



## OM Manganese Ltd

**Title holder (s):** OM (Manganese) Ltd (100%)  
**Operator:** As above  
**Tenement Manager:** Australian Mining & Exploration Title Services (AMETS)

# EL28041 Renner Springs Project

## Annual report for period 9<sup>th</sup> December 2011 to 8<sup>th</sup> December 2012

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## **Abstract**

Exploration activity on EL28041 during Year 2 included completion of one Gradient Array IP survey, RC exploration and resource delineation drilling, resource estimation, access track clearing and maintenance.

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## Electronic file list

<b>File Name</b>	<b>File type</b>	<b>Content</b>
EL28041_2012_A.pdf	pdf	This report
EL28041_201112_02_collars	txt	Drillhole collar data
EL28041_201112_03_assays	txt	Drillhole sample data
EL28041_201112_04_geol_logs	txt	Drillhole geology log data
EL28041_201112_05_DHsurvey	txt	Drillhole downhole survey data
EL28041_201112_06_logging_codes	pdf	Drillhole geology logging codes
Appendix 1 - Renner_North GAIP	gdf, tif	Gradient array IP data and images
Appendix 2 - Optiro Renner West Resource 2011 Final	pdf	Resource report

# 1 Introduction

EL28041 was granted to OM (Manganese) Ltd on 9<sup>th</sup> December 2011 and consists of 34 blocks covering an area of 110.8 square kilometres.

The east boundary of the licence is located 10 km due west of Renner Springs Roadhouse and around 70 km northwest of the Bootu Creek mine site by road (see Figure 1). The EL is located entirely within the Helen Springs pastoral station.

Access is via a station track heading west off Stuart Highway starting a few kilometres south of the Renner Springs road-house or alternatively by following the gas pipeline access track 10 km west from Maryville stockyard and then heading north along the station track to Willieray and Hunter Creek water bores.

