

**ASX ANNOUNCEMENT AND MEDIA RELEASE**

12 May 2015

**CYANIDE LEACH RESULTS FOR NAMDINI DRILL SAMPLES**
**HIGHLIGHTS**

- 99% gold recovered from oxide samples
- 95% gold recovered from transition samples
- 84% gold recovered from fresh samples
- These high gold recovery rates indicate favourable metallurgy

Cardinal Resources Limited (ASX: CDV) (“Cardinal” or “the Company”) have received the results of fifteen, two kilogram samples used for diagnostic leach testing of Reverse Circulation (RC) cuttings from 12 drill holes at the Namdini project in Ghana. The samples were taken from the oxide, transitional and fresh material types within mineralised zones.

The primary purpose of the cyanide leach test work was to establish what level of gold could be recovered by a simple cyanidation leach process.

**Selection of Samples**

Hole ID	Depth (m)	Grade (g/t)	Material
NMRC356-745	15-16	9.33	Oxide
NMRC358-745	7-8	4.63	Oxide
NMRC370-749	6-7	4.25	Oxide
NMRC356-745	14-15	6.99	Oxide
NMRC370-749	7-8	3.50	Oxide
NMRC379-748	22-23	6.97	Transitional
NMRC348-748	10-11	6.37	Transitional
NMRC349-754	17-18	3.50	Transitional
NMRC372-731	23-24	3.04	Transitional
NMRC362-735	27-28	3.89	Transitional
NMRC368-731	166-167	53.10	Fresh
NMRC374-742	124-125	38.80	Fresh
NMRC368-731	146-147	6.51	Fresh
NMRC366-741	109-110	5.00	Fresh
NMRC368-731	139-140	4.47	Fresh

**Table1: Sample details**
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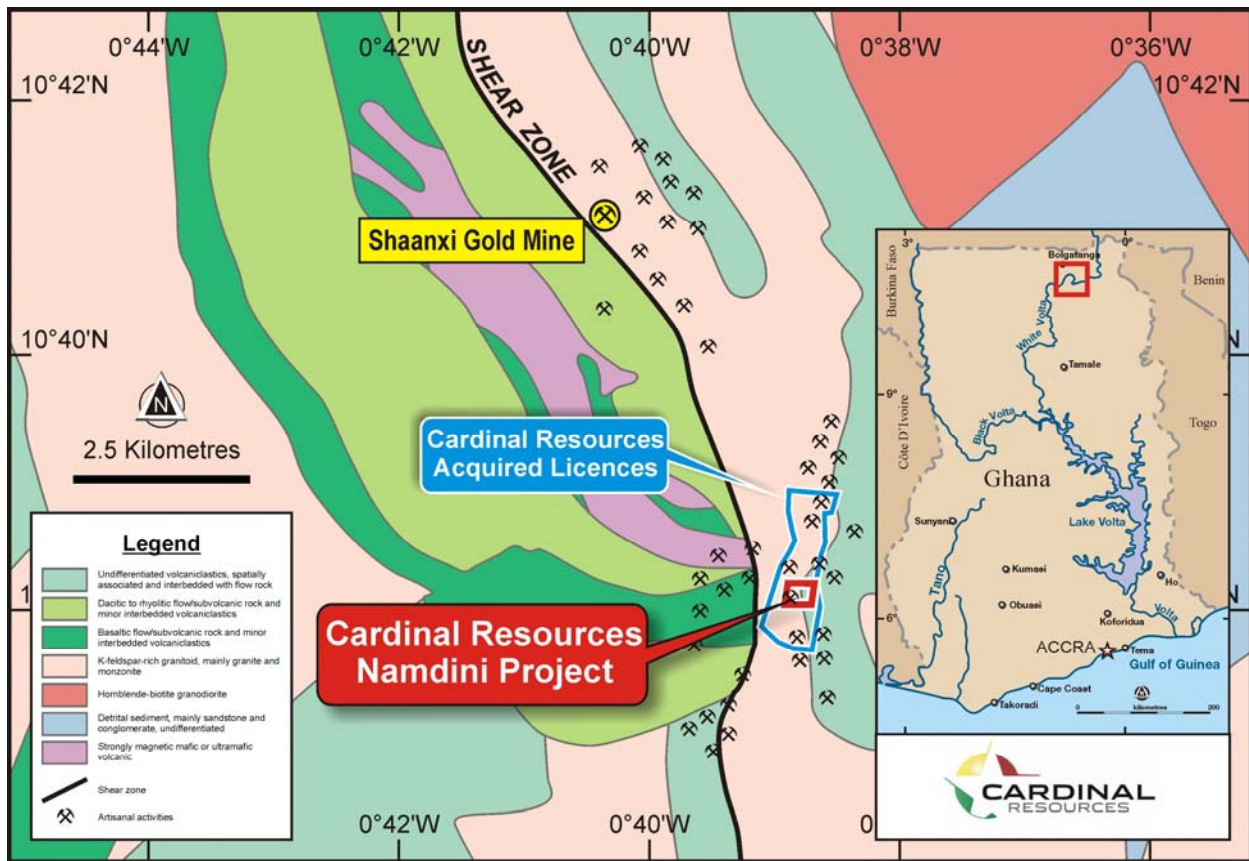
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**Preparation of Samples**

