ASX ANNOUNCEMENT
13 October 2016

Quarterly Activities Report for the Period Ended 30 September 2016

Riedel Resources Limited **(ASX: RIE, "Riedel"** or **"the Company"**) is pleased to present its 2016 September Quarter Activities Report:

HIGHLIGHTS

Charteris Creek Project

- Planning well advanced for drill testing of geophysical target prospective for porphyry copper-molybdenum-(gold) mineralisation beneath the cover of the younger Fortescue Group;
  - Heritage clearance surveys to commence as soon as possible;
  - Procurement of suitable diamond drilling contractor and earthmoving equipment for access clearing underway.

Marymia Project

Australian Mines Limited Earning Up to 80%

- Dixon extensions to be tested with three-phase, 120 hole aircore drilling programme in December 2016 quarter:
  - *Phase 1* will test the north-eastern extension of the known mineralisation at Dixon;
  - *Phase 2* will test a distinctive magnetic anomaly, further along strike to the north; and
  - *Phase 3* will test a magnetic high to the east of Dixon, interpreted as separate dolerite unit.

Corporate

Financial

- Cash at 30 September 2016 - **$ 1.256M**

CONTACT DETAILS
Principal & Registered Office
Suite 1
6 Richardson Street
West Perth
Western Australia 6005

Postal Address
PO Box 1559
West Perth
Western Australia 6872

Website
www.riedelresources.com.au

Email
admin@riedelresources.com.au

Phone
+61 8 9226 0866

Facsimile
+61 8 9486 7375

ABN: 91 143 042 022
ASX CODE: RIE

Riedel's assets include two projects in prospective Archaean- and Proterozoic-age terranes of Western Australia *(see Figure 1 for location of projects).*

These include:

- Marymia – *(copper, gold, nickel and base metals)* Australian Mines earning up to 80% by project expenditure of up to $3.3M;
- Charteris Creek – *(copper, molybdenum, gold and base metals)* Riedel 100%.

These projects are augmented by two Western Australian gold project royalty agreements.

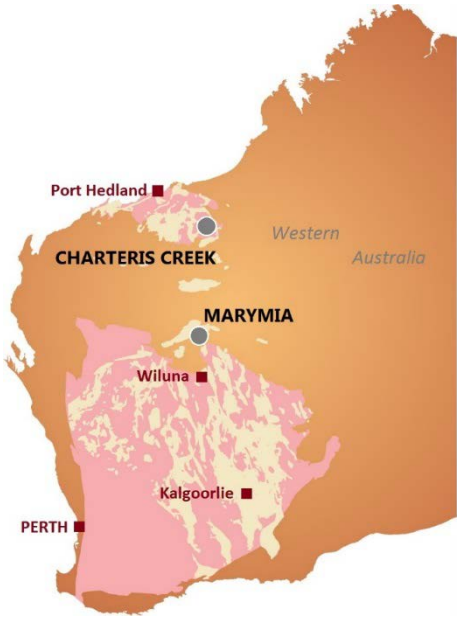

Figure 1: Western Australia Project locations

MARYMIA PROJECT JOINT VENTURE

Australian Mines earning interests up to 80%

On 30 April 2014 Riedel announced the key terms and conditions of a farm-in and joint venture arrangement over exploration licences 52/2394 and 52/2395 ("the Marymia Project") with Australian Mines Limited (ASX: AUZ, "Australian Mines"). A Heads of Agreement was signed by the parties and if the farm-in and joint venture arrangement proceeds to its full conclusion, the earn-in will be worth up to $3.3M.

During the June 2015 Quarter Australian Mines earned a 51% interest in the Marymia Project by completing more than $1,000,000 worth of expenditure on exploration during the "Stage 1 Earn-in". Australian Mines has elected to proceed with the "Stage 2 Earn-in".

By spending a further $2,000,000 on exploration within a further 3 year period following the Stage 1 Earn-in, Australian Mines can earn an additional 29% interest (taking their total interest to 80%) in the Marymia Project.