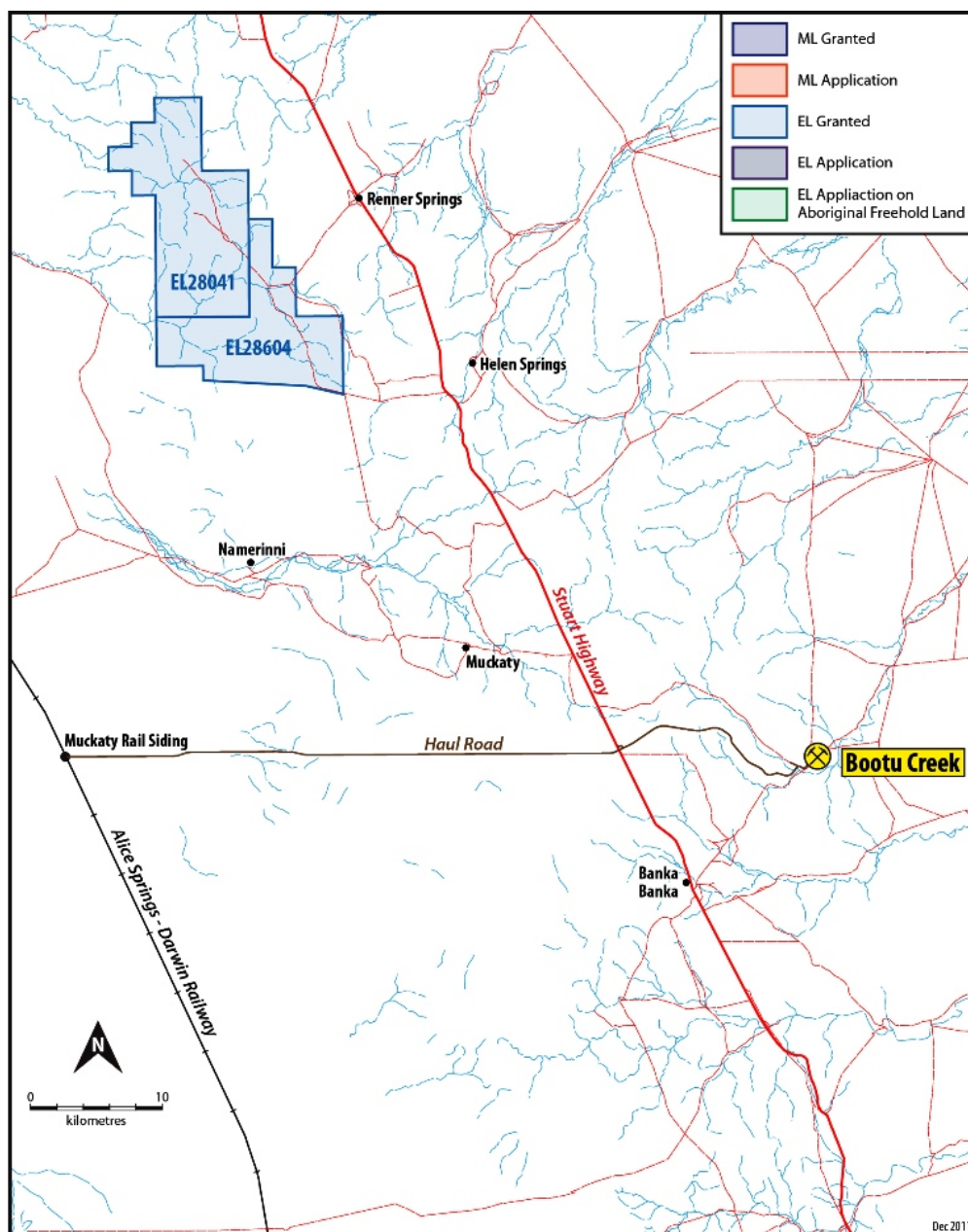


Figure 1. Location plan for EL28041 and access tracks.

## 2 Geology

The Renner Springs project is predominately located within the Namerinni Group in the Ashburton Province of the Tennant Creek Inlier. The favourable manganese bearing horizon is hosted principally by the Shillinglaw Formation.

The most significant manganese outcrops occur in close proximity to the western boundary of EL28041 (see Figure 2). At Renner West (R6 prospect) outcropping manganese horizons strike north-south and dips shallowly to the east. At Renner North (R2 prospect) the manganese outcrop strikes at approximately 315 (sub-parallel to Hunters Creek) and appears to dip shallowly to ENE.

The outcrops described above have a distinct breccia/conglomerate texture with massive manganese replacement of the matrix supporting readily identifiable clasts of country rock. Recent drilling indicates that the outcrop is underlain by several, relatively narrow 1-2m shallow dipping manganese horizons with near surface enrichment.

Scattered flat lying outcrop at Renner Central (R8 prospect) located in the central area of EL28041 rarely exceed a depth of a few metres in RC drilling.

