19 December 2013
ASX: GRR

GRANGE RESOURCES LIMITED

Australia's most experienced magnetite producer

SIGNIFICANT INCREASE IN MAGNETITE RESOURCE AT LONG PLAINS

HIGHLIGHTS

- **Updated JORC 2012 Mineral Resource includes 107 million tonnes of magnetite iron ore at Long Plains (up from 49 million tonnes)**
- **The deposit is located 6km from the Savage River magnetite mine**
- **25% of tonnage is in the Indicated Resource category, all in North Zone**
- **Mineralisation is very robust and continuous at various cut-off grades**
- **Estimated depth of mineralisation is variable and generally greater than 300 metres**
- **Ore outcrops on a prominent ridge, with very low planned strip ratios**
- **Deposit contains abundant alkaline waste rocks and low amounts of sulphide waste rock**

Commenting on the announcement Grange Resources Managing Director, Wayne Bould said:

"This significant resource upgrade at Long Plains caps the next phase of a successful drilling program at an exploration target in close proximity to the Savage River magnetite mine".

"These results provide Grange with the confidence to continue its exploration and pre-feasibility studies at Long Plains to determine if there is an opportunity for this magnetite resource to be integrated into the life of mine plans for the Savage River magnetite mine".

Grange Resources Pty Ltd (**ASX: GRR**) (**"Grange"** or the **"Company")** is pleased to advise that the revised Mineral Resource Estimate for the Long Plains Magnetite Iron Ore Deposit has significantly increased since the previous estimate dated August 2012. This has been the result of a continued drilling and estimation program.

The resource consists of 107 million tonnes at 35% DTR (above a cut-off of 15% DTR) as detailed in the following table:

Table 1 - Long Plains Mineral Resource Estimate (above a cut-off of 15% DTR)

	Measured Resources	**Indicated Resources**	**Inferred Resources**	**TOTAL Resources**
Tonnes (Mt)	0.0	25.4	82.1	**107.5**
DTR (%)	0.0	33.9	35.6	**35.2**
Fe (%)	0.0	68.9	69.4	**69.2**
Ni (%)	0.00	0.05	0.03	**0.03**
TiO_2 (%)	0.00	0.63	0.55	**0.57**
MgO (%)	0.00	0.91	0.93	**0.92**
P (%)	0.000	0.004	0.007	**0.006**
V (%)	0.00	0.33	0.36	**0.35**
S (%)	0.00	0.05	0.07	**0.07**

The Mineral Resource has been estimated by Optiro in conjunction with the Company's geology staff, and reported in accordance with the guidelines of the JORC Code (2012 edition). 24% of the Long Plains resource, all located in North Zone, has been classified as an Indicated Resource – this category is able to be used as a basis for undertaking a pre-feasibility study and calculating a Probable Ore Reserve.

This resource estimate includes the entire three kilometre strike length of the Long Plains deposit (Figure 2), comprised of the North Zone, Central Zone and South Zone.

GEOLOGY & TENURE

The overall geological setting is a series of elongate, discontinuous magnetite lenses that extend over a three kilometre strike length (Figure 2). The deposit has been separated into three distinct zones termed the Northern, Central and Southern Zones, on the basis of total magnetic intensity ground geophysical surveys. The deposit outcrops as a haematite cap at surface and occupies a prominent ridge, with steep slopes and weathered host rocks flanking the outcropping ore.

Figure 1 - Long Plains Location

The magnetite lenses are oriented sub-vertical to strongly east dipping and are hosted in ultramafic and mafic schists that have formed within and near the eastern margin of the Proterozoic Arthur Metamorphic Complex in north-western Tasmania. The entire package has been metamorphosed to lower greenschist facies.

Detailed geological studies, surface geological mapping and surface geophysics have enabled the development of a robust geological model that supports the construction of detailed 3D geological domains used to constrain the resource estimate.

Long Plains is believed to be an immature analogue of the Savage River ore bodies that Grange and its predecessors have been mining for over 40 years. Long Plains is situated approximately 6 km south of Savage River on Exploration Lease EL30/2003.

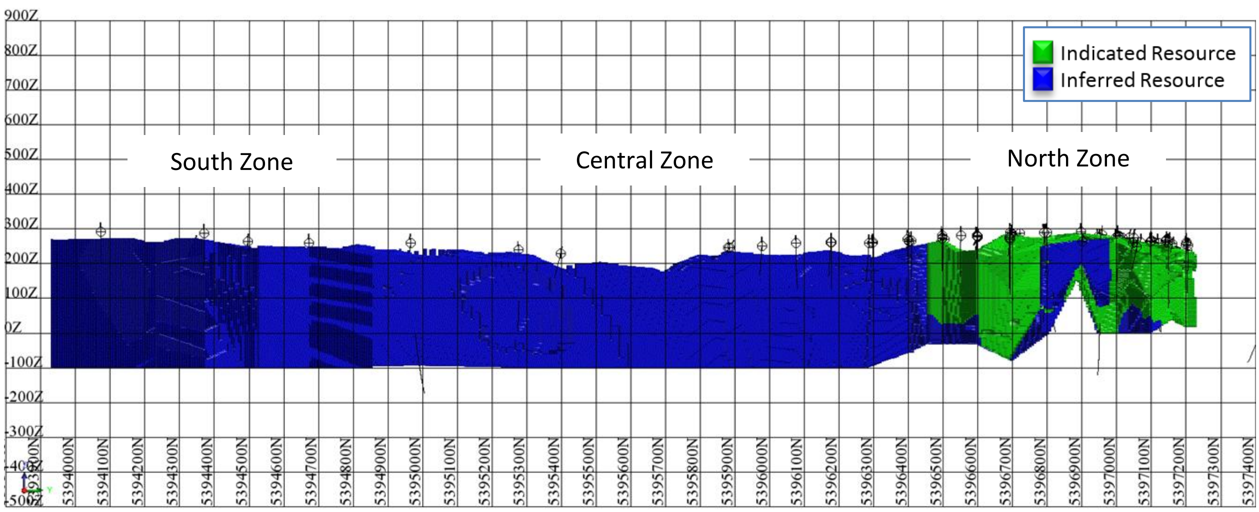

Figure 2 - Long Plains long section, looking west (GDA94 coordinate system)

EXPLORATION, DRILLING, SAMPLING AND ANALYSIS

The Mineral Resource area has dimensions of 3,000m (north) by 100m (east) and 400m (elevation). Drilling of the deposit was predominantly by diamond drill holes (67%), mostly HQ3 diameter core (41 holes for 8,874 metres). The remainder were reverse circulation (RC) holes (25 holes for 4,463 metres) employing a 140mm face sampling hammer (Table 2).

Table 2 - Long Plains Drilling History

Type	Up to 2010	2011-12	2012-13	TOTAL
Diamond*	2,972	2,976	2,926	**8,874**
Reverse Circulation	918	2,053	1,492	**4,463**
Costeans	1,640	-	-	**1,640**
Number of Holes	21	24	17	**62**

* Includes diamond tails on Reverse Circulation holes

The nominal drill hole spacing for:

- North zone (NZ) is 100m between sections and 50-75m on section.
- Central zone (CZ) is 100m between sections with a single hole per section.
- South zone (SZ) is 300m between sections with a single hole per section.

Core recoveries were generally high in the ore zones at Savage River (>90%) and there were no significant core recovery issues. Drill collars were surveyed using a combination of conventional surveying (total station) and/or high resolution real time kinematic GPS. Older drilling used a single-shot Eastman at 50m spacing downhole (accurate to 0.5°). Hole azimuths were assumed to be straight (compass data is not useable due to the magnetic nature of the mineralisation). For modern drilling, holes were surveyed using the Devi Flex downhole survey tool, with stations every 3m downhole. A few of the earliest holes have collars that are now destroyed or are under roads, so these cannot be re-surveyed. The original survey data in the database is deemed valid. These holes have been excluded from the resource (assay database), but where intercepts were aligned with adjacent drilling, they were used to inform the geology domain wireframes.

All samples used in the resource estimation were taken from diamond drill core of either HQ or NQ size. RC pre-collars were used for a limited selection of recent drill holes but this pre-collaring did not usually extend into the ore zones.

The diamond drill holes were half core sampled as standard practice and rarely full core sampled in the very few older holes. The sampled length was generally between 0.75m to 1.25m within lithological units to preserve volume variance and to provide sample weights of 3kg. Reverse circulation drilling was used to give uniform 1 m samples by cone or riffle splitter, resulting in a 3kg sample. Field quality control procedures included insertion of prepared sample standards at a rate of 1:25 and limited field duplicate samples on the RC holes.

Sample preparation techniques were industry standard for magnetite ores and used the sub-sampling protocol as recommended by the Savage River Laboratory. Sample preparation was conducted at an external NATA-accredited laboratory for both core and RC chips. The subsampling process for RC was identical to that of the core except for the coarse crush stage. For drill core, the core was first analysed for bulk density by immersion in water. All mineralised core samples have had a density determination completed. The half core samples were oven dried at 110 degrees for 12 hours, then coarse crushed to minus 2mm in a Boyd crusher then split to ~3kg, crushed again to 90% passing 1.7mm and split again with a 150g sub-sample taken for pulverising to 98% passing 75 microns.

