



## Quarterly Report

Period ended 30<sup>th</sup> September 2016

### About Legacy Iron Ore

Legacy Iron Ore Limited ("Legacy Iron" or the "Company") is a Western Australian based Company, focused on iron ore, base metals and gold development and mineral discovery.

Legacy Iron's mission is to increase shareholder wealth through capital growth, created via the discovery, development and operation of profitable mining assets.

The Company was listed on the Australian Securities Exchange on 8 July 2008. Since then, Legacy Iron has had a number of iron ore, base metals and gold discoveries which are now undergoing drilling and resource definition.

### Board

**Narendra Kumar Nanda**, Non-Executive Chairman

**Devinder Singh Ahluwalia**, Non-Executive Director

**Tangula Rama Kishan Rao**, Non-Executive Director

**Devanathan Ramachandran**, Non-Executive Director

**Timothy Turner**, Non-Executive Director

**Rakesh Gupta**, Chief Executive Officer

**Ben Donovan**, Company Secretary

### Key Projects

Mt Bevan Iron Ore Project

South Laverton Gold Project

East Kimberley Gold and Base Metals Project

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28 October 2016

The Company Announcements Office  
ASX Limited

Via E Lodgement

## REPORT FOR THE QUARTER ENDED 30 September 2016

Please find attached the Company's Quarterly Activities Report and Appendix 5B for the quarter ended 30 September 2016.

Yours faithfully  
**LEGACY IRON ORE LIMITED**

Rakesh Gupta  
Chief Executive Officer

## HIGHLIGHTS

### EXPLORATION AND DEVELOPMENT

#### **Mt Bevan Project (Legacy Iron: 60% interest)**

- During Q1 2017, detailed interpretation of the ground magnetic survey was completed which led to identify a total of six target zone including three high priority targets.
- These targets are associated with structural settings similar to the Cathedrals fault on neighbouring tenement where recently some new discoveries of nickel sulphides have been made St George Mining (SGQ).
- Further exploration work plan is to carry out ground electromagnetic survey and drill test the high priority targets.

#### **South Laverton Gold Projects –**

##### **Mt Celia Project**

- First phase of current year's drilling was completed on the Blue peter and Coronation prospects. Drill intersections confirm that the mineralisation extends below the current known resource.
- Significant intersections includes -
  - **8m @ 5.32g/t Au incl. 2m @11.9g/t** from 78m to 86m in BPC096
  - **8m @ 7.22g/t Au incl. 2m @20.1g/t** from 108m to 118m in BPC103
  - **4m @ 3.35g/t Au incl. 2m @5.24g/t** from 112m to 116m in BPC098
  - **4m @3.24g/t Au incl. 2m @4.08g/t** from 100m to 104m in BPC104
  - **2m @6.60g/t Au** from 160m to 162m in BPC 097
- Next step for the project is to update the geology and resource model which is likely to increase the resource estimate for the project.
- Additionally complete the current year's phase two drilling program in some of the areas in the project.

##### **Sunrise Bore project**

- The results from the auger soil geochemical sampling program were received during this Quarter. Several gold anomalies identified within the Sunrise Bore Project (see announcement dated 18 Aug 2016).
- Follow up work likely to include some detailed infill geochemical sampling, ground geophysics and drill testing.

#### **Potential Acquisitions**

- Legacy Iron continues to review opportunities to acquire projects that add value.

### CORPORATE

- Focus remained on reducing costs in a challenging commodity environment.

## EXPLORATION

Legacy Iron is an active exploration company with a diverse portfolio of assets spanning iron ore, gold and base metals (Figure 1). The Company is in a Joint Venture with Hawthorn on the Mt Bevan Project, north of Kalgoorlie in Western Australia, where the Company is progressing a potentially world class magnetite project and exploring for nickel-copper mineralisation at early stage.

The Company also has significant landholdings in the Eastern Goldfields (Yilgarn) and East Kimberley districts of WA. In the Eastern Goldfields, the company holds tenements with a number of gold resources, whilst the Koongie Park project in the East Kimberley region has excellent potential to host VHMS basemetal – gold mineralisation.

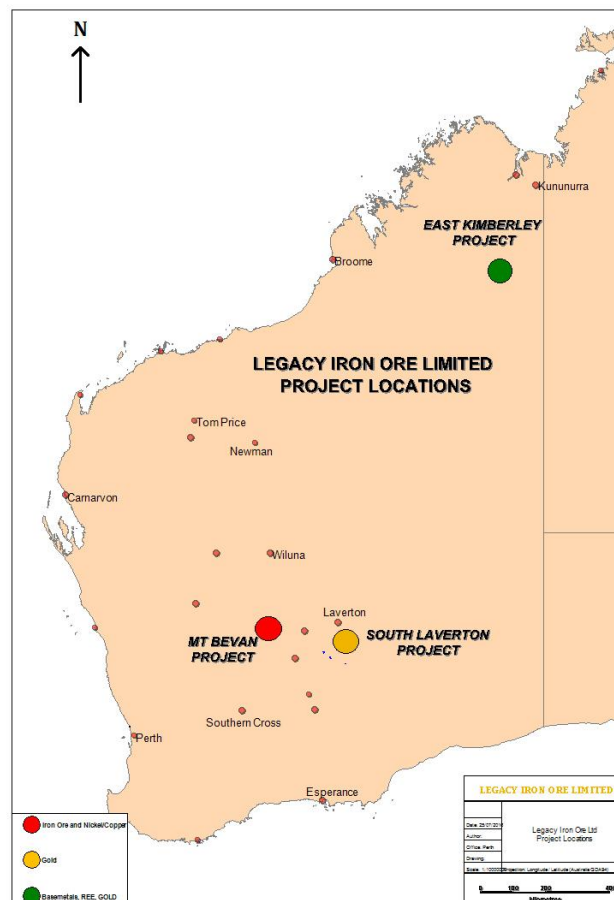


Figure 1: Legacy Iron – Project Locations

## IRON ORE and NICKEL-COPPER

### Mt Bevan Project

Mt Bevan Project is a joint venture between Legacy Iron (60% interest) and Hawthorn Resources Limited (Hawthorn). The project is a large tenement which hosts 1170 Mt of magnetite resource @ 34.9% Fe (refer Table 1 below) as well as a great potential for discovery of nickel–copper mineralisation in northern most part of the tenement.

*Mt Bevan Iron Ore:*

Mt Bevan is considered to hold excellent potential for the definition of major magnetite resources located close to existing road, rail and port facilities. The project also has potential for DSO hematite discoveries.

