

SORRENTO RESOURCES PTY LTD

ANNUAL REPORT

For the Period

25 October 2017 to 24 October 2018

Combined annual report for the Bangemall project, C21/2018 (E09/2143 & E09/2149), for the period 25 October 2017 to 24 October 2018

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Attachment 1

Data Review Attachments

BangemallReview2018.pdf

ATTACHMENTS SUBMITTED SEPARATELY

1. Bibliographic Data Sheet

Project Name: Bangemall
Combined Reporting Number: C21/2018
Tenement Numbers: E 09/02143,E 09/02149
Tenement Operator(s): SORRENTO RESOURCES PTY LTD
Report Type: Annual
Report Title: Combined annual report for the Bangemall project, C21/2018 (E09/2143 & E09/2149), for the period 25 October 2017 to 24 October 2018

Report Period: 25 October 2017 to 24 October 2018
Author: Fiona EDDISON
Submitted By: Fiona EDDISON
Report Date: 17 January 2019

Map Sheets: *1:250,000 Map Sheet* *1:100,000 Map Sheet*
SG50-02 (MOUNT PHILLIPS) 2149 (MOUNT PHILLIPS)

Target Commodity: COPPER, GOLD, RARE EARTH ELEMENTS, URANIUM, ZINC
Prospects Drilled: Nil
PoW Number: N/A
Geophysical Survey Reg No: N/A
Assays: Nil

Abstract

Location: The Bangemall project area is located in Western Australia's Mid West region, approximately 280 km east-northeast of the town of Carnarvon and adjacent to the Bangemall Mining Centre, within the Mount Phillips 1:100 000 (2149) and 1:250 000 (SG50-02) map sheet areas.

Geology: The project area is mostly underlain by siliciclastic, dolomitic and chert units assigned to the Edmund Group, and dolerite sills that intrude these packages. Mount Augustus Sandstone underlies the southwestern corner of the project area.

Work Done: Exploration for the reporting year comprised collation and review of open-file geochemical data for the project area to assess the gold, copper, zinc, rare earth element (REE) and uranium potential of the project area to provide a basis for the planning of future exploration programs.

Results: The greatest potential for the project is for orogenic gold mineralisation along the axis of the Bangemall Anticline. Five target areas proximal or distal to existing workings have been recommended for further work, in addition to a low-priority target on a parasitic fold to the south.

The potential for magmatic-hosted Ti-Fe-V and Ni-Cu-PGE and sediment-hosted Cu-Zn mineralisation appears to be minor and requires a significant outlay of funds to test. Only minor sediment-hosted Cu and Zn anomalism has been identified to date.

While a small part of the project area has the potential to host uranium-REE mineralisation, the prospective area may be capped by ferruginous duricrust, making exploration and excavation of any deposit difficult. Field verification of the surface geology is required in order to assess the likely effectiveness of surface sampling programs.

Conclusion: Further work will include field reconnaissance and rock-chip sampling of the gold target areas identified, as well as over the Ashburton Formation in the southwest of the project area. Drill testing will be considered following review of the field investigations.

2. Introduction

This report outlines the mineral exploration activities undertaken for the Bangemall project tenements E09/2143 and E09/2149, which comprise the Bangemall C21/2018 combined reporting group, and covers the year ending 24 October 2018. Exploration for the reporting year comprised collation and review of open-file geochemical data for the project area to assess the gold, copper, zinc, rare earth element (REE) and uranium potential of the project area to provide a basis for the planning of future exploration programs.

The project area is considered prospective for vein-hosted hydrothermal (epigenetic) and alluvial gold. The Bangemall Mining Centre, located in an excised area within the centre of the project area, has produced a total of 356 t yielding 8,896.6 g of gold for an average grade of 25 g/t (Williams et al., 1983), but none of the shafts in area have operated for over 100 years. There is also potential for sediment-hosted copper and zinc mineralisation in the Edmund Group units, and uranium and rare earth element mineralisation in the Mount Augustus Sandstone.

3. Location and Access Details

The project area is located less than three kilometres west of the Cobra homestead, which lies approximately 280 km ENE of the coastal town of Carnarvon and 50km to the west of Mount Augustus in the Mid West region of Western Australia (Figure 1). This corresponds to the Mount Phillips 1:100 000 (2149) and 1:250 000 (SG50-02) map sheet areas and vacant Crown land.

Access to the project area is via Carnarvon and Gascoyne Junction to Dairy Creek Station and then via a well-maintained graded track off Dairy Creek to Cobra Station. Alternatively access is via Meekatharra and then the graded Carnarvon–Meekatharra road which passes through Cobra Station. Distance by road from Carnarvon and Meekatharra is about 420 km. These roads are trafficable throughout the year except after heavy rains. Access within the project area is relatively easy with several regional roads and numerous prospecting tracks.

Cobra Station has an operating airstrip and accommodation and meals available at Cobra Roadhouse, but limited to prospectors and explorers. No fuel or supplies are available. Accommodation, fuel and limited supplies are available at Mount Augustus Caravan Park located 50 km to the east of Cobra by road.

