2013

Annual Report GR319/13
EL 29193, EL 29194, EL 29195, EL 29197

Period: 30/07/2012 to 29/07/2013

Barkly Region, Northern Territory

Fertoz Ltd
40 Balgowlah St
Wakerley
QLD 4154

Barkly Project

1:100 000 Mapsheets: 6159 Alroy, 6259 Alexandria
1:250 000 Mapsheets: SE5316 Ranken, SE5315 Alroy

Commodity: Phosphate

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September 2013

Contents

List of Figures

List of Tables

List of Appendices

Abstract

EL 29193, EL29194, EL29195 and EL 29197 form part of the Barkly Project which consists of ten granted exploration licences covering an area of 2,481 km^2 in the Alexandria area of the Northern Territory (Figure 2). The area is considered to be prospective for phosphate mineralisation.

In May 2013 EL 29193, EL29194, EL29195 and EL29197 were four of seven Barkly tenements sold to FSL Corporation Pty Ltd. The others were EL 29196, EL29198 and EL 30008. These tenements are in the process of being transferred.

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1. LOCATION

The licences EL 29193, EL 29194, EL 29195 and EL 29197 are located approximately 320km north east of Tennant Creek. They are located within the 1:250K Mapsheets SE5316 Rankin and the 1:100K Mapsheets 6159 Alroy, 6259 Alexandria. The tenements are located between 19^{o} 07'S to 19^{o} 18'S and 136^{o} 16'E to 136^{o} 44'E.

2. TITLE HISTORY

Mineral Tenure

Exploration Licences 29193, 29194, 29195, 29197 were granted to Fertoz Limited on 30 July 2012 for a period of 6 years, expiring on 29 July 2018.
Fertoz Limited sold the licences to FSL Corporation Pty Ltd in May 2013. At the same time it also sold EL29196, EL29198, EL30008. The tenements are in the process of being transferred.
The exploration licence consists of a total of 90 graticular blocks (291.9 km^2).

EL 29193, EL 29194, EL 29195 and EL 29197 form part of the Barkly Project which consists of ten granted exploration licences (also EL 26054, EL26055, EL 30008, EL27076, EL 29198) covering an area of 773 graticular blocks (2,481 km^2).

This technical report is the First Annual Report and covers activities in the period 30/07/2012 to 29/07/2013, being the first year of tenure.

Real Property

The licences are located within PPL 885 “Dalmore Downs” and PPL883 “Alroy Downs Pastoral Lease”.

Other Stakeholders

Other stakeholders in the licence area consist of the Wakaya people who are the identified traditional owners of this area.

3. PHYSIOGRAPHY

i. Geomorphology

The landform is generally flat, open grassland with only a few scattered trees and shrubs in the northern part of the licence. There is very little out crop in the area. Occasionally there are patches of loose, wind polished cobbles but mostly the area is desiccated black soil.

ii. Biogeography

This area is characterised by relatively homogeneous plains of cracking clay soils which support Mitchell (Astrebla spp.) grasslands. It is used as pastoral land.

iii. Hydrology

The absence of hills in the area indicates that rainfall runoff during the wet season is via broad sheet wash and shallowly incised creeks. There is no permanent surface water in the exploration area.

4. ACCESS

EL 29193, EL 29194, EL 29195, EL 29197 are located close to Tablelands Highway, a sealed road which connects to the Barkly Highway at the Barkly Homestead, the main road access from the Northern Territory to the east coast of Australia. Rail access is north-south along the Darwin to Adelaide railway, located some 320km to the south west near Tennant Creek, or to the east coast via the Mt Isa to Townsville railway which is located approximately 400km to the east at Mt Isa, Queensland.

The licences are located approximately 320km north east of Tennant Creek. The closest roadhouse/accommodation/fuel depot is the Barkly Homestead, a substantial roadhouse located some 70km to the south west of EL 29197.

Access throughout the licence is via station fences and access roads.