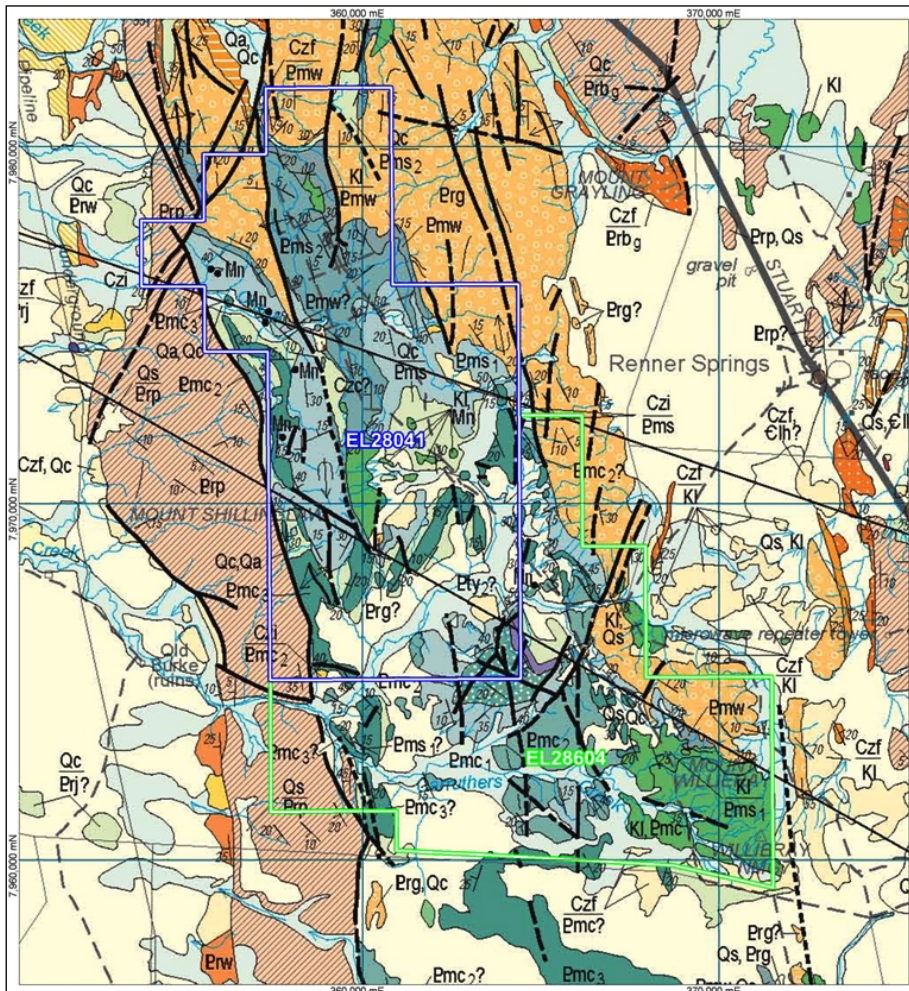


Figure 2. Geology from the NTGS 1:250k Helen Springs sheet, *Hussey et al 2001*.

