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ABN: 44 103 423 981 Tel: +61 8 9322 6974 Fax: +61 8 9486 9393

email: dcrook@PIOresources.com.au

Address: 21 Ord Street West Perth Western Australia

> Postal: PO Box 1787 West Perth Western Australia 6872

# Key Nickel Sulphide indicators intersected in drilling at Fairwater Project

Pioneer Resources Limited ("**Company**" or "**Pioneer**") (ASX: PO) is pleased to advise that it has intersected key nickel sulphide indicators in its diamond core drilling program at the Fairwater Nickel Project, in the Albany Fraser Orogen in south east Western Australia.

Three diamond core holes were drilled during the current program and each intersected ultramafic rocks within an interpreted mafic-ultramafic chonolith or complex conduit sill-dyke system. This environment is considered highly prospective for nickel sulphide mineralisation.

Using major-element rock geochemistry the program has generated a compelling mineralisation vector that indicates increasing fertility towards the centre of the sill-dyke system. On the back of these highly encouraging results, a gravity survey is underway, to provide increased focus for the next phase of drilling.

The results from this program support previous aircore drilling by Pioneer, which intersected supergene nickel sulphide minerals (at hole FWAC051: 0.61% Ni at 44 to 45m).

## Key outcomes of the Geochemical Interpretation of Drilling Results

- Voluminous ultramafic rocks intersected in all three drill holes: Highly magnesian (MgO) ultramafic rocks (such as peridotites with 28%-36% MgO) are a favourable host for nickel sulphide mineralisation;
- Enriched nickel chemistry: When normalised to MgO content, the Fairwater peridotites show nickelenrichment compared to global equivalents. This is greatest in the western-most drill hole;
- Igneous differentiation and replenishment indicated: Considered a fundamental requirement for nickel sulphide generation; and
- Localised enrichment in nickel, copper and PGEs: Samples from FWDD003 show a spike in Ni relative to MgO content, a sign that nickel is concentrated at this horizon. This is exemplified in FWDD003 from 114.75 to 115.5m which contained elevated nickel, and anomalous copper (168ppm) platinum + palladium (119ppb) and sulphur (3, 894ppm).

Pioneer's Managing Director, David Crook said:

"The geochemical data from the first phase of diamond drilling provides a clear, westerly trending mineralisation vector, based on improving nickel-enrichment and the presence of elevated copper, platinum, palladium and sulphur in FWDD003. We have commenced a gravity survey which aims to better define the chonolith or conduits for the sill-dyke system where nickel sulphide mineralisation is most likely to have been deposited."

A Discussion of the Geochemical Results from the diamond drilling the Fairwater Project is included in this announcement.

## FAIRWATER Nickel Project: Nova-Bollinger-style Nickel Sulphide Environment

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

Aircore drilling (including FWAC051: 0.61% Ni at 44 to 45m with supergene nickel sulphide minerals), and now diamond core drilling, has intersected rocks considered prospective for nickel sulphides within an interpreted chonolith – a complex mafic-ultramafic conduit sill-dyke system.

#### Project Advancement Timetable: Gravity Surveying ahead of Drill-Testing

- The gravity survey is planned for completion this week. It will cover much of the area shown in Figure 1. Areas with the greatest gravity response are likely to represent areas with the greatest thickness of dense ultramafic rocks. This type of survey can also detect deep structures which may be related to the conduit system for the mafic-ultramafic magma.
- RC Drilling is planned for the first half of 2016, and will test targets resulting from the gravity survey.

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.

**Managing Director** 

**Pioneer Resources Limited** 

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For further information please contact:

David Crook

Managing Director

Pioneer Resources Limited

T: +61 8 9322 6974

E: dcrook@pioresources.com.au

James Moses

Media and Investor Relations

Mandate Corporate

M: +61 420 991 574

E: james@mandatecorporate.com.au

- 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, and Quarterly Activities Reports between 10 October 2012 and present.

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

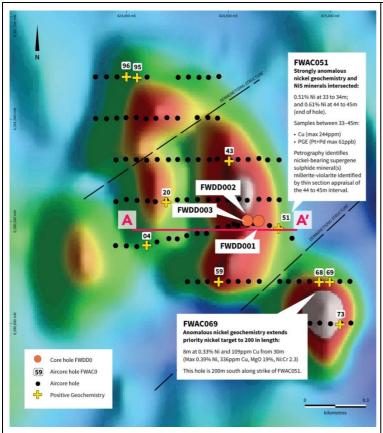
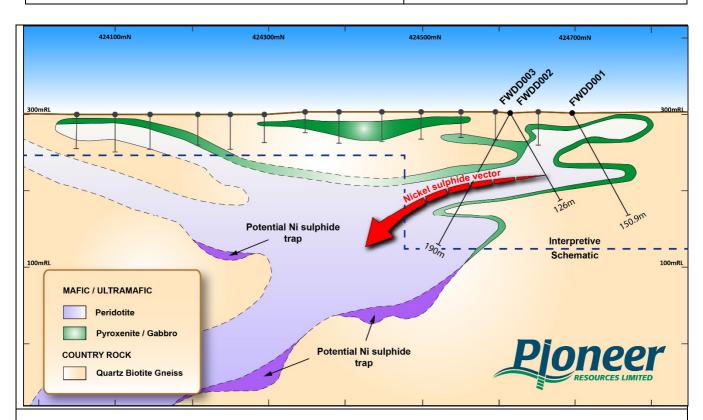


Figure 1: FWNi003 Prospect summary plan showing completed aircore drill hole locations (black dots) and the locations of the three completed diamond core holes from this program. The underlying image is of aeromagnetic data which indicates the location of more-magnetic mafic-ultramafic rocks as warmer colours.

