

PRESS RELEASE
22 August 2017
2017-51

# NAMDINI INFILL DRILLING INTERSECTS 147m at 3.1g/t

Cardinal Resources Limited (ASX/TSX: CDV) ("Cardinal" or "the Company") is pleased to report assay results from its drilling programme on the Namdini Gold Project in Ghana. Detailed results of the drill programme are included below and in the attached schedules. Further results of the continuing drill programme will be released as assay results are obtained, with an updated Mineral Resource estimate expected Q3 2017.

## Cardinal's Chief Executive Officer / Managing Director, Archie Koimtsidis said:

"We are once again very pleased with the return of additional results of our drilling programme that confirms continuity of the mineralisation. These results are very encouraging and are expected to improve the robustness of the Mineral Resource. More results are expected, which should upgrade the current Mineral Resource in both size and category. Cardinal's drill programme is ongoing with eleven drill rigs on site."

#### INFILL DRILLING PROGRAMME RESULTS

**Section F Highlights:** 

NMDD092

• 147m at 3.1 g/t Au

(LWAG<sup>1</sup>)

- Includes:
  - 53m at 2.6 g/t Au
  - 20m at 4.2 g/t Au
  - 13m at 3.8 g/t Au

NMRC154

87m at 1.1 g/t Au

(LWAG<sup>1</sup>)

- o Includes:
  - 14m at 1.1 g/t Au
  - 12m at 1.0 g/t Au
  - 15m at 1.0 g/t Au

#### **Section G Highlights:**

NMDD079

• 173m at 1.3 g/t Au

(LWAG<sup>1</sup>)

- Includes:
  - 26m at 1.2 g/t Au
  - 10m at 1.4 g/t Au
  - 41m at 2.2 g/t Au

#### NMDD091

• 162m at 1.5 g/t Au

(LWAG<sup>1</sup>)

- Includes:
  - 48m at 1.9 g/t Au
  - 47m at 1.7 g/t Au
  - 14m at 1.0 g/t Au

<sup>&</sup>lt;sup>1</sup> Length Weighted Average Grade (LWAG): Calculations are based on 3m minimum width, 3m maximum contiguous waste and 0.5 g/t Au cut-off.









### **DISCUSSIONS OF RESULTS**

Drilling results continue to be returned during the comprehensive campaign to infill and extend the defined Namdini Mineral Resource. Early results indicate the strong continuity of mineralised zones.

Further results are pending and will form the basis for a Mineral Resource upgrade expected towards the end of Q3 2017.

Figure 1 shows a plan view of the location of the sections displayed in Figure 2 and Figure 3.

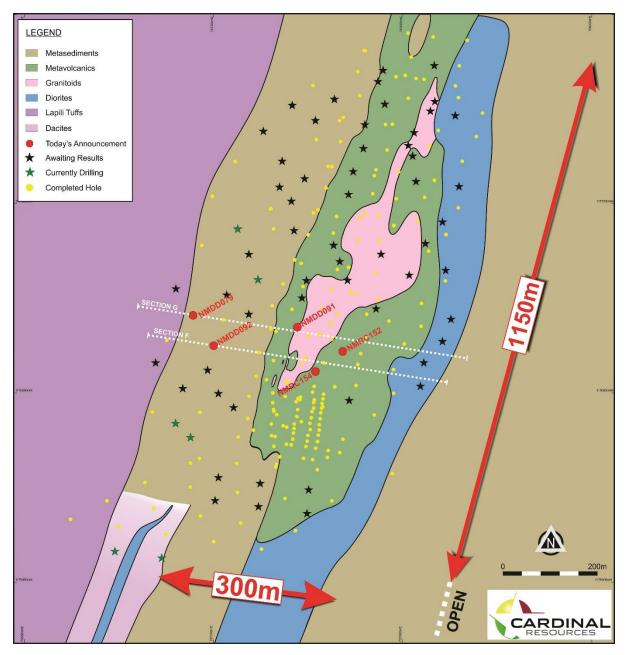


Figure 1: Plan View of Namdini deposit showing drill hole locations and interpreted geology