A pulp sub-sample was collected and shipped for analysis at Savage River's mine laboratory by Davis Tube Recovery (DTR).

The primary assay technique is DTR on a 10 g sample, followed by Ferrous Iron (Fe2+) via Satmagan and S, total Fe, TiO_2, MgO, V, P, S and Ni via XRF on the Davis Tube Concentrate (DTC). All techniques are considered total. DTR is the most appropriate assay technique for the determination of magnetite recovery. All DTR assays were completed on the mine site using the Savage River DTR technique. This technique has been used for over 40 years and is supported by pit reconciliations.

GEOLOGICAL INTERPRETATION AND RESOURCE ESTIMATION

Geological controls and relationships were used to define estimation domains with mostly hard boundaries, based on sharp mineralisation contacts and sulphide content. A nominal grade cut-off of 15% DTR is a natural grade boundary between magnetite lenses and disseminated wallrocks. This cut-off was used to help define the mineralised envelope within which the higher grade sub domains were interpreted. 3D wireframes were used to code the drilling intersects and select samples within each domain.

Samples were composited on one metre lengths within the resource wireframes and adjusted where necessary to ensure that no residual sample lengths were excluded (best fit). Statistical analysis showed that populations in each domain had low coefficients of variation (CV) for all elements except sulphur and phosphorus. Only these two required top-cutting in order to achieve a reasonably low CV. Directional variograms were developed for each element, and subsequently used with ordinary kriging to estimate the DTR and grades in all domains. Due to the strong correlation of the DTR x density attribute with other elements, the search ellipse per domain was based on the variography ranges of DTR x density.

The block model was constructed using a 25 mY x 10 mX x 10 mZ parent block cell with sub-celling to 6.25 mY by 1.25 mX by 2.5 mZ for domain volume resolution. Ordinary Kriging was completed at the parent cell scale, using 45 discretisation points (5Y by 3X by 3Z) per parent block to determine the block grade. Kriging neighbourhood analysis (KNA) was carried out in order to optimise the block size, search distances and sample numbers used. It was also a factor guiding the resource classification decisions, resulting in some of the North Zone being classified as an Indicated resource.

The mineralised domains have demonstrated sufficient geological and grade continuity to support the definition of a Mineral Resource, and classifications were applied under the guidelines of the JORC Code (2012 Edition).

In North Zone, the nominal drill hole spacing of 100 m between sections and 50-7 5m on section, as well as the continuity defined by the ranges of variograms and the strong geological continuity, was considered to provide adequate geological and grade continuity definition to classify it as an Indicated Resource.

For the remainder of North Zone, all of Central Zone and South Zone, geological evidence was sufficient to imply but not verify both geological and grade continuity, and these zones were classified as an Inferred Resource. The geological and grade continuity can reasonably be inferred and are limited to widths and depths that have reasonable prospects of economic extraction (ie: they are more likely than not to prove up to indicated or measured resource with more drilling).

The validation of the block model shows good correlation of the input data to the estimated grades.

A range of lower cut-offs was used to report grades and tonnages, as shown in Figure 3.

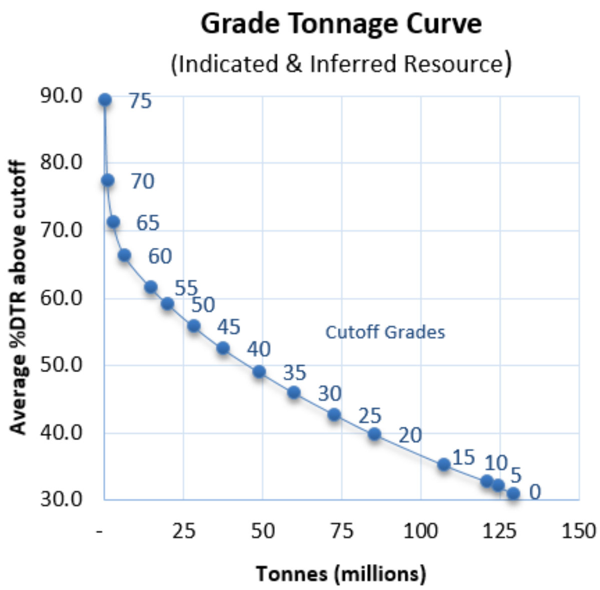

Figure 3 - Grade Tonnage Curve, Long Plains

75% of the resource has been classified as Inferred (Figure 4). Within the Inferred Resource wireframe models have been extrapolated by up to 150 metres beyond the last drill hole section to the south, which is slightly less than the maximum variogram range of 165 metres for the estimated element Density*DTR. Wireframes have been extended up to 200m downdip in order to fill the model to a constant base elevation of -100mRL. 30% of the Inferred Resource volume has been extrapolated beyond drill holes (Figure 4).

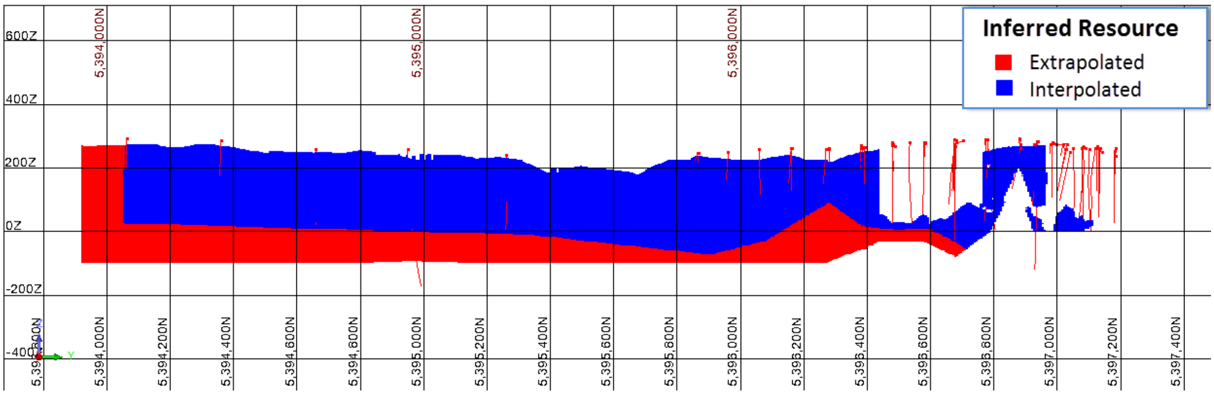

Figure 4 – Extrapolated and Interpolated Inferred Resource, Long Plains

The maximum distance that the Inferred Resource has been extrapolated beyond the sample points is 387m, in order to fill the wireframes completely.

JORC TABLE 1 LONG PLAINS

SECTION 1 SAMPLING TECHNIQUES AND DATA

Criteria	JORC Code explanation	Commentary
Sampling techniques	• *Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.* • *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* • *Aspects of the determination of mineralisation that are Material to the Public Report.* • *In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.*	• The deposit was sampled using diamond drilling (DD) and Reverse Circulation (RC) drilling. Drilling was conducted on approximately 100m spaced sections orientated perpendicular to the overall orebody strike. [See data spacing p.4] On section spacing (down-dip) varies but is commonly 50-70m. The mineralisation is sub-vertical and the holes are typically inclined at -60°. All samples are assayed for DTR, Fe^{2+}, Total Fe, Ni, TiO_2, MgO, P, V, S, CaO, SiO_2 and Al_2O_3. CaO, SiO_2 and Al_2O_3 are not presently estimated. • The drill hole locations were picked up and down-hole surveys completed. Diamond core was used to obtain the best possible sample quality for lithology, structural, grade and density information. • Drilling of Diamond core was a combination of HQ and NQ sizes, some triple tube. Samples were controlled based on geological contacts and generally no more than 2m in length. Sample selection was nominally >=0.75m and <=1.25m. All core samples were half cored. Core was split by diamond sawing. Samples were dried, crushed, split and pulverised to nominally 98% passing 75µm for Davis Tube Recovery (DTR) determination.
Drilling techniques	• *Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast,*	• Samples used in the resource estimation were taken from diamond drill core of either HQ or NQ size or RC samples. (recent programs)

Criteria	JORC Code explanation	Commentary
	auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).	(see table below)

Samples	Diamond	RC
2011-12	1430	1944
2012-13	1078	584
Total 5036	50%	50%

Criteria	JORC Code explanation	Commentary
Drill sample recovery	• *Method of recording and assessing core and chip sample recoveries and results assessed.* • *Measures taken to maximise sample recovery and ensure representative nature of the samples.* • *Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.*	• Core recoveries were recorded in the geotechnical logs. Core recoveries are generally high in the ore zones at Savage River (>90%) and there were no significant core recovery issues. • Drilling penetration rates were controlled in order to maximise recovery in ore zones. • No relationship between sample recovery and grade is known at Savage River.
Logging	• *Whether core and chip samples have been geologically and geo-technically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.* • *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.* • *The total length and percentage of the relevant intersections logged.*	• Core samples have been logged for lithology, mineralogy, alteration and mineralisation. Geotechnical logging including domain and structural defects logging including orientations were undertaken. Older core 2007 and earlier was not geo-technically logged and the oldest core was drilled EX size (25mm diameter). • Logging was a combination of qualitative and quantitative. Core was photographed wet and dry. No photos available for the oldest core (five holes in total). • All core and RC chips were fully logged.
Sub-sampling techniques and sample preparation	• *If core, whether cut or sawn and whether quarter, half or all core taken.* • *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.* • *For all sample types, the nature, quality and*	• Core was half core sampled as standard practice and rarely full core sampled in the very few older holes. Core was cut using a diamond impregnated saw blade on site at the Savage River core farm. The ore is relatively massive and the preferred orientation for core sawing is just left of the orientation line. • RC chips were riffle split when dry and a 3kg sample was taken for each single metre drilled.