5. GEOLOGICAL SETTING

The geology of the area consists of flatlying Cambrian limestones and cherts overlying Proterozoic Volcanics on the Wonarah Basement high.

i. Regional Geology

The South Nicholson Group is the oldest exposed unit in the region and constitutes the regional basement for the Georgina Basin. It is correlated with the Roper Group of the MacArthur Basin.
Rawlins, et al subdivided this group into the Wild Cow and overlying Accident subgroups. The Accident subgroup consists of the Mittiebah Sandstone and can be either conformable or disconformable with the Wild Cow Subgroup and has an uncertain but probably lateral relationship with the Constance Sandstone and is possibly conformably overlain by the Mullera Formation, these latter two units are also constituents of the Accident Subgroup.
On the Alexandria-Wonarah basement high the basement is represented by the Helen springs Volcanics, an extrusive volcanic of basaltic affinity. In this location, the absence of the Thorntonia Limestone and overlying Arthur Creek Formation has the basal unit of the Wonarah Formation, (which contains the phosphorite) resting directly on the volcanic basement, (Helen Springs Volcanics).
To the west into the Barkly sub-basin the Wonarah Formation laterally correlates with the Anthony Lagoon Beds. From the basement high to the west the Gum Ridge Formation may correlate with the basal Wonarah Formation. The Wonarah Formation is overlain by the Camooweal Dolostone as it dives below the surface in the Undilla sub-basin.

CAMBRIAN				
Arrinthrunga Formation (Cua) 975 m	Dolostone, limestone; minor quartz sandstone, siltstone, shale	Peritidal, restricted shallow subtidal marine	Conformable on Cmd, Cma	Stromatolites, thrombolites, nodular evaporites, gypsum crystals, fenestrae
Camooweal Dolostone (Cmd) 167+ m, ?300 m	Dolostone; minor marl and quartz sandstone; basal intraclast, ooid and oncoid dolostone and quartz sandstone	Basal high-energy peritidal to shallow subtidal barrier, passing upward into restricted to epeiric back-barrier	Conformable on Cmk, Cmw, Currant Bush Limestone	Spheroidal chert concretions, cross-beds, flat-pebble conglomerate, planar to crinkly or wavy microbial lamination, stromatolites
Ranken Limestone (Cmk) 74+ m	Bioclast, bioclast-ooid and bioclast-intraclast rudstone, bioclast wacke/floatstone; minor calcimudstone	Marine ramp seaward of high-energy shallow subtidal barrier	Conformable on Cmw	Red-brown silicification, abundant fossils
Wonarah Formation (Cmw) 191+ m	Silty dolostone, calci/ dolomudstone and siliciclastic mudstone interbeds, micaceous siltstone; minor intraclast and bioclast wacke- to grainstone; basal carbonaceous marly laminite	Subtidal marine	Disconformable on Cmt; unconformable on Clh, Ps	Planar to wavy siliciclastic laminations, siliceous chert concretions, phosphorite, evaporites, disseminated pyrite, fossils; minor detrital glauconite and biogenic phosclasts
Arthur Creek Formation (Cma) 457 m	Upper: dolostone, limestone; lower: foetid pyritic-carbonaceous black shale, laminated dolostone	Upper: open to restricted subtidal marine; lower: deeper anoxic marine	Disconformable on Cmt; unconformable on Ps	Nodular evaporite, shredded to brecciated texture, fossils, disseminated pyrite
Thorntonia Limestone (Cmt) 121 m	Dolosparstone; minor bioclast and oncoid dolosparstone and intraclast dolowackestone to dolograinstone; basal dolomitic quartz sandstone and conglomerate	Subtidal marine	Unconformable on Ps	Pervasive recrystallisation, carbonate concretions, nodular evaporite, silicified interbeds, disseminated pyrite, hydrocarbons
Helen Springs Volcanics (Clh) 34 m	Basalt, trachyte, microdolerite; minor dolerite; basal pebbly mudstone, sandstone and conglomerate	Extrusive volcanic	Unconformable on Ps	Alteration, amygdales
CALYMMIAN				
Mittiebah Sandstone (Psi) 2200+ m	Quartzose to sublithic sandstone; minor siltstone and conglomerate	Marine	Disconformable on Crow Formation	Medium to thick bedding, quartz granules and pebbles, ripples, mudclasts, crossbeds