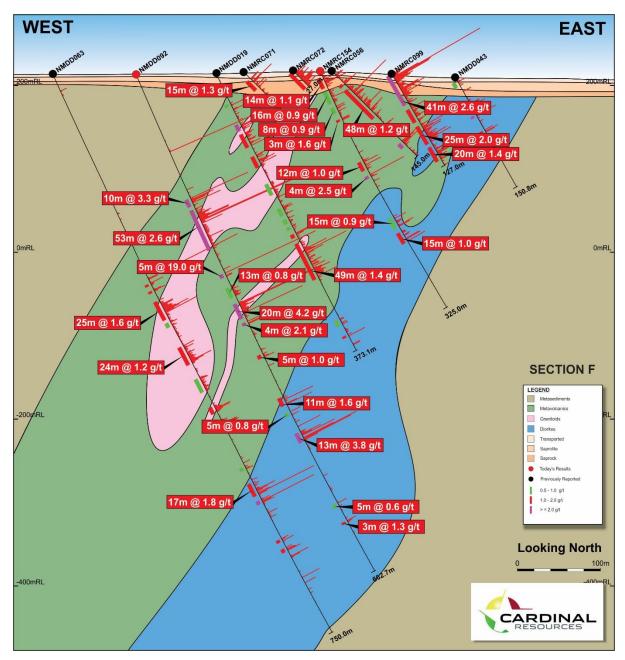


Figure 2: Cross Section F showing downhole mineralised intersections









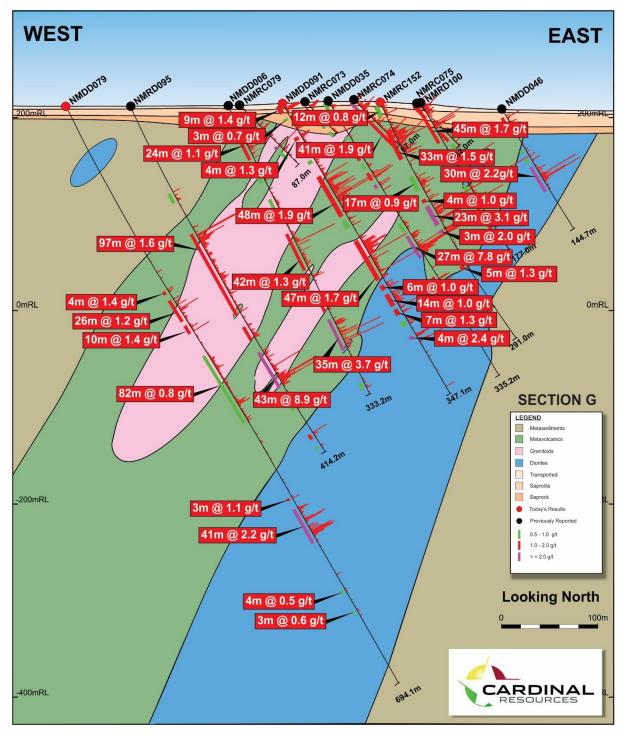


Figure 3: Cross Section G showing downhole mineralised intersections









For full details of lithologies and assay results of the reported drill holes please refer to Cardinal's website http://www.cardinalresources.com.au/technical-reports/.

Please refer to <a href="https://www.sedar.com">www.sedar.com</a> for Cardinal's prospectus and N143-101 reports.

Meta Data for the significant intercepts are tabulated below in Table 1 to Table 3.

#### **ABOUT CARDINAL**

Cardinal Resources Limited (ASX/TSX: CDV) is an African gold-focused exploration and development Company which holds interests in tenements within Ghana, West Africa.

The Company's Namdini Project has a declared gold Mineral Resource of 23.86Mt @ 1.21 g/t for 931,000 oz Indicated and 100.15Mt @ 1.13 g/t for 3.63 Moz Inferred (Refer to Cardinal "Technical Report on Namdini" dated 5 April 2017). The Company is focused on the development of the Namdini Project through a resource expansion drilling programme, prefeasibility studies, detailed metallurgical test work and process flowsheet studies. Exploration activity is also underway at the Company's Bolgatanga (Northern Ghana) and Subranum (Southern Ghana) Projects.

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Cardinal technical staff maintain a set of standard procedures for both diamond drilling and reverse circulation drilling. For diamond drilling (which is completed using HQ core collection), the key aspects are that the holes are electronically surveyed every 30 metres down hole, all core runs are routinely oriented using a Reflex digital orientation instrument, core recovery is measured and geotechnical logging is completed as the core is recovered at the rig site. Back at the Bolgatanga office the core is photographed wet and dry and after logging onto digital data recorders, the core is cut such that a half HQ core is retained for reference. The same sector of core, relative to the core orientation mark is routinely sampled for assaying.