Successful exploration and resource definition program carried out now underpins the potential for a large scale development at Mt Bevan (refer Table 1 below for the current resource estimate and Figure 2 for a representative cross section). Legacy Iron continues to work with its 40% JV partner, Hawthorn, regarding the scope, timing and funding of further phases for the project.

The next phase of work is likely to require the completion of further resource definition and development studies required to convert existing mineral resources into JORC reserves, and further define the scope, design and capital cost of the Project and to comprehensively demonstrate the projects viability.

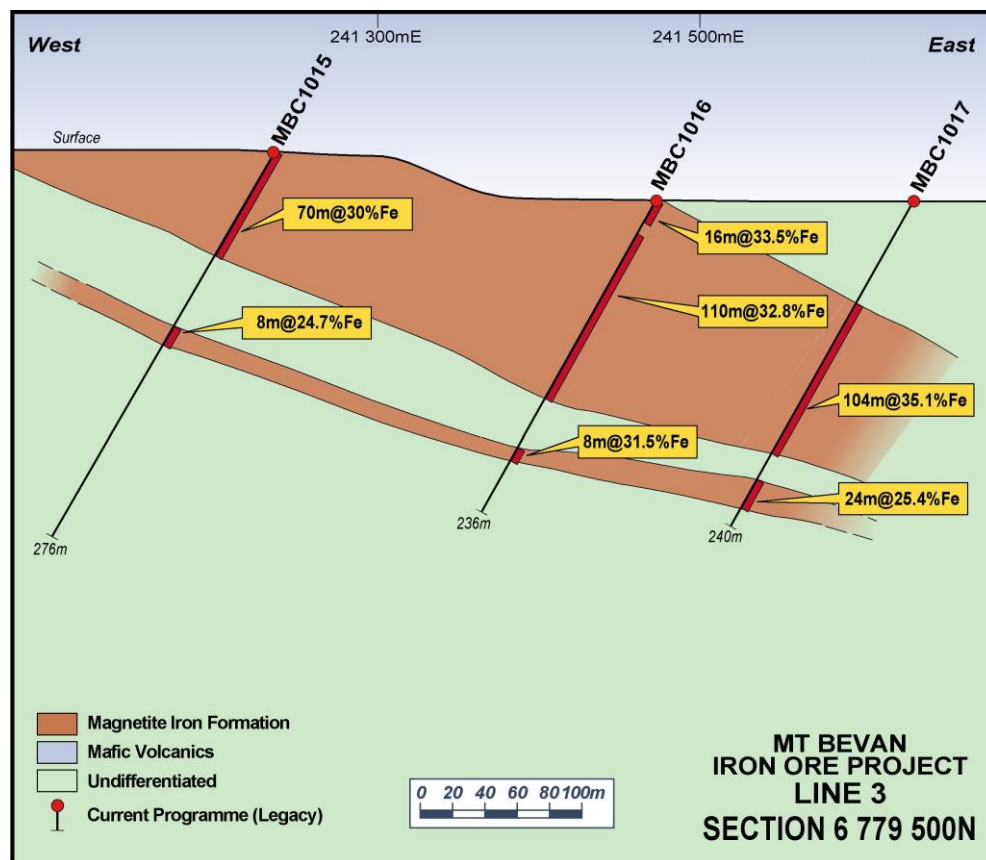


Figure 2: Drilling Cross Section - Lines 3

Mt Bevan Fresh BIF Resource											
Class	Material	Tonnes x 10 <sup>6</sup>	Fe %	SiO <sub>2</sub> %	Al <sub>2</sub> O <sub>3</sub> %	CaO %	P %	S %	LOI %	MgO %	Mn %
Indicated	<i>In situ</i> Total	322	34.7	46.2	0.57	1.35	0.054	0.131	-1.05	1.91	0.31
	<i>In situ</i> Magnetic*	44.18%	30.0	2.4	0.01	0.08	0.005	0.053	-1.38	0.05	0.01
	Concentrate	142	68.0	5.5	0.02	0.18	0.012	0.130	-3.12	0.12	0.03
Inferred	<i>In situ</i> Total	847	35.0	45.6	0.77	2.00	0.063	0.39	-1.15	1.77	0.04
	<i>In situ</i> Magnetic*	45.70%	30.8	2.8	0.01	0.06	0.004	0.042	-1.37	0.03	0.01
	Concentrate	387	67.5	5.9	0.03	0.14	0.009	0.096	-3.00	0.06	0.02
Total	<i>In situ</i> Total	1,170	34.9	45.8	0.71	1.82	0.060	0.137	-1.12	1.81	0.11
	<i>In situ</i> Magnetic*	45.28%	30.6	2.7	0.01	0.07	0.004	0.045	-1.37	0.03	0.01
	Concentrate	530	67.7	5.80	0.03	0.15	0.010	0.105	-3.03	0.07	0.02

**Table 1: Mt Bevan Resource Estimate**

\*In situ Magnetic is the material that is expected to report to the magnetic fraction. The in situ Magnetic quantities in the Tonnes column are expressed as the percentage of the in situ Total tonnes (as estimated from Davis Tube Mass recovery). - See Announcements from 2014 and 2015

(Full details of the project are available at the Company website [www.legacyiron.com.au](http://www.legacyiron.com.au))

There are still substantial areas of the Mezzo/Eastern BIF to be mapped and sampled. It is planned to continue the mapping/sampling program over the Eastern/Mezzo BIF.

#### *Mt Bevan Nickel – Copper:*

The Mt Bevan project is located immediately south and adjacent of St George Mining Limited's (ASX: SGQ) Mt Alexander Project tenement. St George has recently had significant success in identifying nickel-copper sulphide mineralisation at Cathedrals, Stricklands and Investigators along the Cathedrals Shear zone (Figure 3).