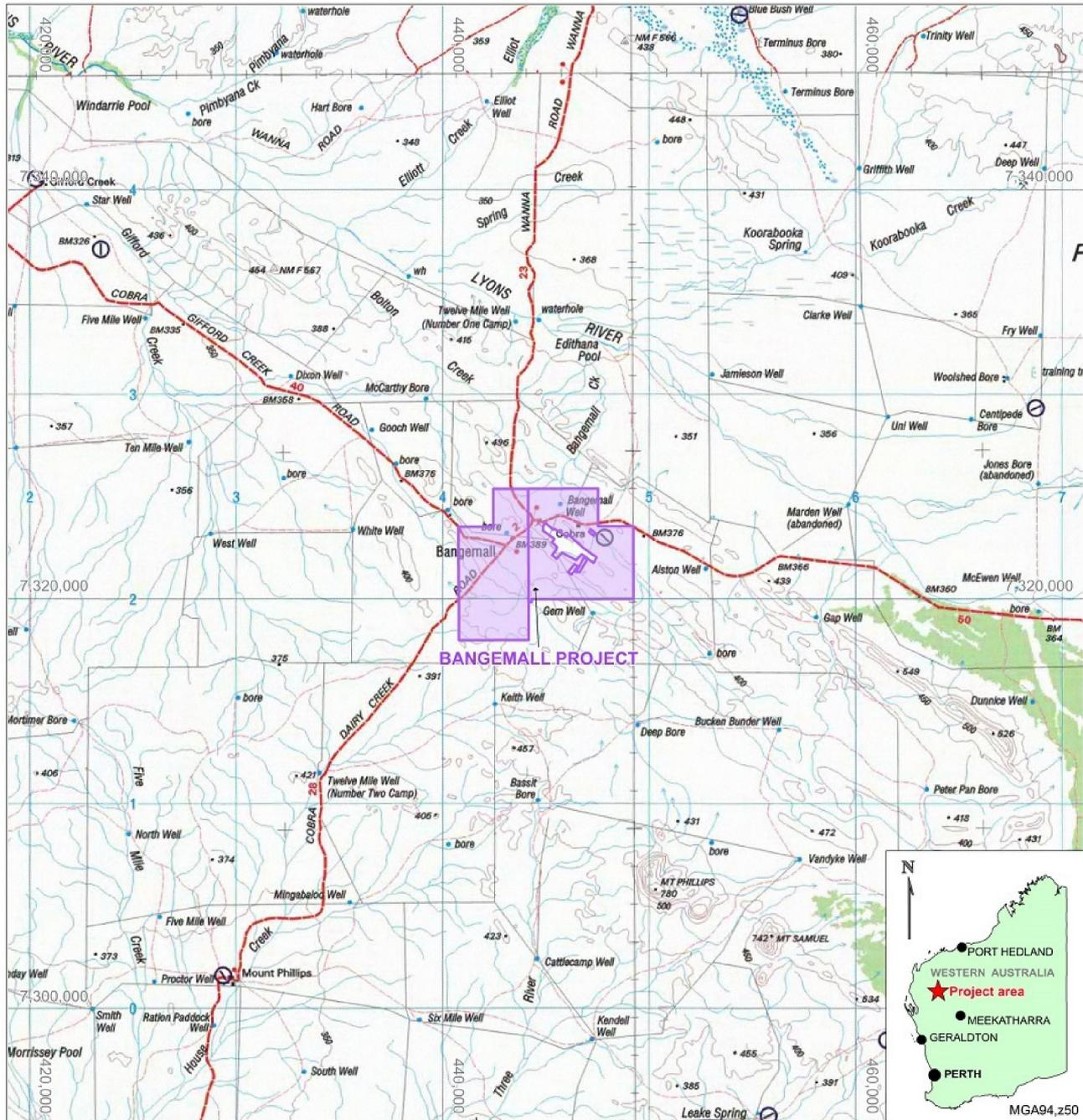


Figure 1. Project location.

4. Tenement Details

Tenement Information

Tenement	Grant Date	Expiry Date	Holder	Expenditure (\$)	Area Size (KM2)	Area Size (BLK)
E 09/2143	25/10/2016	24/10/2021	SORRENTO RESOURCES PTY LTD	20000	19.6	7
E 09/2149	25/10/2016	24/10/2021	SORRENTO RESOURCES PTY LTD	20000	22.4	8

The Bangemall C21/2018 combined reporting group was approved in February 2018 and comprises two Exploration Licences, these being E09/2143 and E09/2149. The leases cover a total of 15 graticular sub-blocks on the Meekatharra 1:1 million sheet and within the Gascoyne Mineral Field. Both tenements were granted on 25 October 2016 and are wholly in the name of Sorrento Resources Pty Ltd.

