



Surrender Report EL26763

1:250 000 map sheet: Ranken SE 53 16

1:100 000 map sheet: Alexandria 6259

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1 SUMMARY

South Boulder Mines is the tenement holder of EL26763.

During the tenure of the lease, South Boulder Mines Ltd undertook desktop studies to assess the exploration potential for phosphate mineralisation.

After a review of government datasets, it was determined that there was little potential for finding phosphate mineralisation on the lease, resulting in no field activities occurring, and no acquisition of additional data, such as imagery or geophysics.

Consequently the lease was surrendered.

2 TENURE

South Boulder Mines Ltd was the 100% owner of the lease.

Table 1– EL26763 lease details.

Tenement	Status	Area	Unit	Applic date	Grant date	Expiry date	EXP \$
EL26763	Granted	81	Blocks	7/05/2008	1/12/2008	30/11/2014	\$20,000

3 LOCATION AND ACCESS

The lease is located 280 km east of Tennent Creek. Access from Tennent creek is north along the Stuart highway for 25km. Then east via the Barkly Highway for 185 km to the Tablelands Highway. Then NE on the Tablelands Highway for 55km to the Alory Downs Station. From the station, the lease is access via the Alory Downs Alexandria Track, and the lease is well serviced by bores and station tracks, resulting in good access to most areas.

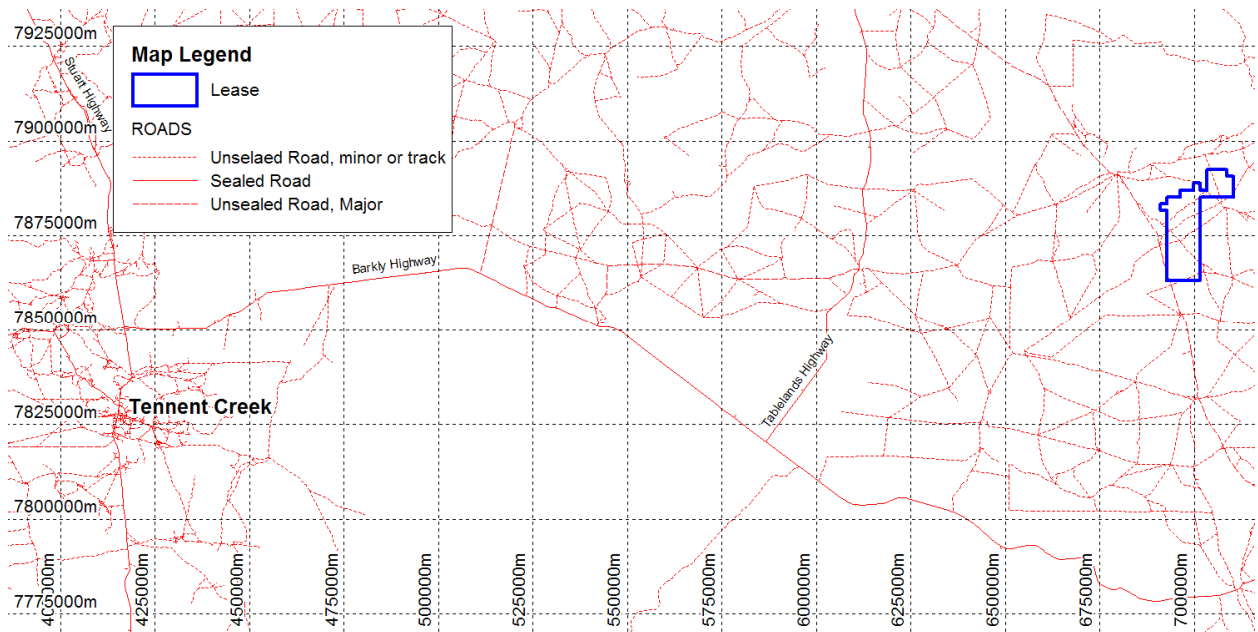


Figure 1: Location map of lease.

4 PHYSIOGRAPHY, CLIMATE AND VEGETATION

The project is located on the plains of the Barkly Tableland, which have very gentle relief. The landscape of the project area has a general low relief, although small bevelled chert/silcrete rocky outcrops are locally common

Watercourses that drain the Barkly Tableland are ephemeral and only flow after major rains. Non perennial water courses of Buchanan Creek and its tributaries transect the area . There are very few permanent waterholes; however, some waterholes are known to retain water for extended periods.

The project area has a semi-arid climate with the majority of rainfall occurring between November and April. Annual rainfall totals show moderate variability from year to year. The closest continuously operating Bureau of Meteorology weather station, known as Brunette Downs, is located about 145 km northwest of the Wunara Community. The Brunette Downs weather station commenced data collection in 1891. This weather station has recorded the average annual maximum temperature as 33.5 degC and an average minimum temperature of 18.7 degC.

The highest rainfall is received in January, with an average of 104.3 mm, with the lowest rainfall recorded in August, with an average of 1.4 mm. The annual average rainfall is 412.6 mm, with approximate average evaporation between 2,800 and 3,200 mm per annum. Humidity is generally higher in the mornings than in the afternoons and on average does not exceed 48%. The prevailing wind direction is southeasterly and the average wind speed is around 12 to 13 km/h.