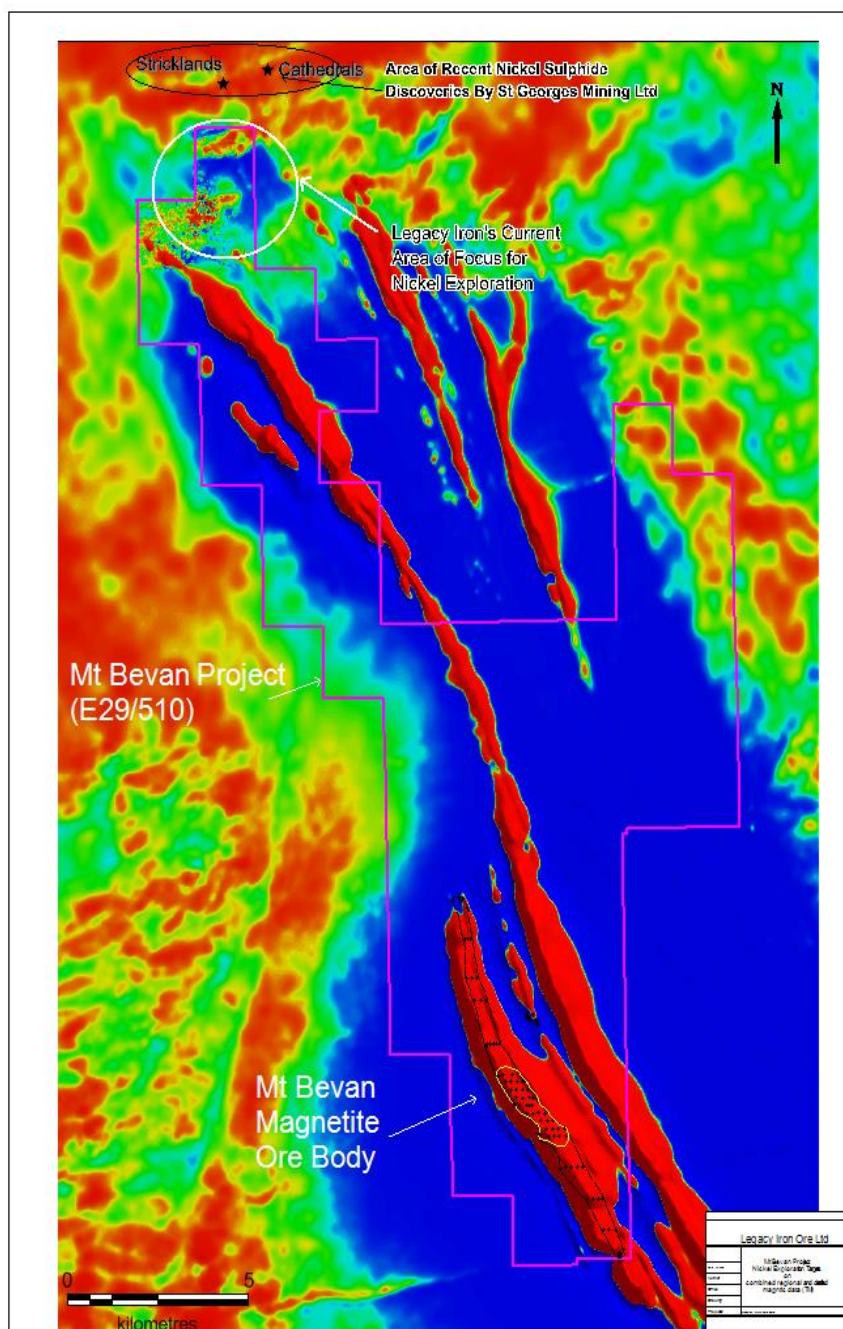
Towards end of the last quarter Legacy completed a detailed ground magnetic survey in the northern most part of the tenement. The detailed interpretation of geology and structure from the detailed ground magnetic survey has been completed during this quarter using external consultants.

Six different target zones identified in the project, which include three high priority targets, have significant potential to host nickel sulphide mineralization, based on their structural and geological setting and similarities to the adjoining Cathedrals fault. It is interpreted that this fault controls the mineralisation recently discovered by St Georges Mining Limited.

These targets have been discussed individually in table 2 and areas of high priority targets for follow-up has been outlined in Figure 4.

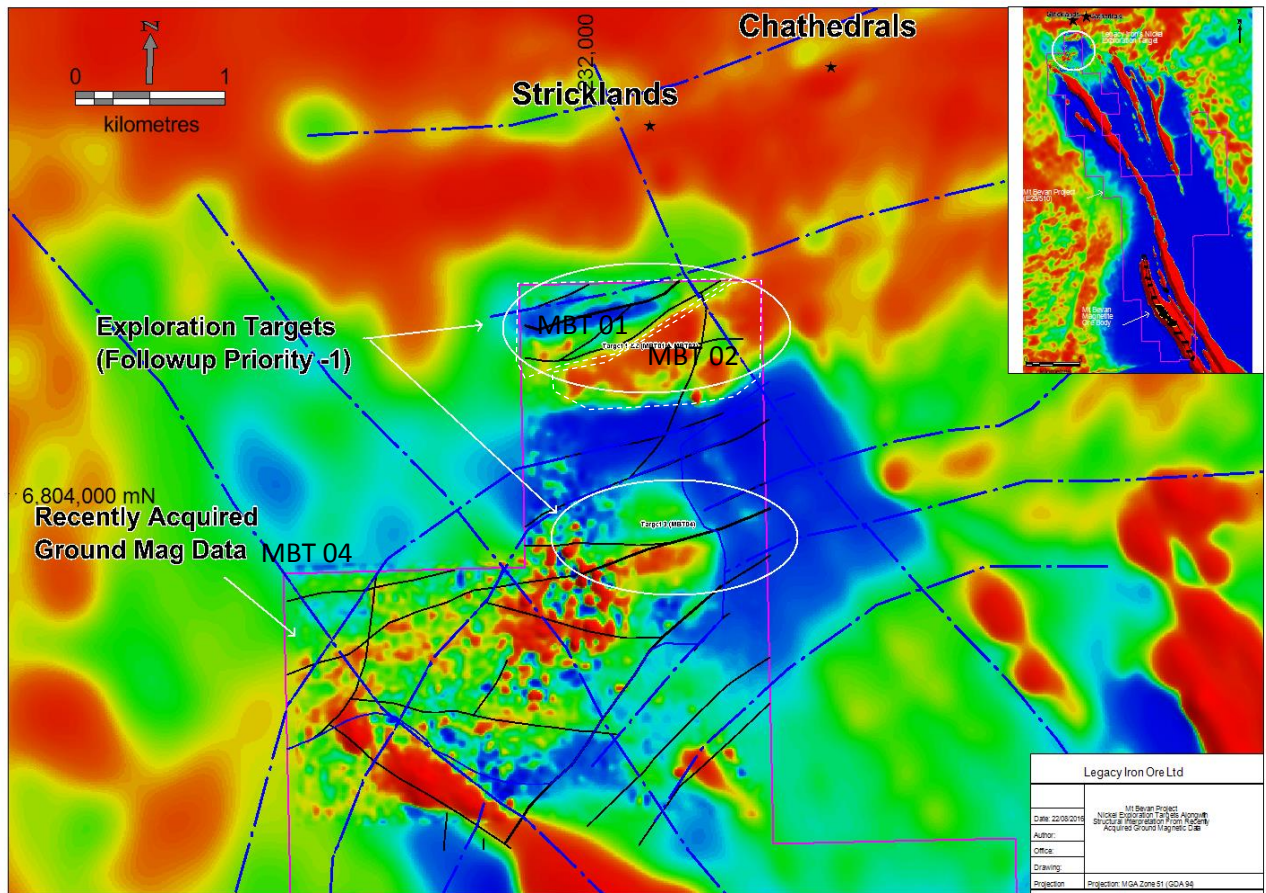
Specifically the target 1 area (MBT01) is centered around the most analogous fault to the Cathedrals fault, with a similar amount of demagnetization as well as the most similar length and direction. Targets MBT02 and MBT04 are also along the similar orientation to the Cathedrals fault and are more highly magnetic, which improves their prospectivity, as the nickel sulphide mineralisation can be magnetic.