Marymia Project tenement location and geology

E52/2394 and E52/2395, which collectively form the Marymia Project, cover an area of 254 square kilometres in the highly prospective Doolgunna-Thaduna region of the Proterozoic volcano-sedimentary Bryah and Yerrida Basins and Archaean Baumgarten Greenstone Belt in the Marymia Inlier.

The Marymia Project is located approximately 30 kilometres east of the 4.7M oz Plutonic gold mine, 55 kilometres north-east of Sandfire Resources NL's DeGrussa copper-gold mine (550,000 tonnes contained copper metal), and 12 kilometres east-north-east of Sandfire's Green Dragon and Thaduna copper deposits (100,000 tonnes contained copper metal) in Western Australia's Mid-West region *(see Figure 2)*.

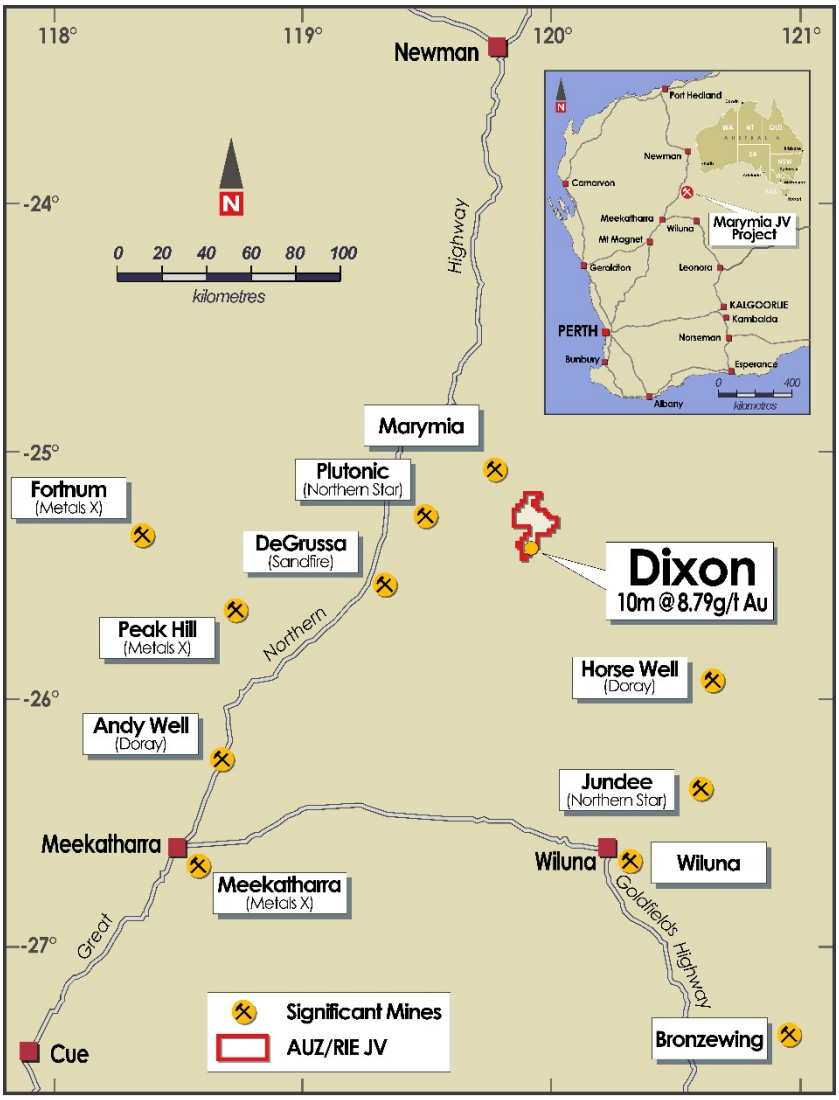

Figure 2: Marymia Project - Location Map

Significant regional structures identified in the project area include the Jenkin Fault and prospective, mineralised geology including the Archaean-aged Baumgarten Greenstone Belt and Proterozoic-aged sediments belonging to the Yerrida and Earaheedy Groups. The project is prospective for copper, gold and nickel mineralisation and Riedel has delineated numerous high priority targets for each of these commodities.