Each sample selected was thoroughly mixed by passing the entire sample three times through the riffle splitter, then splitting off a ~2.0 kg sample.

The samples were weighed, labelled and bagged individually and sent to the SGS Laboratory, Ouagadougou, Burkina Faso for Bottle Roll (BLEG) cyanide leach tests. Each entire sample was pulverised to a fineness with 91% passing through a 75 micron mesh. Each sample was assayed by Fire Assay in triplicate by the FAA505 method.

A 2,000 gm pulverised sample was then bottle rolled for 24 hours in a cyanide mixture and compared with the fire assays to obtain estimates of recoveries.



**Figure 1: Namdini Project Area**

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### **Competent Person's Statement**

Information in this report that relates to the Namdini Project is based on information compiled by **Mr Paul Abbott**, a full time employee of Cardinal Resources Limited, who is a Fellow of the Australasian Institute of Mining and Metallurgy and a Member of the Geological Society of South Africa. Mr Abbott 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 Abbott consents to the inclusion in this report of the statements based on his information in the form and context in which it appears.

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This Announcement contains summary information about Cardinal, its subsidiaries and their activities which is current as at the date of this Announcement. The information in this Announcement is of a general nature and does not purport to be complete nor does it contain all the information which a prospective investor may require in evaluating a possible investment in Cardinal.

By its very nature exploration for minerals is a high risk business and is not suitable for certain investors. Cardinal's securities are speculative. Potential investors should consult their stockbroker or financial advisor. There are a number of risks, both specific to Cardinal and of a general nature which may affect the future operating and financial performance of Cardinal and the value of an investment in Cardinal including but not limited to economic conditions, stock market fluctuations, gold price movements, regional infrastructure constraints, timing of approvals from relevant authorities, regulatory risks, operational risks and reliance on key personnel and foreign currency fluctuations.

Certain statements contained in this announcement, including information as to the future financial or operating performance of Cardinal Resources and its projects, are forward-looking statements that:

- may include, among other things, statements regarding targets, estimates and assumptions in respect of mineral reserves and mineral resources and anticipated grades and recovery rates, production and prices, recovery costs and results, capital expenditures, and are or may be based on assumptions and estimates related to future technical, economic, market, political, social and other conditions;
- are necessarily based upon a number of estimates and assumptions that, while considered reasonable by Cardinal Resources, are inherently subject to significant technical, business, economic, competitive, political and social uncertainties and contingencies; and,

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- involve known and unknown risks and uncertainties that could cause actual events or results to differ materially from estimated or anticipated events or results reflected in such forward-looking statements.