For RC drilling, samples are collected on a one metre interval using a multi-tier riffle splitter, duplicate field samples are routinely collected (one in 20), the cyclone is thoroughly cleaned on each rod change and the splitter is cleaned after each metre sample. The sample bag weights for each metre interval are routinely weighed, as are the split samples for submission to the assay laboratory and approximately 2.5 to 3 kilogram chip samples are dispatched to the laboratory. Amongst the samples, a suite of internationally accredited and certified reference material along with blanks are included in the sample submission sequence. The standards cover the gold grade range expected at Namdini. The individual sample bags for both core and drill chips are sealed at the Bolgatanga site office and are grouped into tens for placement in a large plastic bag, which is, in turn, sealed. The assay laboratory provides sample transport from Bolgatanga such that the chain of custody passes from Cardinal to the assay laboratory at the Bolgatanga sample logging facility.









Once sample bags and pulps are returned from the assay laboratory to Cardinal's Bolgatanga facility, a representative suite of pulps, covering the entire range of both sample batches and gold grades are chosen for 'referee' analysis at an accredited independent laboratory. As with the routine sample submission, a suite of international certified standards and blanks are inserted into the referee assaying pulp sequence.

Cardinal technical staff carry out routine analysis of the quality control data on receipt of assay results from the laboratory in order to determine if the batch of samples has passed industry standard levels for control samples. If the batch 'fails', the batch of assays is rejected and a re-assay request for the batch of samples is made to the laboratory.

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

The information in this press release has been compiled and reviewed by Mr. Richard Bray, a Registered Professional Geologist with the Australian Institute of Geoscientists and Mr. Ekow Taylor, a Chartered Professional Geologist with the Australasian Institute of Mining and Metallurgy. Mr. Bray and Mr. Taylor have more than five years' experience relevant to the styles of mineralisation and type of deposits under consideration and to the activity which is being undertaken 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" and as a Qualified Person as defined by the NI43-101 instrument. Mr. Bray and Mr. Taylor are full-time employees of Cardinal and hold equity securities in the Company. Mr. Bray and Mr. Taylor have consented to the inclusion of the matters in this report based on the information in the form and context in which it appears.

#### Disclaimer

This ASX / TSX press release has been prepared by Cardinal Resources Limited (ABN: 56 147 325 620) ("Cardinal" or "the Company"). Neither the ASX or the TSX, nor their regulation service providers accept responsibility for the adequacy or accuracy of this press release.

This press release contains summary information about Cardinal, its subsidiaries and their activities, which is current as at the date of this press release. The information in this press release 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.

Except for statutory liability which cannot be excluded, each of Cardinal's officers, employees and advisors expressly disclaim any responsibility for the accuracy or completeness of the material contained in this press release and excludes all liability whatsoever (including in negligence) for any loss or damage which may be suffered by any person as a consequence of any information in this Announcement or any error or omission here from. The Company is under no obligation to update any person regarding any inaccuracy, omission or change in information in this press release or any other information made available to a person nor any obligation to furnish the person with any further information. Recipients of this press release should make their own independent assessment









and determination as to the Company's prospects, its business, assets and liabilities as well as the matters covered in this press release.

## **Forward-looking statements**

Certain statements contained in this press release, including information as to the future financial or operating performance of Cardinal and its projects may also include statements which are 'forward-looking statements' that may include, amongst 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. These 'forward – looking statements' are necessarily based upon a number of estimates and assumptions that, while considered reasonable by Cardinal, are inherently subject to significant technical, business, economic, competitive, political and social uncertainties and contingencies and 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.

Cardinal disclaims any intent or obligation to update publicly or release any revisions to any forward-looking statements, whether as a result of new information, future events, circumstances or results or otherwise after today's date or to reflect the occurrence of unanticipated events, other than required by the Corporations Act and ASX and TSX Listing Rules. The words 'believe', 'expect', 'anticipate', 'indicate', 'contemplate', 'target', 'plan', 'intends', 'continue', 'budget', 'estimate', 'may', 'will', 'schedule' and similar expressions identify forward-looking statements.