Activities for the period ended 30 September 2016 and exploration forecast

During the quarter Australian Mines reviewed numerous geological analogues to the Dixon prospect area in order to best plan follow-up drilling over the larger prospect area. The area of interest includes untested magnetic anomalies along strike from significant gold intersections already recorded at Dixon and in parallel anomalies. It should be noted that due to the presence of transported overburden, this geological setting is not amenable to geochemical soil sampling and therefore needs to be tested with aircore or RAB drilling that will penetrate the regolith and reach the underlying fresh rock.

Australian Mines has designed its next stage of exploration to test magnetic anomalies along strike from the Dixon prospect and over a similar magnetic anomaly to the east of Dixon with drilling. Exploration will focus on a three-phase air core drilling programme, consisting of 120 holes for 7,185 metres of drilling *(see Figure 3).*

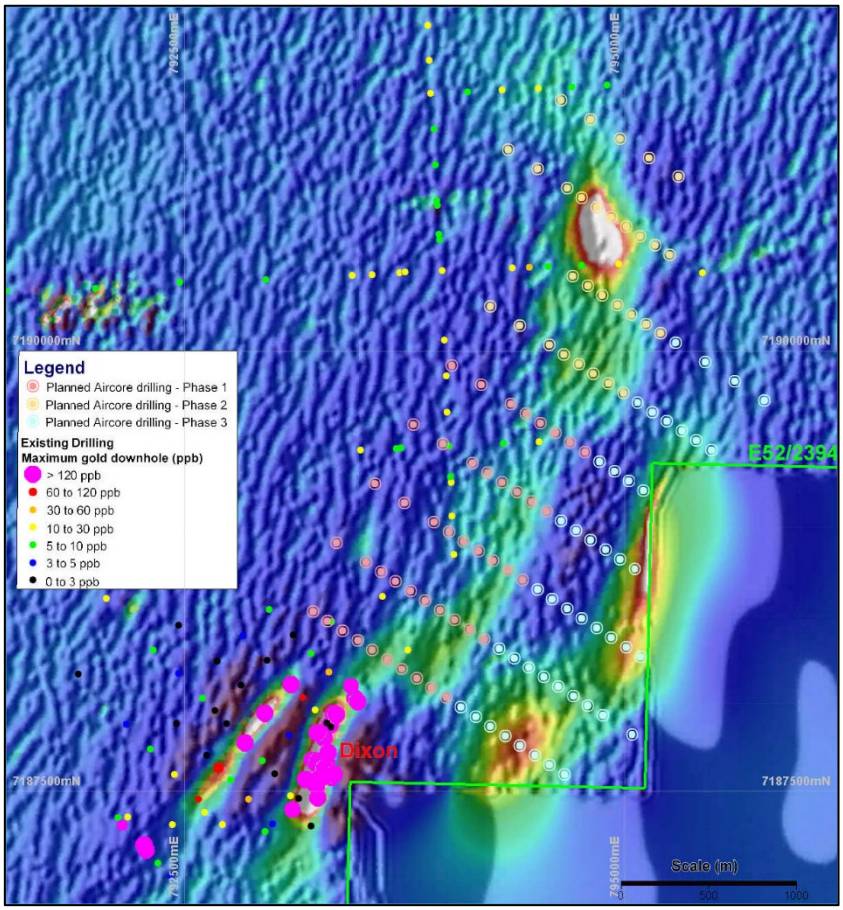

Figure 3: Plan view of the Dixon prospect displaying the maximum gold downhole intercept with the planned air core drilling (by phase) on aeromagnetic image background

Phase 1 of this proposed aircore drilling programme will test the north-eastern extension of the known mineralisation at Dixon. Phase 2 is designed to test a distinctive magnetic anomaly, further along strike to the north and Phase 3 will drill-test a magnetic high to the east of Dixon, interpreted as separate dolerite unit.