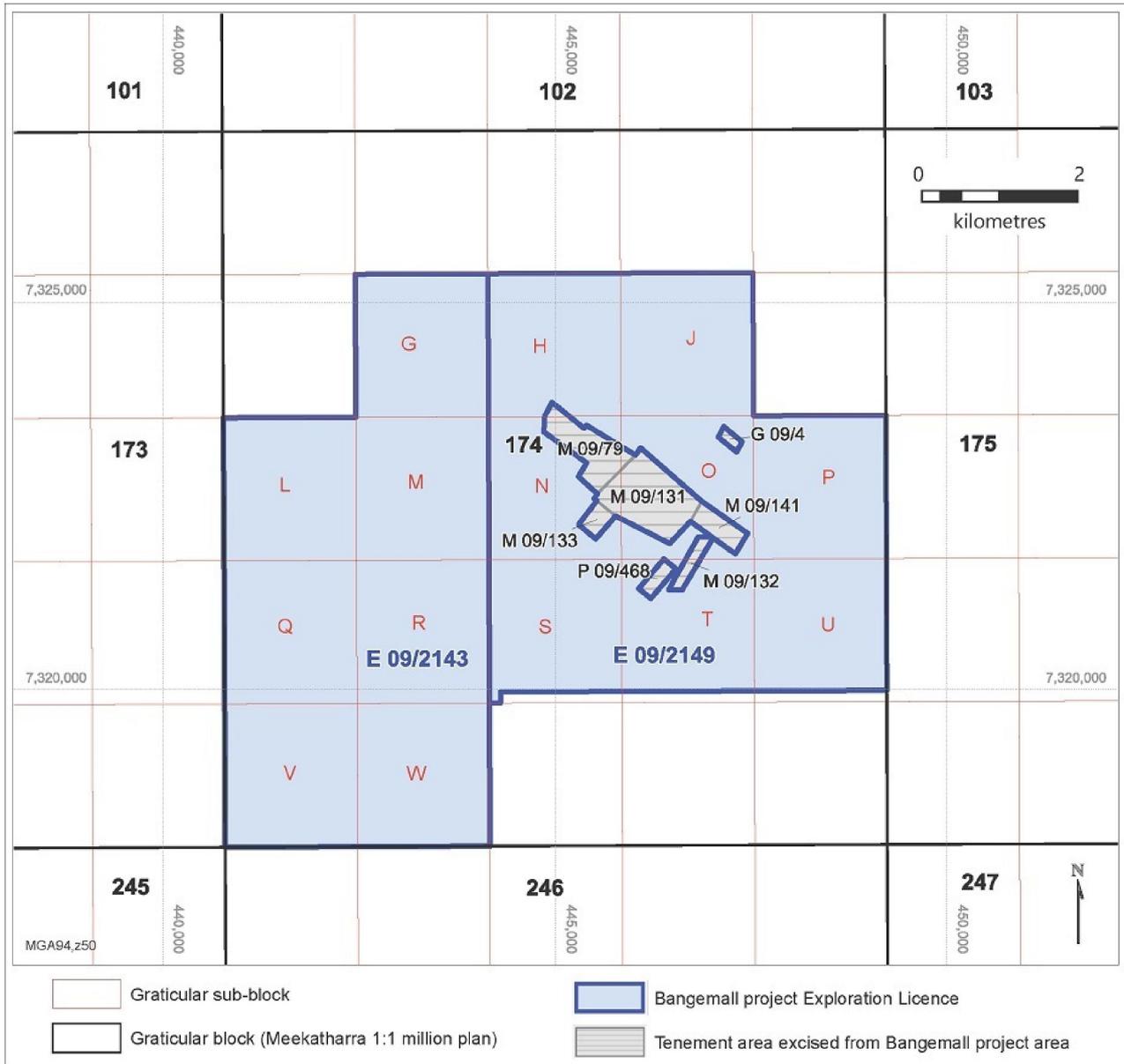


Figure 2. Tenement plan.

5. Geology

5.1 Regional Geology

The following description of the regional geology relevant to the Bangemall project has been extracted from Reddcliffe (2017).

The Gascoyne Complex is the deformed and high-grade metamorphic core zone of the early Proterozoic Capricorn Orogen which lies between the Pilbara Craton in the north and the Yilgarn Craton in the south. The Capricorn Orogen is widely considered to have been formed during the collision between both Archaean Cratons.

The Gascoyne Complex comprises several zones, each with a discrete geological history, bounded by large ESE trending faults or shear zones. Each zone is characterized by metasedimentary packages together with granitic supersuities that differ in either age or composition, or both, in adjacent zones. The metamorphic and structural history of each zone also contrasts with the histories of the zones that bound it.

The Gascoyne Complex was primarily shaped by four separate orogenic events:

- The 2005-1960 Ma Glenburgh Orogeny
- The 1830-1780 Ma Capricorn Orogeny
- The 1680-1620 Ma Mangaroon Orogeny
- The 1030-950 Ma Edmondian Orogeny

The Gascoyne Complex is fault-bounded to the east by younger Mesoproterozoic rocks belonging to the Edmund sedimentary basin which was affected by the Edmondian Orogeny reactivating faults and shear zones within the Gascoyne Complex as well as folding of sedimentary rocks of the Edmund Group. This Group together with the Collier Group comprises the Bangemall Supergroup. In order to interpret the evolution of the Edmund and Collier Basins the various lithostratigraphic formations have been arranged into six depositional packages which represent discrete stages in basin development. The Edmund Group comprises packages 1-4. Each depositional package consists of an assemblage of genetically related strata, with a basal contact that is either a regional unconformity or a major flooding surface.

Only packages 3 and 4 are present within the project area (Figure 2). Package 3 includes the Kiangi Creek and Muntharra Formations. Package 4 comprises the Discovery, Devil Creek, Ullawarra and Coordardoo Formations. The main lithologies include siltstone, sandstone, conglomerate, dolostones, stromatolitic dolostones, carbonaceous siltstone and chert that are commonly intruded by thick dolerite sills.

The Mount Augustus Sandstone unconformably overlies the rocks belonging to the Gascoyne Complex and outcrops as a thick succession of coarse-grained siliciclastic rocks along the boundary with the Edmund Basin. This unit, which outcrops as a prominent arkosic sandstone ridge, hosts a number of uranium and rare earth element occurrences.

The Edmund Group is younger than 1680-1620 Ma granites in the underlying Gascoyne Complex and older than c. 1465 Ma dolerite sills that intrude it over large areas. Most of the sills are dolerite or gabbro in composition and are locally concordant with the host sedimentary rocks.