All forward-looking statements made in this press release 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.









# **SCHEDULE 1: DRILL ASSAY RESULTS**

Hole ID	Depth	Dip	Azimuth	Grid_ID	mEast	mNorth	mRL
NMDD092	663	-67°	98°	WGS84_30N	757200	1176903	214
NMRC154	325	-66°	98°	WGS84_30N	757417	1176845	217
NMDD079	694	-63°	97°	WGS84_30N	757156	1176966	211
NMDD091	347	-61°	100°	WGS84_30N	757380	1176940	214
NMRC152	291	-65°	96°	WGS84_30N	757473	1176888	217

Table 1: Meta-data Listing Drill Holes

Hole_ID	mFrom	mTo	mWidth	Au g/t
NMDD092	162	172	10	3.3
NMDD092	176	229	53	2.6
NMDD092	261	266	5	19.0
NMDD092	279	292	13	0.8
NMDD092	300	320	20	4.2
NMDD092	325	329	4	2.1
NMDD092	368	373	5	1.0
NMDD092	425	436	11	1.6
NMDD092	445	450	5	0.8
NMDD092	472	485	13	3.8
NMDD092	569	574	5	0.6
NMDD092	593	596	3	1.3
TOTAL			147	3.1
NMRC154	7	21	14	1.1
NMRC154	25	41	16	0.9
NMRC154	46	54	8	0.9
NMRC154	62	65	3	1.6
NMRC154	119	131	12	1.0
NMRC154	138	142	4	2.5
NMRC154	196	211	15	0.9
NMRC154	217	232	15	1.0
TOTAL			87	1.1

Table 2: Significant Drill Hole Downhole Mineralised Intervals for Section F









Hole_ID	mFrom	mTo	mWidth	Au g/t
NMDD079	217	221	4	1.4
NMDD079	228	254	26	1.2
NMDD079	259	269	10	1.4
NMDD079	296	378	82	0.8
NMDD079	469	472	3	1.1
NMDD079	482	523	41	2.2
NMDD079	580	584	4	0.5
NMDD079	605	608	3	0.6
TOTAL			173	1.3
NMDD091	0	9	9	1.4
NMDD091	15	18	3	0.7
NMDD091	37	41	4	1.3
NMDD091	65	69	4	0.5
NMDD091	84	132	48	1.9
NMDD091	137	146	9	0.6
NMDD091	161	208	47	1.7
NMDD091	214	220	6	1.0
NMDD091	225	239	14	1.0
NMDD091	243	250	7	1.3
NMDD091	257	264	7	0.8
NMDD091	275	279	4	2.4
TOTAL			162	1.5
NMRC152	2	14	12	0.8
NMRC152	30	63	33	1.5
NMRC152	83	100	17	0.9
NMRC152	110	114	4	1.0
NMRC152	118	141	23	3.1
NMRC152	147	150	3	2.0
NMRC152	191	196	5	1.3
TOTAL			97	1.7

Table 3: Significant Drill Hole Downhole Mineralised Intervals for Section G

#### Notes:

- Grid coordinates are in WWGS84 Zone 30 North
- Intervals are HQ diamond core or RC which are sampled every 1m
- Cut-off grade for reporting of intercepts is ≥ 0.5 g/t Au with a maximum of 3m consecutive internal dilution included within the intercept; only intercepts ≥ 3m are reported
- No top cut of individual assays prior to length weighted intersection calculation of the reported intercept has been applied
- Samples are analysed for Au (FAA505 method) which is a 50g fire assay fusion with AAS instrument finish