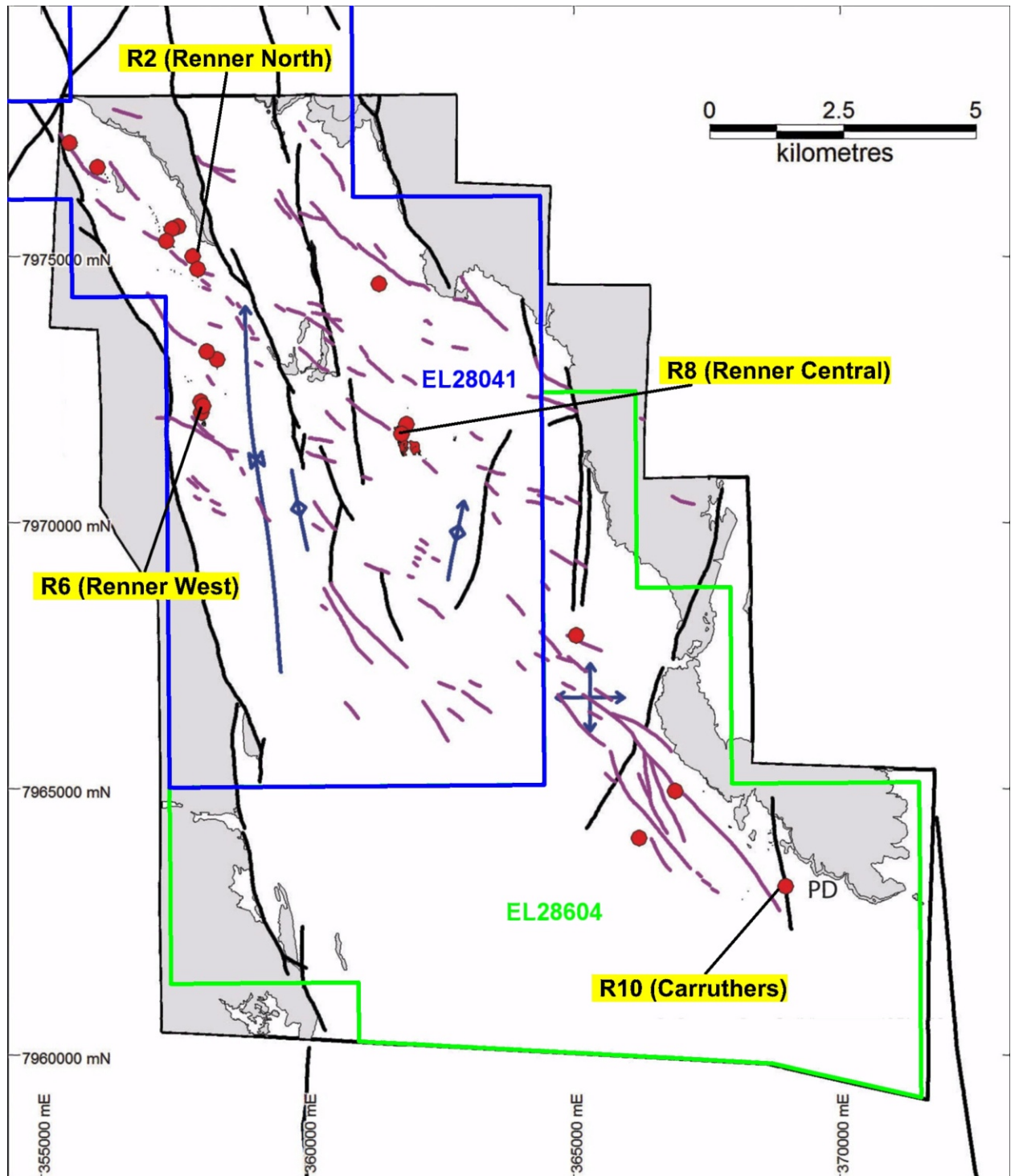


Figure 3. Manganese Prospect Locations

Distribution of Renner Springs manganese occurrences shown as (red) dots, a suite of NW-trending faults as and air photo lineaments as (mauve) lines, Renner Group sediments in (grey) and major faults in (black) and major fold axes in (blue). After 1:20,000 scale mapping by Tim Blake and 1:4,000 scale mapping by Joe Drake-Brockman.

Major Manganese Prospect Locations highlighted in (yellow).

### 3 Exploration Activity

EL28041 exploration activity for 2012 included

- Completion of a heritage clearance survey over the northern third of EL28041
- A Gradient Array IP (GAIP) survey at Renner North prospect
- RC exploration drilling at Renner Central
- RC resource infill drilling at Renner West
- Resource estimation and report for Renner West
- Access track clearing and maintenance

#### 3.1 Gradient Array IP

GPX Surveys contracted to perform a Gradient Array IP (GAIP) ground geophysical survey along the NW-SE trend of the Renner North prospect. The survey was split into two blocks, to avoid disturbance of a sacred site located over historic prospector workings adjacent to Hunter Creek.

Configuration:	Gradient Array
Line Spacing:	100m
Line Direction:	east-west
A space:	25 m
Transmitter:	GDD
Tx current:	variable
Tx frequency:	0.125 Hz
Receiver	GDD 16
Rx readings:	Minimum 2/station
Field Data	GDD format files
Processed Data:	AMIRA format

The Renner North survey was orientated on a local grid with a NW-SE major axis. References to direction in this discussion remain in MGA grid (see Figure 4).

The northwest survey block extended over 18 x 800m lines, spaced at 100m intervals. The southeast survey block extended over 10 x 650m SW-NE survey lines, spaced at 100m intervals.

In the more extensive northwest block, a subdued discontinuous NW-SE striking anomaly can be traced over a strike of 300m (northwest from the southeast margin) and over a strike of 500m (southeast from the northwest margin).

The smaller southeast survey block is more structurally complex with four disconnected chargeability anomalies. The southern anomaly is associated with manganese outcrops and existing drill testing. The other three anomalies will require drill testing to confirm they are associated with manganese mineralisation.