Criteria	JORC Code explanation	Commentary
	appropriateness of the sample preparation technique. • *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.* • *Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.* • *Whether sample sizes are appropriate to the grain size of the material being sampled.*	When RC sample was damp, samples were speared uniformly. • When RC sample in ore was wet, RC holes were stopped and completed later with diamond tails. • Sample preparation techniques were industry standard for magnetite ores and used the sub-sampling protocol as recommended by the Savage river laboratory. Sample prep on recent drill core was completed at a commercial lab [NATA accredited]. The half core samples were oven dried at 110 degrees for 12 hours, then coarse crushed to minus 2mm on a Boyds crusher then split to ~3kg, crushed again to 90% passing 1.7mm and split again with a 150g sub-sample taken for pulverising to 98% passing 75 microns. • Limited numbers of duplicate samples were taken for intervals of HG, MG and LG within the RC drilling suite. • Field QC procedures for RC and diamond samples involve the insertion of assay standards at a rate of 1 in 25. • Standards were derived from 2005 MLEP drilling campaign in North Pit Savage River and umpire assayed by Ammtec labs. • No field duplicates or second-half sampling has been undertaken on sampled core. • Duplicates in RC as described above. • The sample sizes are considered to be appropriate based on the style of mineralisation, the thickness and consistency of the intersections and assay range for the primary analysis (% recoverable magnetite concentrate).
Quality of assay data and laboratory tests	• *The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.* • *For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied*	• The primary assay technique is Davis Tube Recovery (DTR) on a 10g sample, followed by Ferrous Iron (Fe^{2+}) via Satmagan and S, total Fe, TiO_2, MgO, V, P, S and Ni via XRF on the Davis Tube Concentrate (DTC). All techniques are considered total. DTR is the most appropriate assay technique for determination of magnetite recovery. All DTR samples completed on site using Savage River technique. This technique has been use for 40 years at SR and our pit reconciliations are consistent. • For Long Plains, five of the oldest drill holes were assayed with an acid digestion-total iron [Total %Fe (HCL)] technique when drilled in 1959.

Criteria	JORC Code explanation	Commentary
	and their derivation, etc. • *Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.*	These Total % Fe values were converted to an equivalent/theoretical DTR value in the database that supports the current resource estimate. In 2013 these holes were re-logged and re-sampled and new DTR analyses have been run for these older samples. We have removed these holes from the assay database so as to exclude them from the 2013 resource estimate. These intervals are denoted as 2 in the lp_resource2013 field in Table 3 attached. • Magnetic susceptibility instruments were used for initial geological logging to help the geologist classify the logged interval as ore grade or waste. Ore samples had sample prep, DTR and XRF determinations done and these were used to estimate the resource. No mag sus values were used in the resource estimate. • Field assay standards were inserted at a rate of 1 in 25 in drilled core and RC through ore zones. DTR determinations were performed in duplicate. No external laboratory checks have been performed and no check assaying has been undertaken. Data analysis has been performed and the data demonstrates sufficient accuracy and precision for use in Mineral Resource estimation.
Verification of sampling and assaying	• *The verification of significant intersections by either independent or alternative company personnel.* • *The use of twinned holes.* • *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.* • *Discuss any adjustment to assay data.*	• Significant intersections were verified by alternative company personnel. • No twinned holes have been drilled at Long Plains. • Primary data was captured directly to standard template Microsoft Excel log sheets using tough book laptops with standard logging codes and data entry control. The data was verified by the geologist and then loaded into the central (project-wide) database. • No adjustments were made to assay data.
Location of data points	• *Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.* • *Specification of the grid system used.* • *Quality and adequacy of*	• All significant surface features including drill collars were surveyed by Grange staff surveyors using a combination of conventional surveying (total station) and/or high resolution RTK GPS. In each case, the features were located to within 100mm in X, Y and Z. For downhole surveys, older drilling used single-shot Eastman dips at 50m spacing downhole (accurate to 0.5°). Hole azimuths were assumed to be straight (compass data is not useable due to the magnetic nature of

Criteria	JORC Code explanation	Commentary
	topographic control.	the mineralisation). For modern drilling, holes were surveyed using the DeviFlex downhole survey tool. This has a stated accuracy of +/- 0.01° per station in azimuth and +/- 0.1° in dip, with stations every 3m downhole. • A few of the earliest holes have collars that are now destroyed or are under roads, so these collars cannot be re-surveyed. The original survey data in the database was deemed valid. These holes have been excluded from the resource (assay database), but where intercepts were aligned with adjacent drilling, these intercepts were used to inform the wireframe. • The GDA94 grid system was used. • The topographic surface in the vicinity of the deposit has been surveyed by Grange staff surveyors using a combination of conventional surveying (total station) and/or high resolution RTK GPS. In each case, the data points were located to within 100mm in X, Y and Z and the point spacing was approximately 5m in X and Y. For areas further away from the deposit, LIDAR data was used (some variation in Z coordinate values were resolved by editing the surface to match the collar Z coordinate value).
Data spacing and distribution	• *Data spacing for reporting of Exploration Results.* • *Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.* • *Whether sample compositing has been applied.*	• The nominal drill hole spacing for NZ is 100m between sections and 50-75m on section. • The nominal drill hole spacing for CZ is 100m between sections (single hole per section). • The nominal drill hole spacing for SZ is 300m between sections (single hole per section). • Most of the LP deposit has been classified as an Inferred Resource. Most of the NZ has been classified as an Indicated Resource. • Data spacing and distribution were analysed using semi-variograms. The general quality of the experimental variograms was good. The ranges of the variograms were used to provide guidance for resource classification. • Samples were composited to 1m lengths prior to geostatistical analysis and Mineral Resource estimation. • The majority of drill holes were oriented to achieve intersection angles as close to perpendicular to the mineralisation as is practicable.

Criteria	JORC Code explanation	Commentary
Orientation of data in relation to geological structure	• *Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.* • *If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.*	• No significant sampling bias occurs in the data due to the orientation of drilling with regards to mineralised structures/bodies.
Sample security	• *The measures taken to ensure sample security.*	• All samples were logged and bagged on site by Grange staff. Assay determinations were performed by Grange staff. Core is palletised and stored onsite.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• A sample preparation audit was conducted for the external provider. No audits or reviews have been undertaken on SR lab recently.

SECTION 2 REPORTING OF EXPLORATION RESULTS

Criteria	JORC Code explanation	Commentary

Mineral tenement and land tenure status	• *Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.*
	• *The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.*
		• Exploration Lease # EL30/2003 of 38 sq km.
		• Holder is Grange Resources (Tasmania) Pty Ltd. Held for:
		  • Category 1 - Metallic Minerals, Atomic Substances
		  • Category 5 - Industrial Minerals, Semi/Precious and Stone
		• Exploration lease is renewable annually on anniversary date of 18 June. Current environmental bond held is $50,000. There are no impediments to renewing the lease.

Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• Some earlier exploration on the lease area including regional and lease scale mapping and geophysical surveys on adjacent leases have been compiled into a surface geological compilation. This was used to create the geological model that was used to constrain the resource estimate. • Rio Tinto Australia Exploration drilled hole rtae1 in 1959 and IMI drilled 5 holes between 1964-1966. These were AX or BQ sized holes, whole core assayed and were located by manually scaling from old paper plans in 2000 by Australian Bulk Minerals staff. • Some of these older hole collars have been surveyed, while 4 others have been destroyed or cannot be found (see comments in “Location of data points”).
Geology	• *Deposit type, geological setting and style of mineralisation.*	• The Long Plains Magnetite deposit is a metamorphosed magnetite deposit of sedimentary origin. It is described as an immature analogue of the much larger Savage River Magnetite deposit that lies 10km to the north [along strike] within and near the eastern margin of the Proterozoic Arthur metamorphic Complex in north-western Tasmania. This complex is exposed along a northeast–southwest

Criteria	JORC Code explanation	Commentary
		trending structural corridor, the Arthur Lineament, which separates Proterozoic sedimentary rocks to the northwest from a variety of Palaeozoic rocks to the southeast (Turner 1990). These Palaeozoic rocks include some major mafic and ultramafic intrusive complexes which lie just to the east of Savage River. The magnetite orebodies are enclosed within a highly sheared and strike faulted belt of mafic and ultramafic schists and mylonite. This belt is 0.5km wide, strikes North-north-east to south-south-west, and is enclosed in a thick sequence of quartz-white mica schist (Whyte schist). Magnetite ore at Long Plains is almost entirely confined within ultramafic rocks, specifically serpentinite and chlorite-carbonate schist.
Drill hole Information	• *A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:* ○ *easting and northing of the drill hole collar* ○ *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar* ○ *dip and azimuth of the hole* ○ *down hole length and interception depth* ○ *hole length.* • *If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.*	• See : Table 3 Drill hole Data table

Criteria	JORC Code explanation	Commentary
Data aggregation methods	• *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.* • *Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.* • *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	• Davis Tube Recovery ("DTR") analyses were conducted on core and RC chips that had first had an estimated grade determined by magnetic susceptibility (mag-sus). If the mag-sus indicated an estimated grade greater than 15% DTR, the analytical DTR technique was used for assay. • Sampling protocol insists on samples between 0.75 and 1.25m in length within unique lithologies. • Shorter intervals were sampled, where discreet lithologies exist. • All samples within wireframes were composited to a nominal 1m length, with an allowance of 25% (0.75m to 1.25m) in order to minimise the amount of residual samples. The compositing routine aggregates samples less than the composite length to the nominal 1m composite length. • No metal equivalence values were used. • Most drilling was oriented normal to strike and was drilled from the hanging-wall to maximise the intersection angle of the core to the orebody. • Mineralisation contacts are very clear and the orientation of the orebody relative to the drill intersects was considered during wire-framing.
Relationship between mineralisation widths and intercept lengths	• *These relationships are particularly important in the reporting of Exploration Results.* • *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.* • *If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').*	• The geometry of the mineralisation with respect to the drill hole angle was measured on oriented core with the alpha angle (dip) and the beta angle (dip direction) when available core orientations were available. • True widths were calculated from wireframes
Diagrams	• *Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being*	• Plans and sections are included. These include a plan view of drill hole collar locations (Figure 4) and appropriate sectional views (Figures 5, 6, and 7).

Criteria	JORC Code explanation	Commentary
	reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.	
Balanced reporting	• *Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.*	• All exploration results within the mineralised wireframes are presented in Table 3.
Other substantive exploration data	• *Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.*	• Drill targeting known magnetic anomalies has identified the maximum probable extent of economic mineralisation. Future drilling will focus on proving up the higher grade portions of the inferred resource in central and south zones and defining measured resources within North zone. • Preliminary Waste rock classification has been completed on 159 acid based accounting samples taken from drilled core and demonstrates that the waste rocks are alkaline and that there is little waste that is potentially acid forming outside the mineralisation. • Hydro-Geology studies have been completed to provide baseline data for hydro-geological modelling. • Environmental baseline data has been collected on flora, fauna including EPBC listed values.
Further work	• *The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).* • *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*	• Additional drilling is required to support a prefeasibility study. • A five year program of environmental and mine permitting activities is underway aiming at completing a successful Long Plains Development Proposal and Environmental Management Plan (LP-DPEMP).

SECTION 3 ESTIMATION AND REPORTING OF MINERAL RESOURCES

Criteria	JORC Code explanation	Commentary
Database integrity	• *Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.* • *Data validation procedures used.*	• The Long Plains resource data is stored in an MS Access database and is managed using MS Access and Excel software. • Data was logged onto field sheets which were then entered into the data system by geology staff. • Data was validated on entry into the spreadsheets, and on upload to the MS Access databases, by a variety of means including the enforcement of coding standards, constraints and triggers. These are features built into the data model that ensure data meets essential standards of validity and consistency. • Laboratory data has been received in digital format and uploaded directly to the database. • Original data sheets and files have been retained and are used to validate the contents of the database against the original logging. • Optiro performed a visual validation by reviewing drill holes on section and by subjecting drill hole data to data auditing processes in Surpac (e.g. checks for sample overlaps etc.). • A data audit was undertaken by Optiro which identified an issue relating to some standards. This was identified as a procedural error and the raw analytical data was verified as accurate.
Site visits	• *Comment on any site visits undertaken by the Competent Person and the outcome of those visits.* • *If no site visits have been undertaken indicate why this is the case.*	• The CP is a member of Grange and has visited the site on numerous occasions, to review data collection, sampling and geology. • Grange staff whom are major contributors to this report have been on site throughout the exploration work and have either done much of the work themselves or have directly supervised the work. • Optiro staff have visited the site for the development of the maiden resource model for Long Plains.
Geological interpretation	• *Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.*	• The Long Plains Magnetite deposit is a metamorphosed magnetite deposit of sedimentary origin. It is described as an immature analogue of the much larger Savage River Magnetite deposit that lies 10km to the

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	• *Nature of the data used and of any assumptions made.* • *The effect, if any, of alternative interpretations on Mineral Resource estimation.* • *The use of geology in guiding and controlling Mineral Resource estimation.* • *The factors affecting continuity both of grade and geology.*	north [along strike]. • Similar to the Savage River geology, the magnetite orebodies are enclosed within a highly sheared and strike faulted belt of mafic and ultramafic schists with significant magnesite on the western side of the ore. • Interpretations were given as triangulated 3D solids, which were extrapolated by no more than half the section spacing at the edge of drilling. • Geological interpretations were undertaken by Grange staff. • The main factor relating to the continuity of both grade and geology is drillhole spacing. The Inferred Resource Classification has been applied where drilling is >50m along section and there are fewer than three drillholes.
Dimensions	• *The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.*	• In plan orientation, the deposit is approximately 3,400 metres long and 25 to 150 metres wide. • Mineralisation has vertical extents ranging between -100 and 290 mRL.
Estimation and modeling techniques	• *The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.* • *The availability of check estimates, previous estimates and/or mine production records and*	• Drillhole compositing and resource estimation was undertaken by Optiro. • Drill hole sample data was flagged as ore within the wireframes. • Sample data was composited to a 1.0 metre downhole length using a best fit-compositing method. Residual samples (those composite intervals for which there was less than 75% of the composite length) were considered biased and hence were not included in the estimate • An Analysis of the grade distribution characteristics of the domain composites for all elements was undertaken. Only the sulphur and phosphorus had unacceptably high CVs, noticeable high grade inflection points on log-probability graphs and/or significant gaps on disintegration plots. The following top cuts were used:

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	whether the Mineral Resource estimate takes appropriate account of such data. • *The assumptions made regarding recovery of by-products.* • *Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).* • *In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.* • *Any assumptions behind modelling of selective mining units.* • *Any assumptions about correlation between variables.* • *Description of how the geological interpretation was used to control the resource estimates.* • *Discussion of basis for using or not using grade cutting or capping.* • *The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.*	<table><tr><th>Element</th><th>Topcut</th><th>Number of Samples Affected</th></tr><tr><td>Sulphur</td><td>0.3</td><td>24</td></tr><tr><td>Phosphorus</td><td>0.05</td><td>12</td></tr></table> • Directional variograms were modelled using traditional variograms or a normal score transformation. Only domains 31 and 32 had sufficient samples to support variography. In general the grade continuity was acceptable to good within domains 31 and 32. All other domains were estimated using variogram parameters from domain 31. • A block model was constructed for each deposit using a 10mE by 25mN by 10mRL parent block size with sub-celling to 1.25mE by 6.25mN by 2.5mRL. • Estimation was carried out using ordinary kriging (OK) at the parent block scale. Three estimation passes were used for both the high grade and the low grade domains. In general, the first pass used the range of the variograms and a large number of samples; the second pass used the same range, but with a lower number of samples; the third pass used a larger range (up to twice the variogram range) and as few as two samples.