Target MBT01 and MBT02 are located approximately 700m south of the recent discoveries made St Georges Mining Limited.



**Figure 3: Mt Bevan Project – Airborne Magnetic data image (TMI) showing area of interest for the nickel sulphide exploration**





**Figure 4: Detailed structural interpretation on recently acquired ground magnetic data image (TMI)**

The details of the six targets zones have been described in table 2 below:

Target Name	Priority	East (m)	North (m)	Description
MBT-01	High	232442	6805212	Demagnetisation along fault structure, of similar length and direction to the Cathedrals Fault and only 1km south of mineralisation at the Stricklands discovery.
MBT-02	High	232617	6805106	Moderate to highly magnetic units positioned between two faults (analogous to the Cathedrals Fault). Eastern end of target is likely to be a mixed amphibolite/ granite zone.
MBT-03	Medium	232539	6804307	Weakly magnetic zone, with analogous fault directions as the Cathedrals Fault.
MBT-04	High	232480	6803605	The eastern end of this target area shows clearly defined, broad, moderately magnetic bodies with a likely demagnetised fault inbetween. The western end of the target area has high amplitude shallow magnetic responses that might constitute a target or that may be a magnetic target masked by significant shallow laterite responses.
MBT-05	Medium	231814	6802734	High amplitude shallow magnetic response northwest of a major fault. The shallow magnetic responses that may constitute a target or simply be laterite related, or the laterite might be masking a deeper response.
MBT-06	Low	232592	6802508	Weakly magnetic zone southeast of major fault. Possible mixed granite and mafic zone.

**Table 2: Target Zone details**

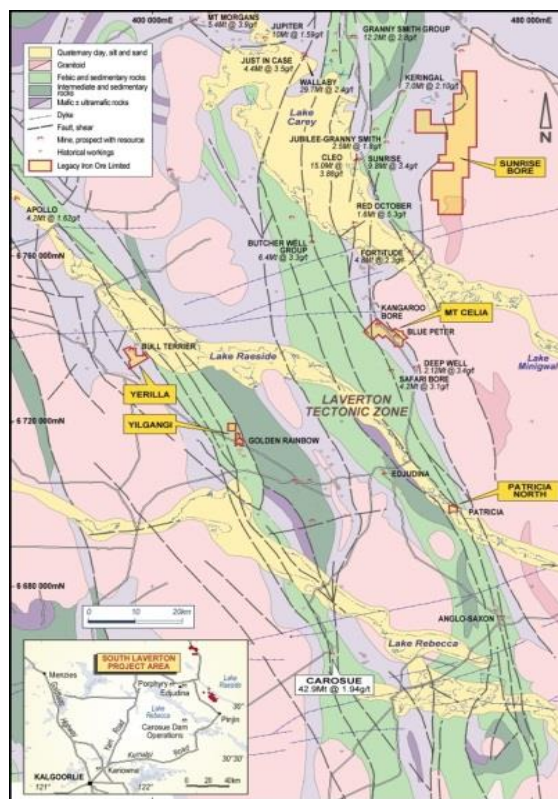
## Follow up Program

It is envisaged that following the strong indications for nickel mineralization, the Joint Venture parties will undertake additional exploration work on the high priority targets, including ground based electromagnetic (EM) survey and drill testing.

## **GOLD**

### **South Laverton Gold Project**

#### **Mt Celia Project**

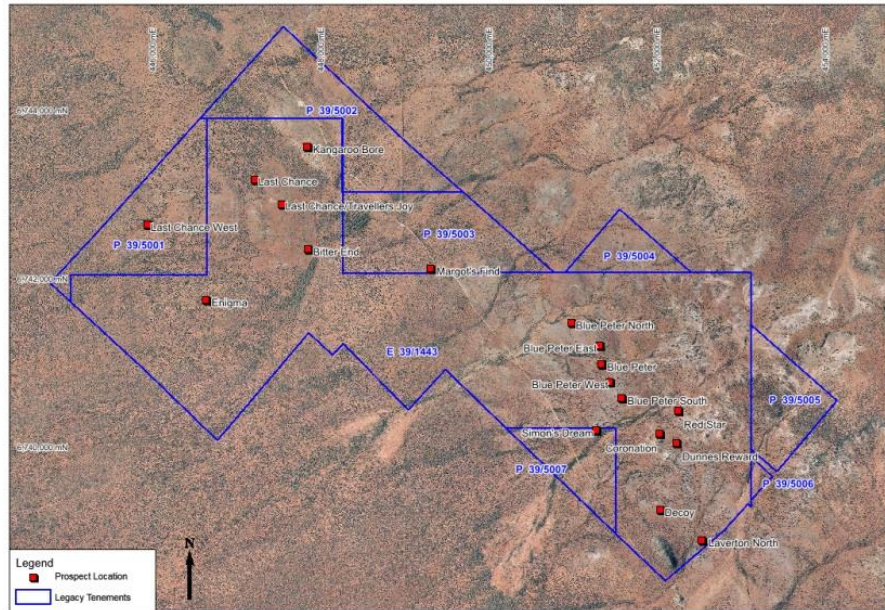


**Figure 5: South Laverton Gold Project – Mt Celia**

The Mt Celia Project lies within the Laverton Tectonic Zone some 40km south of the Sunrise Dam gold mine (8Moz gold resource), as shown in Figure 5.

The Project currently contains two JORC compliant gold resources, being the Kangaroo Bore - Inferred resource of 46,000oz gold (1.04Mt @ 1.4g/t gold using a 0.7g/t cut-off), and Blue Peter – Inferred resource of 30,554oz gold (239,232t @ 3.97g/t gold using a 1.0g/t cut-off) – refer ASX announcement on 15 Dec 2010.





