3 Kimberley Street, West Leederville, WA 6007
PO BOX 1573 West Perth WA 6872
Telephone 08 9381 7838 Facsimile 08 9381 5375
Email: info@emmersonresources.com.au
Website: www.emmersonresources.com.au
ABN 53 117 086 745

EL 31834

Colombard

RELINQUISHMENT REPORT

LICENSEE:
GIANTS REEF EXPLORATION PTY LTD
ACN: 009 200 346
A wholly owned subsidiary of Emmerson Resources Ltd

AUTHOR: ADAM WALTERS
FEBRUARY 2019

DISTRIBUTION:
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Central Land Council
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MAP SHEETS:

☐	TENNANT CREEK	SE53-14
☐	TENNANT CREEK	5758
☐	KELLY	5658
☐		1:100 000

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FIGURES

1. SUMMARY

This Relinquishment Report records exploration work conducted over the area relinquished from the subject title.

Recent exploration carried out consisted of a regional detailed ground gravity survey, airborne magnetics survey, VRMI modelling and interpretation and predictive modelling.

Results from activities conducted has resulted in the prospectivity being ranked as low to very low, therefore this area of the subject title has been relinquished to allow focus and resources to be allocated to the area remaining, which has been ranked with moderate to high prospectivity.

2. INTRODUCTION

EL 31834 previously covered an area of 250.8km^2, between approximately 5km and 33km north west of the Tennant Creek Township on the Tennant Creek (5758), Short Range (5659), Flynn (5759) and Kelly (5658) 1:100 000 scale map sheets.

The title was acquired by Giants Reef Exploration Pty Ltd (Giants Reef) to search for Tennant Creek style iron oxide copper-gold deposits (IOCG). Giants Reef is a wholly owned subsidiary of Emmerson Resources Ltd (Emmerson).

Figure 1 shows the location of EL 31834 with respect to the Tennant Creek Township.

This Relinquishment Report records exploration work done on the relinquished area of the subject title, refer to figure 4.

3. LOCATION

EL 31834 previously covered an area of 250.8km^2, between approximately 5km and 33km north west of the Tennant Creek Township on the Tennant Creek (5758), Short Range (5659), Flynn (5759) and Kelly (5658) 1:100 000 scale map sheets.

Access to the Licence area is via Warrego Road to approximately 17km from Tennant Creek then east, west, south and north, from the Warrego Road, via a series of unsealed tracks and fence line tracks, which during and immediately after rain generally become inaccessible.

Figure 1 shows the location of EL 31834 with respect to the Tennant Creek Township and Figure 4 shows the areas of relinquishment and retention.

4. TENURE

EL 31834 was granted as a replacement title for an area of EL 30488. EL 30488 was broken up into 2 titles, with a small area remaining as EL 30488 and is due to be transferred from Emmerson to Evolution Mining as part of a restructure to finalise the termination of a Joint Venture over the Tennant Creek Mineral Field (TCMF) and the remaining larger area was renamed EL 31834 and remains with Emmerson.

EL 30488 Exploration Licence 31834 (formerly EL30488) COLOMBARD, was granted to Giants Reef on the 19 September 2014 for a period of six years. This EL amalgamated EL's 28774 & 29846.

The title is located on –

- NT Portion 0408, Perpetual Pastoral Lease 946, Phillip Creek Station;
- NT Portion 0409, Perpetual Pastoral Lease 1142, Tennant Creek Station.

EL 31834 is subject to an Indigenous Land Use Agreement (ILUA) signed in September 2000 between the Native Title holders of the Tennant Creek region, represented by the CLC and Giants Reef.

EL 31834, reduction was from 83 graticular blocks down to 48 graticular blocks;

5. GEOLOGY

5.1 Regional Geology

The reader is referred to AusIMM Monograph 14 (Geology of the Mineral Deposits of Australia and Papua New Guinea), Volume 1, pp. 829-861, to gain a good introduction to the regional geology and styles of gold-copper mineralisation of the area.

In 1995 the Northern Territory Geological Survey released a geological map and explanatory notes for the Tennant Creek and Kelly 1:100,000 sheets, which covers the area of the licenses.