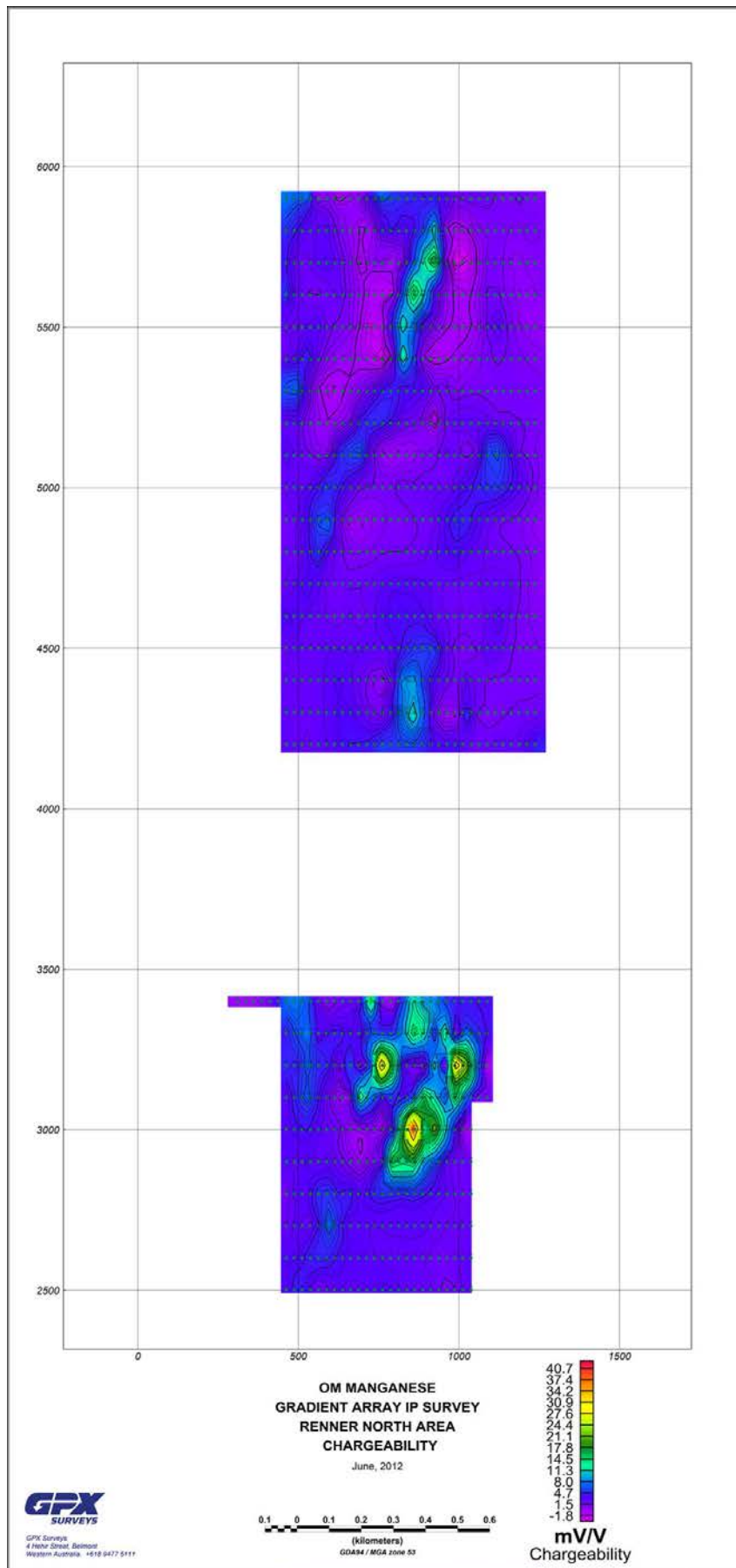


Figure 4. GAIP chargeability image for Renner West prospect

### ***3.2 RC Drilling***

A total of 42 RC holes (1,008m) were drilled on EL28041 during the reporting period.

At the Renner West (R6) deposit 12 RC infill holes (330m) were completed, resulting in minor modification and extension of the 2011 Inferred Resource model. Better intersections included 3m @ 28.9% Mn from surface and 9m @ 22.3% Mn from 1m depth. Drill testing down dip generally failed to extend the existing resource model.

At the Renner Central (R8) prospect 20 RC exploration and infill holes (492m) were drilled over the northern extents of the flat lying near surface manganese occurrence. Several separate mineralised patches remain limited in extent and too widely spaced to constitute of Mineral Resource without further drilling. Best intersection was 2m @ 25% Mn from 4m depth.

At the Renner East prospect a reconnaissance exploration program of 10 RC holes (186m) was completed to test a flat lying manganese outcrop located around 1,000m to the east of the Renner Central prospect.