**Figure 6: Mt Celia Project- Aerial image showing Blue Peter, Coronation and other prospects**

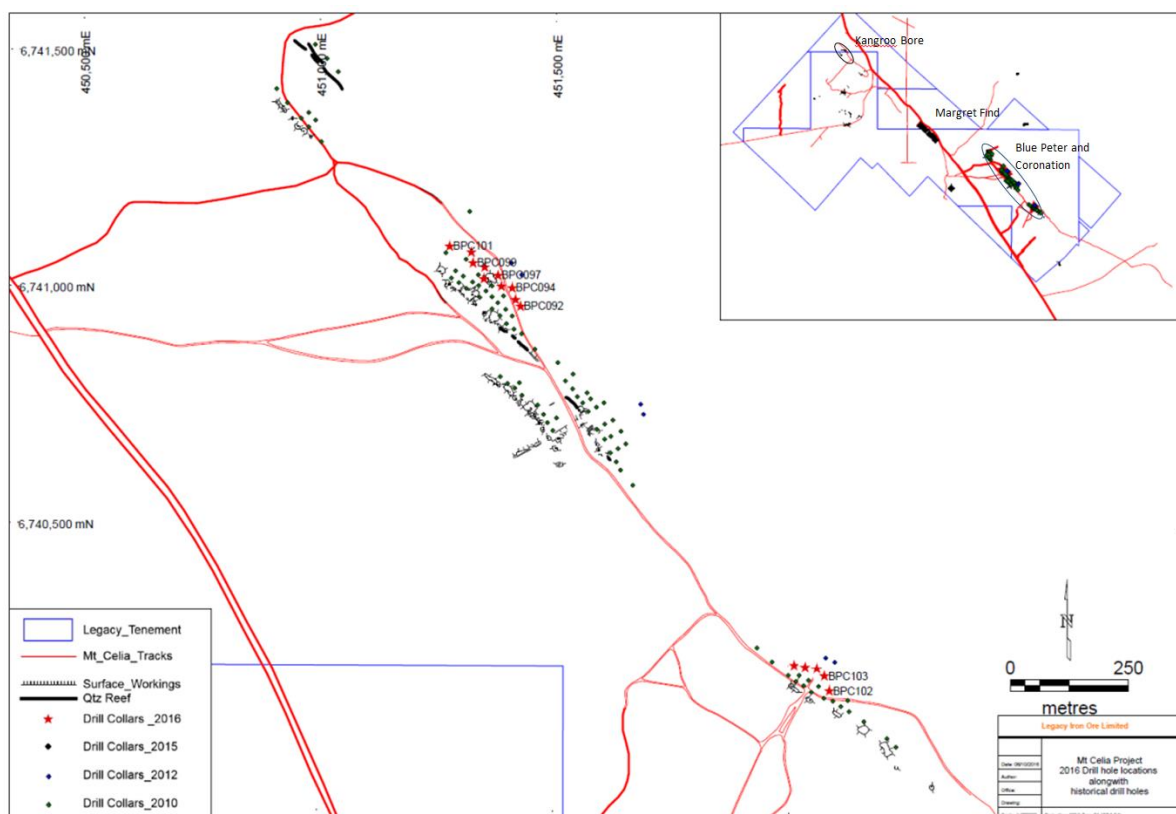
A 1,960 metre RC drilling (15 drill holes) program has recently been successfully completed with the aim to upgrade and expand the company's known gold resources. The drilling was targeted on the Blue Peter and Coronation prospects where previous drilling program produced numerous high grade gold intersections over a strike length of approximately 790m and 250m respectively (Refer to ASX announcement dated 2 September 2010). Drill holes in this program were positioned to confirm the continuity of mineralisation at depth, along strike and down dip of mineralisation at both the prospects.

The initial review of the results of this round of drilling confirms the continuity of the significant intersections along the dip up to a depth of 70m (vertical depth). Gold mineralisation appears to be associated mainly with the hanging wall and footwall contacts of a quartz lode – a zone of the quartz vein and stringers that shows patchy visible gold and pyrite. All the samples from the target zone were sent to the SGS lab for analysis

The results have returned with multiple high-grade intersections which includes (ASX Announcement 7 Oct 2016). -

- 8m @ 5.32g/t Au incl. 2m @11.9g/t from 78m to 86m in BPC096
- 8m @ 7.22g/t Au incl. 2m @20.1g/t from 108m to 118m in BPC103
- 4m @ 3.35g/t Au incl. 2m @5.24g/t from 112m to 116m in BPC098
- 4m @3.24g/t Au incl. 2m @4.08g/t from 100m to 104m in BPC104
- 2m @6.60g/t Au from 160m to 162m in BPC 097

Following figure shows the location latest drill holes along with historical drilling –



**Figure 7: Blue Peter & Coronation Prospect – August 2016 Drill hole location along with historical drilling.**

Details of the significant intersections (Au>1.0g/t) from the current round of drilling is shown in the table below –

Hole ID	Northing	Easting	Dip	Azimuth	RL	Depth in metre		End of Hole	Au in g/t	Comments
						From	To			
BPC092	6740966	451427	-60	220	411	90	92	120	1.18	2m at 1.18
BPC093	6740980	451416	-60	220	410	98	100	126	1.18	2m at 1.18
BPC094	6741005	451410	-60	220	417	134	136	156	4.12	2m at 4.12
BPC095	6741008	451387	-60	220	416	86	88	120	1.54	2m at 1.5
BPC096	6741024	451350	-60	220	420	78	80	100	11.9	8m at 5.32 ; includes 2m at 11.9
BPC096						80	82		5.99	
BPC096						82	84		2.25	
BPC096						84	86		1.14	
BPC097	6741031	451379	-60	220	421	156	158	180	4.58	2m at 4.58
BPC097	6741031	451379	-60	220		160	162	180	6.6	2m at 6.6
BPC098	6741048	451351	-60	220	420	112	114	144	5.24	4m at 3.35
BPC098						114	116		1.47	
BPC099	6741057	451327	-60	220	420	94	96	126	1.33	8m at 1.51
BPC099						96	98		1.91	
BPC099						98	100		1.37	
BPC099						100	102		1.43	
BPC101	6741092	451277	-60	220	421	78	80	126	3.69	2m at 3.69
BPC102	6740159	452085	-60	215	433	68	70	108	4.17	2m at 4.17
BPC103	6740190	452075	-60	215	430	108	110	138	5.04	8m at 7.22; includes 2m at 20.1
BPC103						110	112		1.89	
BPC103						112	114		1.87	
BPC103						116	118		20.1	
BPC104	6740205	452057	-60	215	430	100	102	132	4.08	6m at 2.56; includes 4m at 3.24
BPC104						102	104		2.41	
BPC104						104	106		1.21	
BPC105	6740207	452033	-60	215	431	78	80	114	2.45	2m at 2.45
BPC106	6740206	452005	-60	215	434	56	58	102	1.01	2m at 1.01

**Table 3: Table showing all the intersections of gold mineralisation with gold assay more than 1.0g/t**

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This RC drilling program was focused on the Blue Peter shear system containing several small historic gold workings (Figures 6 and 7). The shear system extends over a distance of at least 2 kilometres, and consists of single, parallel or en echelon quartz filled shears within mafic and lesser ultramafic lithologies, that flank an eastern granitoid.