The general regional structural trend is prominently NW to SE with numerous synclinal and anticlinal folds exposed at various scales especially within the Edmund Basin sediments.

The Mesoproterozoic-aged Bangemall Basin extends from the Wyloo area south and east to the edge of the Gibson Desert. The stratigraphy is dominated by alternating and monotonous sequences of shale sandstone and carbonates in the east, but is more varied in the west and north-west where cherts, dolerites and tuffaceous beds are also present. In the western half of the basin, the Discovery Chert horizon persists and represents a convenient and significant marker horizon.

The upper Bangemall Group lies stratigraphically above the Discovery Chert and consists of sandstones, shales and carbonates. There are few mineral occurrences reported in this area. The Lower Bangemall Group is stratigraphically below the Discovery Chert and is characterised by a mixed group of clastic, carbonate and volcanic rocks and with some chert bands. Numerous mineral occurrences are known in this Lower Group and hence have been the focus of exploration and mining activities.

The regional stratigraphy consists of a continental unit, the Mount Augustus Sandstone, on the basal unconformity overlain by three marine formation, namely the Irregully Formation (dolomite-shale), Kiangi Creek Formation (arenite-dolomite-shale), and upper mostly, the Jillawarra Formation (shale-siltstone-dolomite-chert). Overlying the Jillawarra Formation is a prominent marker horizon, the Discovery Chert which consists of a gypsum-mold bearing shale-chert association. Overlying the latter is the Devil Creek Formation (dolomite-shale). Dolerite sills and dykes intrude the Irregully, Jillawarra and Devil creek formations.

The depositional environment is postulated to consist of at least 2 cycles of marine transgression, as shown in Table 2.

Table 2. Regional stratigraphy of the Bangemall project area.

FORMATION	LITHOLOGY	DEPOSITION
Ullawarra Fm	arenite-siltstone-shale	Transgression
Devil Creek Fm	dolomite-shale	Transgression
Discovery Chert (Discovery Fm)	shale-chert-gypsum(evaporite lithofacies)	Regression
Jillawarra Fm	shale-siltstone-dolomite-chert	Regression
Irregully Fm	dolomite-shale	Transgression
Kiangi Creek Fm	arenite-dolomite-shale	Transgression
Mt Augustus Sandstone	quartz-arenite-conglomerate	Transgression
UNCONFORMITY		
Mt James Fm	Migmatized sediments	Basement

More recent in geological time has been the deposition of a large area of quartzitic ironstone at Black Hill. The deposits are flat to southwest shallow dipping and manganiferous in part. Their origin is highly speculative but may be related to recent deposition of mechanically disintegrated quartz-chert horizon material and limonite-goethite material derived either from weathering of pyrite or iron released from weathered or altered iron carbonates or dolerite within a sub-aerial basinal environment.

The tectonic deformational history consists of at least three deformational episodes. Deformation D1 appears to be represented by tight folding about horizontal axes and is associated with a penetrative foliation axial planar to the major local structures. Deformation D2 is represented by minor local drag folding superimposed on the major local fold structures. The youngest Deformation, D3, is represented by moderately tight folding also about horizontal axes probably in response to a horst-like uplift of basement rocks. The deformation has been associated with low grade regional green- schist metamorphism. Strike and cross-faulting is commonly associated with quartz vein intrusion. The dolerite sill in the south-west of the property has been intruded by quartz-calcite-fuchsite-pyrite-chalcopyrite veins along its fault bounded contact.

5.2 Local Geology

The project geology comprises Mesoproterozoic sedimentary rocks of the Edmund and Mount Augustus Basins. The Edmund Basin stratigraphy in the project area comprises the Kiangi Creek Formation of Package 3 of the Edmund Group and the Discovery, Devil Creek and Ullawarra Formations of Package 4 of the Edmund Group (Figure 2; Sheppard et al., 2008).

The sequence at Bangemall was first described by Maitland (1909) who defined the Bangemall series as being argillaceous slates and shales, dolomitic limestone, and micaceous quartz schist (Discovery Chert) intruded by diabase. Maitland's sequence above the Discovery Chert (defined by Daniels as the Devil Creek Formation) included shales, carbonate and felsic lava, but the last has been unsubstantiated. The dolerites are fresh in some areas but extensively altered near the pyritic quartzose horizons.

The dolerites, tuffaceous schists, sandstones and shales hosting the auriferous horizons which lie beneath the Discovery Formation (formerly referred to as the Discovery Chert) represent the Kiangi Creek Formation defined by Daniels (1966) and Marshall (1968).

The Mount Augustus Sandstone comprises sandstone, pebbly sandstone, conglomerate and minor siltstone considered to be Paleoproterozoic to Mesoproterozoic in age.