Table 1. Lithostratigraphy of the southern Georgina Basin

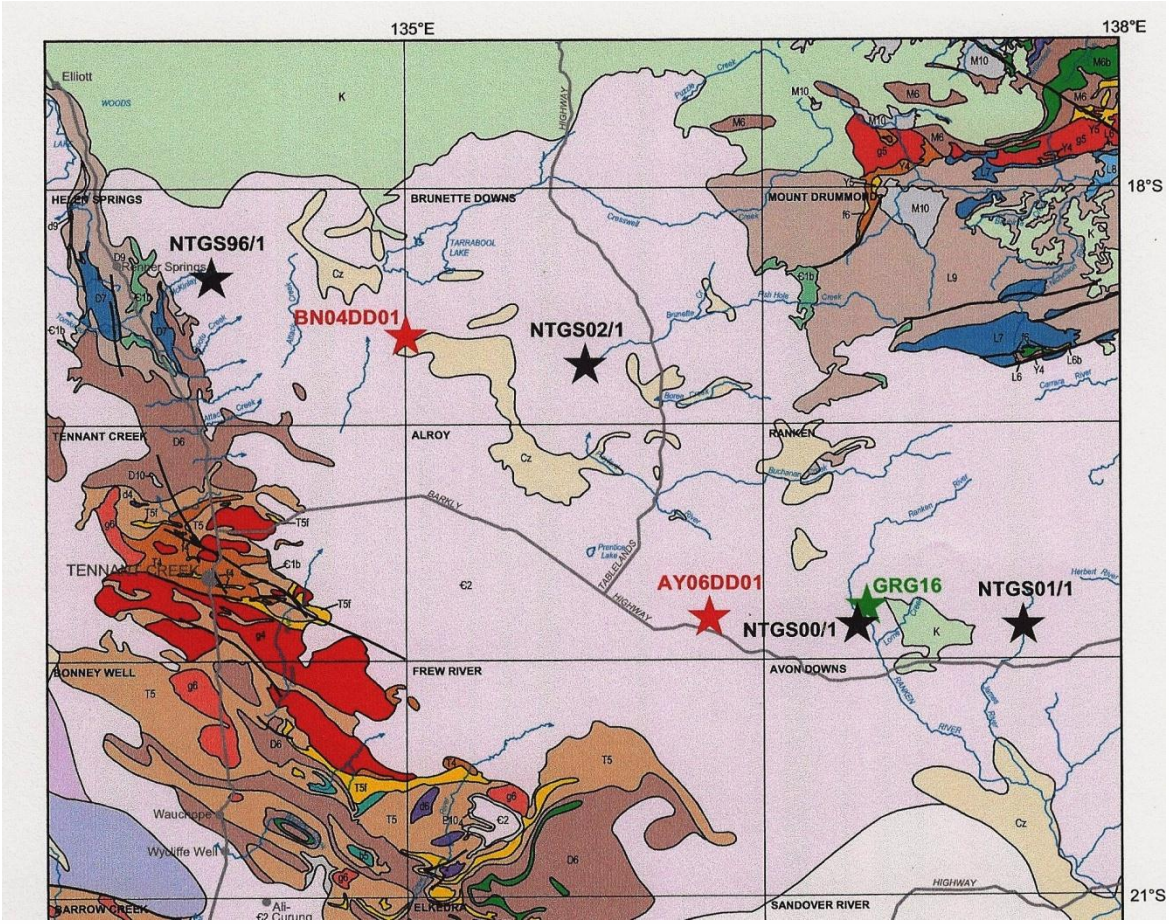

Figure 4. Regional Geology

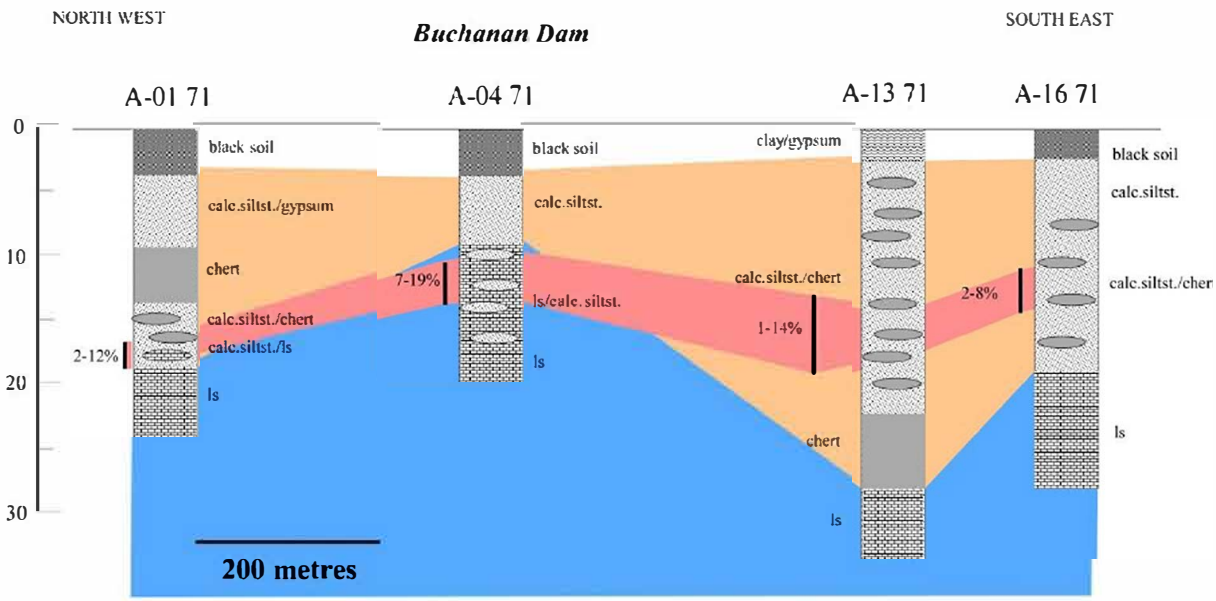

Figure 5. Cross section through the Buchanan Dam Prospect (Price,2011)

i. Licence Geology

The geology of EL 29193, EL 29194, EL 29195 and EL 29197 consist of the sediments of the South Georgina Basin that are overlain by Cainozoic soils derived from the underlying geology.

The Alroy and Buchanan Dam prospects occur adjacent to the Alroy Group of Fertoz tenements (see Figure 3). These provide a basis for understanding the geological context in which mineralisation might be anticipated to occur within the project area. Figures 5 & 6 are schematic cross sections of the Buchanan Dam and Alroy prospects respectively with lithostratigraphic columns for representative drillholes.