The drill holes have been planned on 123º orientated grid lines, which are perpendicular to the strike of the stratigraphy. Although there is a slight change in orientation of the magnetic anomaly noted in modelling further to the north, Australian Mines has elected to maintain the drill orientations to test the stratigraphy.

At Dixon, the mineralised zone appears to dip at 55º to the northwest and the designed aircore holes will be drilled at -60º to the southeast to most effectively intersect the stratigraphy and mineralisation.

The drilling programme is spaced at 400 metre line intervals, with drill holes mostly spaced at 100 metre intervals along the line. These specifications were chosen to maximise the chance of intersecting oxide mineralisation and therefore, to vector into primary mineralisation.

Each hole will be drilled to refusal, which ensures that every hole terminates at the weathered rock-fresh bedrock interface. Historic rotary air blast (RAB) drilling suggests the average hole depth for this programme will be 60 metres.

The three phases of the proposed 120-hole air core drilling program are expected to take four weeks to complete with full results expected to be available within four weeks after completion of drilling.

Australian Mines has commenced seeking the requisite approvals for this drilling programme, including heritage clearances. The Company will further advise on the commencement date when details are available.

CHARTERIS CREEK PROJECT JOINT VENTURE

Tenement location and geology

Exploration Licence E45/2763 is located approximately 45km north of Nullagine and 50km south-east of Marble Bar in the Pilbara Region of Western Australia *(see Figures 1 and 4 for project location)*.

The tenement is located within the East Pilbara Granite Greenstone Terrain. The Project area has favourable geology for the discovery of mineral deposits, as highlighted by the presence of numerous gold, copper, base metals and specialty metals discoveries and deposits proximal to the Charteris Creek exploration licence and anomalous copper and molybdenum drill intersections within the licence *(see Figure 4)*.

The Company's exploration focus is on Archaean intrusive rocks, which intrude the greenstone succession overlying the McPhee Dome structure. These are described as Gobbos Granodiorite, a locally porphyritic biotite granodiorite and monzogranite. Various copper and copper-molybdenum occurrences are reported in association with these intrusive rocks. Indications for a porphyritic source of the minerals have been given in previous exploration reports and below.

Despite the strong similarities between the geological/structural setting at Charteris Creek to that which hosts nearby mineral deposits, only limited exploration has been previously carried out within the tenement.

