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HIGH-GRADE INTERSECTIONS POINT TO SIGNIFICANT DISCOVERY AT DOOLGUNNA PROJECT

Conductor 1 Emerging As Large High-Grade Sulphide Body Near DeGrussa

HIGHLIGHTS

- Assay results from three RC drill holes targeting newly discovered Conductor 1 EM anomaly (adjacent to high-grade DeGrussa deposit) confirm a **significant body of sulphide mineralisation**:

  DGRC 114: **39m @ 5.2% Cu, 1.6g/t Au and 10.5g/t Ag from 135m**

  DGRC 115: **32m @ 4.6% Cu, 1.7g/t Au and 7.9g/t Ag from 90m**

  DGRC 117: **32m @ 2.9% Cu, 1.3g/t Au and 6.8g/t Ag from 294m**

- Results to date indicate that Conductor 1 comprises a large body of sulphide mineralisation dipping at ~64º to the south. The sulphides have an estimated true width of approximately 19 metres.

- New drilling program now underway to the south of these initial three holes. This is aimed at testing the boundaries of the Conductor 1 mineralisation. The new program initially comprises six inclined diamond drill holes on a 125m x 125m grid.

- **Outstanding high-grade assay results** received from deepening a previous RC hole targeting the sulphide zone below oxide mineralisation at DeGrussa:

  DGRC 109: **35m @ 6.9% Cu, 1.4g/t Au and 10.5g/t Ag from 115m**

- New airborne EM survey completed covering 35km strike length of prospective stratigraphy along strike to the south west of Conductor 1.

Sandfire Resources NL (ASX: **SFR**; **Sandfire**) is pleased to announce that the initial drilling program at the newly discovered **Conductor 1 anomaly**, part of its 100%-owned Doolgunna Project in Western Australia, has returned **outstanding high-grade intersections**.

The assay results contain significant intersections of high-grade copper mineralisation together with gold and silver over substantial widths. The results confirm Sandfire's previous announcements to the market (17 June and 22 June) that the drilling program at Conductor 1 had intersected visible chalcopyrite, which is a copper sulphide mineral.

Sandfire Managing Director, Mr Karl Simich, said the assay results provided strong evidence that the Conductor 1 anomaly comprised a substantial zone of high-grade sulphide mineralisation which offered significant potential.

Mr Simich said the extent of the Conductor 1 mineralisation was now being tested through a new drilling program that would see six diamond holes drilled to the south of the recent RC holes. "The results of the initial three RC holes are extremely promising," he said.

"Now we need to see how far the mineralisation extends to the south in order to understand the magnitude of what we have found," he said. "Only with further drilling will we know if we have made a substantial greenfields discovery. We expect to have initial results from this program over the coming weeks."

Conductor 1 Drilling Results

The initial RC drill holes targeting Conductor 1, which is located immediately north of the high-grade mineralisation intersected at DeGrussa, were vertical holes drilled to test the EM Conductor (*see Figure 1 below*). The first hole, DGRC 114, was centred ~160 metres to the north-west of the high-grade DeGrussa mineralisation (as reported previously to the market in announcements during May and June).

Assay results from Conductor 1 are summarised below:

DGRC 114: **39m @ 5.23% Cu, 1.58g/t Au and 10.5g/t Ag from 135m**

DGRC 115: **32m @ 4.6% Cu, 1.7g/t Au and 7.9g/t Ag from 90m**

DGRC 117: **32m @ 2.9% Cu, 1.29g/t Au and 6.8g/t Ag from 294m**

Hole DGRC 117 intersected massive sulphides from 287m to 323m, with low copper values as well as gold and silver present in the interval from 287m to 294m.

The co-ordinates of the three holes are:

DGRC114: **Northing 7173200, Easting 733720**

DGRC115: **Northing 7173240, Easting 733840**

DGRC117: **Northing 7173120, Easting 733720**

The current interpretation is that the mineralisation at Conductor 1 dips in a southerly direction **at approximately 64 degrees**. Based on the interpreted dip and orientation of the mineralisation and the fact that drilling to date has comprised vertical RC holes, the **estimated true thickness of the massive sulphides at Conductor 1 is approximately 19 metres**.

An extensive diamond core drilling program commenced over the weekend at Conductor 1 to test the overall scale and dimensions of the mineralisation. The first hole in this program is located approximately 200 metres south-east of hole DGRC 117 (see Figure 1) and is inclined at 60 degrees. All drilling targeting the Conductor 1 mineralisation will now be inclined at 60 degrees to the north to provide a more accurate indication of true width of the massive sulphide body.

This new drilling program is primarily designed to test the Conductor 1 mineralisation, although it may also provide an insight into the relationship between Conductor 1 and the adjacent DeGrussa mineralisation to the north. The objective of the current diamond drilling program is to determine the limits of the two mineralised systems and provide an initial indication as to the economic potential of the DeGrussa/Conductor 1 discoveries.

DeGrussa Update

Last month, Sandfire cleaned out, deepened and cased a number of the previously reported RC drill holes completed in April 2009 at the DeGrussa Prospect in order to facilitate a downhole EM survey program.

One of these holes, DGRC 109, had terminated at 60m with an oxide copper interval recorded. This hole has since been deepened to 200m to test for the presence of primary sulphide mineralisation below the oxide zone.