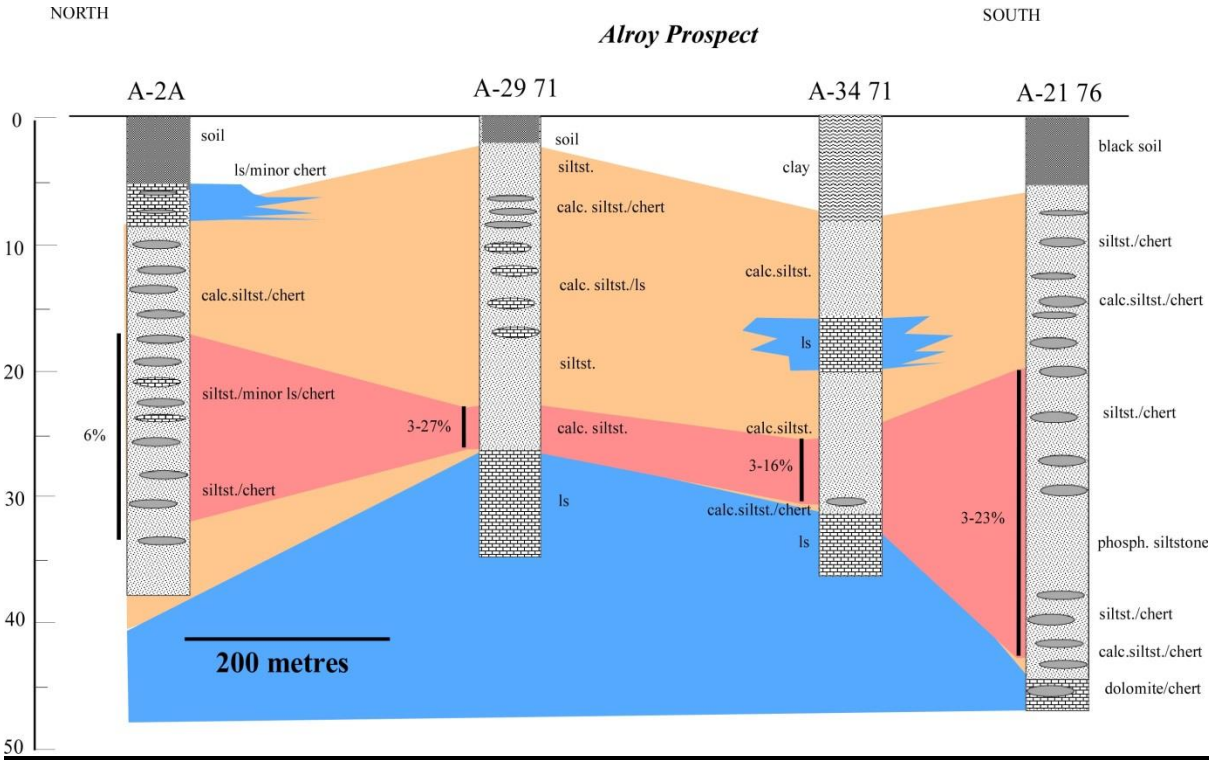

Figure 6. Cross section through the Alroy Prospect (Price,2011)

None of the drillholes in either of these prospects was deep enough to intersect basement but there is geophysical evidence to suggest that each of these areas is adjacent to a basement high. At each prospect, a phosphatic horizon has been defined within 10m and 40m of the surface. At Buchanan Dam, grades of 2% to 19% P_2O_5 occur over an interval of between 5m and 10m and at Alroy the mineralised zone is up to 20m thick with grades of 3% to 27% P_2O_5 . In both cases, as is the case at Wonarah, the phosphatic zone occurs within a lithostratigraphic unit that is dominantly siltstone and just above the contact between siltstone and underlying limestone and dolomite. At both localities, chert is common through the section.

The licences EL 26054 and EL 26055 are located at the eastern edge of the Georgina Basin and examination of figure 8 shows that deposits in general occur on the eastern and north-eastern margins in the component sub-basins of the Georgina Basin.

Close to EL 29193, EL 29194, EL 29195 and EL 29197, three phosphate deposits, Buchanan Dam (8Mt @ 20% P_2O_5), Alroy (5Mt @ 20%P_2O_5) and Alexandria (15Mt @ 10%P_2O_5) in EL 25600, owned by Phosphate Australia, occur and to the south of the licence, Wonarah and Arruwurra (1258Mt @ 12%P_2O_5), SELs 26451, 26452 and ML27244, owned by Minemakers Ltd occurs.
Also to the north a gypsum deposit, 6 mile waterhole, (1Mm^3 of gypsum, MCCs 205-208 and MCCs 983-990), owned by Northern Cement occurs.

This would indicate that a shallow marine environment prevailed in the Cambrian that was conducive to the formation of both types of deposit. This was mainly due to glacial/interglacial periods where eustatic sea level change would dictate precipitation of phosphate rich substrates. These glacial periods brought about a reduction in sea level change making these intra-continental seas shallower and encouraging the settling of phosphate rich substances out of solution. With this in mind a secondary target will be gypsum deposits of the type located at 6 mile waterhole.

The early Cambrian extrusion of continental basalt and associated volcanic rocks of the Helen Springs Volcanics along an existing or newly forming Alexandria-Wonarah Basement High generated the oldest Georgina-Basin related rocks. In an initial regional marine transgression followed cessation of volcanism. A second marine transgression overtopped the high and deposited an extensive blanket of carbonate and siliciclastic sediments across the Undilla sub-basin during the remainder of the middle Cambrian. Phosphatic sediments were deposited on the basement high during the initial transgression, ((Kruse & Radke).

6. EXPLORATION AND MINING HISTORY

Historical exploration in this area has been sparse. In recent years this area, as with large parts of the Northern Territory has had renewed exploration interest for bulk commodities due to the construction of the Darwin to Adelaide railway. Exploration has focussed on diamonds, gypsum and phosphate.