The rocks of the Warramunga Formation host most of the orebodies in the region and underlie most of the Exploration Licenses.

5.2 Local Geology

The majority of the Licence (formerly EL 30488) is underlain by turbidite sediments of the Palaeoproterozoic Warramunga Formation (1865-1855 Ma), predominately greywacke and siltstones. This formation is host to virtually all the magnetite-haematite (ironstone–hosted) gold-copper-bismuth mineralisation and ore bodies in the Tennant Creek goldfield.

Exposure of the Proterozoic bedrock is fair to poor. The Warramunga Formation is intruded in the western and north-western parts of EL 30488 by the Tennant Creek Granite (1855-1840 Ma), and in its southern parts by felsic porphyries.

There are numerous abandoned small mines within the boundaries of the Licences including Premier, Curlew, Ivanhoe, Jubilee, Explorer 80 and Wolseley.

In 1995 the Northern Territory Geological Survey released geological maps and explanatory notes for the Tennant Creek 1:250,000 sheet, and the Tennant Creek (5758) and Kelly (5658) 1:100 000 sheets, which covers the area of the license.

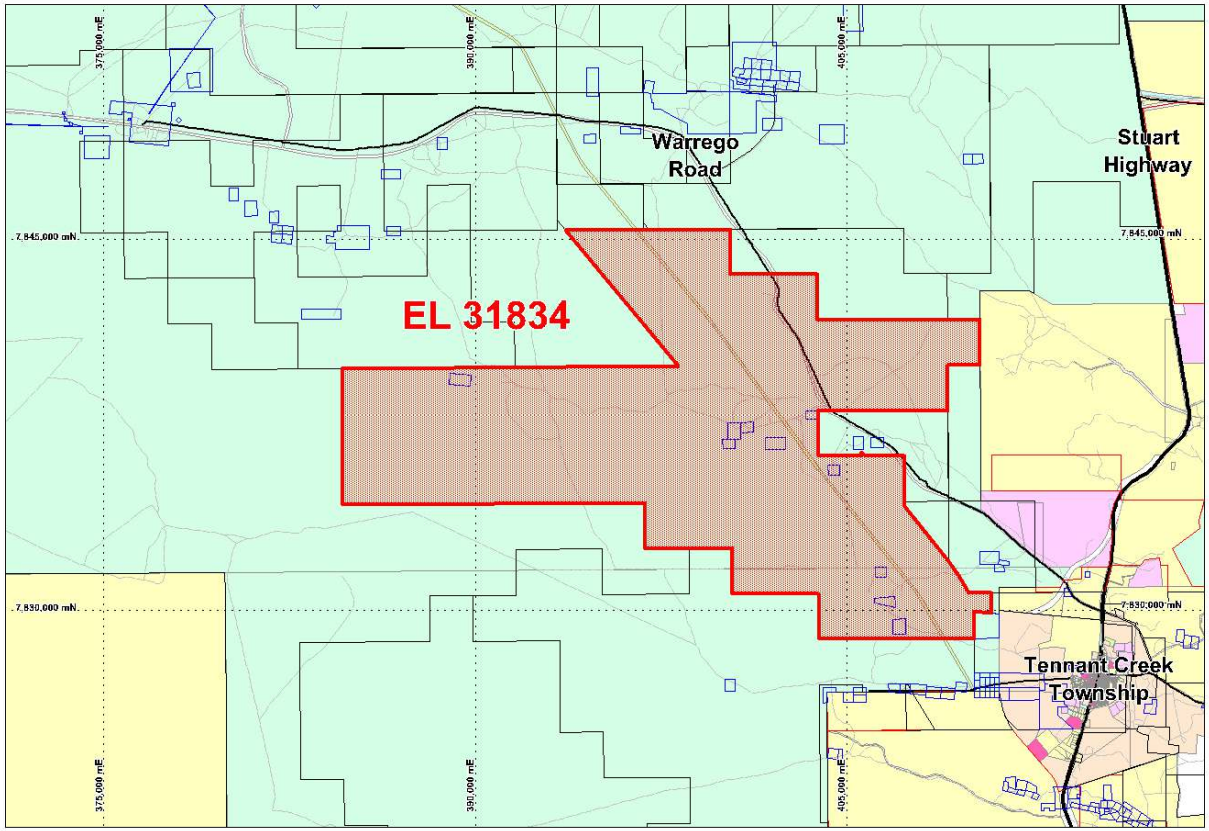

Figure 1: EL31834 Location prior to reduction.

