

**ASX Announcement** 

3 February 2021

# GRAVITY SURVEY OPENS UP EXCITING NEW EXPLORATION OPPORTUNITIES AT CARDINIA GOLD PROJECT

Survey reveals controls on high-grade mineralisation along eastern part of the CGP, enhancing targeting capabilities for the next round of drilling

## **Highlights**

- Data from the gravity survey completed last year over the eastern parts of the Cardinia Gold Project show that felsic and mafic intrusions have significant control over the locations of high-grade mineralisation at the Cardinia Hill, Helens, Fiona and Rangoon deposits.
- The survey was designed to map the distribution of felsic porphyry and dolerite intrusions intersected in both RC and diamond drilling at prospects along this Eastern Corridor.
- Interpretation of the results has revealed up to seven new priority target areas along the Eastern Corridor where Kin Mining believes there is excellent potential to discover new zones of high-grade mineralisation. These targets will be systematically tested as part of the 2021 Phase 4 drilling program.
- An expanded gravity survey will also be undertaken over the western side of the CGP and over the East Lynne, Collymore and Hobby prospects to the north.
- Final assay results now received from the Phase 3, 2020 drilling program, with results including:
- Shallow high-grade mineralisation intersected at Pelsart:
  - o **12m at 1.75g/t Au from 99m** (PL20RC003)
  - **2m at 2.17g/t Au from 13m** (PL20RC004)
- Deeper drilling at Cardinia Hill intersects the mineralised structure 200m below surface:
  - **3.6m at 1.18g/t Au from 224.2m** (CH20DD090)
  - 4.3m at 1.75g/t Au from 213.05m (CH20DD091)
- A diamond drill hole at Helens East returned:
  - o 5.2m at 1.15g/t Au from 79.8m (HE20DD375)

**Kin Mining NL** (ASX: KIN or "the Company") is pleased to advise that it has further enhanced the exploration potential of its 100%-owned **Cardinia Gold Project** near Leonora in Western Australia after receiving and interpreting the results of a detailed gravity survey completed in December 2020 over the eastern part of the project tenements.

ASX Code: KIN Shares on issue: 700.4 million Market Capitalisation: \$105 million Cash: \$2.6 million (31 December 2020) Kin Mining NL 342 Scarborough Beach Road Osborne Park WA 6017 P: +61 9 9242 2227 E info@kinmining.com.au kinmining.com.au The survey was commissioned with the aim of mapping in detail the position and orientation of both buried intrusions and the interconnecting series of faults and shear zones which has been intersected in both shallow air-core and deeper RC and diamond drilling during the Phase 3 drilling program conducted over 2020.

Phase 3 program consisted of approximately 48,000m of drilling at Cardinia over a number of prospects, mostly on the eastern side of the project, including historical prospects at Helens, Comedy King, East Lynne and Hobby and the new discoveries at Cardinia Hill Helens East and Collymore.

In addition, the Company has received the final assay results from the Phase 3 program, which are reported in this announcement. They include shallow high-grade mineralisation at Pelsart, positive results from deeper drilling at Cardinia Hill and results from diamond drilling at Helens East. The final two drill-holes from drilling at the Bruno-Lewis deposit did not record significant assays.

### Commenting on the results, Kin Mining Managing Director Andrew Munckton said:

"The gravity survey results from the eastern part of the Cardinia Gold Project have revealed a number of intrusions that we believe are critical geological features in controlling the locations of the high-grade gold mineralisation intersected in RC and diamond drilling at key locations drilled during Phase 3 exploration programs last year."

"As can be seen in Figure 2 below, a series of important deposits sit around the perimeter of the low gravity bodies that are present between Helens and Cardinia Hill. Deposits here have significant depth extent (up to 200m vertical in the case of Helens) and strong intersections at depth, and we therefore believe that these intrusions and the faults and shear zones generated by them are a primary control of mineralisation at Cardinia."

"The survey has also highlighted extensions of the north-south oriented Faults both south of Helens and Cardinia Hill and north through Rangoon to East Lynne. This structural architecture of intrusions and faults therefore represents a compelling exploration target for high grade gold mineralisation to be followed up in 2021, with up to seven priority target areas identified as shown in Figure 3 below.

"The Company has for some time been looking at the closest geological analogy for the Cardinia mineralisation, with its distinctive multi-element signature and broad alteration zones in felsic and mafic rocks. The discovery and confirmation of a number of porphyry intrusions and north-south oriented faults as the primary controls of mineralisation has confirmed for our geological team that the Carosue Dam Project is the best analogy for Cardinia.

"Carosue Dam is located approximately 160km so the south-east along the Keith-Kilkenny Shear and consists of a series of deposits located along north-south oriented faults activated by the intrusion of felsic to mafic porphyries. In addition, the Carosue Dam mineralisation also contains a distinctive set of alteration and mineralisation indicators very similar to Cardinia. Carosue Dam is located in felsic-dominated rocks adjacent to the Keith-Kilkenny shear zone that displays similar geology, alteration and mineralisation indicators to those tested at Cardinia during 2020 in the Phase 3 exploration program."

"The high-grade results delivered from the recent Bruno-Lewis drilling campaign provide further evidence that the Cardinia area is a major mineralised gold camp, similar in scale and style to other multi-million-ounce gold camps along the Keith-Kilkenny Shear Zone that have supported other gold operations for many years.

"We have also received the final batch of assays from the Phase 3 drilling program, with a number of significant results reported in this announcement from Pelsart, Helens East and Cardinia Hill. That paves the way for us to further update the Mineral Resource for several key deposits this quarter, building further on the project-wide resource update announced just prior to Christmas. Importantly, it also clears the way for us to resume drilling with our Phase 4 program scheduled to get underway in the near future."

#### **Gravity Survey**

The Gravity survey was undertaken by Haines Gravity Pty Ltd and covered an area approximately 6km by 2km on the eastern side of the Cardinia Gold Project (see Figure 1 below).

The survey was undertaken on 50m NS by 25m EW stations with GPS controlled positioning. The survey was designed to cover the Helens, Helens East, Helens South, Cardinia Hill, Fiona, Rangoon and the southern part of the East Lynne drilling and prospects.

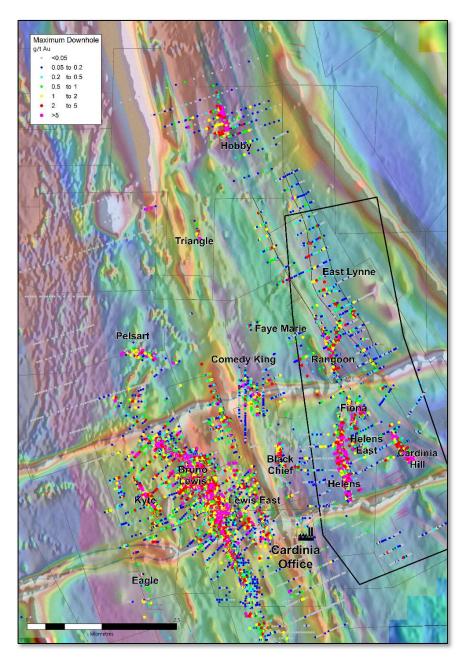
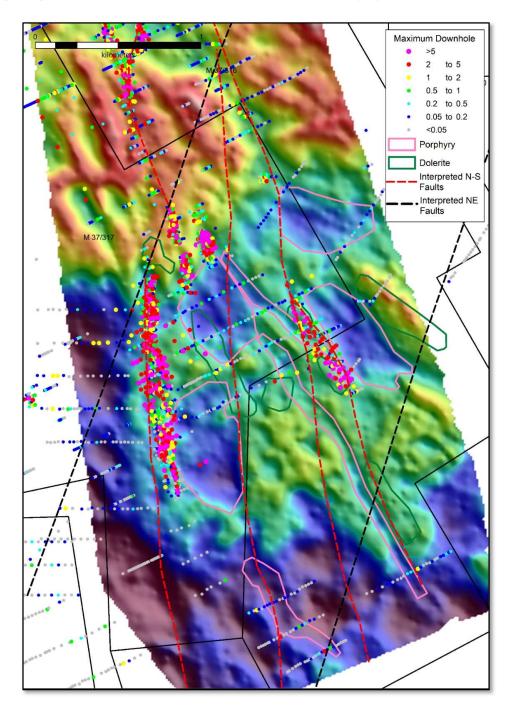