A-A' shows the extent of the interpretive and schematic cross section in Figure 2.

Also please refer to Note 1.



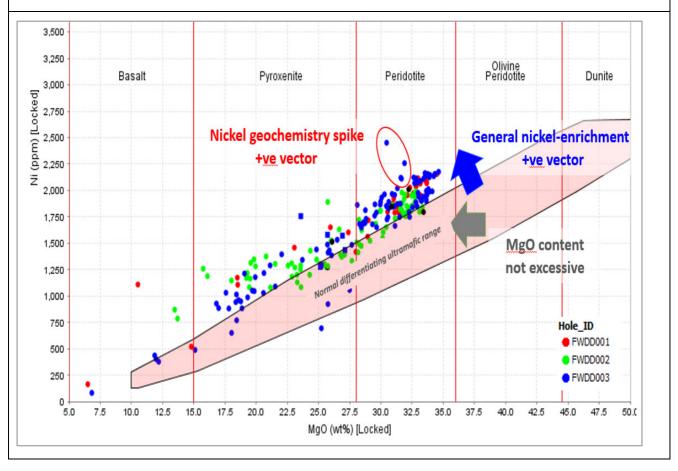
**Figure 2:** A suite of highly magnesian mafic-ultramafic rocks has been intersected in three diamond drill holes. The sequence thickens, and nickel sulphide vector information improves, in a westerly direction towards the interpreted centre of the mafic-ultramafic intrusion.

**Figure 3:** A developing nickel sulphide vector: When normalized against MgO content, the ultramafic (UM) rocks generally show Ni enrichment (blue arrow) when compared to the global norm.

Having been derived initially from a single, deep, magma source, it is noteworthy that pyroxenites and peridotites, evidenced by an MgO content range of 17%-28% and 28%-34% respectively in fresh rock drill samples, have been intersected in drilling. This indicates that dynamic magmatic processes such as Igneous differentiation and replenishment occurred during the intrusion of the Fairwater mafic-ultramafic system. This is a commonly observed phenomenon in mafic-ultramafic intrusion-hosted nickel sulphide deposits.

FWDD003 intersected the thickest sequence of UM, and shows the most Ni-enriched UM of the three holes drilled to date. The MgO content of peridotites is in the preferred 28-36% range for the development of Ni sulphides (grey arrow).

The cluster of samples from FWDD003 (red oval and figure 3) shows elevated Ni relative to MgO, with accompanying increases to copper, platinum, palladium and sulphur. This is an indicator that nickel may be concentrated elsewhere nearby at this horizon.



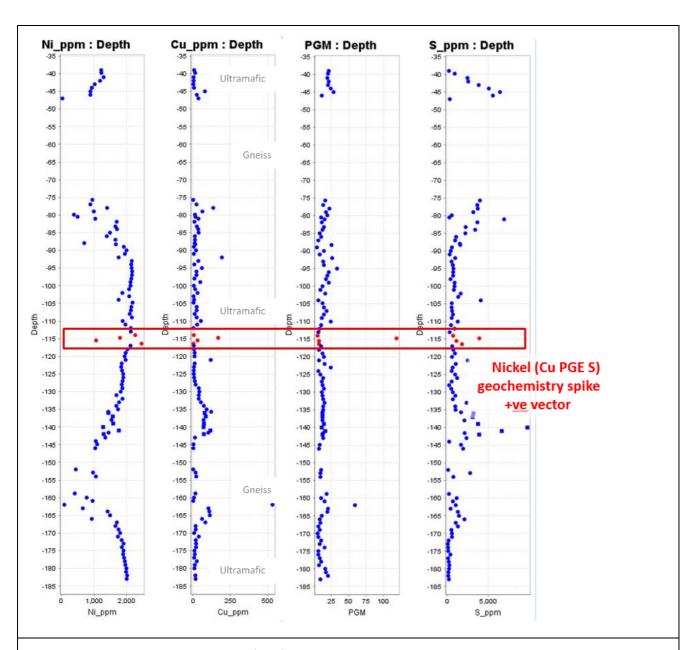


Figure 4: Down-hole geochemical profiles for FWDD003.

The cluster of samples marked in red show a spike in Ni relative to MgO within the second ultramafic unit of 3 intersected in FWDD003. The sample taken from 114.75 to 115.5m returned elevated nickel, and anomalous copper (168ppm) platinum plus palladium (119ppb) and sulphur (3, 894ppm). This is an indicator that nickel may be concentrated elsewhere nearby. The general vector direction is to the west of the present drilling.

It is also noteworthy that Ni grade is increasing in the lower section of the ultramafic towards the bottom of the hole.

#### 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.

"Chonoliths" are parts of networks or a corridor of intrusions which often include larger receptacles (layered intrusions) and passively emplaced dykes and sills. There are only 61 chonoliths known world-wide. 58 are mineralised and 29 are, or have been, mines.

"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 meaning Pt+Pd, "S" sulphur

"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'.

Ultramafic rock is identified by chemical composition, mineralogy and colour - principally its iron, magnesium, chromium and nickel content, and is a common host rock for nickel deposits world-wide.