6. EXPLORATION

6.1 Targets and Concepts

Proterozoic Inliers world-wide, and particularly in Australia, are renowned for their iron-rich mineralisation and world class base metal deposits. For many years prominent geologists and researchers in the industry have pointed out the geological similarities that the broader Proterozoic Tennant Creek Inlier shares with the Gawler Craton, host to the Olympic dam deposit, and to the Eastern Succession of the Mt Isa Inlier that hosts the Ernest Henry and Selwyn deposits. These similarities, though recognised, had not been widely acted upon by the industry.

Exploration was aimed at discovering large deposits of base metals along with substantial gold and/or silver, probably accompanied or hosted by large volumes of iron oxide minerals.

Emmerson's target model iron oxide-rich lithologies and are therefore likely to be associated with regional or district-scale gravity anomalies, and potentially coincident with a magnetic anomaly.

The discovery of the haematite-magnetite Chariot deposit in 1998 has shown the potential for variations on the classic magnetite ironstone hosted gold +/- copper deposits, where lower order magnetic anomalies, plus gravity methods can define new targets. Discoveries by Giants Reef of mineralisation such as at Malbec West, Marathon and Billy Boy further support this. Emmerson considers the potential for the discovery of mineralisation in hematite dominant ironstones in the relinquished group is limited.

6.2 Recent Exploration

Exploration conducted by Emmerson over the subject area relinquished consisted of a detailed ground gravity survey, conducted by Fugro Ground Geophysics commenced 27 March 2008. This ground gravity survey was conducted over Emmerson's Tennant Creek tenure package and included the subject title. The survey was conducted by three teams, each team consisted of a quad bike and rider equipped with a station meter. The three teams were supported by a Toyota Landcruiser 4WD Ute. The readings were taken on a 500m station spacing's, on lines 500m apart oriented North – South. Readings in areas requiring more detail were taken on 50 station spacing's on 100m spaced lines oriented North - South. The survey was completed during October 2008.

A Detailed Airborne Magnetic, Radiometric and Digital Terrain Survey was conducted by UTS Geophysics and commenced 26 May 2008. The survey included vast areas of the

Tennant Creek Mineral Field (TCMF), including the subject title. The survey was flown with a FU24 – 954 fixed wing survey aircraft on 75m line spacing's, with 750m tie line spacing's and a sensor height of 25m for a total Line KM of 38,278. Magnetic Data was captured using a Scintrex Cesium Vapour CS-2 total field magnetometer, Fluxgate three component vector magnetometer, RMS Aeromagnetic Automatic Digital Compensator (AADC II) and a Diurnal monitoring Magnetometer (Scintrex Envi8mag). Radiometric Data was captured using an Exploranium GR-820 gamma ray spectrometer and Exploranium gamma ray detectors.

During 2010/11 Emmerson and contract geophysical consultants, Spinifex Geophysics, further developed a processing technology, Vector Residual Magnetic Intensity (VRMI) aimed at existing magnetic data from Emmerson's Tennant Creek tenure package, figures 2 (pre-VRMI) & 3 (VRMI) represent the success of the VRMI technology. Immediate identification of highly prospective VRMI targets reprioritised Emmerson's target matrix during these years, the Red Bluff Area in Emmerson's Western Project Area became the No. 1 priority area for exploration activities. Drilling during 2010 at Red Bluff confirmed the VRMI technology with significant intercepts of thick ironstones, although assay results were mixed, the successful ironstone intercepts were evidence to support the development and use of VRMI technology.