EL 29193, EL29194, EL29195, EL29197

Licence No	Tenure Period	Open File Company Reports	Company
EL 3536	? – 1982	CR1983-0151	CRA Exploration
EL 4349	6/12/83 – 4/12/85	CR1985-0024	Aberfoyle Exploration / Australian Diamond Exploration
		CR1986-0100	Aberfoyle Exploration / Australian Diamond Exploration
EL 9067	1996	CR1996-0263	
AP 1874	1968 – 1971	CR1968-0016	Continental Oil Company of Australia
		CR1970-0079	Pickands Mather and Co International
		CR1971-0012	Continental Oil Company of Australia
		CR1971-0192	Continental Oil Company of Australia
AP 1766	19/5/67-18/5/70	CR1968-0030	IMC Development
		CR1968-0031	IMC Development
		CR1969-0022	IMC Development

AP 1766		CR1970-0037	IMC Development
		CR1970-0038	IMC Development
		CR1970-0039	IMC Development
		CR1970-0082	IMC Development
EL 1081		CR1977-0038	ICI Australia / Australia Fertilizers
EL 25600		CR2009-0819	Phosphate Australia
		CR2010-0693	Phosphate Australia
		CR2011-0781	Phosphate Australia

Table 2. Historical Exploration Reports

Mining

Table 3. Historical Mines and Prospects

Mine/Prospect Name	Modat Site Id	Mineral Field	Commodity	Orebody Type

There are no Department of Resources recorded historical mines or prospects within the licence area.

7. EXPLORATION RATIONALE

Exploration models target organic-rich carbonate rocks on depositional basin margins and areas of onlap onto basement highs where upwelling and favourable palaeogeography would have bought cold phosphate-rich waters onto the shelf. These shallow eustatically low seas brought about a rise in Ph and a concentration of organics onto a shelf environment; facies that indicate such a progression shall be the key focus of the future search. 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 southern portion of the Georgina Basin contains several loci prospective for phosphorite deposition. Historical exploration work indicates that there are prospective targets within the Fertoz licences to the north of the Wonarah deposit.

Generally speaking the two exploration licences owned by Fertoz are highly prospective for phosphate development, being located between 3 phosphate deposits in a geological and structural environment that is conducive to phosphorite development.