# SCHEDULE 2: JORC CODE 2012 EDITION – TABLE 1

Section 1 – Sampling Technique and Data

·	ing Technique and Data	Camanantam
Criteria	JORC Code Explanation	Commentary
Sampling techniques	Nature and quality of sampling (e.g. 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.	Sampling is by a combination of diamond drill and reverse circulation holes. Diamond sampling include both half-core and quarter-core samples of HQ core size and RC samples are collected by a three-tier riffle splitter using downhole sampling hammers with nominal 127 to 140mm holes.
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	Sampling is guided by Cardinal Namdini protocols and Quality Control procedures as per industry standard.
	Aspects of the determination of mineralisation that are Material to the Public Report.  In cases where 'industry standard'	Diamond drill samples are firstly crushed using a Jaw Crusher and thereafter crushed to -2mm using a RSD Boyd crusher. A less than 1kg split sample is then pulverised via LM2 to a nominal 85% passing -75µm.
	work has been done this would be relatively simple (e.g. '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	Reverse circulation drill samples are only crushed through a RSD Boyd crusher to - 2mm and pulverised via LM2 to a nominal 85% passing-75µm.
	cases, more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information.	A 200g sub-sample is taken for analysis. A 50g charge weight is fused with litharge based flux, cupelled and the prill dissolved in aqua regia and gold is determined by AAS.
Drilling techniques	Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc.) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-	Diamond core drilling is completed with core size of HQ with a standard tube. Triple tube is used in saprolite at the tops of the hole. Core is orientated using digital Reflex ACT II RD orientation tool.
	sampling bit or other type, whether core is oriented and if so, by what method, etc.).	Reverse circulation drilling uses a sampling hammer of nominal 127 to 140mm holes.  All holes are inclined at varying angles for optimal zone intersection.
		All drill collars are surveyed using RTK GPS with downhole surveying every 30m.









Criteria	JORC Code Explanation	Commentary
Drill sample recovery	Method of recording and assessing core and chip sample recoveries and results assessed.	Diamond core recovery is logged and captured into the database. Overall recoveries are excellent with a weighted average recovery greater than 98%.
		Reverse circulation sampling is good. Chips are logged and weighed and captured to the database.
	Measures taken to maximise sample recovery and ensure representative nature of the samples.	Measures taken include the use of bigger HQ core size diamond drilling to maximise recovery, having a geologist onsite to examine core and core metres marked and orientated to check against the driller's blocks and ensuring that all core loss is taken into account.
		At the reverse circulation rig, sampling systems are routinely cleaned to minimise the opportunity for contamination and drilling methods are focused on sample quality.
		Most of the reverse circulation rigs have auxiliary compressors and boosters to help maintain dry samples. Where wet samples are encountered, the reverse circulation drilling is discontinued and is progressed with diamond core drilling.
	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 known sample recovery issues have impacted on potential sample bias.
Logging	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.	All drill holes are fully logged. The lithology, alteration and geotechnical characteristics of core are logged directly to a digital format on a Field Toughbook laptop logging system following procedures and using Cardinal geologic codes. Data is imported into Cardinal's central database after validation in LogChief™.
		All geological logging is 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.)	Logging is both qualitative and quantitative depending on field being logged.
	photography.	All core is photographed.









Criteria	JORC Code Explanation	Commentary
	The total length and percentage of	All holes are fully logged.
	the relevant intersections logged.	
Sub-sampling	If core, whether cut or sawn and	Core orientation is completed for all
techniques and sample	whether quarter, half or all core taken.	diamond holes and all are marked prior to sampling. Longitudinally cut half core
preparation	taken.	samples are produced using a Core Saw.
proparation		Samples are weighed and recorded.
		Some quarter core samples have been used
		and statistical testwork has shown them to
		be representative.
	If non-core, whether riffled, tube	RC samples are split using a three-tier riffle
	sampled, rotary split, etc. and whether sampled wet or dry.	splitter. The majority of RC samples are dry. On occasions when wet samples are
	whether sampled wet of dry.	encountered, they are dried prior to
		splitting with a riffle splitter.
	For all sample types, the nature,	Drill core samples are sorted, dried at 105°C
	quality and appropriateness of the sample preparation technique.	for 4 hours and weighed. Samples are firstly Jaw Crushed and a second stage crushing is
	oampie proporation commique.	through a RSD Jaques crusher to a nominal
		-2mm and then split to <1.0kg. The reject
		sample is retained in the original bag and
		stored. The split is pulverised in a LM2 to a nominal 85% passing 75%µm and
		approximately 200g sub-sample of the
		pulverised material is used for assay.
		Chip samples are sorted and dried in an
		oven for 8 hours and weighed. They are
		then crushed to -2mm using a RSD Boyd
		crusher and a <1.0kg split is taken. The reject sample is retained in the original bag
		and stored. The split is pulverised in a LM2
		to a nominal 85% passing 75µm and a 200g
		sub-sample is used for analysis.
		All preparation equipment is flushed with
		barren material prior to commencement of
	Ovality control and the control of	the job.
	Quality control procedures adopted for all sub-sampling stages to	1:20 sample is screened to confirm percentage passing 2mm (crushed) and
	maximise representivity of samples.	75µm (pulverised).
		Constant and multiplication of the state of
		Crusher and pulveriser are flushed with barren material at the start of every batch.
	Measures taken to ensure that the	Sampling is carried out in accordance with
	sampling is representative of the in-	Cardinal protocols as per industry best
	situ material collected, including for instance results for field	practice.
	instance results for field	