Other exploration work included Emmerson's engagement of Kenex Pty Ltd (Kenex) in 2012/13 to construct a predictive model for the Tennant Creek Mineral Field and included the subject title. This product was completed, but provided no further targeting for the subject title.

Kenex targets are generated from the Kenex Pty Ltd (Kenex) predictive modelling of the Tennant Creek Mineral Field, this product is a statistical predictive tool for predicting the possible prospective sites for Tennant Creek style mineralisation. The model produced many target areas which contain all or some of the essential criteria for possible economic mineralisation in the Tennant Creek Mineral Field. Emmerson is assessing the generated targets and ranking them in order of potential prospectivity. The highly ranked targets are selected for field visits and desktop data compilation and validation. All this data is compiled and some rock chipping may take place during site visits to compile a geological and geophysical assessment of the target which is then ranked for future exploration.

Emmerson provided Kenex with the Tennant Creek Datasets available, from these data sets Kenex generated 15 predictive maps of 15 key parameters, as listed in the table below. Kenex run to models a Weights of Evidence (WOE) model, which used all 15 predictive maps, a Lineal Regression (LR) model which used 12 of the 15 predictive maps and they also generated a 3D model which used 11 of the predictive maps.

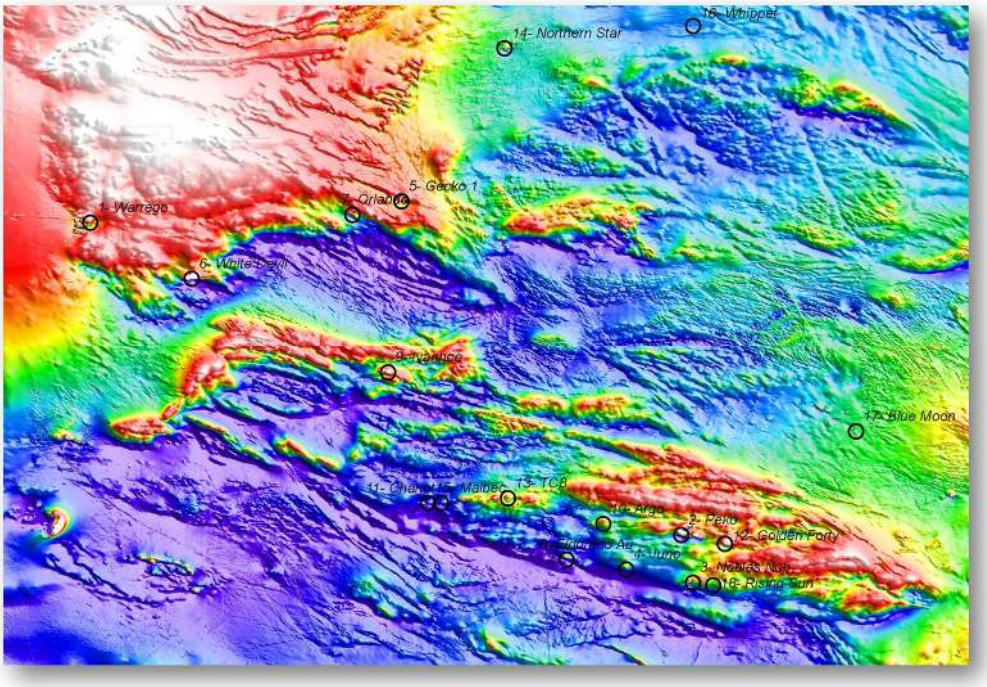

Figure 2: Conventional Magnetics

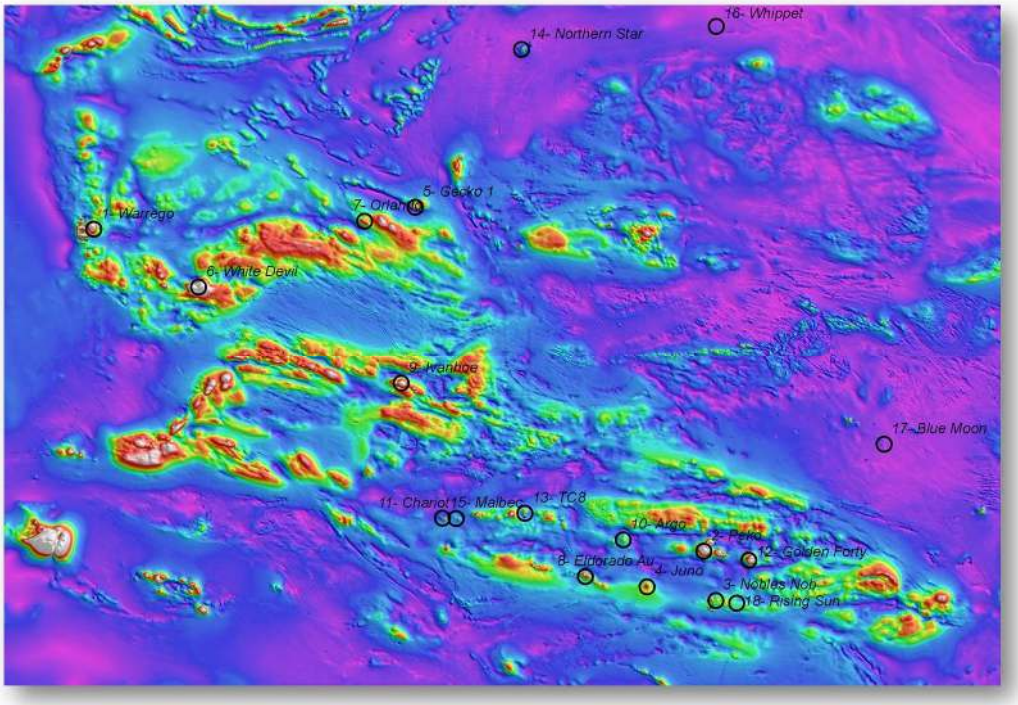

Figure 3: VRMI

A selected area for target generation is gridded into cells and these predictive maps give a numerical weighting for each cell in terms of its adherence to the parameter being assessed. The values for each parameter are combined to give a number of resultant values predicting different statistical relationships. The aim of these resultant values is to generate a target area that has the essential parameters to host Tennant Creek Style Mineralisation. Of all the resultant