This geometry coupled with the widespread gold dry blowings is favourable for a bulk tonnage gold potential for the system.

Future Plan:

- Next step for the project is to update the geology and resource model which is likely to increase the resource estimate for the project.
- Additionally complete the current year's phase two drilling program in some of the areas in the project.

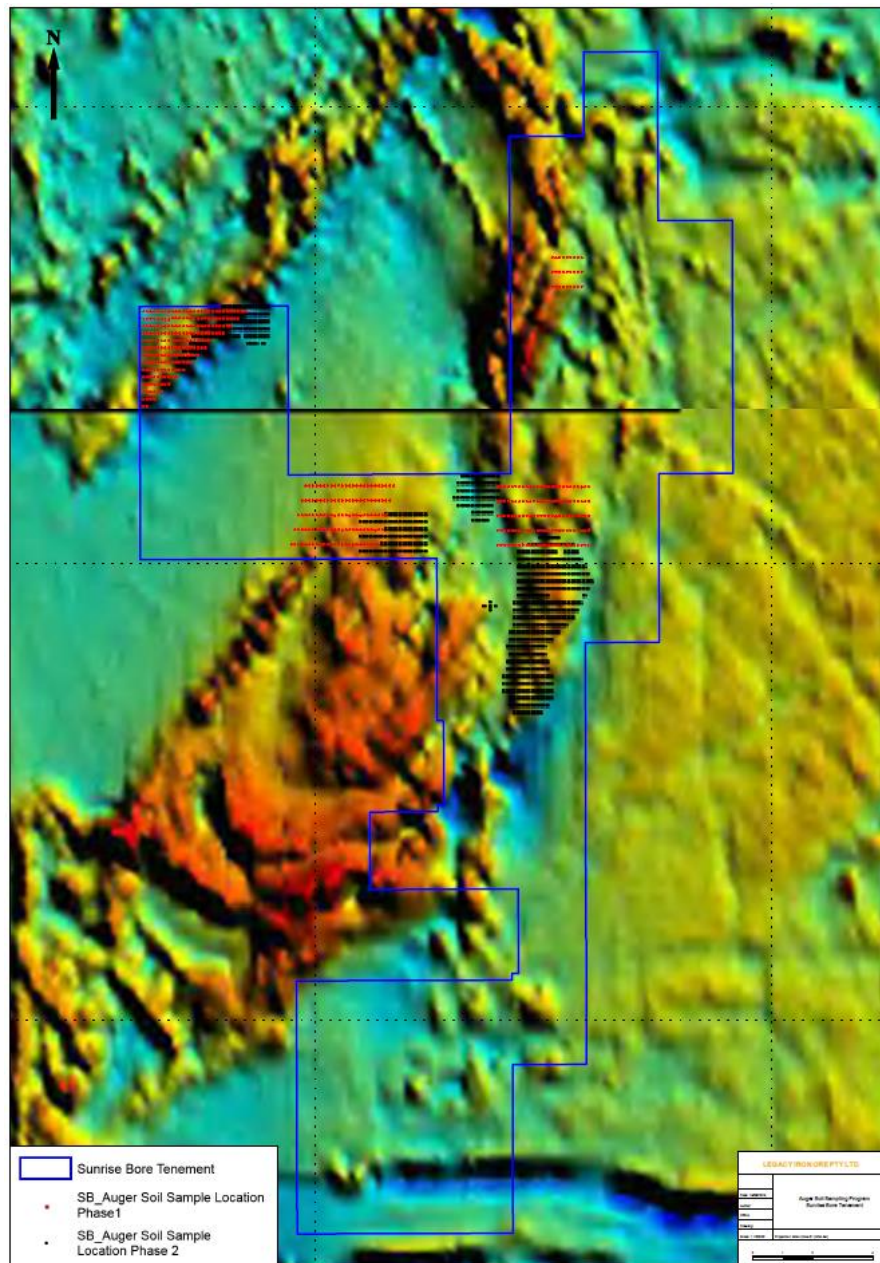
**Sunrise Bore Project**

The Sunrise Bore project lies some 12 km east of the world class Sunrise Dam gold mine operated by AngloGold Ashanti.

The results second phase of the auger soil geochemical sampling program were received during this quarter. Phase 2 consisted of 621 auger soil samples designed to cover a number of priority target shear zones, several of which are associated with gold anomalism noted in the reconnaissance field work. These were in addition to the 496 samples taken during Phase 1 (see ASX announcement dated 28 April 2016).

In this round of auger sampling, samples were collected over five different target areas which included 78 infill samples across the low order anomalies identified from phase 1 round of sampling (figure 8).

The majority of the samples were collected over a broadly spaced grid (160mx80m), in order to facilitate the coverage of a larger area of the newly identified targets.



**Figure 8: Sunrise Bore sample locations**

Results of the phase 2 round of sampling returned with a peak Au value of 169ppb, while this is not an extremely high value but it is higher than that the background gold (Au) values (figure 9). A number of areas contained results between 24ppb to 169ppb and provide encouragement for the Company to follow up with close spaced soil sampling, ground geophysics and drill testing depending on the continued encouragement from the follow-up work.