Criteria	JORC Code Explanation	Commentary
	duplicate/second-half sampling.	Field duplicates have been taken and analysis of results have shown the sampling to be representative.
	Whether sample sizes are appropriate to the grain size of the material being sampled.	The sample sizes are considered appropriate for the mineralisation type.
Quality of Assay data and laboratory tests	The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.	Samples are analysed for Au by lead collection fire assay of a 50g charge with ASS finish; the assay charge is fused with the litharge based flux, cupelled and prill dissolved in aqua regia and gold determined by flame AAS.
		The analytical method is considered appropriate for this mineralisation style.
	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.	No hand held geophysical tools are used.
	Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.	Sample preparation checks for pulp fineness are carried out by the laboratory as part of their internal procedures to ensure the grind size of 85% passing 75µm is being attained. Laboratory QAQC involves the use of internal lab standards using certified reference material and blanks.
		Cardinal's QAQC protocol is considered industry standard with standard reference material (SRM) submitted on a regular basis with routine samples. The SRMs having a range of values and blanks are inserted in the ratio of 1:22. Duplicates are taken at the riffle splitter with a ratio of 1:20 samples. No duplicate samples are taken from core samples.
Verification of sampling and assaying	The verification of significant intersections by either independent or alternative company personnel.	Significant intersections have been verified by alternative company personnel.
	The use of twinned holes.	None of the drill holes in this report are twinned.
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	Primary data are captured on field tough book laptops using LogChief™ Software. The software has validation routines and data is then imported onto a secure central









Criteria	JORC Code Explanation	Commentary
		database.
	Discuss any adjustment to assay data.	The primary data is always kept and is never replaced by adjusted or interpreted data.
Location of data points	Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used	Planned drill hole collar coordinates are surveyed using handheld Garmin GPSmap 62s GPS within ±3m accuracy.
	in Mineral Resource estimation.	All drill collars are accurately surveyed using a Tremble R8 RTK GPS system within ±10mm of accuracy (X, Y, Z).
		Coordinates are based on 12 control stations established on the Namdini site by Sahara Mining Services.
		Downhole surveys are completed by using a Reflex Ez-Shot survey instrument at regular intervals.
	Specification of the grid system used.	Coordinate and azimuth are reported in UTM WGS84 Zone 30 North.
	Quality and adequacy of topographic control.	Topographic control was established from aerial photography using a series of 12 surveyed control points. A 1m ground resolution DTM was produced by Sahara Mining Services from the survey completed in 24 flights using the DJI Inspire 1 UAV at an altitude of 100m with an overlap of 70%.
Data spacing and distribution	Data spacing for reporting of Exploration Results.	Drill spacing is at 50m x 100m line spacing with infill to 50m x 50m and 10m x 15m in areas to upgrade the Mineral Resource.
	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.	Drill data spacing and distribution are sufficient to establish geological and grade continuity. This latest drilling has not been included in the Mineral Resources.
Orientation of data in relation	Whether sample compositing has been applied.	No sample compositing has been applied.
to geological structure	Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.	The majority of the drill holes are orientated to achieve intersection angles as close to perpendicular to the mineralisation as practicable.
	If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have	No significant orientation based sampling bias is known at this time.









Criteria	JORC Code Explanation	Commentary
	introduced a sampling bias, this should be assessed and reported if material.	
Sample security	The measures taken to ensure sample security.	An independent Ghanaian security contractor is used to ensure sample security.
		The drilling contractor is accountable for drill core and RC chips production at the drill site. Final delivery from the drill site to the laydown within the core yard is managed by Cardinal. The core yard technicians, field technicians and Geologists ensure the core and chips are logged, prepared and stored under security until collected by SGS for delivery to the laboratories.
		At the time of sample collection, a sign-off process between Cardinal and the SGS delivery truck driver ensures the samples and paperwork corresponds. The samples are then transported to the SGS Tarkwa (Ghana) or Ouagadougou (Burkina Faso) laboratory where they are receipted against the dispatch documents. The assay laboratories are responsible for the samples from the time of collection from Namdini Project site until final results are returned and checked by Cardinal Geologists.
		Sample pulps and coarse rejects are retained by the laboratories and are shipped back to Namdini after final results are returned where they are stored under security.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	No external audits or reviews of the sampling techniques and data have been completed.