values Emmerson uses the Post Probability (Pprb) value to identify and rank its targets, in a range of 0 – 1, with 1 being the highest potential value and values above 0.85 to be very significant, although all targets need to be considered in the context of "if the assessed cell has a low value" is it because the relevant data isn't significant or has it not been recorded/captured.

	PARAMETER	Description
1	Warramunga Formation	Spatial relationship of stratigraphy to mineralisation
2	Distance to porphyry	Distance to porphyries that pre-date or are synchronous with mineralisation
3	Distance to mafics (Mafic Lithologies)	Spatial relationship of mafic lithologies older than cover to mineralisation
4	Radiometry - U	Anomalous U relation to mineralisation
5	Distance to D_0-$D_{1\ major}$ faults	Faults of D1 age relation to mineralisation
6	Distance to low order faults (Faults length < 1 km)	Fault length pre to syn mineralisation
7	Distance to F1 Anticlines	Spatial relationship of antiforms pre to syn mineralisation to mineralisation.
8	Distance to F1 Synclines	Spatial relationship of synforms pre to syn mineralisation to mineralisation.
9	Distance to Redox boundaries	Base of oxidation as the boundary between haematite/magnetite.
10	Distance to IOCG Haematite end-member	Relationship of iron alteration to mineralisation
11	Distance to mag and gravity slope highs coincident	Proximity to dense, magnetic highs
12	Distance to ironstones	Ironstones - All
13	Ironstones - high mag/gravity coincident	Ironstones - All - High gravity & mag
14	Distance to anomalous rock/DH geochem	Combined anomalous Au, Cu and Bi buffered ((Au >= 0.1ppm, Bi >= 10ppm, Cu >= 100ppm)
15	Distance to anomalous regolith Au geochem	Soil & Vacuum Au

Table 1: Kenex Predictive Modelling Parameters

7. REHABILITATION

Rehabilitation has not required as no ground disturbing activities were conducted, should any rehabilitation been required it would have been conducted in accordance with the procedures outlined in the appropriate Mining Management Plan (MMP) – Authorisation 0461-02 Western Project Area.