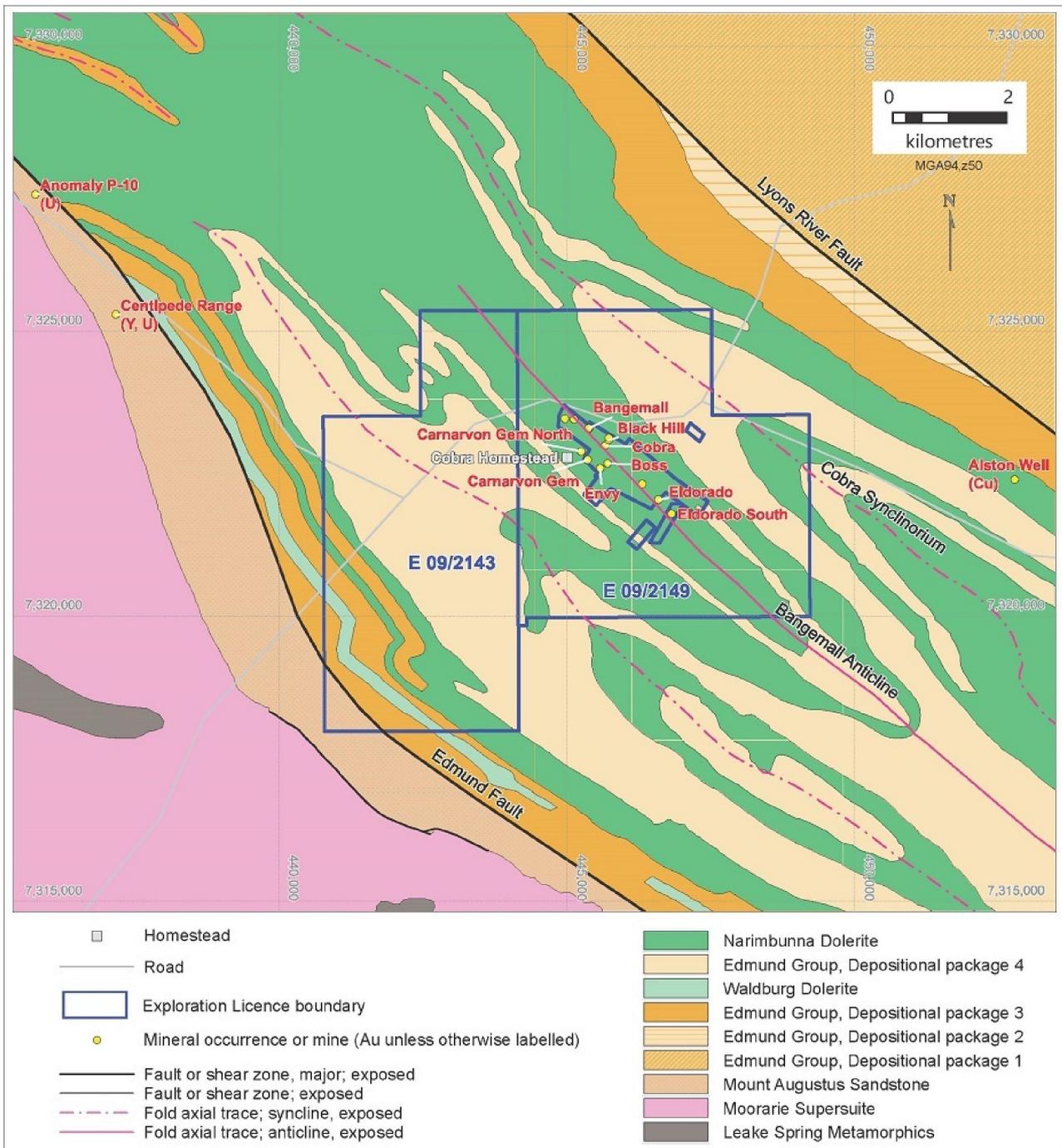


Figure 3. GSWA 1:500 000 interpreted geology of the project area and surrounds.

6. Previous Exploration

Gold was first discovered in 1896 at Bangemall near Cobra Station and was mined intermittently until 1916. Total recorded production from these early days was 356 tonnes yielding 286 oz of gold for an average grade of 25g/t gold. The Mines Department record of the alluvial gold production amounts to some 268oz of gold. However, according to M. Watton (1980) in his publication "Way to the Gold" the actual production of the Prospectors Creek alluvial workings alone was some 10,000oz of gold.

Historic exploration activities in the area have primarily focused on gold and base metals at the Bangemall Mining Centre in tenement E09/2143. Many of these gold workings are currently held by prospector J. Millar by way of Mining Leases and Prospecting Licences. Companies actively exploring the Bangemall Mining Centre and surrounding area including Westfield Minerals NL ("Westfield") in the mid-sixties, Newmont Pty Ltd ("Newmont") in the mid-seventies, and Ivanhoe Gold Ltd, BHP Minerals Pty Ltd and Broken Hill Pty Co Ltd ("BHP"), Indian Ocean Gold NL ("Indian Ocean Gold") and Capricorn Resources Australia NL ("Capricorn") in the early nineties. Mallina Exploration Pty Ltd worked the area during 2013–15. The main exploration programs covering the project area are summarised in Table 3. Most of the work comprised rock-chip sampling and mapping. Limited drilling was undertaken by Newmont and BHP.

Table 3. Previous exploration.

Duration	Company	Commodity	Exploration activities
1966-1967	Westfield Minerals NL	Au	Stream sediment sampling
1973-1975	Newmont Pty Ltd	Au	Channel sampling, RC drilling
1983-1984	Ivanhoe Gold Ltd	Au, base metals	Geological mapping and sampling
1984-1985	BHP Minerals Pty Ltd – Broken Hill Pty Co Ltd	Au	Stream sediment sampling
1986-1988	Indian Ocean Gold NL	Au	Aerial photography, 1:10,000 scale geological mapping, rock-chip sampling
1992-1993	Capricorn Resources Australia NL	Au	Geological reconnaissance, rock chip sampling
2007-2011	Aztec Resources Ltd – ARC Ltd	Au	Rock chip sampling and auger/soil sampling
2011-2013	Eastern Goldfields Exploration Pty Ltd	Au	Geophysical interpretation, target generation, field reconnaissance
2013-2015	Mallina Exploration Pty Ltd	Au, U	Geological reconnaissance, rock chip sampling

Previous work undertaken by Sorrento comprised preliminary data review, target generation and field reconnaissance to assess the gold potential of the project area. Preliminary reviews of gold-mineralisation styles, historical exploration and available geophysical data relevant to the project area were conducted. A geophysical discontinuity interpreted to be a dyke infilling a fault was interpreted as an important structure in terms of controlling mineralisation distribution (Figure 4). Three targets (T2, T4 and T5) were selected for field verification on the basis of geophysical interpretation, and minor screenings and diggings associated with a quartz reef were seen at one of these targets (T5).