This drilling intersected shallow flat lying mineralisation, similar in style to that drill tested at the Renner Central prospect. Better intersections included 2m @ 19.6% Mn from 3m and 2m @ 24.1% Mn from surface. Further drilling is required to assess the potential for delineating a Mineral Resource.

Proposed RC drilling at Renner North prospect, to test anomalies outlined in the recent Gradient Array IP ground survey, was postponed until 2013.

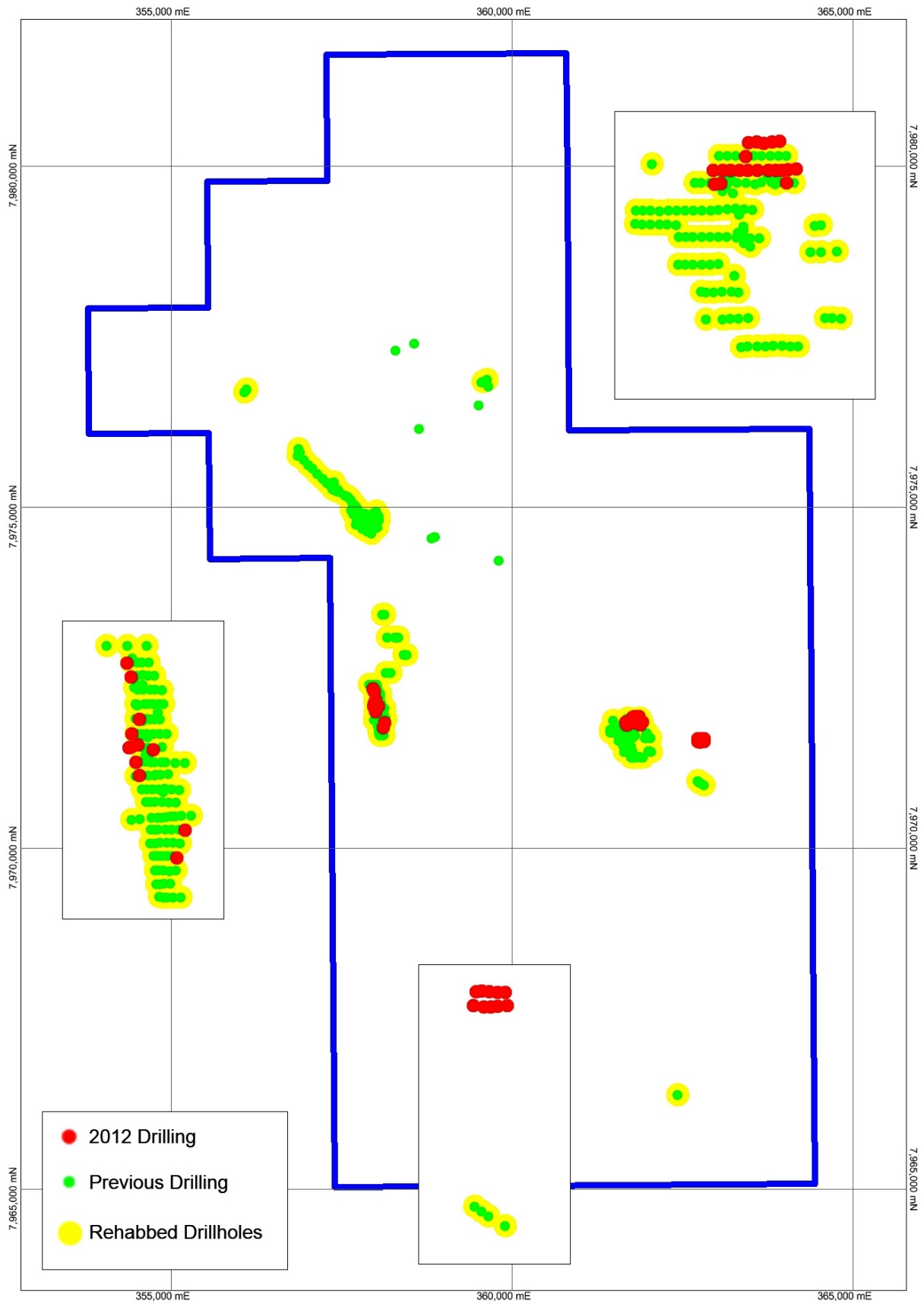


Figure 5. Plan of RC drilling completed in 2012 (red) and earlier drill collars (green)

### 3.3 Renner West Mineral Resource Estimation

#### 31<sup>st</sup> December 2011

RC resource drilling at the Renner West deposit has delineated three shallow east dipping domains extending over a strike length of 550m (see Figure 6).