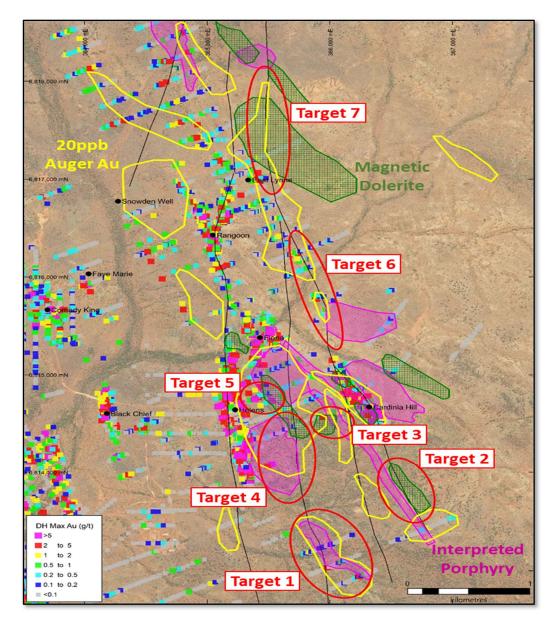
Figure 1: Location of the gravity survey on the eastern side of the Cardinia Gold Project

The gravity data has been interpreted by Southern Geoscience and corrected for terrain effects to ensure that an unbiased data set is available for interpretation.

The gravity survey provides the Company with detailed information that is helping to map the lithology and structure at Cardinia to a level not previously available. The derived datasets have enabled the Company's geologists to map structures, alteration haloes and the intrusive rocks – all of which will help to vector towards the high-grade gold mineralisation found at various locations across the project.



**Figure 2**: Gravity Survey image of the Helens, Cardinia Hill and Fiona area. Blue colours represent low specific gravity rock types and structure with red and orange colours representing higher specific gravity rock types. Note the coincidence of interpreted N-S faults and intrusion (Porphyry and Dolerite) boundaries with high grade drilling intersections.



**Figure 3**: Targets generated by the new geological interpretation of Porphyry Intrusives and interconnecting N-S Faults over the eastern Cardinia area. New targets correspond with faulted and sheared intrusion boundaries. Note the coincidence of anomalous soil geochemistry (yellow) with the position of interpreted intrusions (pink). High grade gold mineralisation is focussed along intrusive boundaries and interconnecting N-S oriented Faults.

## Pelsart Drilling

A total of seven Reverse Circulation drill-holes were completed at the Pelsart prospect in late 2020 for a total of 766m.

The drilling targeted extensions both along strike and down-dip of mineralisation intersected in historical AC drilling at the deposit. The drilling program was designed to confirm the grade and position of the mineralised lodes and improve confidence in the continuity of this style of mineralisation. Drill hole details are provided in Table 2.

Significant results from the Pelsart RC program are summarised in Table 1.

## **Cardinia Hill Diamond Drilling**

Two deeper diamond holes (CH20DD090 and CH20DD091) were completed at Cardinia Hill to provide confirmation of the controls of the mineralisation and the position of the mineralised structure at depth below the shallower RC drilling. Both holes intersected the mineralised structure at the planned position and returned ore grade intersections as summarised in Table 1.

Follow-up drilling is planned at Cardinia Hill to expand the drill pattern further north where historical AC drilling intersected 10m at 1.20g/t Au and 14m at 1.05 g/t Au along the Cardinia Hill Fault structure up to 500m along strike from the 2020 MRE drilling.

Deeper targets with the potential for high-grade sulphide mineralisation will also be tested in the planned 2021 exploration program.

Hole ID	From (m)	To (m)	Width (m)	Gold (g/t)	Comments		
Cardinia Hill	Cardinia Hill						
CH20DD090	93.1	93.55	0.45	1.32			
	224.2	227.77	3.57	1.18			
CH20DD091	95.5	95.9	0.40	1.35			
	96.85	97.7	0.85	1.10			
	126	128.15	2.15	1.19			
	137.85	138.4	0.55	1.89			
	213.05	217.33	4.28	1.75			
Helens East							
HE20DD375	79.8	85	5.2	1.15			
	88	89	1.0	1.86			
	96.1	97	0.9	2.12			
Pelsart							
PL20RC001	45	46	1	0.97			
PL20RC001	45	46	1	0.97			
PL20RC002	77	80	3	0.97			
PL20RC003	99	111	12	1.75			
PL20RC004	13	15	2	2.17			
	96	97	1	1.42			
	99	101	2	1.06			
PL20RC005					NSI		
PL20RC006					NSI		
PL20RC007					NSI		

Table 1: Significant intercepts for the remaining drilling from the 2020 Phase 3 program.

Project	Hole Id	East (m)	North (m)	RL (m)	Dip	Azimuth	Hole Type	Depth
Pelsart	PL20RC001	361,678	6,816,414	427	-60	203	RC	96
	PL20RC005	362,073	6,816,321	425	-60	209	RC	100
	PL20RC006	362,271	6,816,272	424	-61	205	RC	102
	PL20RC002	361,785	6,816,410	430	-60	205	RC	108
	PL20RC007	362,441	6,816,240	429	-60	211	RC	114
	PL20RC003	361,892	6,816,407	429	-60	206	RC	120
	PL20RC004	361,877	6,816,373	429	-60	208	RC	126
Cardinia	CH20DD091	366,213	6,814,643	431	-59	55	DD	270.29
Hill	CH20DD090	366,165	6,815,202	420	-61	222	DD	273.60
Helens East	HE20DD375	365,364	6,814,727	421	-61	71	DD	165.07

 Table 2: Drill hole details for the remaining drilling from the 2020 Phase 3 program.

### -ENDS-

Authorised for release by the Board of Directors

## For further information, please contact:

### **Investor enquiries**

Andrew Munckton Managing Director, Kin Mining NL +61 8 9242 2227

## **Media enquiries**

Nicholas Read Read Corporate +61 419 929 046

**About Kin Mining NL** Kin Mining NL (ASX: KIN) is a West Australian based gold development and exploration company. Kin's key focus is its 100% owned Cardinia Gold Project (CGP) located in the highly prospective North-Eastern Goldfields region of Western Australia. The CGP has a 1,154koz gold Mineral Resource (see Table A1) defined in both oxide and deeper primary mineralisation with considerable potential to grow this resource with further drilling.

			Cardi	nia Gold I	Project: I	Mineral F	esources	Decem	ber 2020						
		Lower	Meas	ured Reso	urces	Indic	ated Reso	urces	Infei	red Resou	urces	To	tal Resour	ces	
Project Area	Resource Gold Price (AUD)	Cut off (g/t Au)	Tonnes (Mt)	Au (g/t Au)	Au (k Oz)	Date Announce									
/lertondale															
Aertons Reward	\$2,600	0.4				0.9	2.17	66	1.9	0.65	41	2.9	1.15	106	26-Nov-2
/lertondale 3-4	\$2,600	0.4				1.4	1.85	81	1.0	0.97	31	2.3	1.48	111	26-Nov-2
onto	\$2,600	0.4				1.8	1.14	67	1.1	1.24	43	2.9	1.18	111	26-Nov-2
/lertondale 5	\$2,600	0.4				0.5	1.67	26	0.8	1.24	32	1.3	1.40	59	26-Nov-2
clipse	\$2,600	0.4							0.6	1.01	19	0.6	1.01	19	26-Nov-2
Quicksilver	\$2,600	0.4							1.1	1.10	39	1.1	1.10	39	26-Nov-2
ubtotal Mertondal	e					4.6	1.61	240	6.5	0.98	205	11.1	1.24	445	
Cardinia															
runo	\$2,600	0.4				1.2	0.89	35	2.6	1.17	96	3.8	1.08	132	26-Nov-2
ewis	\$2,600	0.4	0.4	0.98	13	4.8	0.85	131	1.5	1.00	48	6.3	0.89	179	26-Nov-2
(yte	\$2,600	0.4				0.3	1.53	17	0.1	0.92	3	0.4	1.38	20	26-Nov-2
lelens	\$2,600	0.4				0.7	2.14	50	0.3	1.94	19	1.0	2.08	69	26-Nov-2
iona	\$2,600	0.4				0.6	1.35	25	0.2	1.21	8	0.8	1.32	32	26-Nov-2
langoon	\$2,600	0.4				0.5	1.24	21	0.3	1.07	12	0.9	1.17	32	26-Nov-2
lobby *	\$2,000	0.5							0.1	2.10	8	0.1	2.10	8	14-Feb-2
Cardinia Hill **	\$2,600	0.4							1.2	1.66	61	1.2	1.66	61	18-Dec-20
ubtotal Cardinia			0.4	0.98	13	8.2	1.06	279	6.3	1.26	255	14.5	1.15	534	
Raeside															
/lichaelangelo	\$2,600	0.4				1.1	2.00	73	0.4	2.19	25	1.5	2.04	98	26-Nov-2
eonardo	\$2,600	0.4				0.4	2.39	30	0.2	2.20	14	0.6	2.32	44	26-Nov-2
orgotten Four	\$2,600	0.4				0.1	2.09	7	0.1	1.96	6	0.2	2.03	14	26-Nov-2
rang	\$2,600	0.4				0.3	1.74	17	0.0	2.59	2	0.3	1.80	19	26-Nov-2
ubtotal Raeside						2.0	2.04	128	0.7	2.17	47	2.6	2.07	175	
TOTAL			0.4	0.98	13	14.8	1.36	647	13.4	1.17	507	28.2	1.27	1154	