<table>
<tr><th>Criteria</th><th>JORC Code explanation</th><th>Commentary</th></tr>
<tr><td></td><td></td><td>
The following parameters were used:
<table>
<tr><th rowspan="2">Domains</th><th rowspan="2">Element</th><th colspan="3">Search Distance</th></tr>
<tr><th>Pass 1</th><th>Pass 2</th><th>Pass 3</th></tr>
<tr><td rowspan="10">21 to 31 and 33</td><td>density</td><td>75</td><td>75</td><td>500</td></tr>
<tr><td>DTR*density</td><td>165</td><td>165</td><td>500</td></tr>
<tr><td>Fe2</td><td>150</td><td>150</td><td>500</td></tr>
<tr><td>iron</td><td>300</td><td>300</td><td>500</td></tr>
<tr><td>MgO</td><td>183</td><td>183</td><td>500</td></tr>
<tr><td>Ni</td><td>225</td><td>225</td><td>500</td></tr>
<tr><td>P</td><td>157.5</td><td>157.5</td><td>500</td></tr>
<tr><td>S</td><td>180</td><td>180</td><td>500</td></tr>
<tr><td>TiO2</td><td>255</td><td>255</td><td>500</td></tr>
<tr><td>V</td><td>157.5</td><td>157.5</td><td>500</td></tr>
<tr><td rowspan="10">32</td><td>density</td><td>45</td><td>45</td><td>500</td></tr>
<tr><td>DTR*density</td><td>240</td><td>240</td><td>500</td></tr>
<tr><td>Fe2</td><td>225</td><td>225</td><td>500</td></tr>
<tr><td>iron</td><td>112.5</td><td>112.5</td><td>500</td></tr>
<tr><td>MgO</td><td>150</td><td>150</td><td>500</td></tr>
<tr><td>Ni</td><td>352.5</td><td>352.5</td><td>500</td></tr>
<tr><td>P</td><td>90</td><td>90</td><td>500</td></tr>
<tr><td>S</td><td>225</td><td>225</td><td>500</td></tr>
<tr><td>TiO2</td><td>210</td><td>210</td><td>500</td></tr>
<tr><td>V</td><td>187.5</td><td>187.5</td><td>500</td></tr>
</table>
All elements / All domains:
<table>
<tr><th rowspan="2">Pass</th><th colspan="2">Number of Samples</th></tr>
<tr><th>Min</th><th>Max</th></tr>
<tr><td>1</td><td>10</td><td>32</td></tr>
<tr><td>2</td><td>2</td><td>32</td></tr>
<tr><td>3</td><td>2</td><td>32</td></tr>
</table>
Summary declustered statistics for each domain were derived using an optimised cell declustering algorithm. These declustered statistics were used to validate the grade estimation process.
</td></tr>
<tr><td>Moisture</td><td>Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.</td><td>Tonnes have been estimated on a dry basis.</td></tr>
</table>

Criteria	JORC Code explanation	Commentary
Cut-off parameters	• *The basis of the adopted cut-off grade(s) or quality parameters applied.*	• Indicated and Inferred Resources have been reported above a 15% DTR cut-off grade.
Mining factors or assumptions	• *Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.*	• No mining factors (i.e. dilution, ore loss, recoverable resources at selective mining block size) have been applied.
Metallurgical factors or assumptions	• *The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical*	• DTR has been incorporated into the model as a measure of metallurgical recovery in the magnetic separation process. This is based on the performance of DTR at the Savage River mine, where it has been employed as a good measure of delineating ore and waste and in modelling the anticipated recoveries through the magnetic separation process.

Criteria	JORC Code explanation	Commentary
	assumptions made.	
Environmental factors or assumptions	• *Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a green fields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.*	• Modelling of Sulphur grades will allow material to be flagged as potentially acid generating and be incorporated into the waste rock management plan when the mineral resource estimate is being considered for economic extraction. • The waste model uses acid base accounting (ABA) data on selected samples to effectively domain the various waste types. 159 ABA samples have been collected thus far for Long Plains.
Bulk density	• *Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.* • *The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture*	• Prior to drill core sample crushing, the core was first analysed for bulk density by immersion in water. The procedure used by SGS Australia includes spraying the sample with hairspray prior to immersion to seal small voids. All mineralised samples had a density determination completed.

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	and differences between rock and alteration zones within the deposit. • *Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.*	
Classification	• *The basis for the classification of the Mineral Resources into varying confidence categories.* • *Whether appropriate account has been taken of all relevant factors (ie relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).* • *Whether the result appropriately reflects the Competent Person's view of the deposit.*	• Mineral Resources have been classified on the basis of confidence in geological and grade continuity using the drilling density, geological model, modelled grade continuity and conditional bias measures (kriging efficiency). • Indicated Mineral Resources have been defined generally in areas of 50 by 50 m drill spacing. • Inferred Mineral Resources have been defined in areas of 100x100 metre up to 600x100 metre drill spacing.
Audits or reviews	• *The results of any audits or reviews of Mineral Resource estimates.*	• The resource estimate was visually reviewed on section by Optiro and Grange staff. • The estimated grades were validated against declustered average grades for each element. In addition, profile plots of estimated grade for northing, easting, and elevation were validated against composite grades for domains 31 and 32, as well as for the entire deposit.
Discussion of relative accuracy/ confidence	• *Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the*	• Optiro place a relative accuracy of +/- 20% (and 90% confidence level) in the Mineral Resource estimate at the global level for the Indicated Resources based on the estimation technique and data quality and distribution. Inferred Resources would have a lower level of confidence outside of this range. • No production has taken place at Long Plains to allow for reconciliation against the mineral resource estimate and comparison against the anticipated relative accuracy at the global scale.

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	relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate. • *The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.* • *These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.*	

GRANGE RESOURCES

TABLE 3 DRILL HOLE DATA TABLE

lp2013_resource	hole_id	x	y	z	dip	azimuth	depth_from	depth_to	hole_depth
2	IMI28	348036	5396583	280	-47	259	24.37	83.33	166.72
1	IMI29	348011	5396883	263	-50	258	111.86	115.21	182.88
1	IMI29	348011	5396883	263	-50	258	141.57	151.24	182.88
1	IMI29	348011	5396883	263	-50	258	79.44	90.3	182.88
1	IMI29	348011	5396883	263	-50	258	16.45	36.32	182.88
2	IMI30	348311	5395383	230	-45	255	128.52	157.01	192.02
2	IMI30	348311	5395383	230	-45	255	98.38	110.76	192.02
2	IMI30	348311	5395383	230	-45	255	58.16	83.09	192.02
2	IMI35	347976	5397188	253	-85	257	65.2	79.8	137.76
2	IMI46	347976	5397188	253	-44	257	98.5	116.5	233.5
2	IMI46	347976	5397188	253	-44	257	30.92	46.44	233.5
1	LPC06001	347832.334	5396884.196	274.325	9.975	97.4236	52	52.07	136
1	LPC06001	347832.334	5396884.196	274.325	9.975	97.4236	85.71	97.25	136
1	LPC06001	347832.334	5396884.196	274.325	9.975	97.4236	115.44	122.03	136
1	LPC06002	347824.675	5396929.225	275.468	7.633	73.084	72	72.14	182.5
1	LPC06002	347824.675	5396929.225	275.468	7.633	73.084	140	142.34	182.5
1	LPC06002	347824.675	5396929.225	275.468	7.633	73.084	151	156	182.5
1	LPC06003	347878.762	5396988.981	278.285	5.374	99.484	18.14	30.97	115.5
1	LPC06003	347878.762	5396988.981	278.285	5.374	99.484	86	90	115.5
1	LPC06004	347789.948	5396998.136	274.601	-22.742	74.0721	184	185.35	222
1	LPC06005	347839.92	5397087.878	262.647	6.756	102.2647	28.99	29	157
1	LPC06005	347839.92	5397087.878	262.647	6.756	102.2647	70.46	71.21	157
1	LPC06006	347800.287	5397139.931	251.357	1.5	96.39	66.16	98.85	232
1	LPC06006	347800.287	5397139.931	251.357	1.5	96.39	121.23	141.85	232
1	LPC06006	347800.287	5397139.931	251.357	1.5	96.39	166.9	169.18	232
1	LPC06007	347794.805	5397184.637	238.578	10.962	94.769	85	103.99	226
1	LPC06007	347794.805	5397184.637	238.578	10.962	94.769	117.81	125.3	226
1	LPC06007	347794.805	5397184.637	238.578	10.962	94.769	130.62	146.2	226
1	LPC06008	347937.035	5396682.272	282.404	2.312	90.2152	4.1	27.98	56.5
1	LPC06008	347937.035	5396682.272	282.404	2.312	90.2152	43.27	56.5	56.5
1	LPC06009	347994.785	5396703.768	287.834	-2.586	71.4756	35.08	39.02	75.5
1	LPC06010	347968.41	5396582.489	277.129	6.828	86.3733	8	48.91	111
1	LPC06010	347968.41	5396582.489	277.129	6.828	86.3733	72	79	111
1	LPC06011	347955.274	5396486.27	269.432	7.154	93.0714	12.02	22.41	90.5
1	LPC06011	347955.274	5396486.27	269.432	7.154	93.0714	69.08	73.12	90.5
1	LPC06012	347996.683	5396384.121	264.179	11.897	91.1609	32	33	35
1	LPC06012	347996.683	5396384.121	264.179	11.897	91.1609	9.02	15.12	35
1	LPDD1103	348437.026	5394659.961	259.328	-54.29	89.64	71.04	76	293.2
1	LPDD1103	348437.026	5394659.961	259.328	-54.29	89.64	123.5	137.47	293.2
1	LPDD1103	348437.026	5394659.961	259.328	-54.29	89.64	184.3	186	293.2
1	LPDD1103	348437.026	5394659.961	259.328	-54.29	89.64	232	245.53	293.2
1	LPDD1204	348295.353	5394950.179	259.373	-59.57	94.09	97.21	143.61	488.34
1	LPDD1204	348295.353	5394950.179	259.373	-59.57	94.09	175.08	215	488.34
1	LPDD1204	348295.353	5394950.179	259.373	-59.57	94.09	220.18	297.31	488.34
1	LPDD1204	348295.353	5394950.179	259.373	-59.57	94.09	297.32	351.95	488.34
1	LPDD1205	348194.817	5395259.99	240.681	-57.36	84.36	24.04	31.2	278.5
1	LPDD1205	348194.817	5395259.99	240.681	-57.36	84.36	66.55	120.66	278.5
1	LPDD1205	348194.817	5395259.99	240.681	-57.36	84.36	120.66	145	278.5
1	LPDD1205	348194.817	5395259.99	240.681	-57.36	84.36	166.9	179.58	278.5
1	LPDD1212	348080.499	5396392.012	267.101	-59.82	268	219.87	235.2	301.3
1	LPDD1212	348080.499	5396392.012	267.101	-59.82	268	123.98	132.1	301.3
1	LPDD1212	348080.499	5396392.012	267.101	-59.82	268	145.44	159.06	301.3
1	LPDD1212	348080.499	5396392.012	267.101	-59.82	268	265.33	268.97	301.3
1	LPDD1212	348080.499	5396392.012	267.101	-59.82	268	55.1	61.25	301.3
1	LPDD1215	348123.424	5396480.009	271.778	-56.96	273.29	204.6	252.2	301.4
1	LPDD1215	348123.424	5396480.009	271.778	-56.96	273.29	178.1	189.9	301.4
1	LPDD1218	348088.841	5396580.143	282.278	-60	270	101.5	232.12	288.1
1	LPDD1218	348088.841	5396580.143	282.278	-60	270	73.95	81.2	288.1
1	LPDD1220	348083.671	5396676.398	275.584	-52.29	259.25	178.8	207.53	236.6
1	LPDD1220	348083.671	5396676.398	275.584	-52.29	259.25	61	165.85	236.6
1	LPDD1223	347995.504	5396772.048	290.53	-73.49	280.98	142.3	201.2	300
1	LPDD1223	347995.504	5396772.048	290.53	-73.49	280.98	33.1	103.3	300
1	LPDD1228	347988.855	5397078.404	263.659	-60.76	274.49	111.9	156.51	270.2
1	LPDD1228	347988.855	5397078.404	263.659	-60.76	274.49	79.72	107	270.2
1	LPDD1228	347988.855	5397078.404	263.659	-60.76	274.49	24.48	52.38	270.2
1	LPDD1229	348007.081	5397181.123	254.693	-60	270	175.1	183.75	261.8
1	LPDD1229	348007.081	5397181.123	254.693	-60	270	74.42	83.87	261.8
1	LPDD1301	347991.708	5397130.271	262.24	-61	270	131	167	201.8
1	LPDD1301	347991.708	5397130.271	262.24	-61	270	37.02	48.89	201.8
1	LPDD1302	347992.196	5397130.286	262.136	-71	270	192.5	203.7	228.7
1	LPDD1302	347992.196	5397130.286	262.136	-71	270	72	78	228.7
1	LPDD1306	347795.267	5396931.67	276.328	-46.99	88.6	173.5	243	488.2
1	LPDD1306	347795.267	5396931.67	276.328	-46.99	88.6	278.2	300	488.2
1	LPDD1307	347845.553	5396939.252	283.403	-49.53	94.3	93	145	260.5