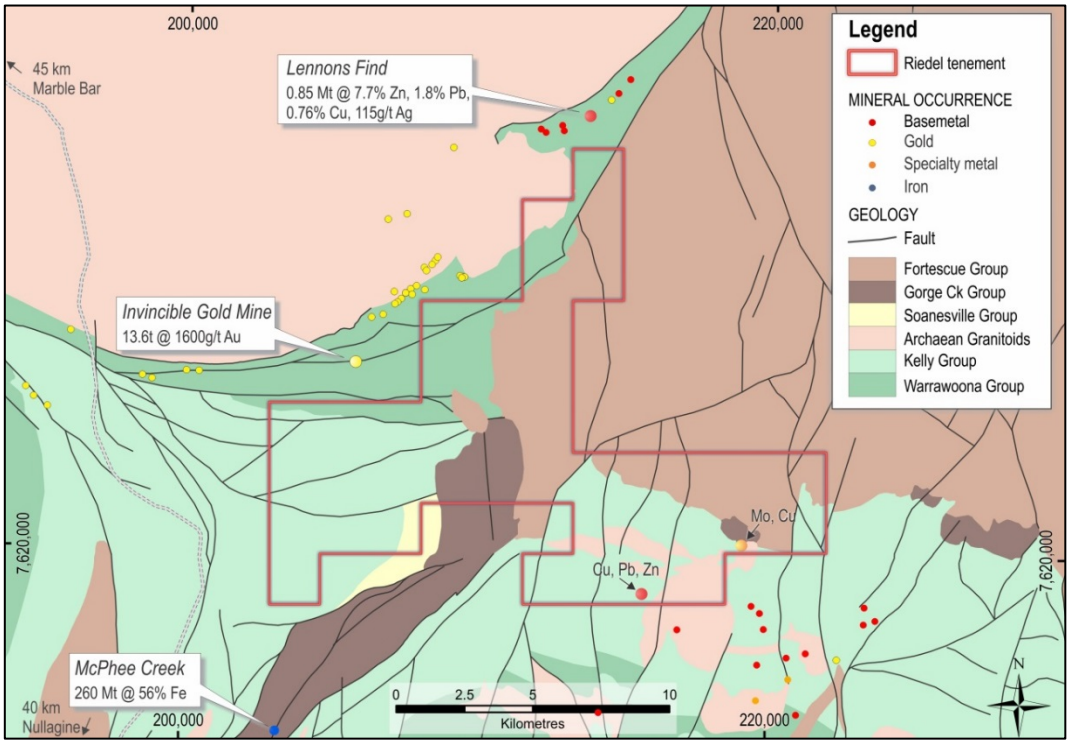

Figure 4: Charteris Creek Project – Geological Map highlighting known mineral occurrences and deposits

Exploration potential

In the southeast of E45/2763 granodiorites and monzogranites of Gobbos Granodiorite, also porphyries of this composition, intrude the greenstones of the Yilgalong Greenstone Belt. They are hornblende bearing, indicating a fluid-rich parental melt. Copper and molybdenum mineralisation is associated with these intrusive rocks and has been targeted for exploration by a number of explorers since the 1960s. The known mineralisation is commonly associated with magnetic anomalies which are similar to the target anomalies identified by Riedel and which are further described below.

Along the east and through to the north of E45/2763, volcanic and sedimentary rocks of the Neoarchean Fortescue Group are dominant. The mainly mafic rocks of the Mt Roe Basalt unconformably overlay the Warrawoona and Gorge Creek Groups, and are in-turn overlain by the sedimentary and felsic volcanic rocks of the Hardey Formation. To date, no drillholes have tested the intrusive granitic rocks that lie beneath the Fortescue Group.

Exploration work carried during 2014-2015 has confirmed that there are structural and porphyritic elements interacting to control the zones of anomalous copper and molybdenum seen within the Project area. The observed alteration systems around, what has historically been believed to be the core of an Archaean copper porphyry system, show typical alteration

assemblages, however, they are less prominent than those seen in younger known porphyries of the Phanerozoic.

Within E45/2763, several [i]historic percussion drillholes at the Lightning Ridge Prospect returned anomalous assay results for copper and molybdenum, including drillhole RS1 (58m) which returned **25m at 1.1% Cu** and **3m at 0.1-0.2% Mo**. In 1969 exploration highlighted potential for the presence of a copper deposit of about 100,000t @ 0.125% Mo and 66,000t @ 1.1% Cu within a lenticular molybdenum-body lying below surface copper mineralisation at Lightning Ridge.

Riedel considers this mineralisation to be distal and not in the centre of a larger porphyry body.

Mineralisation has also been previously defined at other prospects to the south of E45/2763, including Gobbos. At Gobbos surface samples up to 41% Cu have been recorded as well as 13 metres @ 4.28% Cu from a costean. Historic shallow drilling has also intersected numerous significant intersections of +1% Cu. The mineralisation is interpreted as being part of the same large intrusive body of rocks that extend into Riedel's drilling target area, under Fortescue Group cover.

Activities for the period ended 30 September 2016 and exploration forecast

As previously announced, Riedel was successful with its State Government 2016-2017 co-funded drilling application. A grant of up to **$75,000** (or half of the direct drilling costs) from the State Government may be used to drill geophysical anomalies at Charteris Creek. The grant is awarded for innovative drilling programmes in previously untested locations and is designed to test for buried copper-molybdenum-(gold) mineralisation.