8. CONCLUSIONS

Results from activities conducted has resulted in the prospectivity being ranked as low to very low, therefore this area of the subject title has been relinquished to allow the focus on the area remaining retained area, which has a moderate to high prospectivity.

9. COPYRIGHT STATEMENT

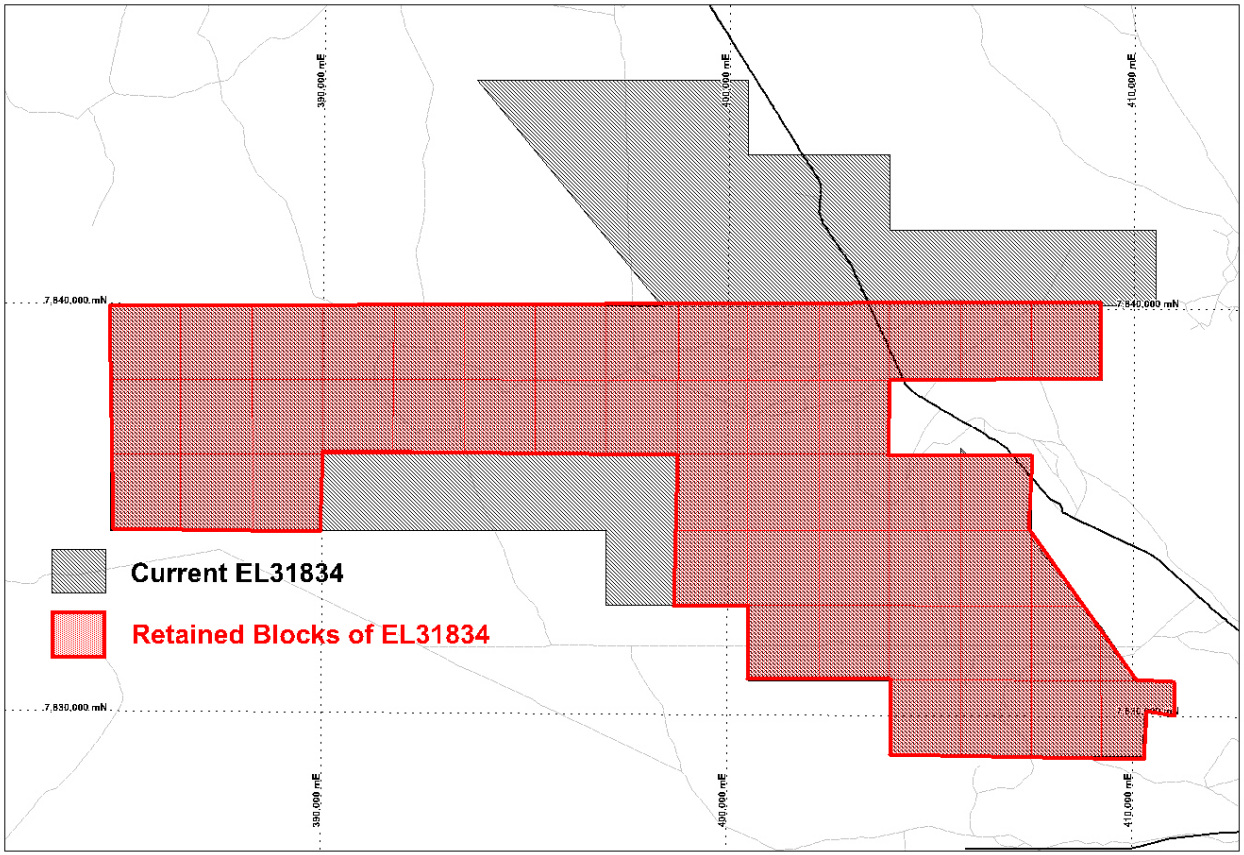

Figure 4: EL 31834 Areas to be retained (Red) and areas to be relinquished (Black)