The samples returned (being over 24ppb) are shown in Table 4 below (ASX announcement 18 August 2016):

Sample ID	Easting	Northing	Au in PPB
SBA0903	464620	6787840	169
SBA0892	464620	6788000	94

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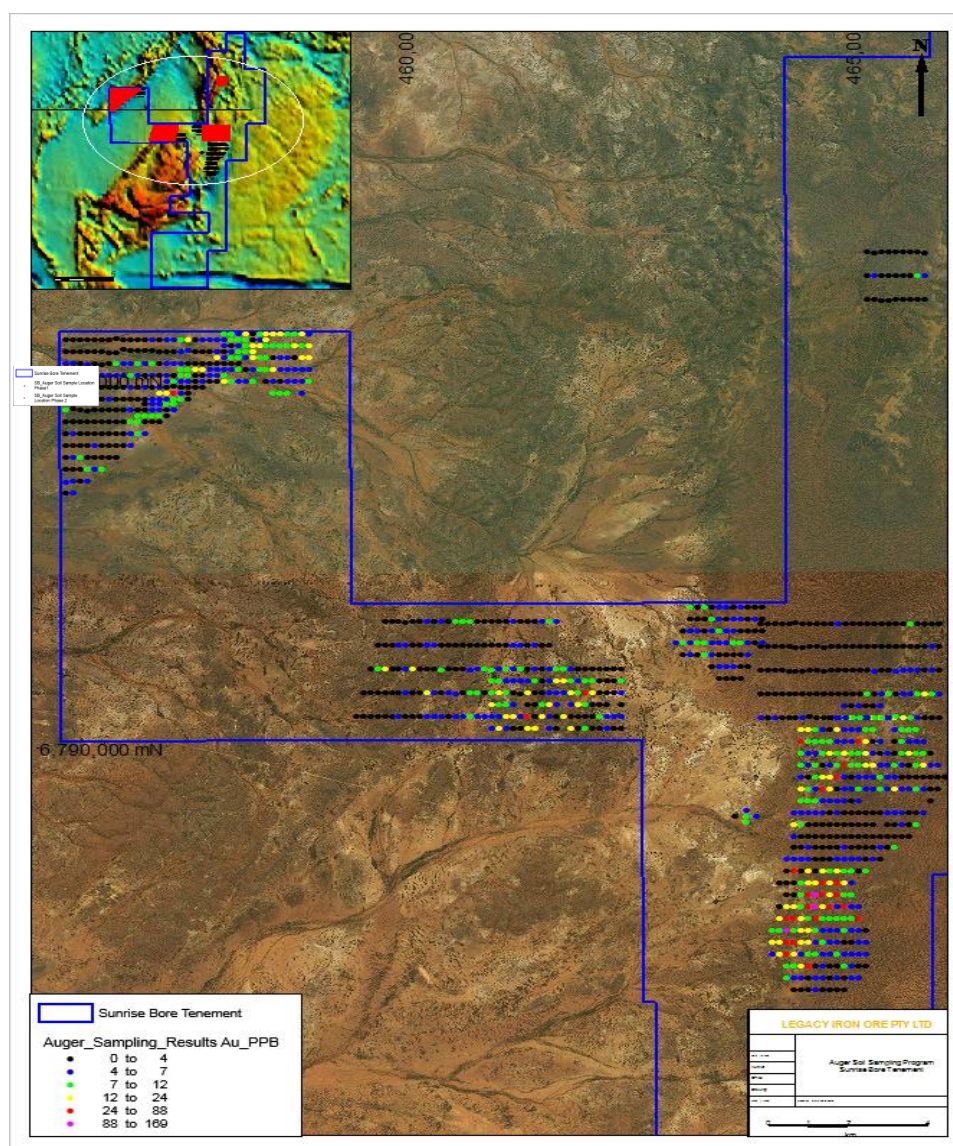
SBA0924	464300	6787520	88
SBA0902	464540	6787840	59
SBA0948	464300	6787360	50
SBA0891	464700	6788000	48
SBA0905	464780	6787840	43
SBA1036	464460	6790080	41
SBA0678	462040	6790740	39
SBA0910	465100	6787680	39
SBA0874	464380	6788320	37
SBA0889	464860	6788000	35
SBA1026	465100	6790080	34
SBA0916	464620	6787680	32
SBA0882	464700	6788160	31
SBA1055	464700	6789440	31
SBA1102	464940	6789760	31
SBA0907	464940	6787840	29
SBA0947	464380	6787360	29
SBA1088	464860	6789600	29
SBA0884	464860	6788160	27
SBA0893	464540	6788000	27
SBA0919	464380	6787680	27
SBA0571	457440	6794800	25
SBA0920	464300	6787680	25
SBA0984	464540	6787040	25



SBA0953	464300	6787200	24
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**Table 4: samples over 24 ppb Au**

All sample results are shown in figure below.



**Figure 9: Sunrise Bore auger drilling – results**

### Follow up Program

The next phase of follow-up exploration work is under planning at this stage, and is likely to include infill geochemical sampling (auger, stream and rock chip sampling) along with ground based geophysical survey where necessary.

The follow-up exploration work is planned for early 2017, and given Sunrise Bore is a large tenement, additional work by regional geochemical sampling, mapping and geophysical survey will also be undertaken over other areas of the tenement.

## GOLD/BASEMETALS – EAST KIMBERLEY

The East Kimberley Project tenement is located in the Halls Creek area. Halls Creek is located 347km south of Kununurra and is readily accessible via the sealed Great Northern Highway. The project currently comprises exploration licence “Koongie Park - E80/4221” (Figure 10).