A reconnaissance field trip was completed to assess access options, confirming that at least one drill hole site can be accessed, subject to a heritage survey being completed. Riedel is awaiting confirmation of the heritage survey timetable.

The drilling programme will test one of the large magnetic anomalies identified beneath cover rocks of the younger Fortescue Group for the presence of porphyry Cu-Mo (+/- Au) mineralisation. These magnetic peaks are within a circular feature approximately 1.5km in diameter *(see Figure 5).*

Reidel is planning to drill one diamond drill hole for a total of 400 metres to test one of the two magnetic peaks closest to surface. The magnetic target was modelled using unconstrained 3D inversion modelling and polygonal forward modelling. The profile data along 5 airborne magnetic survey flight lines were modelled during this polygonal forward modelling exercise. Three alternative forward models were created using different magnetic susceptibility values of 0.01SI, 0.02SI and 0.03SI. Figure 6 shows the planned drill hole traces and the 3D Inversion and Polygonal Magnetic Model Targets (looking West).

[i] *Conwest/Mining Advisors, 1969 - MASTER, A. R., 1969. Lightning Ridge Area (W2/3). Wamex report no. 9621, 26p*

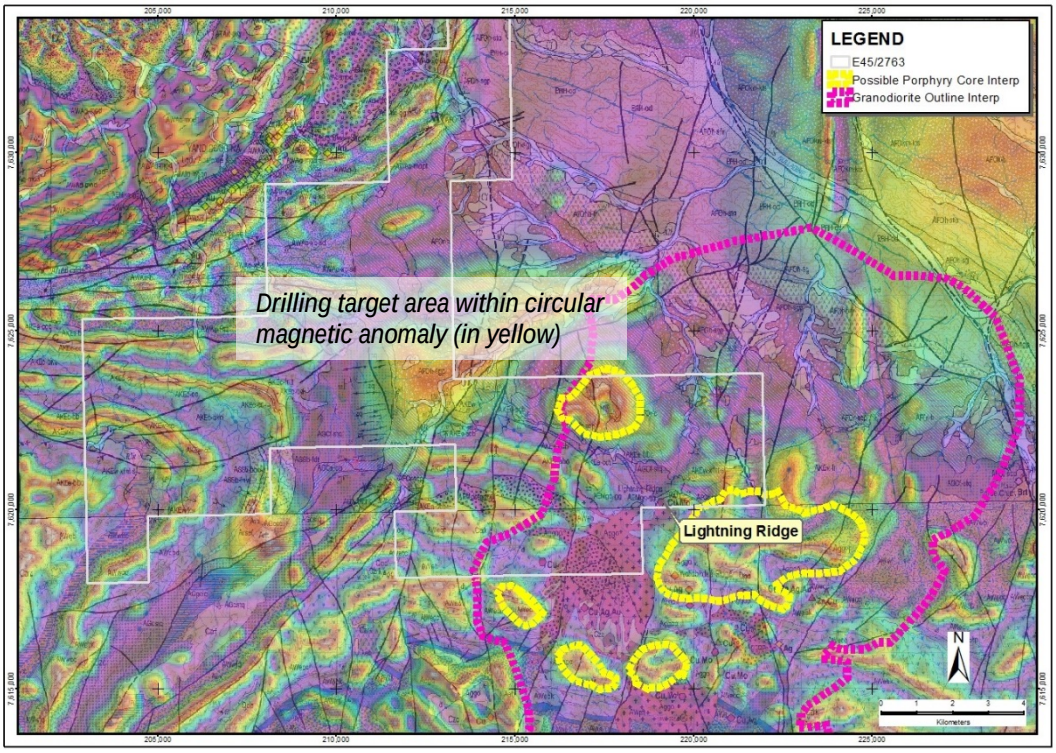

Figure 5: Circular magnetic anomaly interpreted as possible porphyry core within granodiorite intrusive