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All forward looking statements made in this announcement are qualified by the foregoing cautionary statements. Investors are cautioned that forward-looking statements are not guarantees of future performance and accordingly investors are cautioned not to put undue reliance on forward-looking statements due to the inherent uncertainty therein.

No verification: Although all reasonable care has been undertaken to ensure that the facts and opinions given in this Announcement are accurate, the information provided in this Announcement has not been independently verified.

**JORC CODE 2012 EDITION – TABLE 1**  
**CYANIDE LEACH RESULTS FOR NAMDINI DRILL SAMPLES**  
**Section 1 – Sampling Technique and Data**

Criteria	JORC Code Explanation	Commentary
<b>Sampling techniques</b>	Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.	Nature and quality of sampling is carried out under QA/QC procedures as per industry standards. No standards or blanks were inserted as these samples were for metallurgical testing.
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	Sample representivity is ensured through a 3 tier riffle splitter, as it provides an unbiased sample.
	Aspects of the determination of mineralisation that are Material to the Public Report.	The determination of mineralisation is not yet known.
	In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.	Industry standard reverse circulation drilling was used to obtain 1m samples from which 2.3 kg was crushed and a split pulverised to produce a 50 g charge for fire assay.  Separately a 2 kg pulverized sample was cyanide leached over 24 hours by bottle roll method.
<b>Drilling techniques</b>	Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).	Reverse Circulation drilling with a standard tube, Remet 5½ inch Hard Face (face-sampling) button drilling bit.
<b>Drill sample recovery</b>	Method of recording and assessing core and chip sample recoveries and results assessed.	Method of recording and assessing chip samples was on a hand held Motion F5te Tablet PC using a set of standard templates supplied by Maxwell Geoservices, Perth (Maxwell).
	Measures taken to maximise sample recovery and ensure representative nature of the samples.	The measures taken to maximize sample recovery are through a cyclone and a 3 tier riffle splitter. This method ensures maximum sample recovery and an unbiased representative sample to be assayed.
	Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.	No relationship is known to exist between sample recovery and grade, and no sample bias may have occurred due to preferential loss/gain of any fine/coarse material.
<b>Logging</b>	Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.	Chip samples have been geologically logged to a level of detail to support appropriate future Mineral Resource estimations.
	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.	Logging is quantitative. Chip samples are photographed in dry and wet forms.

Criteria	JORC Code Explanation	Commentary
	The total length and percentage of the relevant intersections logged.	All holes are logged in full.
<b>Sub-sampling techniques and sample preparation</b>	If core, whether cut or sawn and whether quarter, half or all core taken.	No core has been drilled.
	If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.	The sub-sampling technique is with a 3 tier riffle splitter, and sampled dry.
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	Sample preparation is completed at SGS Laboratories, Ouagadougou, Burkina Faso. All preparation equipment is flushed with barren material prior to the commencement of sample preparation. The entire sample is dried, crushed and pulverised in a LM2 grinding mill to 91% passing a 75 micron size fraction screen. METALLURGICAL TESTS: An approximate 200 gram sub-sample split was taken for three fire assays by standard procedures with an AAS finish to 10 ppb lower detection limit. The remaining pulverized samples were bottle rolled for 24 hours with an AAS finish to 1 ppb lower detection limit
	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	Quality control procedures adopted for all sub-sampling stages to maximize representivity of samples.
	Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.	Measures taken to ensure that the sampling is representative of the in situ material collected is by referring to the original logs of this material.
	Whether sample sizes are appropriate to the grain size of the material being sampled.	The sample sizes are considered appropriate to give an accurate indication of gold mineralisation.
<b>Quality of Assay data and laboratory tests</b>	The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.	FIRE ASSAY: The pulverized rock sample is weighed and mixed with flux and fused using lead oxide at 1,100°C, followed by cupellation of the resulting lead button (Dore bead). The bead is digested using 1:1 HNO <sub>3</sub> and HCl and the resulting solution is submitted for analysis.  The digested sample solution is aspirated into the Flame Atomic Absorption Spectrometer (AAS), aerosolised, and mixed with the combustible gas, acetylene and air. The mixture is ignited in a flame whose temperature ranges from 2,100 to 2,800°C. During combustion, atoms of the gold in the sample are reduced to free, unexcited ground state atoms, which absorb light. Light of the appropriate wavelength is supplied and the amount of light absorbed can be measured against a standard curve.  Results have a lower gold detection limit of 10 ppb. The AAS equipment is calibrated with each job.  The analytical technique is industry standard fire assay which is considered to be a total digest of gold.