### Table A1. Mineral Resource Estimate Table December 2020<sup>1</sup>

 Table A1: Mineral Resource Estimate Table December 2020. Mineral Resources estimated by Jamie Logan, and

 reported in accordance with JORC 2012 using a 0.4g/t Au cut-off within AUD2,600 optimisation shells. Note \* Hobby was

 not re-optimised as part of this MRE and is still reported at the lower gold price and higher cut-off grade. Note \*\* Cardinia

 Hill Mineral Resource Estimate completed by Cube Consulting.

<sup>1</sup>The company confirms that it is not aware of any new information or data that materially affects the information included in the ASX Announcement of 22 December 2020 "Cardinia Gold Project Mineral Resource Increased to 1.15Moz", and that all material assumptions and technical parameters underpinning the estimates in that announcements continue to apply and have not materially changed.

## **COMPETENT PERSON'S STATEMENT**

The information contained in this report relating to exploration results relates to information compiled or reviewed by Glenn Grayson. Mr. Grayson is a member of the Australasian Institute of Mining and Metallurgy and is a full-time employee of the company. Mr. Grayson has sufficient experience of relevance to the styles of mineralisation and the types of deposit under consideration, and to the activities undertaken to qualify as a Competent Person as defined in the 2012 edition of the JORC "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves".

Mr. Grayson consents to the inclusion in this report of the matters based on information in the form and context in which it appears.

# Appendix A

## JORC 2012 TABLE 1 REPORT

# Cardinia Gold Project - Section 1 & 2

## Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections.)

Criteria	• JORC Code explanation	Commentary
Criteria Sampling techniques	<ul> <li>JORC Code explanation</li> <li>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.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>In cases where 'industry standard' work</li> </ul>	Commentary         Diamond         Historic (pre-2014) diamond core (DD) sampling utilised half core or quarter core sample intervals; typically varying from 0.3m to 1.4m in length. 1m sample intervals were favoured and sample boundaries principally coincided with geological contacts.         Recent (2014-2018) diamond core (DD) samples, either HQ3 or NQ2 in size diameter, were either cut in half longitudinally or further cut into quarters, using a powered diamond core drop saw centered over a cradle holding core in place. Core sample intervals varied from 0.2 to 1.25m in length but were predominantly aligned to 1m intervals or with sample boundaries which respected geological contacts.         2019 diamond core samples, either HQ3 or NQ2 in size diameter, were either cut in half longitudinally or a third longitudinally, using an automated Corewise core saw Core was placed in boats, holding core in place. Core sample intervals varied from 0.3 to 1.3m in length but were predominantly aligned to 1m intervals or with sample boundaries which respected geological contacts. <u>BC</u> Historic reverse circulation (RC) drill samples were collected over 1m downhole intervals beneath a cyclone and typically riffle split to obtain a sub-sample (typically 3-4kg). 1m sub-samples were typically collected in pre-numbered calico bags and 1m sample rejects were commonly stored at the drill site. 3m or 4m composited interval samples were often collected by using a scoop (dry samples) or spear (wet samples). If composite samples returned anomalous results once assayed, the single metre sub-samples of the anomalous composite intervals were retrieved and submitted for individual gold analysis.         Rc       Recent reverse cinculation (RC) drill samples were collected by passin
	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	2019 RC drilling samples were collected in 1m downhole intervals by passing through a cyclone, a collection box and then dropping through a cone splitter. All RC sub-samples were collected over one metre downhole intervals and averaged 3-4kg. AC/RAB
	which 3 kg was pulverised to produce a 30g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse	Historic air core (AC) and rotary air blast (RAB) were typically collected at 1 metre intervals and placed on the ground with 3-4kg sub-samples collected using a scoop or spear. Three metre or four metre composited interval samples were often collected by using a scoop (dry samples) or spear (wet samples). If composite samples returned anomalous results once assayed, the single metre sub-samples of the anomalous composite intervals were retrieved and submitted for individual gold analysis.

Criteria	• JORC Code explanation	Commentary
	gold that has inherent sampling	Assay Methodology
	problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.	Historic sample analysis typically included a number of commercial laboratories with preparation as per the following method, oven drying (90-110°C), crushing (<-2mm to <-6mm), pulverizing (<-75µm to <-105µm), and riffle split to obtain a 30, 40, or 50gram catchweight for gold analysis. Fire Assay fusion, with AAS finish was the common method of analysis however, on occasion, initial assaying may have been carried out via Aqua Regia digest and AAS/ICP finish. Anomalous samples were subsequently re-assayed by Fire Assay fusion and AAS/ICP finish.
		Recent sample analysis typically included oven drying (105-110°C), crushing (<-6mm & <-2mm), pulverising (P90% <-75μm) and sample splitting to a representative 50gram catchweight sample for gold only analysis using Fire Assay fusion with AAS finish.
		Multi element analysis was also conducted on approximately 10% of samples, predominantly through ore zones. This was conducted via a 4-acid digest with ICP-MS/OES determination for a 48 element suite.
		Rock Chips
		All rock chip samples are taken using a pick. The samples are taken from outcrop where possible. Samples are also taken from in situ float material or waste rock around historic workings, where outcrop is not present. Care is taken to ensure all samples are representative of the medium being sampled. For example, if a 1m sediment unit is being sampled, a channel sample will be taken across the entire unit.
	All recent drilling, sample collection and sample handling procedures were conducted and/or supervised by KIN geology personnel to high level industry standards. QA/QC procedures were implemented during each drilling program to industry standards.	
Drilling techniques	Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast,	Drilling carried out since 1986 and up to the most recent drill programs completed by KIN Mining was obtained from a combination of reverse circulation (RC), diamond core (DD), air core (AC), and rotary air blast (RAB) drilling.
	auger, Bangka, sonic, etc) and details	Data prior to 1986 is limited due to lack of exploration.
	(eg core diameter, triple or standard	Diamond
	tube, depth of diamond tails, face- sampling bit or other type, whether core is oriented and if so, by what method, etc).	Historic DD was carried out using industry standard 'Q' wireline techniques, with the core retrieved from the inner tubes and placed in core trays. Core sizes include NQ/NQ3 (Ø 45-48mm) and HQ/HQ3 (Ø 61-64mm). At the end of each core run, the driller placed core blocks in the tray, marked with hole number and depth. Core recovery was usually measured for each core run and recorded onto the geologist's drill logs.
		2017 – 2018 DD was carried out by contractor Orbit Drilling Pty Ltd ("Orbit Drilling") with a Mitsubishi truck-mounted Hydco 1200H 8x4 drill rig, using industry standard 'Q' wireline techniques. 2019 DD was carried out y Topdrill Pty Ltd. With a Sandvick DE840 mounted on a Mercedes Benz 4144 Actros 8x8 Carrier. The rig is fitted with Sandvik DA555 hands free diamond drilling rod handler and Austex hands free hydraulic breakout.
		Drill core is retrieved from the inner tubes and placed in plastic core trays and each core run depth recorded onto core marker blocks and placed at the end of each run in the tray. Core sizes include NQ2 (Ø 47mm) and HQ3 (Ø 64mm).
		Recent DD core recovery and orientation was obtained for each core run where possible, using electronic core orientation tools (e.g. Reflex EZ-ACT) and the 'bottom of core' marked accordingly.
		2017 -18 drilling was measured at regular downhole intervals, typically at 10-15m from surface and then every 30m to bottom of hole, using electronic multi-shot downhole survey tools (i.e. Reflex EZ-TRAC or Camteq Proshot). Independent programs of downhole deviation surveying were also carried out to validate previous surveys. These programs utilised either electronic