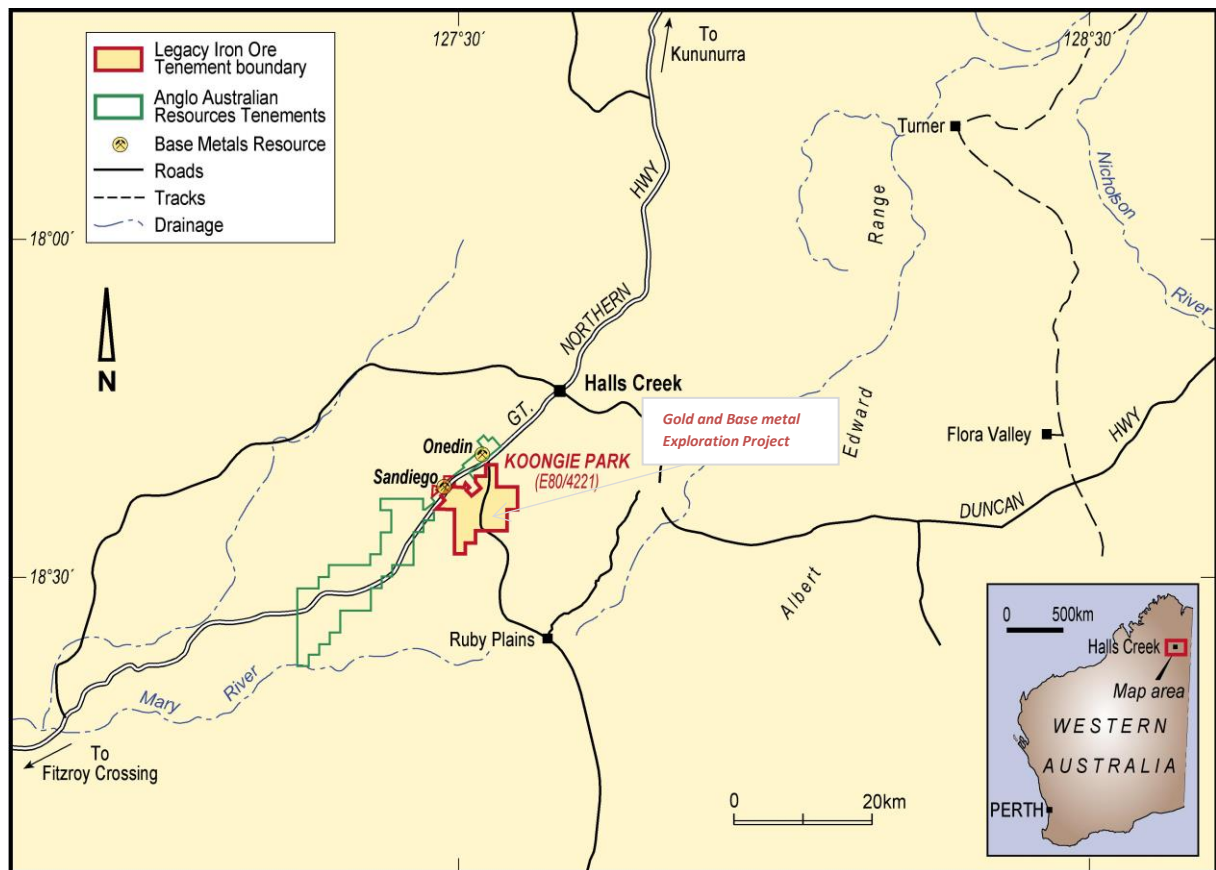


Figure 10: East Kimberley Project

### Koongie Park Project

Legacy Iron holds exploration licence E80/4221 that is contiguous with ground under exploration by Anglo Australian Resources Limited (AAR) at its Koongie Park VHMS base metals deposit. AAR has defined substantial base metal/gold/silver mineralisation in two deposits to date, with a total JORC resource (Indicated and Inferred) of 8Mt at 3.3% zinc, 1.2% copper, 0.3g/t gold and 23g/t silver. AAR has also recently outlined a shallow supergene high grade copper resource.

The style of mineralisation (VHMS) is similar to that found at Sandfire Resources’ Doolgunna and Monty discoveries and at the Teutonic Bore/Jaguar/Bentley deposits of Independence Group. This style of deposit is known worldwide to occur in clusters and often the early discoveries in these camps are not the largest.

Exploration done by Legacy Iron has consisted of:

- Field reconnaissance and minor rock chip sampling. Most of the northern part of the tenement is under shallow alluvial cover with very little rock outcrop.
- The flying of a helicopter borne geophysical survey over the northern part of the tenement. This was conducted by Fugro Geophysical Surveys in February this year and

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comprised a HELITEM survey measuring the electrical conductivity of the ground at depth.

- Drill testing (drilled 12 RC drill holes for 2133 metres) over some of the high priority EM targets but none of the drill hole intersected any mineralisation, however the drilling to date has only tested a small part of this unit (less than 1 km strike), and at a wide spacing.

#### Work completed during the quarter:

A detailed geological review of the tenement was completed based on all the available data sets. An area of 25 sq km has been outlined for soil geochemical sampling with spacing of 200x80m grid.

This work is likely to provide a geochemical picture of the prospective areas to target the next phase of the exploration along with historical data sets.

#### Future Plan:

Complete the proposed soil geochemical sampling program and define some targets for further follow-up including drill testing within the area outlined (figure 11).

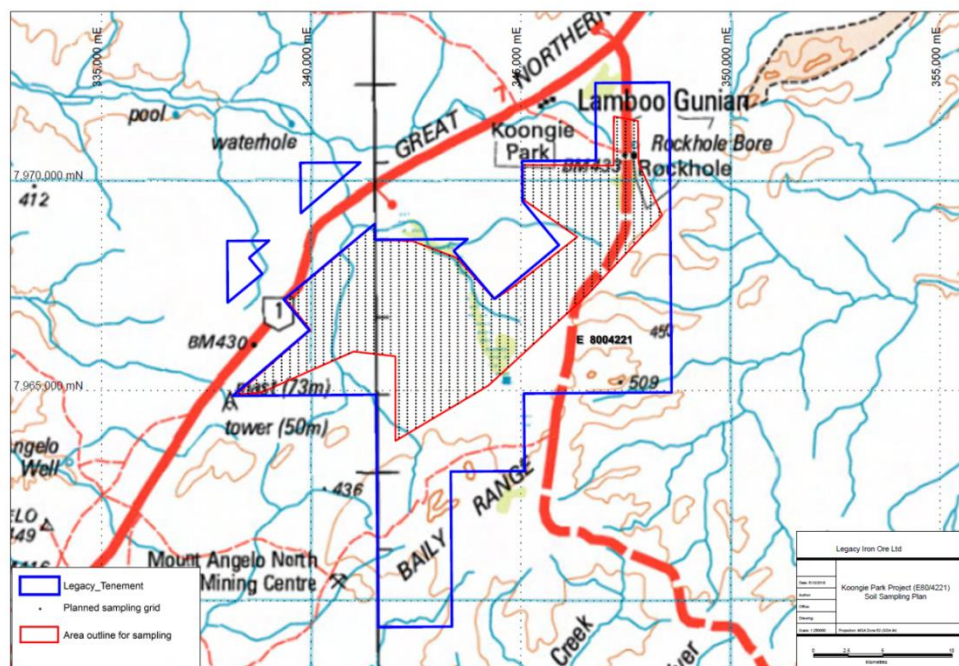


Figure 11: location of proposed work (soil sampling)

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## PLANNED ACTIVITIES – DECEMEBR 2016 QUARTER

Principal activities planned for the December 2016 quarter will comprise:

**Mt Bevan Project:** Complete ground electromagnetic (EM) survey across the priority one targets identified from the ground magnetic data interpretation.



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**South Laverton:** Update the geology and resource model for Mt Celia (Blue Peter and Coronation prospects) which is likely to increase the resource estimate for the project.

**East Kimberley:** Carry out the proposed soil geochemical sampling program in the project area.

**Project Generation:** Continue to review new potential opportunities.

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**Competent Person's Statement:**

*The information in this report that relates to Exploration Results is based on information compiled by Bhupendra Dashora who is a member of AusIMM and a consultant to Legacy Iron Ore Limited. Mr. Dashora has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking 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. Dashora consents to the inclusion in this report of the matters based on his information in the form and the context in which it appears.*