Criteria	JORC Code Explanation	Commentary
		<p>BLEG BOTTLE ROLL: 2 kg of pulverized material is bottle rolled with sodium cyanide and lime in a plastic bottle for 24 hours. The bottle is removed from the roller and allowed to settle. An aliquot of the clear solution is taken and DIBK/1% Aliquat 336 is added and shaken. The sample is aspirated into the AAS (same method as for fire assay above). Results have a lower detection limit of 1 ppb.</p> <p>The analytical technique is industry standard bottle roll which is considered to be a total digest of free gold.</p>
	<p>For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</p>	<p>No hand held geophysical tools are used.</p>
	<p>Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.</p>	<p>Sample preparation checks for fineness are carried out by the laboratory as part of their internal procedures to ensure the grind size of 85-90% passing a 75 micron screen is being attained. The 15 samples had 91% passing a 75 micronscreen, which is acceptable. Laboratory QA/QC involves the use of internal lab standards using certified reference material and blanks.</p> <p>External laboratory checks are done on a three monthly basis through Laboratories Quality Services International (LQSI). Recent LQSI checks of Fire Assay analyses on Low Grade Oxide Material produced acceptable levels of accuracy and precision.</p>
<b>Verification of sampling and assaying</b>	<p>The verification of significant intersections by either independent or alternative company personnel.</p>	<p>The verification of significant intersections by either independent or alternative company personnel has not occurred.</p>
	<p>The use of twinned holes.</p>	<p>There has been no use of twinned holes.</p>
	<p>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</p>	<p>Primary data was collected on a hand held Motion F5te Tablet PC using a set of standard templates supplied by Maxwell Geoservices, Perth (Maxwell). Daily data was synchronised and digitally captured by Maxwell for validation and compilation into Excel and Access spreadsheets and stored on the Cardinal servers located in Bolgatanga, Ghana, West Africa.</p>
	<p>Discuss any adjustment to assay data.</p>	<p>No adjustments were made to assay data.</p>
<b>Location of data points</b>	<p>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</p>	<p>Accuracy of drill hole collar surveys is +/- 3m using a hand held Garmin GPSmap 62s GPS.</p>
	<p>Specification of the grid system used.</p>	<p>WGS84 Sector 30N, with local grid baseline at 010° True North and lines at 20m to 30m intervals and stations at 10-25m along lines.</p>

Criteria	JORC Code Explanation	Commentary
	Quality and adequacy of topographic control.	The quality and adequacy of topographic control is +/- 3m using a hand held Garmin GPSmap 62s GPS.
<b>Data spacing and distribution</b>	Data spacing for reporting of Exploration Results.	Data spacing is 10-25m (northing) and 20-30m (easting).
	Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.	The data spacing and distribution is considered to be sufficient to establish a degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.
<b>Orientation of data in relation to geological structure</b>	Whether sample compositing has been applied.	No sample compositing has been applied.
	Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.	The orientation of sampling achieves unbiased sampling of possible structures as drilling is orientated normal to the dip and foliation of the deposit.
	If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.	No orientation based sampling bias has been identified in the data to date.
<b>Sample security</b>	The measures taken to ensure sample security.	The measures taken to ensure sample security are through an independent Ghanaian security contractor. Samples are stored at Cardinal's base camp located at Bolgatanga, Ghana, West Africa under security until collected by SGS Laboratories and transported to their Ouagadougou laboratory in Burkina Faso.
<b>Audits or reviews</b>	The results of any audits or reviews of sampling techniques and data.	Sampling techniques are of industry standards. Data is audited by Maxwell Geoservices (Perth), who have not made any other recommendations.

