

27 January 2016

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# ***Fairwater Nickel Project***

## ***Gravity Survey Advances Chonolith Model for Nickel Sulphide Targets***

### ***Priority targets identified for next phase of drilling***

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#### **HIGHLIGHTS**

- **Three peaks (G1-G3) are evident in gravity imagery for the Fairwater Nickel Project;**
- **G1-G3 peaks are interpreted as zones of thickened or denser rocks that may represent the intrusive core of the Fairwater mafic-ultramafic structure;**
- **Anomalous nickel sulphide pathfinder soil geochemistry coincides with the G1 anomaly.**

Pioneer Resources Limited ("**Company**" or "**Pioneer**") (ASX: PIO) is pleased to advise that within its recently completed gravity survey at the Fairwater Nickel Project in the Albany-Fraser Orogen in south east Western Australia, the Company has identified three gravity peaks, representing targets for future work.

Pioneer's Managing Director, David Crook, said that while geophysical processing is continuing, the Company is highly encouraged by the geological context provided by the amalgamated interpretations of gravity, magnetics, soil geochemistry and drilling results to date.

"Geoscientific observations made at Fairwater continue to be consistent with a 'chonolith' nickel sulphide environment, and as modelling continues, plans to test the three priority targets, now refined by the gravity survey, by reverse circulation drilling followed by high-power down-hole EM surveys, will be firmed up for the June quarter 2016," he said.

- **The G1 peak** is located towards the centre of the Fairwater Intrusion, and
  - coincides with the principle Fairwater nickel-chromium soil geochemistry anomaly;
  - coincides with peak copper-platinum-palladium (nickel pathfinder) soil geochemistry responses; and
  - litho-geochemistry from diamond drill holes FWDD001-003 provided a general nickel mineralisation vector direction towards the centre of the Fairwater Intrusion, and the G1 gravity feature.
- **The G2 peak** is located towards the northern end of the Fairwater Intrusion. When observations are considered along with the geological interpretation from Pioneer's drilling programs, the G1 and G2 peaks may represent components of the intrusive core, that is flanked by the flatter-lying sills intersected in aircore drilling;
- **The G3 peak** is located towards the southern end of the Fairwater Intrusion adjacent to a magnetic high, and possibly offset by faulting from the ultramafic unit(s) hosting the G1 and G2 anomalies. Information suggests a westerly dip to the eastern-most ultramafic sill, which is consistent with that seen in aircore and diamond drilling from the 2015 programs.

## BACKGROUND TO GRAVITY SURVEY RESULTS

The gravity survey has successfully located zones of increasing rock density, which may be related to the feeder zones (or chonoliths) for the interpreted Fairwater mafic-ultramafic conduit sill-dyke system. A chonolith is considered the most prospective location for nickel sulphide mineralisation trap sites and accumulations.

The gravity survey provided blanket coverage of the Fairwater ultramafic intrusion at a station spacing of 100 x 50m. Geophysical consultants, Newexco Mining and Exploration Services, has completed an initial interpretation including a preliminary inversion model of these data.

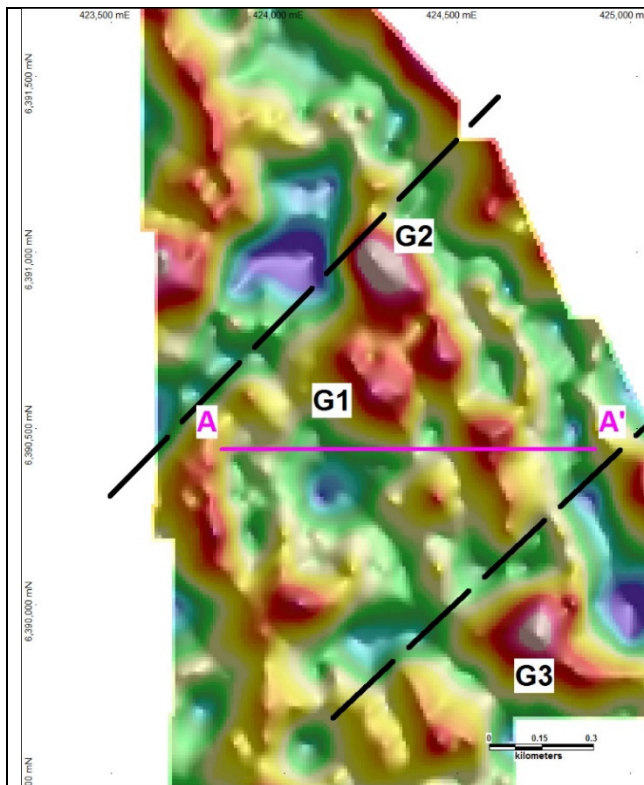
The survey involved 651 stations that were tied to a local base, which in turn was tied to the national isogal network via Norseman.