An initial Inferred Resource of 303,000 tonnes @ 21.9% Mn was estimated by Optiro for inclusion in the Bootu Creek, 31<sup>st</sup> December 2011 Mineral Resource and Ore Reserve. estimated at a nominal cutoff grade of 15% Mn.

Resource	Kt	Mn%	Fe%	SiO2%	Al2O3%	P%	BaO%
Inferred	303	21.86	3.6	44.0	7.5	0.18	1.5

Table 1. Renner West Mineral Resource at 31<sup>st</sup> December 2011 (15% cutoff grade)

The resource model was manually interpreted on cross sections by Craig Reddell (Geology Manager for OMM) and passed to independent resource consultants Optiro Pty Ltd for wire-framing, statistical analysis, data validation and estimation of an Inferred Mineral Resource.

The resource was and classified by Optiro according to the JORC Code (2004) as an Inferred Mineral Resource using drill hole spacing and geological confidence as estimation criteria. The drill spacing 40m (North) by 20m (East) is adequate for future assignment of a higher confidence classification when the geology and metallurgical characteristics of the deposit are better understood.

All grade estimation (Mn, Fe, SiO<sub>2</sub>, Al<sub>2</sub>O<sub>3</sub>, P, BaO) was by ordinary Kriging of one metre down hole composite samples. Density values were calculated from Mn grade using a conservative regression formula provided by OMM. Follow up diamond drilling is recommended for more detailed density analysis and assessment of the metallurgical characteristics for the deposit.

A full description and details of the Renner West Inferred Mineral Resource estimation process are contained in Optiro Report: J1322\_G, Renner West Resource Update 2011 – Final by Principal Author Tony Mazzoleni, and is included as a digital attachment.

#### 31<sup>st</sup> December 2012

An additional 12 RC holes (330m) were drilled in 2012 to increase confidence and test potential extension of the Dec. 2011 model. The infill holes generally confirmed the existing model interpretation, though failed to outline any significant model extension.

Resource	Kt	Mn%	Fe%	SiO2%	Al2O3%	P%	BaO%
Inferred	296	21.94	3.6	43.7	7.5	0.18	1.5

Table 2. Renner West Mineral Resource at 31<sup>st</sup> December 2011 (15% cutoff grade)

The preliminary updated Inferred Mineral Resource for 31<sup>st</sup> December 2012 changes only slightly. The supporting documentation is still in preparation and will be included in the 2013 Annual Report.