The main vegetation community of the region is *Eucalyptus opaca* (bloodwood) low open woodland with *Triodia pungens* (soft spinifex) hummock grassland understorey. This particular vegetation community is typical of habitat found within the surrounding Davenport and Murchison Ranges Bioregion, and is not known for having a high diversity of mammalian and reptile fauna, although there have been very few surveys undertaken within the bioregion.

5 GEOLOGY

The lease is centered on Georgina Basin/South Nicholson Basin boundary.

The intracratonic Neoproterozoic to Late Devonian Georgina Basin occupies 325,000 sq km of western Queensland and east central Northern Territory. It has a maximum sediment thickness of up to 5,000 m in the south (Toko and Dulcie Synclines) and east (Burke River Belt), with a much thinner succession in the central and northern parts of the basin (Barkly and Undilla Sub-basins). Presumed thermal relaxation and subsidence following rifting associated with an extensional event caused by the breakup of Rodinia, initiated sedimentation of marine siliciclastics and carbonates. This marine succession is probably terminated by an erosional surface and is overlain by marine, fluvial and glaciogene sediments associated with the Sturtian and Marinoan glaciations. Subsequent marine siliciclastic and minor carbonate sedimentation extended into the latest Proterozoic. The Petermann Ranges Orogeny, with extensive uplift of the Musgrave Block fed deposition of widespread fluvial and marine siliciclastics during the latest Proterozoic-Early Cambrian. This was followed by deposition of a succession of marine siliciclastics and carbonates with minor evaporites for most of the remainder of the Cambrian. Deposition ceased in the northern part of the basin late in the Middle Cambrian. In the latest Cambrian, the Delamerian Orogeny caused a change to predominantly marine siliciclastic deposition in the southwest, with carbonate deposition continuing in the southeast. This pattern persisted until deposition ceased during the Middle Ordovician. In the Early to Late Devonian, the Arunta Block was uplifted during a phase of the Alice Springs Orogeny and fluvial siliciclastics deposited along the southern margin of the basin.

The South Nicholson Basin underlies the Georgina Basin, and comprises basal shallow-marine to fluvial sediment and basic volcanic succession; overlain by shallow-water to intertidal succession of carbonates and evaporites; unconformably overlain by unstable-shelf sandstone-shale succession. Mafic volcanics are found in the basal succession; with the youngest sediments cut by Mafic intrusives. No metamorphism is noted. Strongly developed faulting and associated moderate folding in meridional area; mild deformation elsewhere.

Outcropping rocks are restricted to a few instances of siliceous sandstones of the South Nicholson Group, a result of their more weathering resistant silica rich nature. The remainder of the lease area is covered by various regolith and recent sedimentary cover.

6 EXPLORATION ACTIVITIES

6.1 Remote Sensing Data

Google Earth used to view lease.

6.2 Geophysics

NT and Australian government regional datasets consulted.

6.3 Field Recon

No field activities were performed.

6.4 Soil Sampling

None undertaken.

6.5 Drilling

No Drilling done.

7 REFERENCES

Palfreyman, W.D. 1984, Guide to the Geology of Australia., Bureau of Mineral Resources, Australia. Bulletin, 181, 111p

Rawlings DJ, Sweet IP and Kruse PD, 2006. *Mount Drummond, Northern Territory (Second Edition) 1: 250 000 geological map series and explanatory notes, SE 53-12.* Northern Territory Geological Survey, Darwin.

Smith, K.G. 1972, Stratigraphy of the Georgina Basin., Bureau of Mineral Resources, Australia. Bulletin, 111,

8 VERIFICATION FILELISTING

Exploration Work Type	File Name	Format
Office Studies		
Literature search		
Database compilation		
Computer modelling		
Reprocessing of data		
General research		
Report preparation	EL26763_2009S.pdf	pdf
Other (specify)		
Airborne Exploration Surveys		
Aeromagnetics		
Radiometrics		
Electromagnetics		
Gravity		
Digital terrain modelling		
Other (specify)		
Remote Sensing		
Aerial photography		
LANDSAT		
SPOT		
MSS		
Radar		
Quickbird Imagery		
Ground Exploration Surveys		
<i>Geological Mapping</i>		
Regional		
Reconnaissance		
Prospect		
Underground		
Costean		
<i>Ground geophysics</i>		
Radiometrics		
Magnetics		
Gravity		
Digital terrain modelling		
Electromagnetics		
SP/AP/EP		
IP		
AMT		
Resistivity		

Complex resistivity		
Seismic reflection		
Seismic refraction		
Well logging		
Geophysical interpretation		
Other (specify)		
<i>Geochemical Surveying</i>		
Drill sample		
Stream sediment		
Soil		
Rock chip		
Laterite		
Water		
Biogeochemistry		
Isotope		
Whole rock		
Mineral analysis		
Other (specify)		
<i>Drilling</i>		
Diamond		
Reverse circulation		
Rotary air blast		
Air-core		
Auger		
Groundwater drilling		
Drilling		