## OUTLOOK

The geological model that is being developed from the gravity survey will be further refined using aeromagnetic data and direct geological information from the drill programs. The drill program to test the resulting targets will then be finalised, initially utilising reverse circulation drilling to provide a platform for high power down-hole EM surveys. This is expected to provide an effective test to a depth of 600 metres below surface.

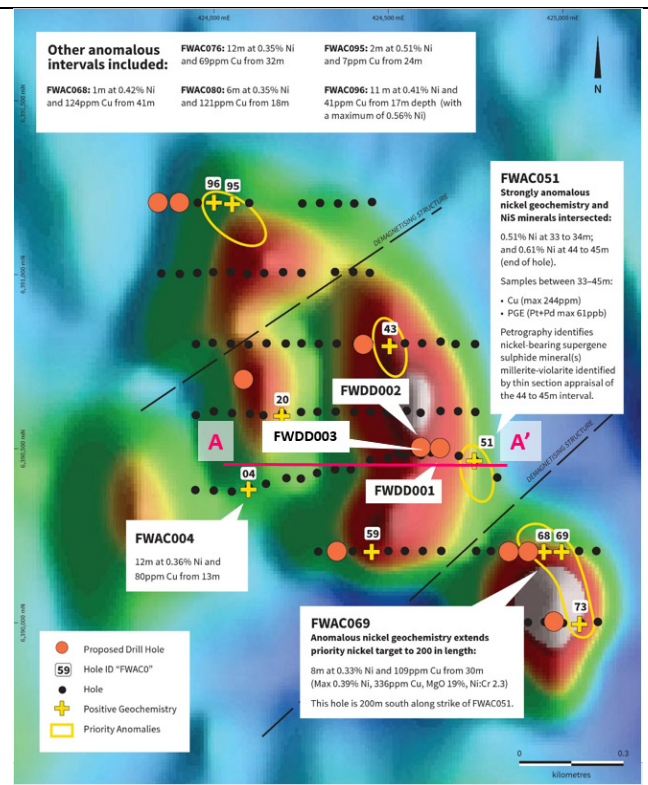
Additional pre-collared diamond core drilling may follow if warranted, directly targeting EM conductors that may include nickel sulphide mineralisation.

The Company holds regulatory approval to undertake much of this work, scheduled for the first half of 2016.