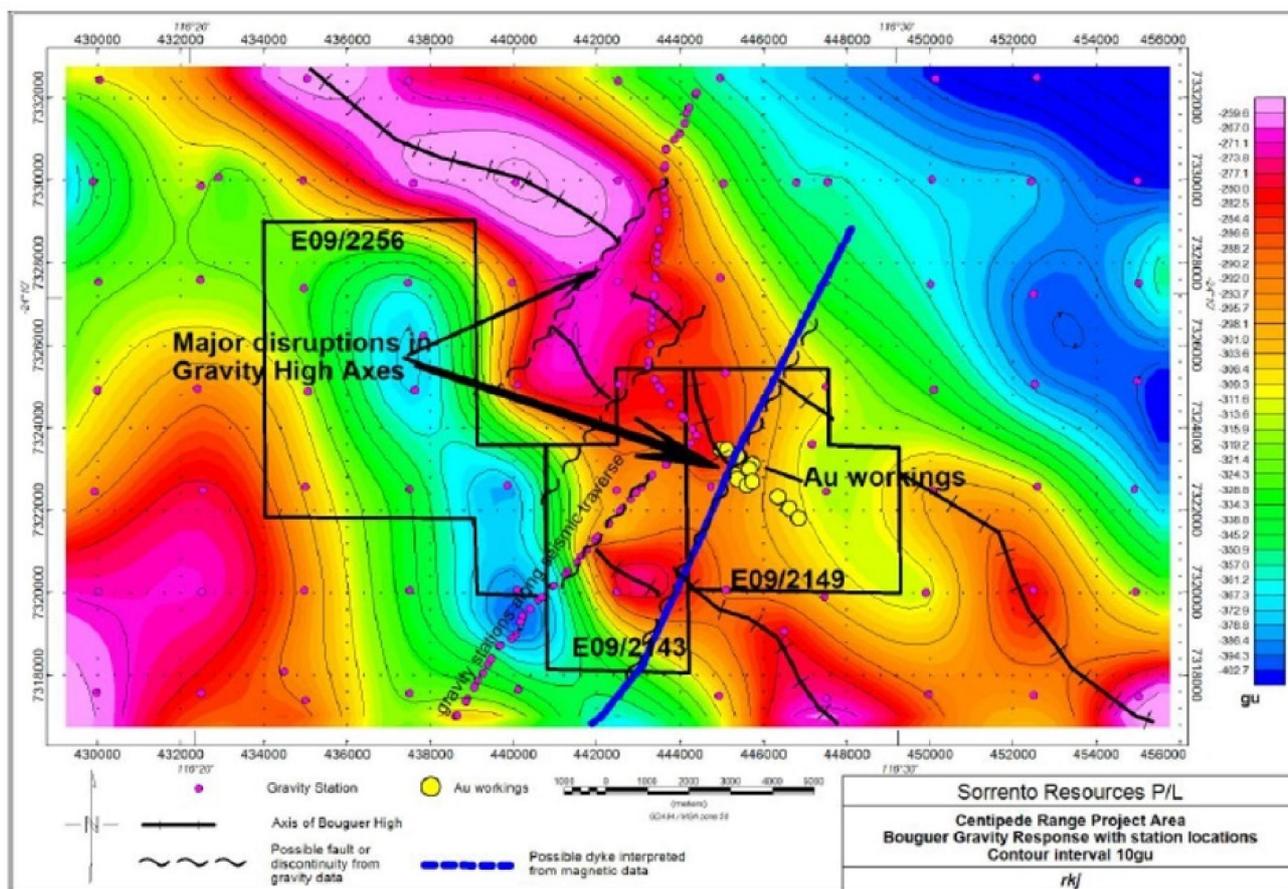


Figure 4. Bouguer gravity, showing location of interpreted dyke and disruptions in gravity 'ridges'.

7. Current Exploration

Exploration for the reporting year comprised collation and review of open-file geochemical data for the entire project area to assess the gold, copper, zinc, rare earth element (REE) and uranium potential of the project area to provide a basis for the planning of future exploration programs.

8. Current Exploration Summary

8.1 Data Review

A search for open-file mineral exploration (WAMEX) reports relevant to the project area revealed some additional reports not covered by previous reviews. All digital data were loaded into MapInfo for review, and sampling and drilling plans were converted to jpg format and georeferenced in MapInfo where possible. Sampling sites have been digitised in vector format if useful geochemical data are available, or if interpretation could be facilitated by viewing the point data rather than overlapping images. These files have not been processed to include columns for geographic coordinates, and assay data were not included if not considered as priority. Sampling localities were generally plotted on useful geological base maps in the original WAMEX reports, so the mapping information is available in raster format.