Criteria	JORC Code explanation	Commentary
		continuous logging survey tool (AusLog A698 deviation tool) or gyroscopic survey equipment.
		2019 DD was surveyed at regular downhole intervals (every 30m with an additional end-of-hole survey) using electronic gyroscopic survey equipment.
		<u>RC</u>
		Historic RC drilling used conventional reverse circulation drilling techniques, utilising a cross-over sub, or face-sampling hammers with bit shrouds. Drill bit sizes typically ranged between 110-140mm.
		2017-18 RC drilling was carried out by Orbit Drilling's truck-mounted Hydco 350RC 8x8 Actross drill rigs with 350psi/1250cfm air compressor, with auxiliary and booster air compressors (when required). Drilling utilised mostly downhole face-sampling hammer bits (Ø 140mm), with occasional use of blade bits for highly oxidized and soft formations. The majority of drilling retrieved dry samples, with the occasional use of the auxiliary and booster air compressors beneath the water table, to maintain dry sample return as much as possible. RC drillhole deviations were surveyed downhole, typically carried out inside a non-magnetic stainless steel (s/s) rod located above the hammer, using electronic multi-shot downhole tool (e.g. Reflex EZ- TRAC). In some instances, drillholes were surveyed later in open hole. Independent programs of downhole deviation surveying were also carried out to validate previous surveys. These programs utilised either electronic continuous logging survey tool (AusLog A698 deviation tool) or gyroscopic survey equipment.
		2019 RC drilling was carried out by Swick Mining Services truck-mounted Swick version Schramm 685 RC Drill Rig (Rod Handler & Rotary Cone Splitter) with support air truck and dust suppression equipment. Drilling utilised downhole face-sampling hammer bits (Ø 140mm). The majority of drilling retrieved dry samples, with the occasional use of the auxiliary and booster air compressors beneath the water table, to maintain dry sample return as much as possible.
		2019 RC was surveyed at regular downhole intervals (every 30m with an additional end-of-hole survey) using electronic gyroscopic survey equipment.
		AC/RAB
		Historic AC drilling was conducted utilising suitable rigs with appropriate compressors (eg 250psi/600cfm). AC holes were drilled using 'blade' or 'wing' bits, until the bit was unable to penetrate ('blade refusal'), often near the fresh rock interface. Hammer bits were used only when it was deemed necessary to penetrate further into the fresh rock profile or through notable "hard boundaries" in the regolith profile. No downhole surveying is noted to have been undertaken on AC drillholes.
		Historic RAB drilling was carried out using small air compressors (eg 250psi/600cfm) and drill rods fitted with a percussion hammer or blade bit, with the sample return collected at the drillhole collar using a stuffing box and cyclone collection techniques. Drillhole sizes generally range between 75-110mm. No downhole surveying is noted to have been undertaken on RAB drillholes.
Drill sample recovery	Method of recording and assessing core	Diamond
	and chip sample recoveries and results assessed.	Historic core recovery was recorded in drill logs for most of the diamond drilling programs since 1985. A review of historical reports indicates that core recovery was generally good (>80%) with lesser recoveries recorded in zones of broken ground
	Measures taken to maximise sample recovery and ensure representative nature of the samples.	and/or areas of mineralisation. Overall recoveries are considered acceptable for resource estimation. Recent core recovery data was recorded for each run by measuring total length of core retrieved against the downhole interval actually drilled and stored in the database. KIN representatives continuously monitor core recovery and core presentation quality as drilling is conducted and issues or discrepancies are rectified promptly to maintain industry best standards. Core recoveries averaged >95%, even when difficult ground conditions were being encountered. When poor ground conditions were

Criteria	• JORC Code explanation	Commentary
	Whether a relationship exists between sample recovery and grade and whether	anticipated, a triple tube drilling configuration was utilised to maximize core recovery <u>RC/AC/RAB</u>
	sample bias may have occurred due to preferential loss/gain of fine/coarse material.	Historic sample recovery information for RC, AC, and RAB drilling is limited.
		Recent RC drilling samples are preserved as best as possible during the drilling process. At the end of each 1 metre downhole interval, the driller stops advancing, retracts from the bottom of hole, and waits for the sample to clear from the bottom of the hole through to the sample collector box fitted beneath the cyclone. The sample is then released from the sample collector box and passed through either a 3-tiered riffle splitter or cone splitter fitted beneath the sample box.
		Drilling prior to 2018 utilised riffle split collection whereas sample collection via a cone splitter was conducted for drilling undertaken since March 2018; cyclone cleaning processes remained the same.
		Sample reject is collected in plastic bags, and a 3-4kg sub-sample is collected in pre-marked calico bags for analysis. Once the samples have been collected, the cyclone, sample collector box and riffle splitter are flushed with compressed air, and the splitter cleaned by the off-sider using a compressed air hose at both the end of each 6 metre drill rod and then extensively cleaned at the completion of each hole. This process is maintained throughout the entire drilling program to maximise drill sample recovery and to maintain a high level of representivity of the material being drilled.
		RC drill sample recoveries are not recorded in the database however a review by Carras Mining Pty Ltd (CM) in 2017, of RC drill samples stored in the field, and ongoing observations of RC drill rigs in operation by KIN representatives, suggests that RC sample recoveries were mostly consistent and typically very good (>90%).
		Collected samples are deemed reliable and representative of drilled material and no material discrepancy, that would impede a mineral resource estimate, exists between collected RC primary and sub-samples.
Logging	Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support	Logging data coded in the database, prior to 2014, illustrates at least four different lithological code systems, a legacy of numerous past operators (Hunter, MPI, Metana, CIM, MEGM, Pacmin, SOG, and Navigator). Correlation between codes is difficult to establish however, based on historical reports, drill hole logging procedures appear consistent with normal industry practices of the time.
	appropriate Mineral Resource estimation, mining studies and	KIN has attempted to validate historical logging data and to standardize the logging code system by incorporating the SOG and Navigator logging codes into one.
	metallurgical studies.	Diamond
	Whether logging is qualitative or quantitative in nature. Core (or costean,	Historical diamond core logging was recorded into drill logs for most of the diamond drilling programs since 1985. A review of historical reports indicates that logging noted core recovery, fractures per metre and RQD, lithology, alteration, texture, mineralisation, weathering, and other features. Core was then marked up for cutting and sampling.
	channel, etc) photography. The total length and percentage of the relevant intersections logged.	Navigator's procedure for logging of diamond core included firstly marking of the bottom of the core (for successful core orientations), then recording of core recovery, fractures per metre and RQD, lithology, alteration, texture, mineralisation, weathering, and other features. Core was then marked up for cutting and sampling. Navigator DD logging is predominantly to geological contacts.
		Navigator logging information was entered directly into hand held digital data loggers and transferred directly to the database, after validation, to minimize data entry errors.
		Drill core photographs, for drilling prior to 2014, are available only for diamond drillholes completed by Navigator.
		KIN DD logging is carried out on site once geology personnel retrieve core trays from the drill rig site. Core is collected from the rig daily. The entire length of every hole is logged. Recorded data includes lithology, alteration, structure, texture,