lp2013_resource	hole_id	x	y	z	dip	azimuth	depth_from	depth_to	hole_depth
1	LPDD1307	347845.553	5396939.252	283.403	-49.53	94.3	158.7	174	260.5
1	LPDD1307	347845.553	5396939.252	283.403	-49.53	94.3	203.9	209.3	260.5
1	LPDD1309	347948.173	5396780.587	290.548	-69.53	92.66916667	46.3	172.9	284.7
1	LPDD1309	347948.173	5396780.587	290.548	-69.53	92.66916667	242.9	257.1	284.7
1	LPDD1310	348081.84	5396676.7	270	-74.1	270	153.96	309.8	309.8
1	LPDD1311	348070.753	5396534.388	281.853	-70.91	261.1580556	162.6	241	271.6
1	LPDD1311	348070.753	5396534.388	281.853	-70.91	261.1580556	120	129	271.6
1	LPDD1312	348090	5396160	262.527	-65	270	101	153.6	222.2
1	LPDD1313	348133.62	5396058.823	258.612	-72	279.31	172	206.4	298.8
1	LPDD1313	348133.62	5396058.823	258.612	-72	279.31	170.2	172	298.8
1	LPDD1313	348133.62	5396058.823	258.612	-72	279.31	128.3	166.5	298.8
1	LPDD1314	348159.542	5395961.302	251.144	-69.86	259	190	228.4	283.8
1	LPDD1314	348159.542	5395961.302	251.144	-69.86	259	150.8	183.1	283.8
1	LPDD1314	348159.542	5395961.302	251.144	-69.86	259	78	119.05	283.8
1	LPDD1315	348155.99	5395864.405	246.255	-76	270	175.3	204.7	312.7
1	LPDD1315	348155.99	5395864.405	246.255	-76	270	83	137.2	312.7
1	LPDD1315	348155.99	5395864.405	246.255	-76	270	5	43	312.7
1	LPDD1316	348158.501	5395867.783	246.338	-50	209	197.6	216.55	303.6
1	LPDD1316	348158.501	5395867.783	246.338	-50	209	140.8	171.3	303.6
1	LPDD1316	348158.501	5395867.783	246.338	-50	209	8.36	39.12	303.6
1	LPDD1318	347988.855	5397078.404	263.659	-75.84	274.5	143.7	220	245.9
1	LPDD1318	347988.855	5397078.404	263.659	-75.84	274.5	112.55	121	245.9
1	LPDD1318	347988.855	5397078.404	263.659	-75.84	274.5	34.16	69.07	245.9
1	LPDDH0707	347942.14	5397183.33	262	-55.32	268.42	52.3	89.6	156.2
1	LPDDH0707	347942.14	5397183.33	262	-55.32	268.42	37	46.72	156.2
1	LPDDH0707	347942.14	5397183.33	262	-55.32	268.42	5	23.9	156.2
1	LPDDH100	347993	5397029	260	-50	255	111.04	154.2	181
1	LPDDH100	347993	5397029	260	-50	255	78	105	181
1	LPDDH100	347993	5397029	260	-50	255	32.8	46.7	181
1	LPDDH101	347945.548	5397030.359	274.873	-50	255	34.88	80	95
1	LPDDH101	347945.548	5397030.359	274.873	-50	255	26.1	28	95
1	LPDDH102	347896.183	5397018.656	275.786	-50	255	0	10	49
1	LPDDH103	348038	5397041	249	-50	255	180.6	199	199
1	LPDDH103	348038	5397041	249	-50	255	144.2	175.6	199
1	LPDDH103	348038	5397041	249	-50	255	81.7	96.5	199
1	LPRC07001	347942.22	5397124.86	267.41	-60.38	270.14	52	125	160
1	LPRC07001	347942.22	5397124.86	267.41	-60.38	270.14	7	36	160
1	LPRC07002	347936.054	5397079.973	266.893	-70.82	270.21	54	119	154
1	LPRC07002	347936.054	5397079.973	266.893	-70.82	270.21	34	45.64	154
1	LPRC07003	347891	5396985.04	280.04	-68.83	94.92	21	120	184
1	LPRC07003	347891	5396985.04	280.04	-68.83	94.92	123	163	184
1	LPRC07003	347891	5396985.04	280.04	-68.83	94.92	179.52	184	184
1	LPRC07004	347895.79	5396985.02	282.11	-56.02	92.25	2.05	41	160
1	LPRC07004	347895.79	5396985.02	282.11	-56.02	92.25	54	92	160
1	LPRC07004	347895.79	5396985.02	282.11	-56.02	92.25	102	121	160
1	LPRC07005	347908.03	5397133.71	263.89	-60.49	270.03	6	70	167
1	LPRC07006	347896.8	5397082.05	265.92	-70.38	270.36	23	66	93
1	LPRC1113	348042.602	5396380.131	271.166	-60.1	269.16	144	155	220
1	LPRC1113	348042.602	5396380.131	271.166	-60.1	269.16	29.27	33.3	220
1	LPRC1113	348042.602	5396380.131	271.166	-60.1	269.16	79.12	88.36	220
1	LPRC1113	348042.602	5396380.131	271.166	-60.1	269.16	200	203	220
1	LPRC1114	347973.878	5396383.201	266.921	-58.1	273.78	6	17	103
1	LPRC1114	347973.878	5396383.201	266.921	-58.1	273.78	45	58	103
1	LPRC1116	348044.813	5396479.946	281.345	-57.1	269.44	47	114	200
1	LPRC1116	348044.813	5396479.946	281.345	-57.1	269.44	29	42	200
1	LPRC1117	347972.774	5396480.018	274.563	-58.71	272.96	3.51	15	100
1	LPRC1121	348007.536	5396674.801	290.545	-55.7	266.77	74	111	196
1	LPRC1121	348007.536	5396674.801	290.545	-55.7	266.77	1.54	49	196
1	LPRC1122	347949.997	5396679.889	287.229	-60.26	269.48	0	16	106
1	LPRC1127	347929.009	5396879.567	292.593	-59.74	276.21	0	21	100
1	LPRC1127	347929.009	5396879.567	292.593	-59.74	276.21	65	73	100
1	LPRC1209	348156.736	5396270.128	258.904	-57.34	262.93	127.03	131	131
1	LPRC1210	348075.085	5396280.1	262.102	-59.31	271.34	135	170	200
1	LPRC1210	348075.085	5396280.1	262.102	-59.31	271.34	7	22	200
1	LPRC1210	348075.085	5396280.1	262.102	-59.31	271.34	42.31	57.48	200
1	LPRC1211	348013.93	5396278.708	258.77	-59.5	277.09	37	61	88
1	LPRC1224	347996.064	5396774.079	290.517	-58.22	272.08	95.55	141	200
1	LPRC1224	347996.064	5396774.079	290.517	-58.22	272.08	24.8	76	200
1	LPRC1225	347943.252	5396780.434	290.429	-61.25	276.21	25.44	66	100
1	LPRC1308	347949.088	5396780.572	290.574	-48	92	39.33	61	166
1	LPRC1308	347949.088	5396780.572	290.574	-48	92	127	136	166
1	LPRC1310	348085.212	5396674.553	275.746	-74	270	150.77	153	153
1	LPRC1317	348091.727	5396161.494	262.527	-65	90	17	28	149
1	LPRC1317	348091.727	5396161.494	262.527	-65	90	51	62	149
1	MC29	347888.057	5397120.877	263.792	-49.26	258.83	7.99	30.83	348
2	rtae1	347991	5397143	257	-45	255	90	145	195
2	rtae1	347991	5397143	257	-45	255	72.11	72.99	195
2	rtae1	347991	5397143	257	-45	255	26	35	195