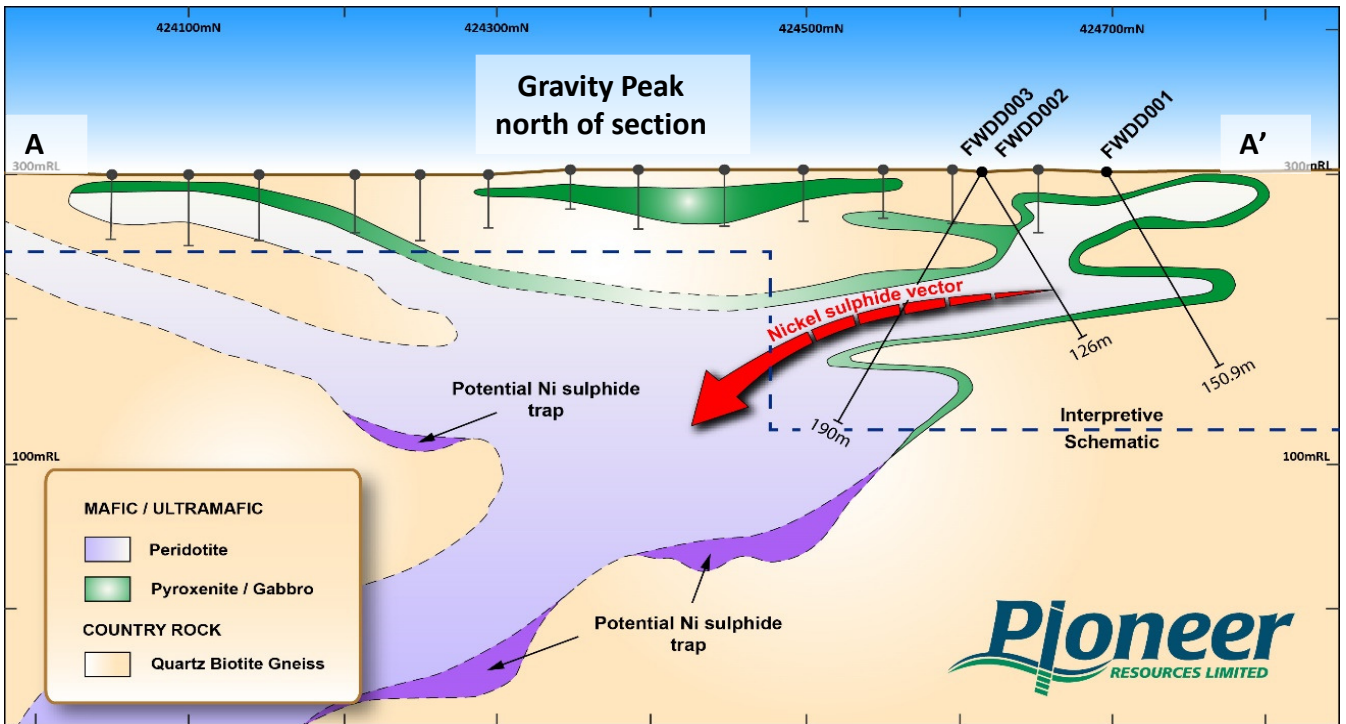
**Figure 1:** Fairwater Nickel Project Gravity Image.

The image shows processed residual Bouguer anomaly data, and locations with the highest gravity response, marked G1-G3. These are thought to represent thickened zones of ultramafic rock, and might represent the feeder zones (or chonoliths) for the Fairwater mafic-ultramafic intrusive.



**Figure 2:** Fairwater Nickel Project Summary Plan.

Shows 99 completed aircore drill holes (black dots) and 3 completed diamond core holes (marked). The underlying image is of aeromagnetic data which indicates the location ultramafic rocks as warmer colours. A-A' shows the extent of the interpretive and schematic cross section in Figure 3.



**Figure 3:** Interpretive and schematic illustration through the Fairwater Intrusion at approximately 6,390,500mN and components of a mafic-ultramafic conduit sill-dyke nickel sulphide style setting.

### **Background to the FAIRWATER Nickel Project**

The Fairwater Project’s nickel targets are located in interpreted Proterozoic-aged rocks between 100 and 130km south west of Independence Group NL (ASX: IGO) Nova and Bollinger nickel deposits, in the Albany-Fraser Orogen in south east Western Australia.

Proof of concept aircore and diamond core drilling has successfully confirmed the presence of ultramafic and mafic rocks, which are interpreted as a mafic-ultramafic conduit sill-dyke system. Ultramafic rock is identified by chemical composition, - principally its iron, magnesium, chromium and nickel content, mineralogy (olivine, pyroxene or alteration minerals such as serpentine, talc, chlorite and carbonates) and colour, and is a common host rock for nickel deposits world-wide.

The Fairwater Nickel Project is one of the Company’s three key exploration assets. The other two are the Acra Gold Project near Kalgoorlie; and the Blair Nickel Mine near Kambalda. All are within Western Australia.

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## **Glossary:**

“Aircore” is a blade drilling technique which returns relatively uncontaminated samples through a central annulus inside the drill pipes. It is used to test the regolith (near surface unconsolidated and weathered rock) as an alternative to RAB drilling when conditions are wet, sandy or holes need to go deeper than by RAB.

“Diamond Core Drilling” is a technique whereby rock is cut by a rotating diamond-set tubular bit to produce a cylinder of the rock.

“EM” means electromagnetic, a geophysical survey technique used to locate conductive rocks which may include nickel sulphide mineralisation. There are a number of configurations of transmitters, receivers and processing available depending on the application including Ground EM: commonly ‘moving loop’ or ‘fixed loop’; DHEM using a ‘down hole’ receiver coil; and ‘versatile time domain’ – VTEM which is an airborne system. SAMSON is a type of receiver with a very low signal to noise ratio.