Criteria	JORC Code explanation	Commentary
		mineralisation, sulphide content, weathering and other features. Drillhole collar coordinates, azimuth, dip, depth and sampling intervals are also recorded. KIN DD logging is to geological contacts.
		Qualitative logging includes classification and description of lithology, weathering, oxidation, colour, texture and grain size. Quantitative logging includes percentages of identified minerals, veining, and structural measurements (using a kenometer tool). In addition, logging of diamond drilling includes geotechnical data, RQD and core recoveries.
		Drill core is photographed at the Cardinia site, prior to any cutting and/or sampling, and then stored in this location. Photographs are available for every diamond drillhole completed by KIN and a selection of various RC chip trays. SG data is also collect
		All information collected is entered directly into laptop computers or tablets, validated in the field, and then transferred to the database.
		The level of logging detail is considered appropriate for exploration and to support appropriate mineral resource estimation, mining studies, and metallurgical studies.
		Diamond drillholes completed for geotechnical purposes were independently logged for structural data by geotechnical consultants.
		RC/AC/RAB
		Historical RC, AC, and RAB logging (including Navigator) was entered on a metre by metre basis. Logging consisted of lithology, alteration, texture, mineralisation, weathering, and other features
		For the majority of historical drilling (pre-2004) the entire length of each drillhole have been logged from surface to 'end of hole'.
		KIN RC logging of was carried out in the field and logging has predominantly been undertaken on a metre by metre basis. KIN logging is inclusive of the entire length of each RC drillhole from surface to 'end of hole'.
		Recorded data includes lithology, alteration, structure, texture, mineralisation, sulphide content, weathering and other features. Drillhole collar coordinates, azimuth, dip, depth and sampling intervals are also recorded.
		Qualitative logging includes classification and description of lithology, weathering, oxidation, colour, texture and grain size. Quantitative logging includes identification and percentages of mineralogy, sulphides, mineralisation, and veining.
		Photographs are available for a selection of recent KIN RC drillholes.
		All information collected is entered directly into laptop computers or tablets, validated in the field, and then transferred to the database.
		The level of logging detail is considered appropriate for exploration and to support appropriate mineral resource estimation, mining studies, and metallurgical studies.
		Rock Chips
		All rock chip samples are inspected by the sampling geologist and logged for lithology, alteration, mineralisation, veining, and structural fabric. This is a combination of qualitative and quantitative data.
Sub-sampling techniques and	If core, whether cut or sawn and	Diamond
sample preparation	whether quarter, half or all core taken.	Historic diamond drill core (NQ/NQ3 or HQ/HQ3) samples collected for analysis were longitudinally cut in half, and occasionally in quarters for the larger (HQ/HQ3) diameter holes, using a powered diamond core drop saw centered over a cradle holding the

Criteria	• JORC Code explanation	Commentary
	If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.	core in place. Half core or quarter core sample intervals typically varied from 0.3m to 1.4m in length. 1m sample intervals were favoured and are the most common method of sampling, however sample boundaries do principally coincide with geological contacts. The remaining core was retained in core trays.
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	2017-18 diamond drill core samples collected for analysis were longitudinally cut in half, with some samples cut into quarters, using a powered diamond core drop saw blade centered over a cradle holding the core in place. Core sample intervals varied from 0.2 to 1.25m in length but were predominantly aligned to 1m intervals or with sample boundaries which respected geological contacts. The remaining core was retained in their respective core trays and stored in KIN's yard for future reference.
	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples. Measures taken to ensure that the	All KIN diamond drill core is securely stored at the KIN Leonora Yard. 2019 diamond drill core samples collected for analysis were longitudinally cut in half, with some samples cut into thirds, using an automated Corewise powered diamond core saw with the blade centered over a boat holding the core in place. Core sample intervals varied from 0.2 to 1.25m in length but were predominantly aligned to 1m intervals or with sample boundaries which respected geological contacts. The remaining core was retained in their respective core trays and stored in KIN's yard for future reference. All KIN diamond drill core is securable core trays and stored in KIN's yard for future
	sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.	reference. All KIN diamond drill core is securely stored at the Cardinia coreyard. All sub-sampling techniques and sample preparation procedures conducted and/or supervised by KIN geology personnel are to standard industry practice. Sub-sampling and sample preparation techniques used are considered to maximise representivity of drilled material. QA/QC procedures implemented during each drilling program are to industry standard practice.
	Whether sample sizes are appropriate to the grain size of the material being sampled.	Samples sizes are considered appropriate for this style of gold mineralisation and as an industry accepted method for evaluation of gold deposits in the Eastern Goldfields of Western Australia.
		RC/AC/RAB         Historic sampling was predominantly conducted by collecting 1m samples from beneath a cyclone and either retaining these primary samples or passing through a riffle splitter to obtain a 3-4kg sub-sample for analysis. First pass sampling often involved collecting composite samples by using a scoop (dry samples) or spear/tube (wet samples) to obtain 3m or 4m composited intervals, with the single metre split samples being retained at the drill site as spoil or in sample bags. If composite sample assays returned anomalous results, the single metre samples for this composite were retrieved and submitted for analysis.         RC/AC/RAB sampling procedures are believed to be consistent with the normal industry practices at the time.
		Samples obtained from conventional RC drilling techniques with cross-over subs often suffered from down hole contamination, especially beneath the water table. Samples obtained from RC drilling techniques using the face sampling hammer suffered less from down hole contamination and were more likely to be kept dry beneath the water table, particularly if auxiliary and booster air compressors were used. These samples are considered to be representative.
		The vast majority of Reverse Circulation (RC) drill samples were collected at 1m downhole intervals from beneath a cyclone and then riffle split to obtain a sub-sample (typically 3-4kg). After splitting, 1m sub-samples were typically collected in pre- numbered calico bags, and the 1m sample rejects were commonly stored at the drill site in marked plastic bags, for future reference. First pass sampling often involved collecting composite samples by using a scoop (dry samples) or spear/tube (wet samples) to obtain 3m or 4m composited intervals, with the single metre split sub-samples being retained at the drill site. If the composite sample assays returned anomalous results, single metre sub-samples for the anomalous composite intervals were retrieved and submitted for analysis.
		Navigator included standards, fields duplicate splits (since 2009), and blanks within each drill sample batch, at a ratio of 1 for every 20 samples, with the number of standards being inserted at a ratio of 1 for every 50 samples.

Criteria	• JORC Code explanation	Commentary
		Recent RC sub-samples were collected over 1 metre downhole intervals and retained in pre-marked calico bags, after passing through a cyclone and either a riffle splitter, prior to March 2018, or cone splitter, after March 2018. The majority of RC sub-samples consistently averaged 3-4kg. Sample reject from the riffle splitter were retained and stored in plastic bags, and located near each drillhole site. When drilling beneath the water table, the majority of sample returns were kept dry by the use of the auxiliary and booster air compressors. Very few wet samples were collected through the splitter, and the small number of wet or damp samples is not considered material for resource estimation work.
		KIN RC drill programs utilise field duplicates, at regular intervals at a ratio of 1:25, and assay results indicate that there is reasonable analytical repeatability; considering the presence of nuggety gold.
		All sub-sampling techniques and sample preparation procedures conducted and/or supervised by KIN geology personnel are to standard industry practice. Sub-sampling and sample preparation techniques used are considered to maximise representivity of drilled material. QA/QC procedures implemented during each drilling program are to industry standard practice.
		Samples sizes are considered appropriate for this style of gold mineralisation and as an industry accepted method for evaluation of gold deposits in the Eastern Goldfields of Western Australia.
		No duplicates are taken for rock chip sampling. Sample sizes are approximately 3kg, this is considered appropriate for the material being sampled.
Quality of assay data and laboratory tests		Numerous assay laboratories and various sample preparation and assay techniques have been used since 1981. Historical reporting and descriptions of laboratory sample preparation, assaying procedures, and quality control protocols for the samples from the various drilling programs are variable in their descriptions and completeness.
		Assay data obtained prior to 2001 is incomplete and the nature of results could not be accurately quantified due to the combinations of various laboratories and analytical methodologies utilised.
		Since 1993, the majority of samples submitted to the various laboratories were typically prepared for analysis firstly by oven drying, crushing and pulverizing to a nominal 85% passing 75μm.
		In the initial exploration stages, Aqua Regia digest with AAS/ICP finish, was generally used as a first pass detection method, with follow up analysis by Fire Assay fusion and AAS/ICP finish. This was a common practice at the time. Mineralised intervals were subsequently Fire Assayed (using 30, 40 or 50 gram catchweights) with AAS/ICP finish.
		Approximately 15-20% of the sampled AC holes may have been subject to Aqua Regia digest methods only, however AC samples were predominantly within the oxide profile, where aqua regia results would not be significantly different to results from fire assay methods.
	duplicates, external laboratory checks)	Limited information is available regarding check assays for drilling programs prior to 2004.
	and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.	During 2004-2014, Navigator utilised six different commercial laboratories during their drilling programs, however Kalgoorlie Assay Laboratories conducted the majority of assaying for diamond, RC, and AC samples using Fire Assay fusion on 40 gram catchweights with AAS/ICP finish.
		Since 2009 Navigator regularly included field duplicates and Certified Reference Material (CRM), standards and blanks, with their sample batch submissions to laboratories at average ratio of 1 in 20 samples. Sample assay repeatability and blank and CRM standard assay results were typically within acceptable limits.
		KIN sample analysis from 2014 to 2018 was conducted by SGS Australia Pty Ltd's ("SGS") Kalgoorlie and Perth laboratories. Sample preparation included oven drying (105°C), crushing (<6mm), pulverising (P90% passing 75μm) and riffle split to obtain a 50 gram