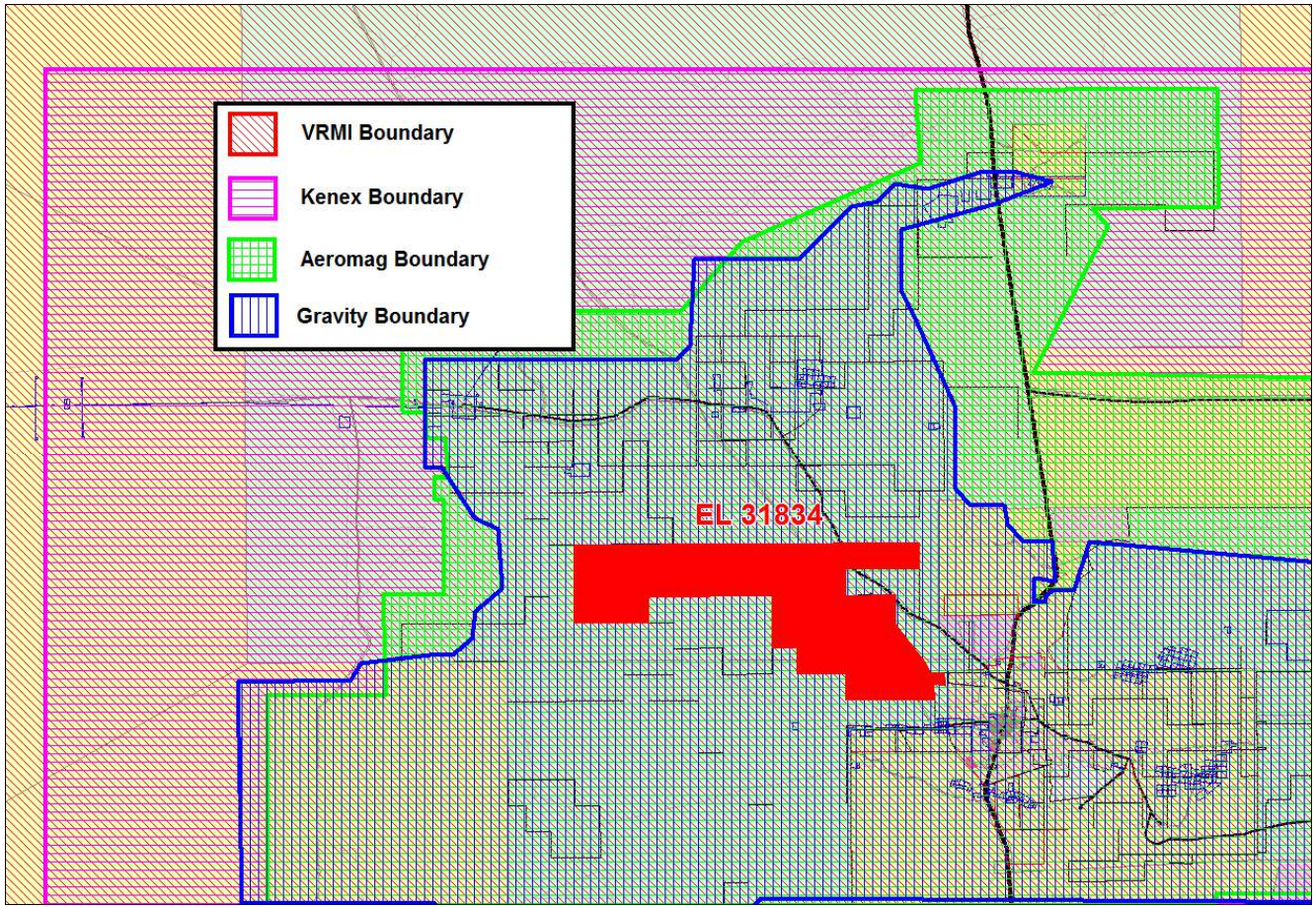

Figure 5: EL 31834 vs. Geophysical Survey Boundaries