## Section 2 – Reporting of Exploration Results

(Criteria listed in section 1 will also apply to this section where relevant)

Criteria	JORC Code Explanation	Commentary
<b>Mineral Tenement and Land Status</b>	Type, name/reference number, location and ownership including agreements or material issues with third parties including joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.	The Namdini Mining Licence is located in NE Ghana. Namdini Mining Limited (NML) holds the mining licence. NML signed a Heads of Agreement with Savannah Mining Ltd (Savannah) to provide "Mining Support" services to NML. Savannah has signed a Heads of Agreement with Cardinal Mining Services Ltd (CMS) to provide "Mining Support" services in relation to the Namdini Mining Licence.
	The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.	There are no known impediments to offer "Mining Support" services to Namdini Mining Limited within the Namdini Mining licence area.
<b>Exploration Done by Other Parties</b>	Acknowledgment and appraisal of exploration by other parties.	No previous systematic exploration has been undertaken.

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Criteria	JORC Code Explanation	Commentary
<b>Geology</b>	Deposit type, geological setting and style of mineralisation	<p>The deposit type comprises gold mineralisation within sheared and highly altered rocks containing sulphides (pyrite and arsenopyrite).</p> <p>The geological setting is a Paleoproterozoic Greenstone Belt comprising Birimian metavolcanics, volcanoclastics &amp; metasediments located in close proximity to a major 30 km ~N-S regional shear zone with splays.</p> <p>The style of mineralisation is hydrothermal alteration containing disseminated gold-bearing sulphides</p>
<b>Drill hole information</b>	<p>A summary of all information material to the understanding of the exploration results including tabulation of the following information for all Material drill holes:</p> <ul style="list-style-type: none"> <li>• Easting and northing of the drill hole collar</li> <li>• Elevation or RL (Reduced Level – elevation above sea level in meters) of the drill hole collar</li> <li>• Dip and azimuth of the hole</li> <li>• Down hole length and interception depth</li> <li>• Hole length</li> </ul>	<p>Samples have been selected from previously announced drill holes and tabulated within this announcement.</p>
	<p>If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.</p>	<p>There has been no exclusion of information.</p>
<b>Data aggregation methods</b>	<p>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.</p>	<p>No weighting averaging techniques nor cutting of high grades have yet been undertaken.</p>
	<p>Where aggregated intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</p>	<p>No aggregated intercepts were done as these were individual samples for metallurgical testing.</p>
	<p>The assumptions used for any reporting of metal equivalent values should be clearly stated.</p>	<p>No metal equivalent values were used for this report.</p>
<b>Relationship between mineralisation widths and intercept lengths</b>	<p>These relationships are particularly important in the reporting of exploration results.</p>	<p>The relationship between mineralisation widths and intercept lengths is not yet known.</p>
	<p>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</p>	<p>The geometry of the mineralisation with respect to the drill hole angle is not yet known.</p>

Criteria	JORC Code Explanation	Commentary
	If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').	Only down hole lengths are reported and true widths of mineralisation are not yet known.
<b>Diagrams</b>	Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported. These should include, but not be limited to a plane view of drill hole collar locations and appropriate sectional views.	Appropriate map is included in this announcement.
<b>Balanced Reporting</b>	Where comprehensive reporting of all Exploration Results is not practical, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	Samples were selected from oxide, transition and fresh material types within mineralised zones and are contained within this announcement.
<b>Other substantive exploration data</b>	Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observation; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	Samples selected for metallurgical testing are contained in this announcement (Table 1).
<b>Further Work</b>	The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large – scale step – out drilling).	Further metallurgical test work is planned in conjunction with further RC and diamond drilling.
	Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	Future drilling will be planned within the newly acquired licences (Figure 1).