Criteria	JORC Code explanation	Commentary
		catchweight. Analysis for gold only was carried out by Fire Assay fusion technique with AAS finish (SGS Lab Code FAA505).
		• KIN regularly insert blanks and CRM standards in each sample batch at a ratio of 1:50. This allows for at least one blank and one CRM standard to be included in each of the laboratory's fire assay batch of 50 samples. Field duplicates are typically collected at a ratio of 1:50 samples and test sample assay repeatability. Blanks and CRM standards assay result performance is predominantly within acceptable limits for this style of gold mineralisation.
		• KIN requests laboratory pulp grind and crush checks at a ratio of 1:50 or less since May 2018 in order to better qualify sample preparation and evaluate laboratory performance. Samples have generally illustrated appropriate crush and grind size percentages since the addition of this component to the sample analysis procedure.
		<ul> <li>SGS include laboratory blanks and CRM standards as part of their internal QA/QC for sample preparation and analysis, as well as regular assay repeats. Sample pulp assay repeatability, and internal blank and CRM standards assay results are typically within acceptable limits.</li> </ul>
		From late 2018 samples have been analysed by Intertek Genalysis, with sample preparation either at their Kalgoorlie prep laboratory or the Perth Laboratory located in Maddington Sample preparation included oven drying (105°C), crushing (<6mm), pulverising (P90% passing 75μm) and split to obtain a 50 gram catchweight. Analysis for gold only was carried out by Fire Assay fusion technique with AAS finish.
		• KIN regularly insert blanks and CRM standards in each sample batch at a ratio of 1:25. Kin accepts that this ratio of QAQC is industry standard. Field duplicates are typically collected at a ratio of 1:25 samples and test sample assay repeatability. Blanks and CRM standards assay result performance is predominantly within acceptable limits for this style of gold mineralisation.
		• KIN requests laboratory pulp grind and crush checks at a ratio of 1:50 or less since May 2018 in order to better qualify sample preparation and evaluate laboratory performance. Samples have generally illustrated appropriate crush and grind size percentages since the addition of this component to the sample analysis procedure.
		<ul> <li>Genalysis include laboratory blanks and CRM standards as part of their internal QA/QC for sample preparation and analysis, as well as regular assay repeats. Sample pulp assay repeatability, and internal blank and CRM standards assay results are typically within acceptable limits.</li> </ul>
		The nature and quality of the assaying and laboratory procedures used are considered to be satisfactory and appropriate for use in mineral resource estimations.
		Fire Assay fusion is considered to be a total extraction technique. The majority of assay data used for the mineral resource estimations were obtained by the Fire Assay technique with AAS or ICP finish. AAS and ICP methods of detection are both considered to be suitable and appropriate methods of detection for this style of mineralisation
		Aqua Regia is considered a partial extraction technique, where gold encapsulated in refractory sulphides or some silicate minerals may not be fully dissolved, resulting in partial reporting of gold content.
		No other analysis techniques have been used to determine gold assays.
		Ongoing QAQC monitoring program identified one particular CRM returning spurious results. Further analysis demonstrated that the standard was compromised and was subsequently removed and destroyed. A replacement CRM of similar grade was substituted into the QAQC program.
		KIN continues to both develop and reinforce best practice QAQC methods for all drilling operations and the treatment and analysis of samples. Regular laboratory site visits and audits have been introduced since April 2018 and will be conducted on a

Criteria	JORC Code explanation	Commentary
		quarterly basis. This measure will ensure that all aspects of KIN QAQC practices are adhered to and align with industry best practice.
		All rock chip samples have been submitted to Intertek Genalysis (Perth) for analysis by 50g Fire assay, with multi-element analysis via a 4-acid digest for a 48-element suite. Sample preparation included oven drying (105°C), crushing (<6mm), pulverising (P90% passing 75µm). Blanks and standards are inserted by the lab at a minimum rate of 1 in 50. Lab repeats are performed for samples with particularly high gold values. Due to the nature and intended uses of this data, this QAQC procedure is intentionally less rigorous than that used for drilling samples.
Verification of sampling and assaying	The verification of significant intersections by either independent or	Verification of sampling, assay techniques, and results prior to 2004 is limited due to the legacy of the involvement of various companies, personnel, drilling equipment, sampling protocols and analytical techniques at different laboratories.
	alternative company personnel.	During 2009, a selection of significant intersections had been verified by Navigator's company geologists and an independent
	The use of twinned holes.	consultant McDonald Speijers ("MS"). MS were able to validate 92% of the assay records in 50 randomly selected check holes, and only 6 assay discrepancies were detected (< 0.2%), only 2 of those were considered significant. MS concluded that the very small
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	proportion of discrepancies indicated that the assay database was probably reliable at that time.
		In 2009, Runge Ltd ("Runge") completed a mineral resource estimate report for the Cardinia Project area, including the Helens, Rangoon, Kyte and Bruno_Lewis deposits. Runge's database verification included basic visual validation in Surpac and field verification of drillhole positions in February 2009. Runge did not report any significant issues with the database.
	Discuss any adjustment to assay data.	Since 2014, significant drill intersections have been verified by KIN company geologists during the course of the drilling programs.
		During 2017, Carras Mining Pty Ltd ("CM") carried out an independent data verification. 38,098 assay records for KIN 2014-2017 drilling programs were verified by comparing laboratory assay reports against the database. 6 errors were found, which are not considered material and which represented only 0.03% of all database records verified for KIN 2014-2017 drilling programs
		No adjustments, averaging or calibrations are made to any of the assay data recorded in the database. QA/QC protocol is considered industry standard with standard reference material submitted on a routine basis.
		Recent (2014-2018) RC and diamond drilling by KIN included twinning of some historical holes within the Helens and Rangoon resource areas. There is no significant material difference between historical drilling information and KIN drilling information.
		Areas without twinned holes illustrate a drill density that is considered sufficient to enable comparison with surrounding historic information. No material difference of a negative nature exists between historical drilling information and KIN drilling information.
		KIN diamond holes drilled for metallurgical and geotechnical test work illustrate assay results with adequate correlation to both nearby historical and recent drilling results.
		No adjustment or calibration has been made to assay data.
Location of data points	Accuracy and quality of surveys used to locate drill holes (collar and down-hole	Several local grids were established and used by previous project owners. During the 1990s, SOG transformed the surface survey data firstly to AMG and subsequently to MGA (GDA94 zone51).
	surveys), trenches, mine workings and other locations used in Mineral Resource estimation.	Navigator recognised errors in the collar co-ordinates resulting from transformations and as a result, a significant number of holes were resurveyed and a new MGA grid transformation generated. Historical collars have been validated against the original local grid co-ordinates and independently transformed to MGA co-ordinates and checked against the database. Navigator's MGA co-ordinates were checked against the surveyor's reports.
	Specification of the grid system used.	Drilling was carried out using these various local grids. Since 2004, All Navigators drill hole collars were surveyed on completion of