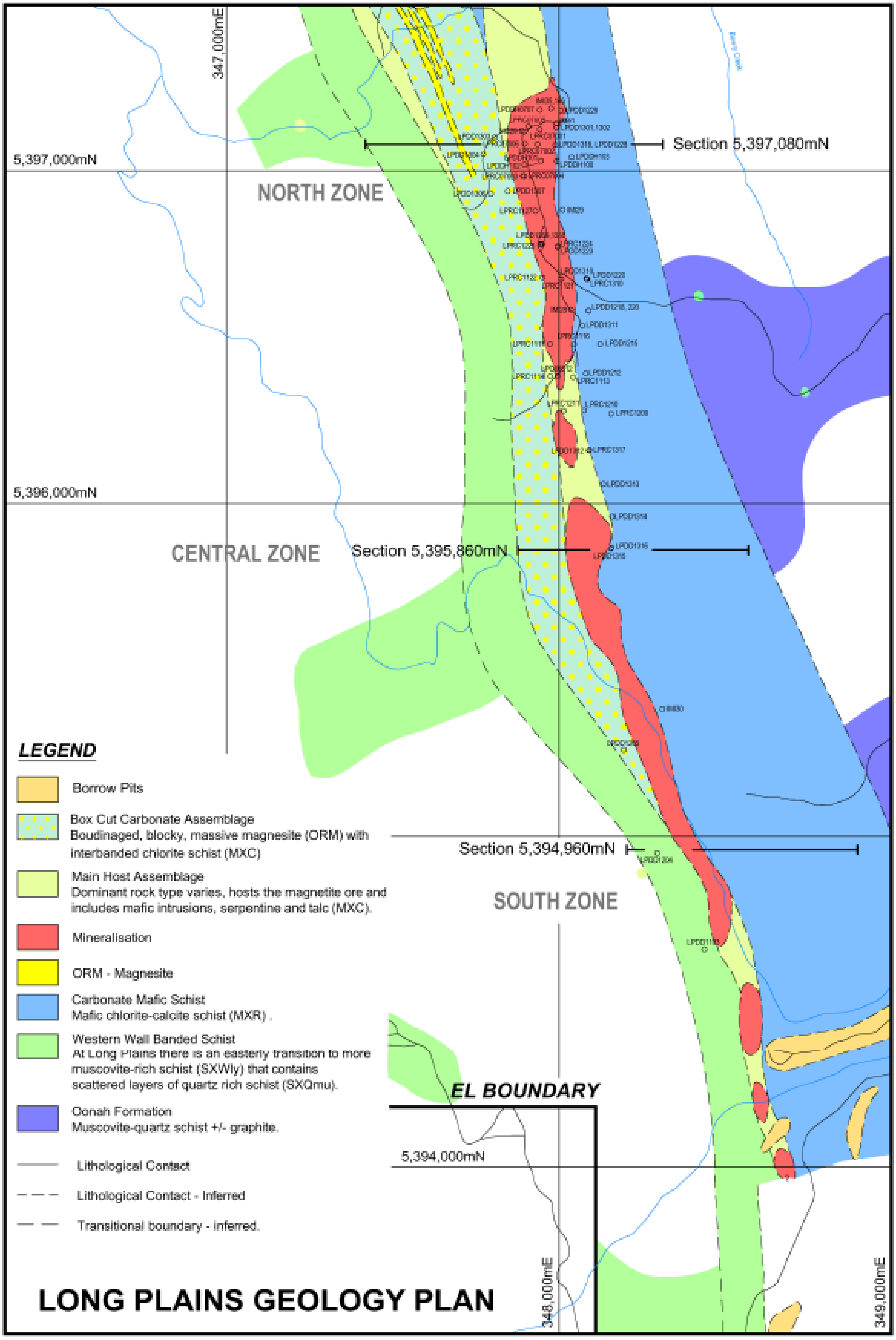

Figure 5 - Regional Geology Compilation

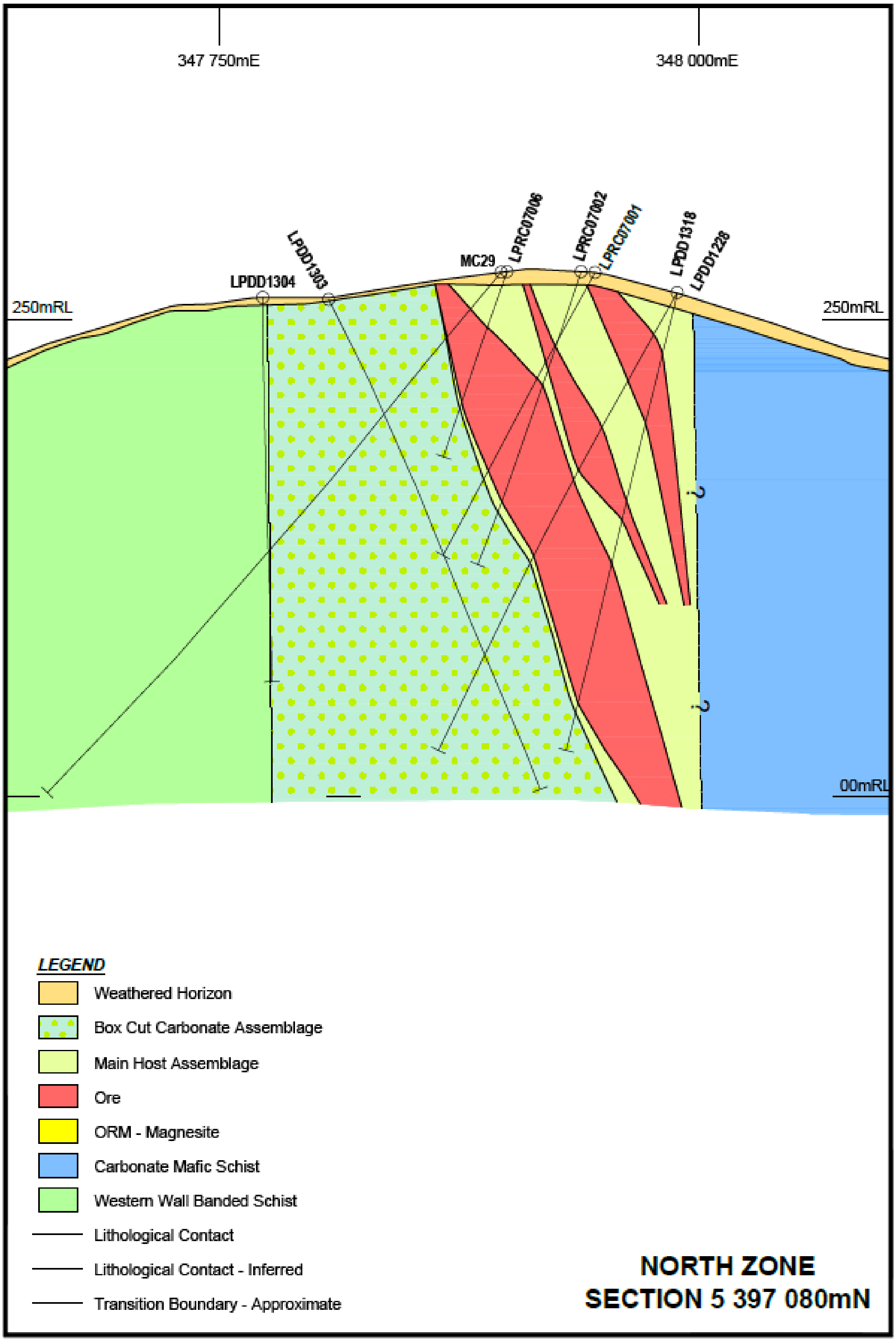

Figure 6 - Typical Cross Section for North Zone

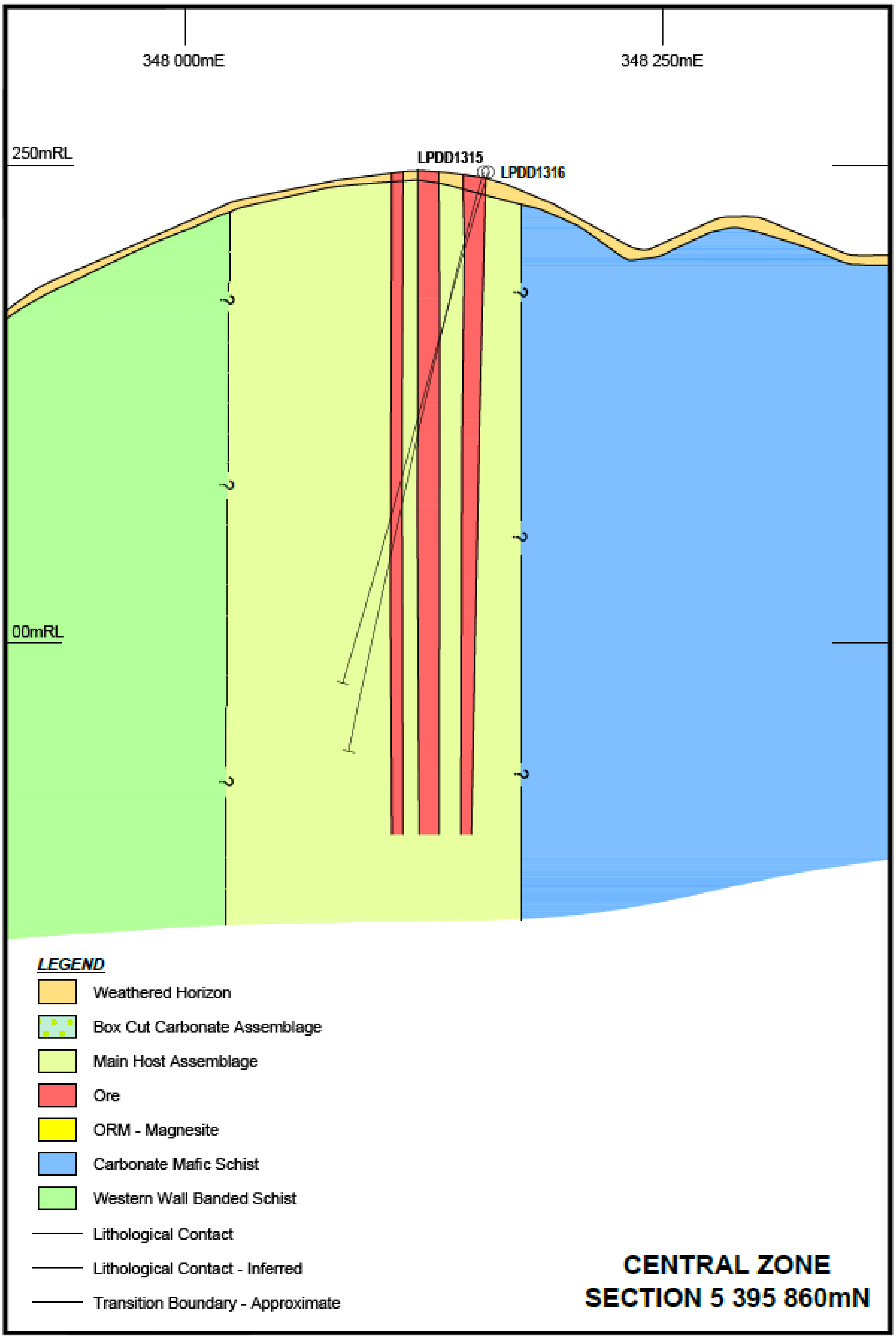

Figure 7 - Typical Cross Section for Central Zone

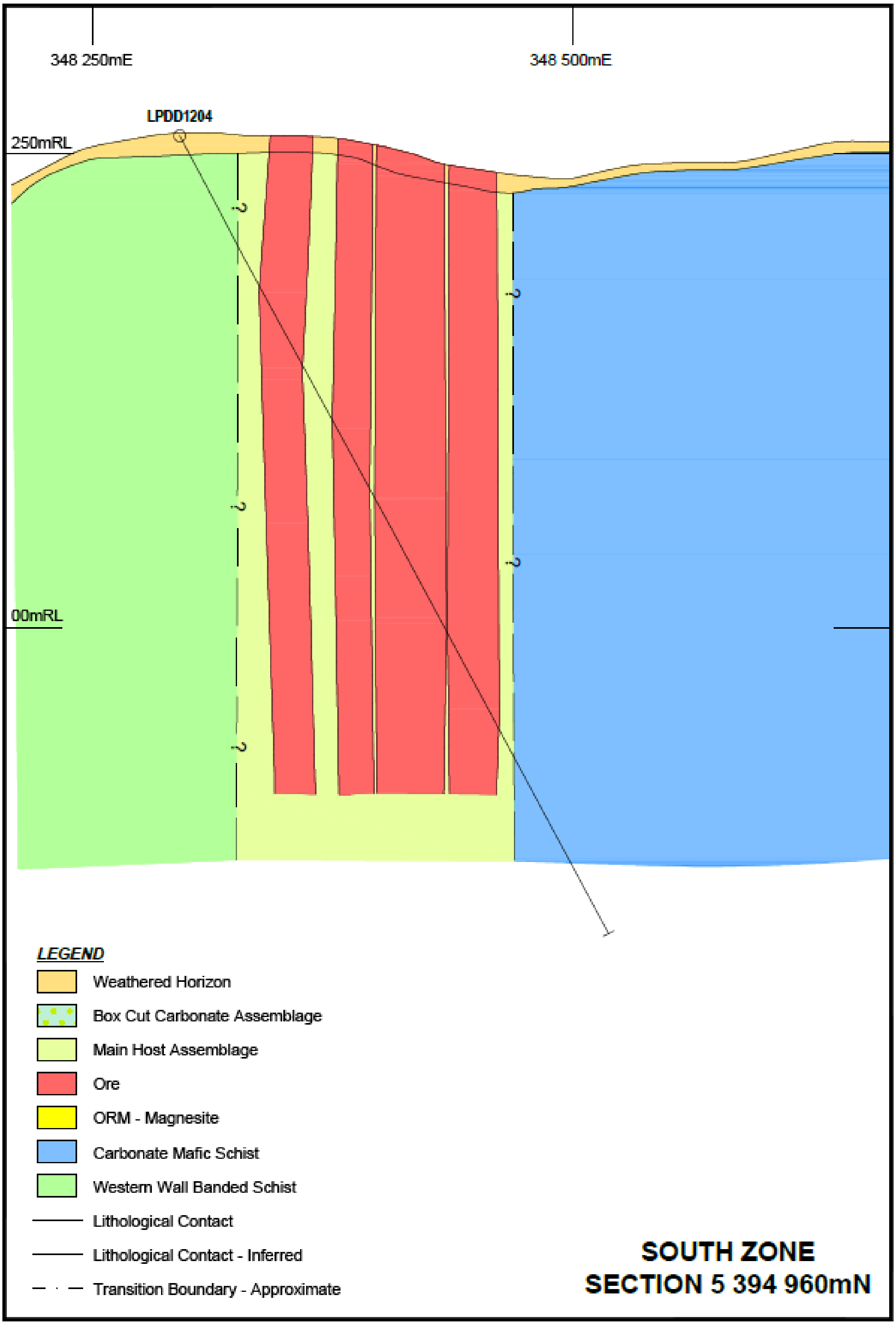

Figure 8 - Typical Cross Section for South Zone

Competent Person Statement

The information in this report that relates to Exploration Results or Mineral Resources is based on information compiled by Mr Ben Maynard, a Competent Person who is a Member of The Australasian Institute of Mining and Metallurgy, and is a full time employee of Grange Resources, and who holds shares in Grange Resources as part of the company incentive scheme.

Mr Maynard has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'.

Mr Maynard consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

-ENDS-

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