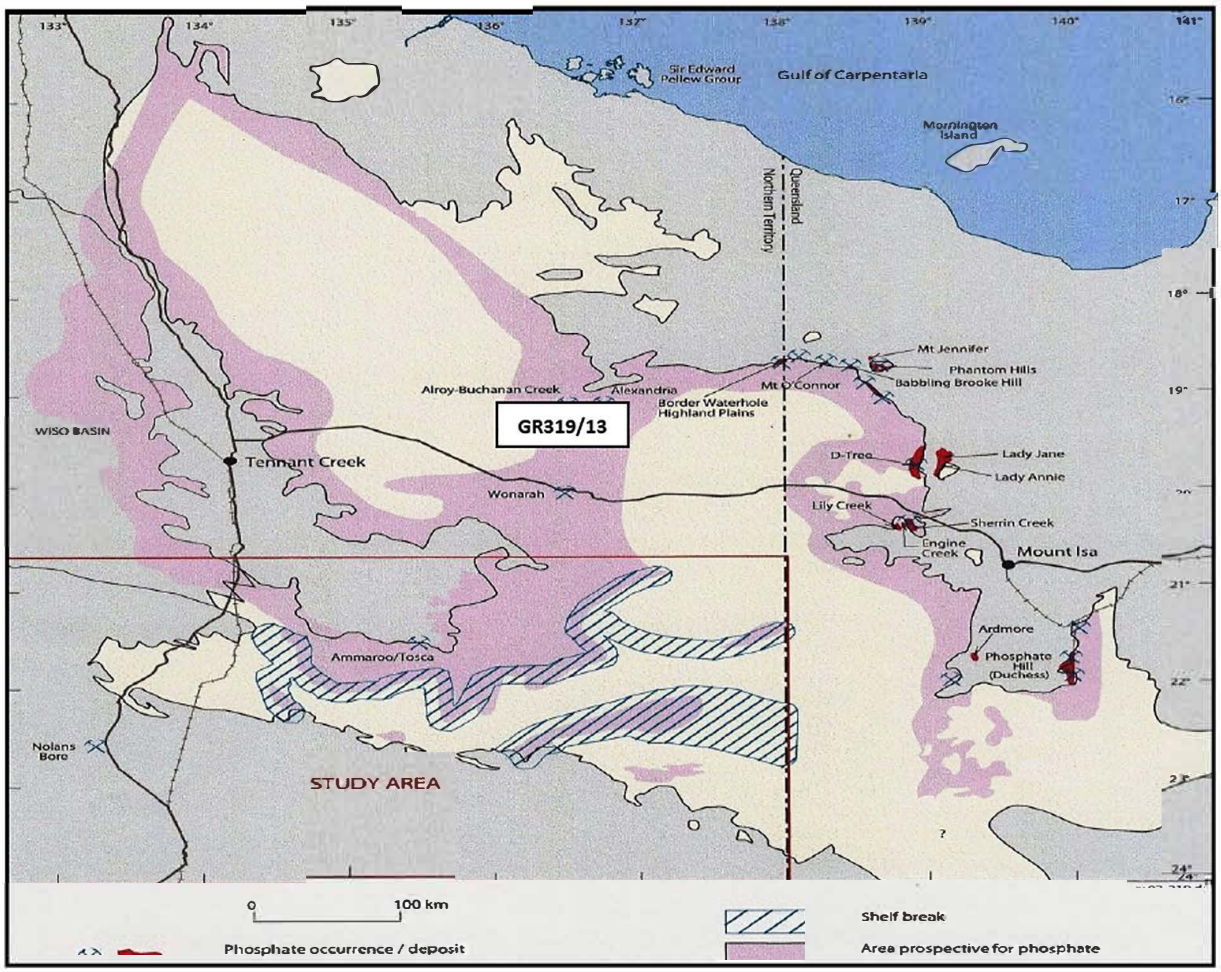

Figure 8. Georgina Basin phosphate prospectivity (Dunster JN ,Kruse PD, *et al*.)

8. EXPLORATION INDEX MAP

No exploration index map has been constructed for EL 29193, EL29194, EL29195 or EL 29197.

9. GEOLOGICAL ACTIVITIES

Office Studies

Fertoz Ltd commissioned Terra Search in 2012 to conduct an advanced desktop study of its 10 Barkly licences including a review of open file geophysical datasets (i.e. radiometrics, magnetics), review of GIS data (historic phosphate occurrences) with the aim of identifying prospective stratigraphy and structural elements that may be favourable for accumulation of phosphate. The work focussed on the tenements closest to Minemakers Wonarah deposit ie. EL26054 and EL 26055. The proximity of EL29193, EL29194, EL29195, EL29197 to the Phosphate Australia phosphate deposits of Buchanan Dam, Alroy and Alexandria indicated the likely prospectivity for phosphate.

Field Studies

No field work was done during the year.

10. REMOTE SENSING

There were no remote sensing surveys done during the year.Included below is an image taken from the DoR Strike dataset, LANDSAT 7.

11. GEOPHYSICAL ACTIVITIES

There were no geophysical activities conducted on EL 29196 during the year.

Radiometrics

There have been no radiometric surveys conducted during the year.
Included below is an image taken from the Department of Resources Strike dataset, Ternary Radiometrics.

Magnetics

There were no Magnetic surveys done during the year. Included below is an image taken from the Department of Resources Strike dataset, Magnetics TMI.

12. SURFACE GEOCHEMISTRY

No rock chip or soil samples were taken in 2013.

13. DRILLING

No drilling was undertaken in 2013.

14. GEOTECHNICAL STUDIES

Geotechnical studies conducted during the year consisted of desktop studies including a review of open file geophysical datasets (i.e. radiometrics, magnetics), review of GIS data (historic phosphate occurrences) with the aim of identifying prospective stratigraphy and structural elements that may be favourable for accumulation of phosphate.

15. RESOURCE AND RESERVE ESTIMATION

There were no resource or reserve estimations done during the year.

16. CONCLUSIONS AND RECOMMENDATIONS

Minimal exploration work has been done to date. The only effective way to examine the underlying strata is by drilling using Reverse Circulation methods. The tenements have been sold to FSL Corporation Pty Ltd who intends to undertake a drill programme in 2014.

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