Section 2 – Reporting of Exploration Results (Criteria listed in section 1 will also apply to this section where relevant)

Criteria	JORC Code Explanation	Commentary
Mineral Tenement and Land Status	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 Mining Licence covering Cardinal's Namdini Project over an area of approximately 19.54 sq. km is located in the Northeast region of Ghana.  The previous holder of the Mining Licence, Savannah Mining Ghana Limited (Savanah) completed an initial Environmental Impact Statement (EIS) and lodged the EIS with the Environmental Protection Agency of Ghana.
		Cardinal and Savannah have both signed the necessary documents to assign the Namdini Mining Licence to Cardinal Namdini Mining Limited (Cardinal Namdini), a wholly owned subsidiary of Cardinal Resources, for \$1.00 as per the Savannah agreement. After the completion of the upcoming Preliminary Economic Assessment, Cardinal Namdini will submit to the Minerals Commission an updated EIS and an application for an Operating Permit, bringing all permitting for the Namdini Project on track for development.
	The security of the tenure held at the time of reporting along with any known impediments to obtaining a license to operate in the area.	All tenements are current and in good standing.
Exploration Done by Other Parties	Acknowledgment and appraisal of exploration by other parties.	Aside from Cardinal there has been no recent systematic exploration undertaken on the Namdini Project.
Geology	Deposit type, geological setting and style of mineralisation	The deposit type comprises gold mineralisation within sheared and highly altered rocks containing sulphides; mainly pyrite with minor arsenopyrite.
		The geological setting is a Paleoproterozoic Greenstone Belt comprising Birimian metavolcanics, volcaniclastics and metasediments located in close proximity to a major 30 km ~N-S regional shear zone with splays.
		The style of mineralisation is hydrothermal alteration containing disseminated gold-bearing sulphides.









Criteria	JORC Code Explanation	Commentary
Drill hole information	A summary of all information material to the understanding of the exploration results including tabulation of the following information for all Material drill holes:  • Easting and northing of the drill hole collar  • Elevation or RL (Reduced Level — elevation above sea level in meters) of the drill hole collar  • Dip and azimuth of the hole  • Down hole length and interception depth  • Hole length	A summary of all information material to the understanding of these exploration results is contained within this announcement.
	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.	There has been no exclusion of information.
Data aggregation methods	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.	Significant intersections are calculated using a 3m minimum width, 3m contiguous internal waste and 0.5g/t Au minimum grade.  Gold grades used for calculating significant intersections are uncut and the results are length weighted.
	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.	Aggregated intercepts incorporating short lengths of high grade results within the lithological units are calculated to include no more than intervals of 3m below grades of <0.5 g/t Au when assay results are reported.
	The assumptions used for any reporting of metal equivalent values should be clearly stated.	No metal equivalents are used in the intersection calculation.
Relationship between mineralisation	These relationships are particularly important in the reporting of exploration results.	The relationship between mineralisation widths and intercept length is not yet known.
widths and intercept lengths	If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.	The geometry of the mineralisation with respect to the drill hole angle is not yet known.









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').	The geometry of the mineralisation is unknown; only downhole length is reported (no true width of mineralisation is reported).
Diagrams	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 plan view of drill hole collar locations and appropriate sectional views.	Appropriate maps and cross-sections with scale are included within the body of the accompanying document.
Balanced Reporting	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.	The accompanying document is considered to represent a balanced report.
Other substantive exploration data	Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observation; geophysical survey results;	Other exploration data collected is not considered material to this document at this stage.  Further data collection will be reviewed and
	geochemical survey results; bulk samples — size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical & rock characteristics; potential deleterious or contaminating substances.	reported when considered material.
Further Work	The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large – scale step – out drilling).	Exploration drilling will continue to target projected lateral and depth extensions of the mineralisation and infill drilling to increase the confidence in the Mineral Resource. Results from the drilling will be
	Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	included in the next Mineral Resource update.