The collated data show that much of the Bangemall Mining Centre is well explored at surface, but the remainder of the project area remains sparsely sampled or not sampled at all, except for a gold prospect located on the southern boundary of tenement E09/2149 (Figure 5).

The greatest potential for the project is for orogenic gold mineralisation along the axis of the Bangemall Anticline, although the majority of rock-chip samples outside of the Bangemall Mining Centre contained gold levels below detection (generally 0.05 ppm). Five target areas proximal or distal to existing workings have been recommended for further work, in addition to a low-priority target on a parasitic fold to the south. The targets are summarised in Table 4 and their locations shown in Figure 6.

Table 4. Summary of gold targets.

Target	Ranking	Rationale
BMG1	High	Known mineralisation with a shaft, not previously drilled, alluvial deposits along strike, target possible depth and strike extensions
BMG2	High	Adjacent to dyke/structure that terminates mineralised lodes to the north; known mineralisation with shafts, not previously drilled, target possible depth extension
BMG3	Moderate	Known mineralisation with shafts, surrounded by alluvial deposits, not previously drilled, target possible depth and strike extensions
BMG4	Moderate	Possible quartz veins near Bangemall Anticline fold axis, only one rock-chip sample in the area
BMG5	Low	Rock-chip sample in radiometrically anomalous zone assayed 0.20 ppm Au, visited in 2017 (target T2)
BMG6	Very low	This area contains the T5 target visited in 2017. Parasitic anticline in Edmund Group package 3 (not package 2 like the Bangemall Mining Centre), near major fault, no known drilling or sampling

The best copper and zinc results for the project area were obtained from rock chip samples analysed by Mallina Exploration (A106654). Sample COB016 collected approximately 700 m west of the old battery at the Bangemall Mining Centre contained 1780 ppm Cu and sample COB004 collected approximately 1.5 km east of the battery, from what appears to be the Devil Creek Formation, contained 1020 ppm Zn. Newmont drill hole RC13, which 700 m east of the battery, intercepted an interval grading at approximately 1% Mn.

The Ashburton Formation, which underlies the southwest of the project area, contains hydrothermal vein hosted uranium, thorium and yttrium occurrences. No surface sampling or drilling targeting uranium and REEs is known to have been undertaken. Two out of three of the geological maps available for the area show extensive ferruginous duricrust cover, and field verification is required to check this.

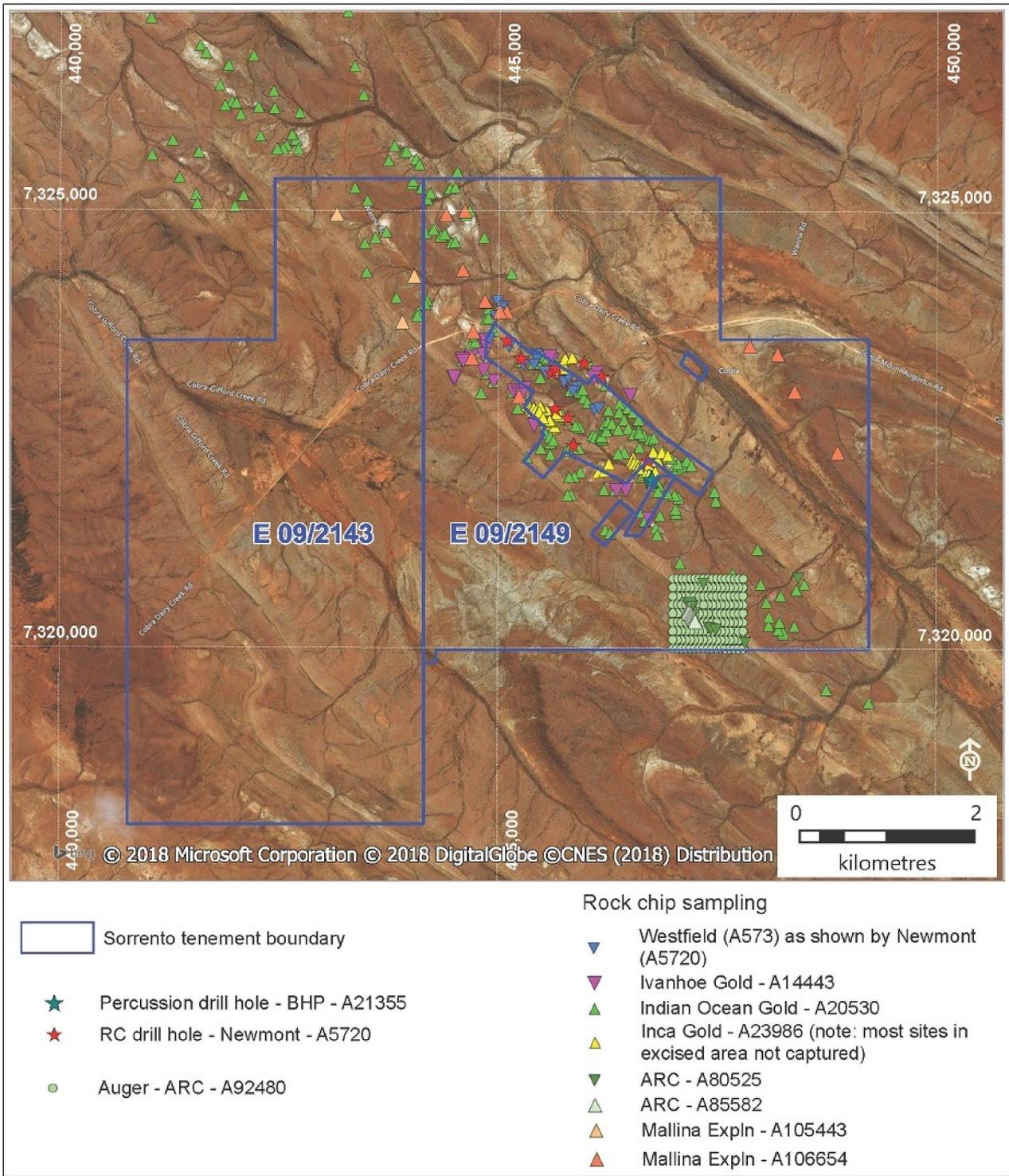


Figure 5. Data compilation index.

