin and is the target unit for phosphate mineralisation.

The current exploration model uses all of the components of the successful 1960-70s models and combines them with data generated by a variety of workers since that time. The Tindal Limestone outcrops in the western half of the licence area.

The favoured site to locate a basin edge is in the south western corner of EL 26997 and this will be our starting area of interest. In this area is it also hoped that the Antrim Plateau volcanics will not be present and so mask the subtle radiometric anomaly that will be the signature of a significant phosphate accumulation.
Figure 5. EL 27008 Outcrop Geology
8. **Previous Exploration**

Previous phosphate exploration in the licence area has been conducted by the Continental Oil Company of Australia’s Plant Foods Exploration division in 1967 to 1968. During this period the Daly Basin was examined at a number of localities in the area south of Katherine and in the Daly River-Oolloo area.

The MD Campbell, who was conducting investigations, concluded that although the Tindal Limestone was the most likely host for a phosphate deposit, the area that they were investigating was not in their opinion conducive to the formation of such a deposit. Their work showed that there were appreciable accumulations (up to 2% $P_2O_5$) to be found in the Tindal Limestone. This author sees the Tindal Limestone as an indicator of the presence of phosphorite in the system and hence as a pathfinder towards the potential location of an economic accumulation of phosphorite in the Daly Basin.

Euralba Mining searched for barite in 1971, they located a deposit in the West Matheson area which is still under tenure today.

The area has had all of the major players in the Australia-wide diamond search examine the area as part of each of their respective strategies, BHP (1983-86), Stockdale Prospecting (1988-99), CRA Exploration (1980), all with no success.

Standard field exploration techniques for diamonds consist of detailed aeromagnetics (+/- radiometrics), significant responses of limited areal extent are examined up by ground followup which consists of geological examination, ground magnetic survey and loam geochemical survey seeking kimberlitic indicator minerals.

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Table 1. Historical Exploration Reports
Figure 6. Historical Exploration Licences

a. Field Work
There was no field work done on the licence in the first year of tenure.

b. Desktop Surveys
Office work in the first year of tenure consisted of desktop surveys covering the various topics outlined in this technical report. Primarily they consisted in examining historical exploration in the area and cross-referencing this where possible with the current thinking on phosphate deposition in Australia to generate valid exploration targets for follow up in the second year of tenure.

c. Exploration Targeting
Exploration models target organic-rich carbonate rocks on depositional basin margins where upwelling and favourable palaeogeography would have bought cold phosphate-rich waters onto the shelf. Francolite formation takes place close to the sediment-water interface during times of low overall sedimentation and is intimately connected with the dynamics of diagenetic redox fronts, (Dunster, Kruse et al 2007).

The distribution of currently known phosphate prospects in the Northern Territory is as follows:
- Pine Creek Orogen – 8 prospects
- MacArthur Basin – 4 prospects
- Georgina Basin – 21 prospects
- Wiso Basin – 4 prospects
- Amadeus Basin – 1 prospect.

d. Prospect Generation
Prospect generation would be dependant on the location of the basin margins (probably using aeromagnetics) in the project area with the next step being examination of radiometrics for the location of subtle signatures that may indicate the presence of uranium associated with the phosphate due to substitution for Ca in the phosphorite crystal lattice. Follow up work on prospects generated by this model would be direct examination by drilling, firstly seeking the basin margins, then working outwards in a series of regional reconnaissance traverses.

The proposed work program for the second year of tenure (2010-2011) will consist of the following:

Desktop surveys: acquisition of aeromagnetics and radiometrics for the licence area, generation of prospects by examination of these.

Site Orientation Visit: introduction and familiarisation to the property owners, exploration licence examination, preliminary examination of desktop targets, - 4 men, 2 vehicles, 3 days

First pass exploration program: rockchip survey, mapping activities, (incl assays) - 4 men, 2 vehicles, 5 days

Exploration Reporting – 1 man, 3 days

Second pass exploration program: follow up rock chip survey, drill program, (incl assays) – 4 men, 2 vehicles, 10 days

Exploration reporting – 1 man, 3 days

Preparation of the second annual report – 1 man, 3 days
11. **Expenditure Covenants**


The expenditure report for year 1 (2009 – 2010) is included as Appendix 1 to this annual report.


The proposed expenditure for Year 2 is as follows:

- Site orientation visit $6,000
- First pass exploration program $25,000
- Exploration reporting $3,500
- Second pass exploration program $35,000
- Exploration reporting $4,500
- Annual report preparation $6,000

**Total Proposed Expenditure** $80,000
12. REFERENCES

Open File Company Reports


**Published Reports**