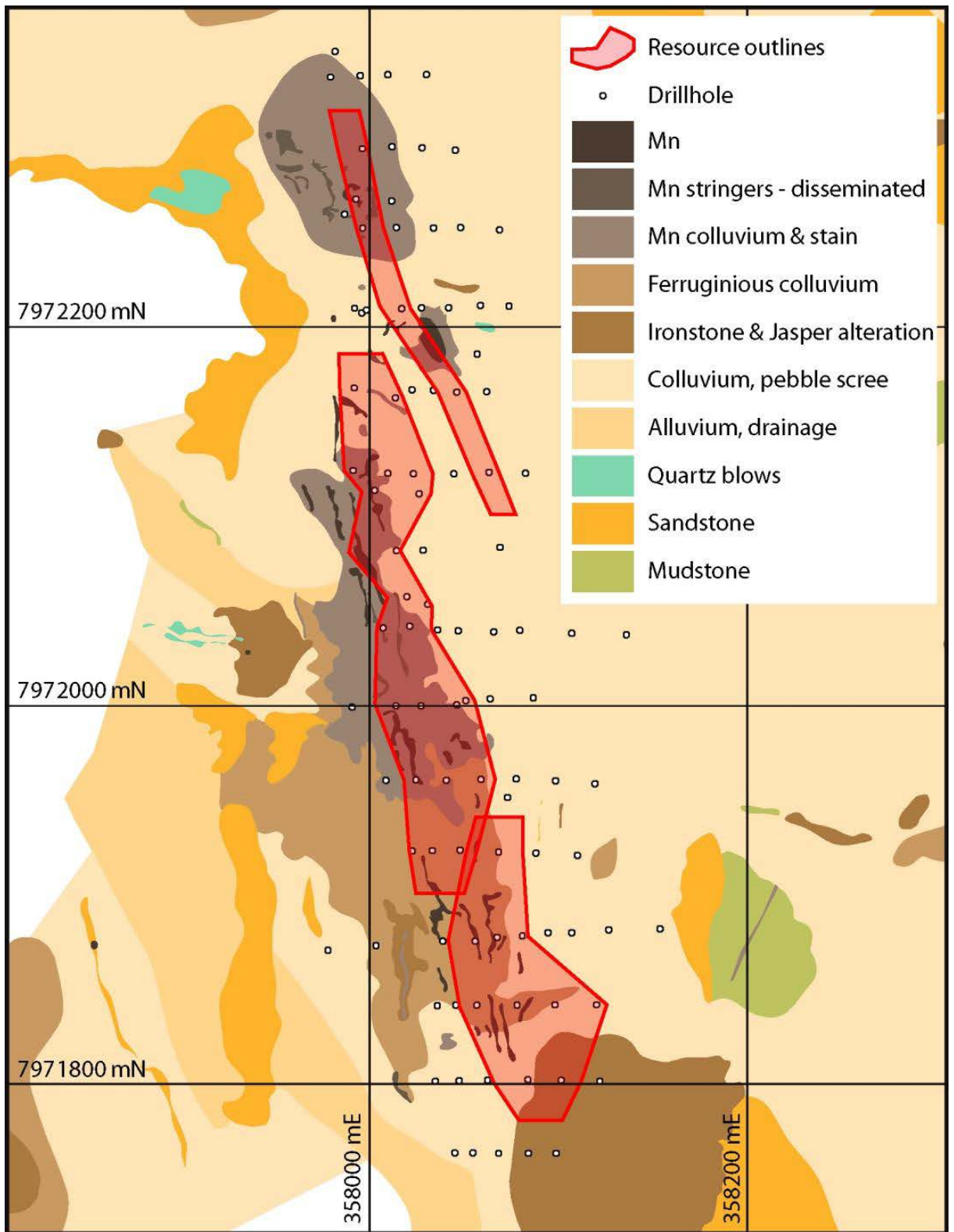


Figure 6. Interpreted Geology of Renner West and Resource Model for 31<sup>st</sup> December 2011.

## 4 Conclusions and Recommendations

Four manganese prospects have been identified on EL 28041, the northern most of two Exploration Licences covering the Renner Springs Project area.

The 2012 Renner North Prospect (R2) work program consisted of a 20.75 line km Gradient Array IP ground geophysical survey covering 2.8 km strike extent. The IP survey highlighted several chargeability anomalies that are recommended for follow up RC drill testing in 2013.

The Renner West Prospect (R6) work program consisted of 12 RC infill holes testing the continuity and potential extension of the 2011 Inferred Mineral Resource model. Drilling substantially confirmed the 2011 geology interpretation and minor extensions. Diamond coring for metallurgical test work will be required before the Mineral Resource can be upgraded to an Indicated Resource status.

The Renner Central Prospect (R8) work program was restricted by budget constraints to 20 shallow RC exploration and infill holes testing the northern extents of this flat lying manganese outcrop. This mineralisation is generally narrow, modest in grade and does not appear to extend at depth. Several separated outcrops remain limited in extent and too widely spaced to constitute a Mineral Resource without further drilling.

The Renner East Prospect consists of a flat lying manganese occurrence located around 1,000 metres east of the Renner Central Prospect. The 2012 program of 10 RC reconnaissance holes confirmed mineralisation similar in character to Renner Central.

The Renner West Inferred Mineral Resource is likely to be too small to mine on its own and further drilling of adjacent manganese prospects is recommended to increase the available tonnage to that required to support a satellite mining operation.

## 5 References

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