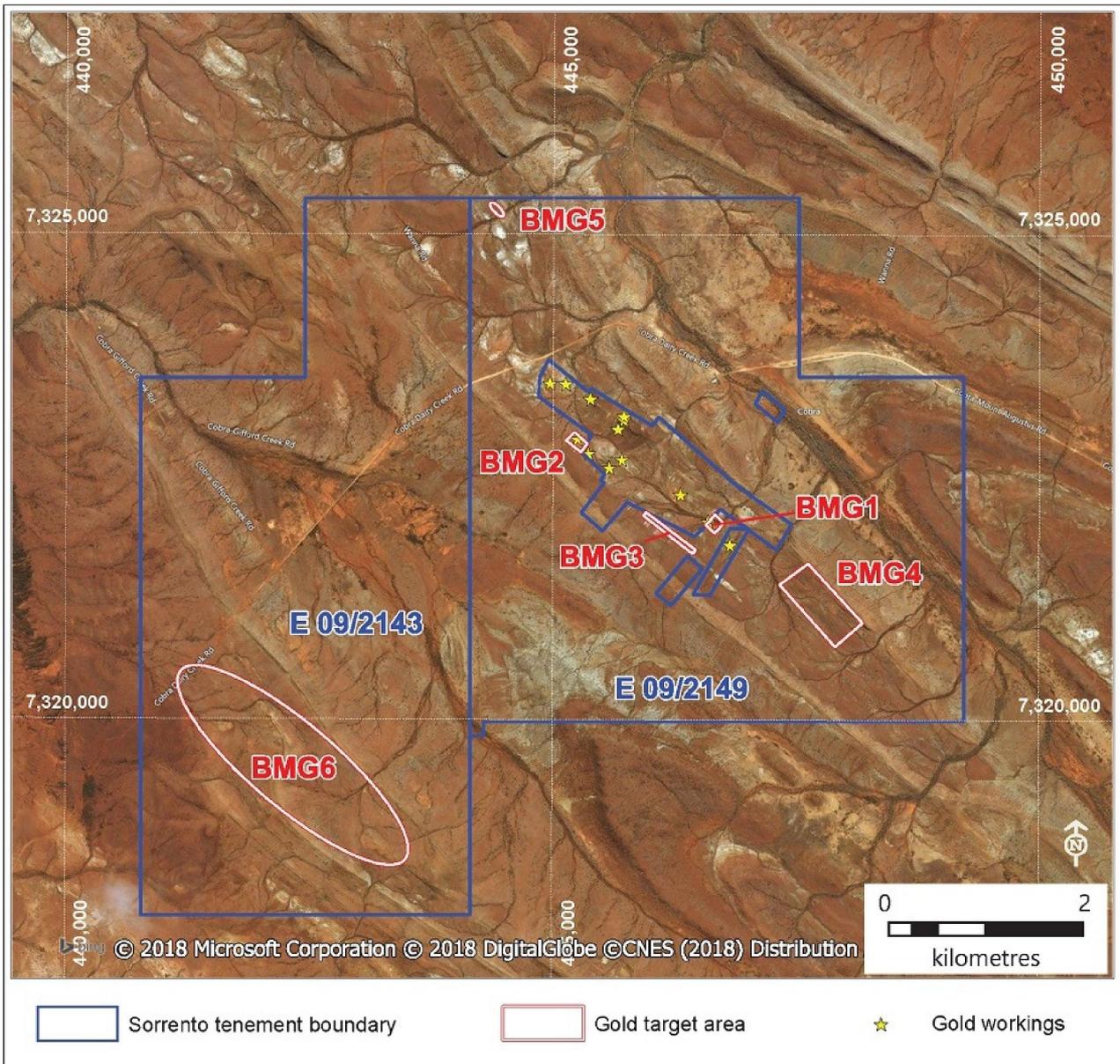


Figure 6. Gold target locations.

9. Conclusion and Recommendations

The greatest potential for the project is for orogenic gold mineralisation along the axis of the Bangemall Anticline. Five target areas proximal or distal to existing workings have been recommended for further work, in addition to a low-priority target on a parasitic fold to the south.

The potential for magmatic-hosted Ti–Fe–V and Ni–Cu–PGE and sediment-hosted Cu–Zn mineralisation is limited and requires a significant outlay of funds to test. Only minor sediment-hosted Cu and Zn anomalism has been identified to date.

While a small part of the project area has the potential to host uranium–REE mineralisation, the prospective area may be capped by ferruginous duricrust, making exploration and excavation of any deposit difficult. Field verification of the surface geology is required in order to assess the likely effectiveness of surface sampling programs.

10. References

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11. Appendices

No Appendices as text are available