Criteria	• JORC Code explanation	Commentary
	Quality and adequacy of topographic control.	drilling in the Australian MGA94, Zone51 grid using RTK-DGPS equipment by licensed surveyors, with more than 80% of the pickups carried out by independent contractors.
		Almost all the diamond and at least 70% of Navigator RC holes were downhole surveyed. Pre-Navigator, single shot survey cameras were used, with typical survey intervals of 30-40 metres.
		Recent KIN drill hole collars are located and recorded in the field by a contract surveyor using RTK-DGPS (with a horizontal and vertical accuracy of ±50mm). Location data was collected in the GDA94 Zone51 grid coordinate system.
		Downhole surveying was predominantly carried out by the drilling contractor which, prior to late 2018, was Orbit Drilling Pty Ltd. This was conducted using a downhole electronic single shot magnetic tool. (Relfex EZ-shot), which is industry standard practice. This is considered sufficiently accurate except where significant magnetic interference is encountered. The magnetic field is recorded on every survey and flagged when likely to interfere with the reading. These surveys are downgraded in the database. In addition, if the downhole survey tool is located within 15 metres of the surface, there is risk of influence from the drill rig affecting the azimuth readings. This was observed for the survey readings, which include total magnetic intensity (TMI) measurements, where TMI is spurious for readings taken at downhole depths less than 20 metres. These spurious readings are included in the database, but are not used.
		Downhole surveying in 2019 has been conducted by the drilling contractors (Topdrill Pty Ltd and Swick Mining Services Pty Ltd) utilizing downhole electronic gyroscopic survey tools. These are considered very accurate and not susceptible to magnetic interference. No further surveying required to check drill hole deviation.
		A small selection of drillhole collars, which do not have DGPS collar surveys, were picked up with a handheld GPS and individually appraised in regards to their location prior to modelling; the position of these collars is deemed appropriate for the resource estimation work.
		Considering the history of grid transformations and surviving documentation, there might be some residual risk of error in the MGA co-ordinates for old drillholes, however this is not considered to be material for the resource estimation.
		Azimuth data was historically recorded relative to magnetic north. Much of the historical drilling data was recorded relative to magnetic north. Variation in magnetic declination for the Cardinia Project area is calculated at +0.823° East (1985) to +1.301° East (2017), with a maximum variation of +1.575° in 2005. The difference between true north and magnetic north, and the annual variation in magnetic declination since 1985 is not significant, therefore magnetic north measurements have been used, where true north data is unavailable, for all survey data used in resource estimation processes.
		The accuracy of drill hole collars and downhole data are located with sufficient accuracy for use in resource estimation work.
		For rock chip samples, locations are recorded at the time of sampling using a handheld GPS in the GDA94 Zone51 grid coordinate system.
Data spacing and distribution	Data spacing for reporting of Exploration Results.	Drill hole spacing patterns vary considerably throughout the Cardinia Gold Project area and are deposit specific, depending on the nature and style of mineralisation being tested.
	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	Drill hole spacing within the resource areas is sufficient to establish an acceptable degree of geological and grade continuity and is appropriate for both the mineral resource estimation and the resource classifications applied.

Criteria	JORC Code explanation	Commentary
	procedure(s) and classifications applied.	
	Whether sample compositing has been applied.	
Orientation of data in relation 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 Cardinia greenstone sequence displays a NNW to NW trend. Drilling and sampling programs were carried out to obtain unbiased locations of drill sample data, generally orthogonal to the strike of mineralisation.
		At Helens mineralisation is structurally controlled in sub-vertical shear zones, with supergene components of varying lateral extensiveness present in the oxide profile.
	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.	The vast majority of historical drilling, pre-Navigator (pre-2004), and KIN drilling is orientated at -60°/245° (WSW) and -60°/065° (ENE).
		At Bruno-Lewis and Kyte, mineralisaton is either stratigraphy parallel (trending NNW, steep to moderately W-dipping) or cross- cutting and dipping shallowly to the NE (striking NW). The vast majority of the drilling is therefore predominantly orientated at - 60°/225-250° or -60°/090°. Grade Control drillholes were drilled vertically. Since late 2018, Kin's drilling has been largely oriented to 070° to target contact lodes and 225-250° to target the NE-dipping potassic lodes.
		The chance of sample bias introduced by sample orientation is considered minimal. No orientation sampling bias has been identified in data thus far.
Sample security	The measures taken to ensure sample	No sample security details are available for pre-Navigator (pre-2004) drill or field samples.
	security.	Navigator drill samples (2004-2014) were collected in pre-numbered calico bags at the drill rig site. Samples were then collected by company personnel from the field and transported to the secure Navigator yard in Leonora. Samples were then batch processed (drillhole and sample numbers logged into the database) and then packed into 'bulkabag sacks'. The bulkabags were tied off and stored securely in the Navigator yard until being transported to the selected laboratory. There was no perceived opportunity for the samples to be compromised from collection of samples at the drill site to delivery to the laboratory.
		2017 -18 KIN RC drill samples were collected in pre-numbered calico bags at the drill rig site. The samples were then batch processed (drillhole and sample numbers encoded onto a hardcopy sample register) in the field, and then transported and stacked into 'bulkabag sacks' at the secure KIN yard location in Leonora. Bulkabags were tied off and stored securely in the yard until being transported to the laboratory.
		2019 RC drill samples were collected in pre-numbered calico bags at the drill rig site. The samples were then batch processed (drillhole and sample numbers encoded onto a hardcopy sample register) in the field, and then transported and stacked into 'bulkabag sacks' at the Cardinia office.
		2017-18 KIN DD samples were obtained by KIN personnel in pre-numbered calico bags at the KIN yard location in Leonora. Samples were then stacked into 'bulkabag sacks' at the yard location and stored securely until being transported to the laboratory.
		2019 samples were obtained by KIN personnel in pre-numbered calico bags at the core yard located at the Cardinia office. Samples were then stacked into 'bulkabag sacks' at the yard location and stored securely until being transported to the laboratory.
		Transport contractors are utilised to transport samples to the laboratory. No perceived opportunity for samples to be compromised from collection of samples at the drill site, to delivery to the laboratory, where they were stored in their secure compound, and made ready for processing is deemed likely to have occurred.

Criteria	• JORC Code explanation	Commentary
		On receipt of the samples, the laboratory independently checked the sample submission form to verify samples received and readied the samples for sample preparation. SGS and Genalysis sample security protocols are of industry standard and deemed acceptable for resource estimation work.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	Historic drilling and sampling methods and QA/QC are regarded as not being as thoroughly documented compared to current standards. Inhouse reviews of various available historical company reports of drilling and sampling techniques indicates that these were most likely conducted to industry best practice and standards of the day.
		Independent geological consultants Runge Ltd completed a review of the Cardinia Project database, drilling and sampling protocols, and so forth in 2009. The Runge report highlighted issues with bulk density and QA/QC analysis within the supplied database. Identified issues were subsequently addressed by Navigator and KIN.
		Carras Mining Pty Ltd (CM), an independent geological consultant, reviewed and carried out an audit on the field operations and database in 2017. Drilling and sampling methodologies observed during the site visits were to industry standard. No issues were identified for the supplied databases which could be considered material to a mineral resource estimation. During the review, Carras Mining logged the oxidation profiles (base of complete oxidation and top of fresh rock) for each of the deposit areas, based on visual inspection of selected RC drill chips from KIN's recent drilling programs, and a combination of historical and KIN drillhole logging. Final adjustments were made with input from KIN geologists. The oxidation profiles were used to assign bulk densities and metallurgical recoveries to the 2017 resource models.
		Past bulk density test work has been inconsistent with incorrect methods employed, to derive specific gravity or in-situ bulk density, rather than dry bulk density. Navigator (2009) and recent KIN (2017) bulk density test work was carried out using the water immersion method on oven dried, coated samples to derive dry bulk densities for different rock types and oxidation profiles. This information has been incorporated into the database for resource estimation work. CM conducted site visits during 2017 to the laboratory to validate the methodology.
		Drilling, sampling methodologies, and assay techniques used in these drilling programs are considered to be appropriate and to mineral exploration industry standards of the day.
		Laboratory site visits and audits were introduced in April 2018 and are conducted on a quarterly basis. This measure ensures that all aspects of KIN QAQC practices are adhered to and align with industry best practice.

## Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title	The Cardinia Project, 35-40km NE of Leonora is managed, explored and maintained by KIN, and constitute a portion of KIN's Leonora Gold Project (LGP), which is located within the Shire of Leonora in the Mt Margaret Mineral Field of the North Eastern Goldfields.
	interests, historical sites, wilderness or national park and environmental settings.	The Helens and Rangoon area includes granted mining tenements M37/316 and M37/317, The tenements are held in the name of Navigator Mining Pty Ltd, a wholly owned subsidiary of KIN.
	The security of the tenure held at the time of reporting along	The Bruno-Lewis and Kyte areas includes granted mining tenements M37/86, M37/227, M37/277,

Criteria	JORC Code explanation	Commentary
	with any known impediments to obtaining a licence to operate in the area.	M37/300, M37/428 and M37/646. The tenements are held in the name of Navigator Mining Pty Ltd, a wholly owned subsidiary of KIN. The following royalty payment may be applicable to the areas within the Cardinia Project's Bruno and Lewis areas that comprise the deposits being reported on:
		1. Gloucester Coal Ltd (formerly CIM Resources Ltd and Centenary International Mining Ltd) in respect
		of M37/86 - 1% of the quarterly gross value of sales for gold ounces produced, in excess of 10,000 ounces.
		There are no known native title interests, historical sites, wilderness areas, national park or environmental impediments over the outlined current resource areas, and there are no current impediments to obtaining a licence to operate in the area.
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	At Cardinia, from 1980-1985, Townson Holdings Pty Ltd ("Townson") mined a small open pit over selected historical workings at the Rangoon prospect. Localised instances of drilling relating to this mining event are not recorded and are considered insubstantial and immaterial for resource modelling Companies involved in the collection of the majority of the gold exploration data since 1985 and prior to 2014 include: Thames Mining NL ("Thames") 1985; Mt Eden Gold Mines (Aust) NL (also Tarmoola Aust Pty Ltd "MEGM") 1986-2003; Centenary International Mining Ltd ("CIM") 1986-1988, 1991-1992; Metana Minerals NL ("Metana") 1986-1989; Sons of Gwalia Ltd ("SOG") 1989, 1992-2004; Pacmin Mining Corporation ("Pacmin") 1998-2001, and Navigator Resources Ltd ("Navigator") 2004-2014. In 2009 Navigator commissioned Runge Limited ("Runge") to complete a Mineral Resource estimate for the Bruno, Lewis, Kyte, Helens and Rangoon deposits. Runge reported a JORC 2004 compliant Mineral Paceuver estimate, et a cut off ared of 0.7g/t Au tables 1.6EMt @ 1.2 g/t au (61.700 es Au) for Helens
		Resource estimate, at a cut-off grade of 0.7g/t Au, totaling 1.45Mt @ 1.3 g/t au (61,700 oz Au) for Helens and Rangoon, and totaling 4.34Mt @ 1.2 g/t au (169,700 oz Au) for Bruno, Lewis and Kyte.
		A trial pit (Bruno) was mined by Navigator in 2010, and a 'test parcel' of ore was extracted and transported firstly to Sons of Gwalia's processing plant in Leonora, and finally to Navigator's processing plant located at Bronzewing, where approximately 100,000 tonnes were processed at an average head grade of 2.33 g/t au (7,493 oz Au).
Geology	Deposit type, geological setting and style of mineralisation.	The Cardinia Project area is located in the central part of the Norseman-Wiluna Greenstone Belt, which extends for some 600km on a NNW trend across the Archean Yilgarn Craton of Western Australia.
		The regional geology comprises a suite of NNE-North trending greenstones positioned within the Mertondale Shear Zone (MSZ) a splay limb of the Kilkenny Lineament. The MSZ denotes the contact between Archaean felsic volcanoclastics and sediment sequences in the west and Archaean mafic volcanics in the east. Proterozoic dolerite dykes and Archaean felsic porphyries have intruded the sheared mafic/felsic volcanoclastic/sedimentary sequence.
		Locally within the Cardinia Project area, the stratigraphy consists of intermediate, mafic and felsic volcanic and intrusive lithologies and locally derived epiclastic sediments, which strike NNW, dipping steep-to- moderately to the west. Structural foliation of the areas stratigraphy predominantly dips steeply to the east but localised inflections are common and structural orientation can vary between moderately (50-75°) easterly to moderately westerly dipping.
		Mineralisation at Helens is controlled by a cross-cutting fault, hosted predominantly in mafic rock units, adjacent to the felsic volcanic/sediment contacts. The ore zones are associated with increased shearing,

Criteria	JORC Code explanation	Commentary
		intense alteration and disseminated sulphides. Minor supergene enrichment occurs locally within mineralised shears throughout the regolith profile. Mineralisation at Bruno-Lewis is largely controlled by the stratigraphic contact between basalt and felsic volcanics. Gold is associated with significant sulphide mineralisation in the sediments and volcaniclastics between the 2 volcanic units. Gold Is also hosted within shallowly NE-dipping lodes, associated with increased potassic-sericite alteration and quartz stockwork veining. These lodes also host the mineralisation at Kyte. Substantial supergene mineralisation sits above both styles of mineralisation.
Drill hole Information	<ul> <li>A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:</li> <li>easting and northing of the drill hole collar</li> <li>elevation or RL (Reduced Level – elevation above sea level in metres) 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> <li>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.</li> </ul>	Material drilling information for exploration results has previously been publicly reported in numerous announcements to the ASX by Navigator (2004-2014) and KIN since 2014.
Data aggregation methods	In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated. Where aggregate 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. The assumptions used for any reporting of metal equivalent values should be clearly stated.	When exploration results have been reported for the resource areas, the intercepts are reported as weighted average grades over intercept lengths defined by geology or lower cut-off grades, without high grade cuts applied. Where aggregate intercepts incorporated short lengths of high grade results, these results were included in the reports. Since 2014, KIN have reported RC drilling intersections with low cut off grades of >= 0.5 g/t Au and a maximum of 2m of internal dilution at a grade of <0.5g/t Au. There is no reporting of metal equivalent values.
Relationship between mineralisation widths and intercept lengths	These relationships are particularly important in the reporting of Exploration Results. If the geometry of the mineralisation with respect to the drill	The orientation, true width, and geometry of mineralised zones have been primarily determined by interpretation of historical drilling and continued investigation and verification of KIN drilling. Drill intercepts are reported as downhole widths not true widths.

Criteria	JORC Code explanation	Commentary
	hole angle is known, its nature should be reported.	Accompanying dialogue to reported intersections normally describes the attitude of mineralisation.
	If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').	
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 sections are included in the main body of this report.
Balanced reporting	Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high	Public reporting of exploration results by KIN and past tenement holders and explorers for the resource areas are considered balanced.
	grades and/or widths should be practiced to avoid misleading	Representative widths typically included a combination of both low and high grade assay results.
	reporting of Exploration Results.	All meaningful and material information relating to this mineral resource estimate is or has been previously reported.
Other substantive exploration data	Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; 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.	Since 2018, a campaign of determining Bulk Densities has been undertaken. The water displacement method is used on drill samples selected by the logging geologist. These measurements are entered into the logging software interface and loaded to the Datashed database.
		Two SAM surveys were undertaken in 2018. One at Mertondale 2, 3-4, and the other over Bruno-Lewis. Survey data was collected by GAP Geophysics, and data interpreted by Southern Geoscience Consultants.
		Trial ground EM and IP surveys were conducted. Single lines across the Bruno-Lewis deposit and Helens deposit were completed.
		Infill aerial magnetic survey was conducted in May 2019 to complete the detailed magnetics over the Cardinia Gold Project.
		Gravity data was collected in late 2019 over the Helens, Helens East, Cardinia Hill, Rangoon and East Lynne prospects. Field data was collected in two stages by Haines Gravity, with post processing conducted by Southern Geoscience Consultants.
Further work	The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).	KIN intend to continue exploration and drilling activities at in the described area, with the intention to increase the project's resources.
	Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	