The assay results from this intersection have now been received with the hole returning an outstanding intersection of high-grade copper sulphides:

DGRC 109: **35m @ 6.96% Cu, 1.36g/t Au and 10.5g/t Ag from 115m**

The co-ordinates of hole DGRC 109 are: Northing 7173150, Easting 733940

Sandfire does not yet have a clear indication of the orientation of the massive sulphide lodes drilled to date at DeGrussa. Preliminary interpretation suggests that the lodes are dipping in a southerly direction and that the drill intersections to date are oblique through the mineralisation. The Company is currently conducting a moving loop, ground-based EM survey over the DeGrussa mineralisation to assist in understanding the orientation of the deposit.

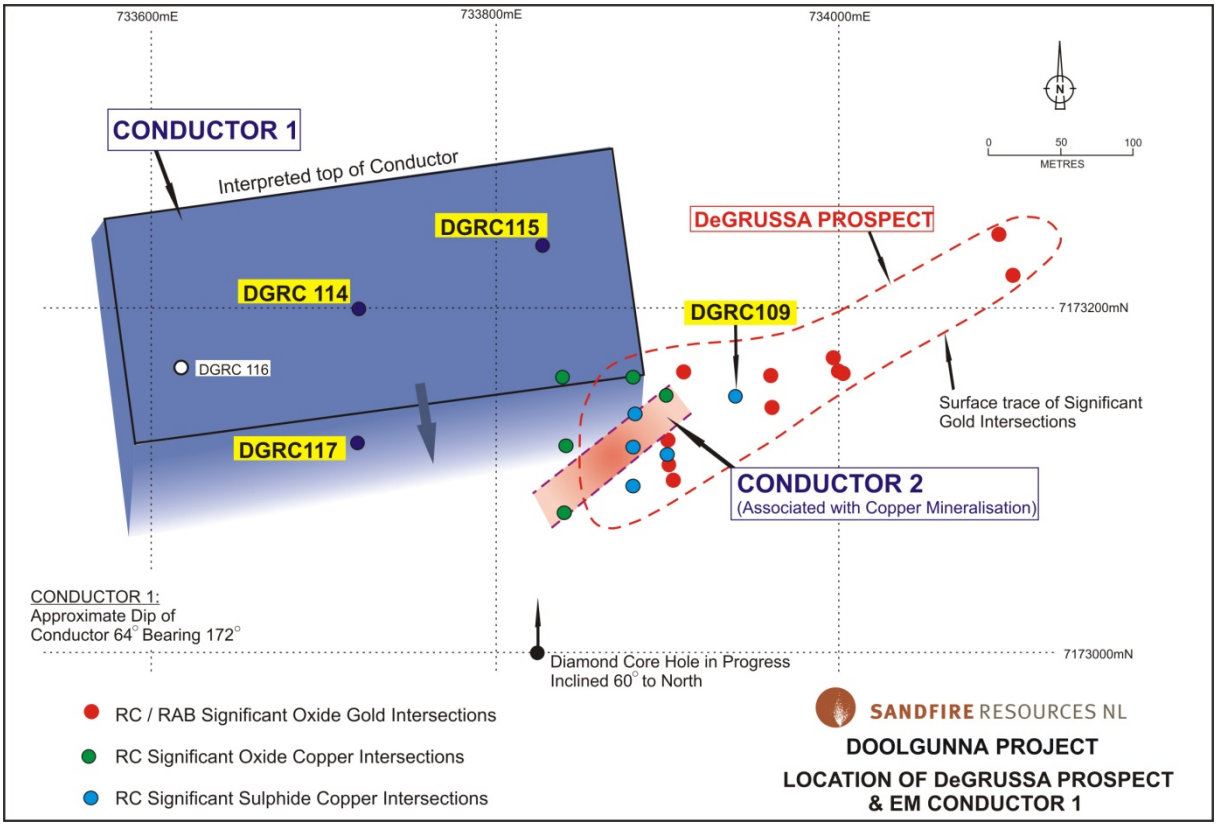

Figure 1 – *Conductor 1 anomaly adjacent to DeGrussa mineralisation – latest drilling*

Airborne EM Survey Now Complete

The Company is also pleased to report that the previously announced +1,000 line km regional airborne electromagnetic survey (VTEM) over the volcanic rock sequences within the Doolgunna Project has recently been completed. Processing of data from this survey has commenced and will be reported to the market as soon as it has been received and interpreted.

Doolgunna Project – Background

The Doolgunna Project is located approximately 130km north of Meekatharra (900km north of Perth) in Western Australia close to a number of existing and historical gold mines and infrastructure including the Goldfields Gas Pipeline and Great Northern Highway.

Sandfire has so far discovered two zones of high-grade sulphide mineralisation at DeGrussa and Conductor 1 in the north-eastern portion of the Doolgunna tenements. These discoveries appear to comprise volcanogenic massive sulphide (VMS) style mineralisation located beneath an oxide copper-gold zone. The initial round of drilling at Doolgunna defined a significant zone of high-grade copper mineralisation with associated gold, silver and zinc at DeGrussa over a strike length of approximately 220 metres.

Conductor 1 lies approximately 160 metres to the north-west of DeGrussa and comprises a large body of sulphide mineralisation dipping in a southerly direction. The second round of drilling, which commenced on Saturday, July 4, 2009, is aimed at testing the extent of the mineralisation to the south. The results of this diamond drilling program will determine the next steps in the exploration of Conductor 1 and DeGrussa.

- ENDS -

W JOHN EVANS
TECHNICAL DIRECTOR
AUSIMM Competent Person

Competent Person's Statement
The information in this report that relates to Exploration Results is based on information compiled by John Evans who is a Fellow of the Australasian Institute of Mining and Metallurgy. John Evans 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 2004 Edition of the Australasian Code of Reporting of Exploration Results, Mineral Resources and Ore Reserves. John Evans consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

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