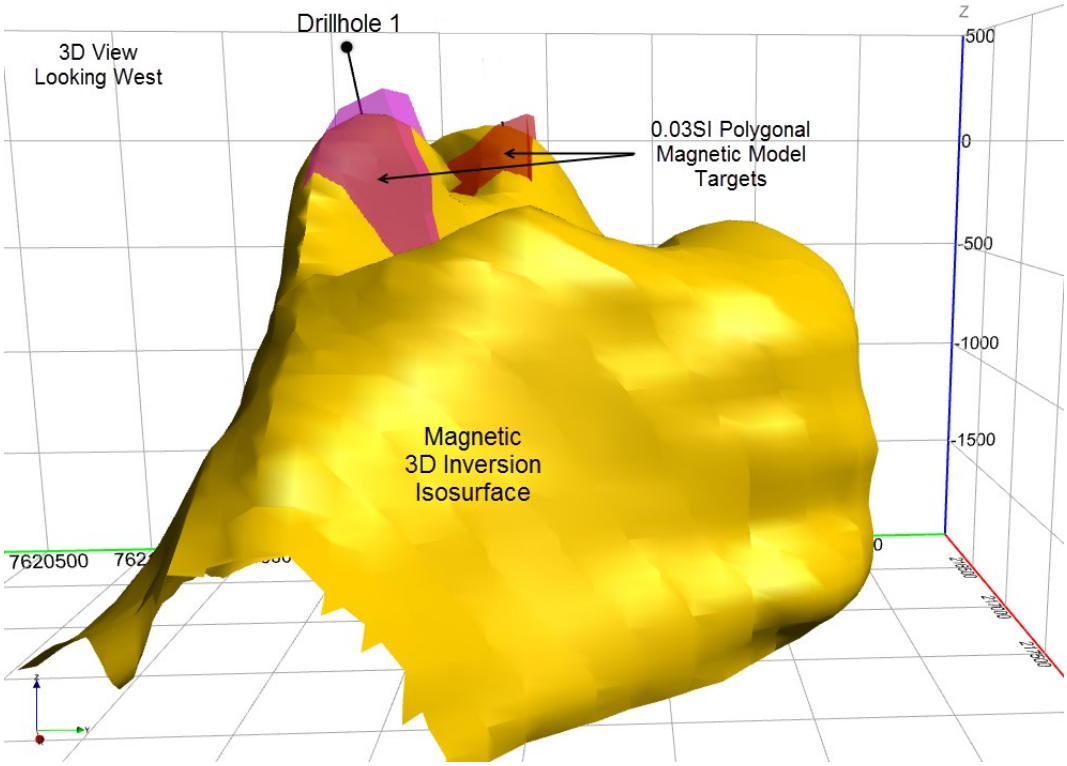

Figure 6: Planned drill hole trace (Drillhole 1) and the 3D Inversion and Polygonal Magnetic Model Targets (looking west).

CORPORATE

The Company held Cash Reserves at 30 Sept 2016 of **$1.256M**.

TENEMENT SCHEDULE

Following is the schedule of Riedel Resources minerals tenements as at 30 September 2016.

Area of Interest	Tenement reference	Nature of interest	Interest
Charteris Creek	E45/2763	Direct	100%
Marymia	E52/2394	Direct	49%
Marymia	E52/2395	Direct	49%
West Yandal	M36/615	Royalty	0%
Porphyry	M31/157	Royalty	0%

For further information please contact:

Jeffrey Moore
Executive Chairman
Riedel Resources Limited
Tel: +61 8 9226 0866
Email: j.moore@riedelresources.com.au

About Riedel Resources Limited

Riedel Resources Limited listed on ASX on 31 January 2011 and is an Australian-based exploration company established to explore for and develop mineral deposits.

Further information can be found at the Company's website www.riedelresources.com.au

Competent Person's Statement

The information in this report that relates to Exploration Results and Mineral Resources is based on information compiled by Mr Ed Turner, who is a Member of The Australian Institute of Geoscientists. Mr Turner is a consulting geologist to Riedel Resources Limited. Mr Turner has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activities 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 Turner consents to the inclusion in this report of the matters based on his information in the form and context in which it appears.