“Fertility” means the attributes of a rock that contribute to the formation of a specific metal deposit. This may include the chemical composition and crystal structure of the rock-forming minerals, the sulphidation and/or oxidation state, the temperature of emplacement and degree of contamination by other rocks during emplacement.

“ppm” means 1 part per million by weight.

“Mafic” and “Ultramafic” are a class of igneous rocks high in magnesium “ma” and iron “fic”, which are thought to be derived from magma from near the earth’s mantle.

“RC” means reverse circulation, a drilling technique that is used to return uncontaminated pulverised rock samples through a central tube inside the drill pipes. RC samples can be used in industry-standard Mineral Resource estimates.

“Regolith” means the layer of loose, heterogeneous material covering solid rock. It includes dust, soil, broken rock, and other related materials. In Western Australia it most commonly refers to the almost ubiquitous layer of weathered and decomposed rock overlying fresh rock.

Elements: “Au” means gold, “Cu” copper, “Ni” nickel, “Ag” silver, “Pb” lead, “Zn” zinc, “Pt” platinum, “Pd” palladium, “PGE” platinum group element. Herein it means Pt+Pd

“N”, “S”, “E”, or “W” refer to the compass orientations north, south, east or west respectively.

“pXRF” means portable x-ray fluorescence. Pioneer owns an Olympus portable XRF analyser which is an analytical tool providing semi-quantitative analyses for a range of elements ‘in the field’.

## Competent Person

The information in this report that relates to Exploration Results is based on information supplied to and compiled by Mr David Crook. Mr Crook is a full time employee of Pioneer Resources Limited and a member of The Australasian Institute of Mining and Metallurgy (member 105893) and the Australian Institute of Geoscientists (member 6034). Mr Crook has sufficient experience which is relevant to the styles of mineralisation and types of deposit under consideration and to the activities undertaken to qualify as a Competent Person as defined in the 2004 and 2012 Editions of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Additional information in respect of geochemical data and interpretations is by Dr Nigel Brand, and geophysical data by Mr Bill Amann of Newexco Mining and Exploration Services. Mr Crook, Mr Amann and Dr Brand consent to the inclusion in the report of the matters based on their information in the form and context in which it appears.

## Caution Regarding Forward Looking Information

This document may contain forward looking statements concerning the projects owned by the Company. Statements concerning mining reserves and resources may also be deemed to be forward looking statements in that they involve estimates based on specific assumptions.

Forward-looking statements are not statements of historical fact and actual events and results may differ materially from those described in the forward looking statements as a result of a variety of risks, uncertainties and other factors. Forward-looking statements are inherently subject to business, economic, competitive, political and social uncertainties and contingencies. Many factors could cause the Company's actual results to differ materially from those expressed or implied in any forward-looking information provided by the Company, or on behalf of, the Company. Such factors include, among other things, risks relating to additional funding requirements, metal prices, exploration, development and operating risks, competition, production risks, regulatory restrictions, including environmental regulation and liability and potential title disputes.

Forward looking statements in this document are based on the Company's beliefs, opinions and estimates of the Company as of the dates the forward looking statements are made, and no obligation is assumed to update forward looking statements if these beliefs, opinions and estimates should change or to reflect other future developments.

There can be no assurance that the Company's plans for development of its mineral properties will proceed as currently expected. There can also be no assurance that the Company will be able to confirm the presence of additional mineral deposits, that any mineralisation will prove to be economic or that a mine will successfully be developed on any of the Company's mineral properties. Circumstances or management's estimates or opinions could change. The reader is cautioned not to place undue reliance on forward-looking statements.

- Note 1. (Fairwater) Refer to Company announcements to ASX dated:
  - 21 July 2014, 13 April 2015, 5 June 2015, 6 July 2015, 17 September 2015, 8<sup>th</sup> October 2015, 10 November 2015, 9 December 2015.
  - Quarterly Activities Report for the September 2014 quarter dated 31 October 2014, Quarterly Activities Report for the March 2015 quarter dated 30 April 2015.  
Quarterly Activities Report for the June 2015 quarter dated 31 July 2015.  
Quarterly Activities Report for the September 2015 quarter dated 30 October 2015

The Company it is not aware of any new information or data that materially affects the information included in this announcement.