NORTHERN STAR RESOURCES LIMITED

ASX ANNOUNCEMENT
4 August 2015

Australian Securities Exchange Code: NST

Board of Directors
Mr Chris Rowe
Non-Executive Chairman

Mr Bill Beament
Managing Director

Mr Peter O'Connor
Non-Executive Director

Mr John Fitzgerald
Non-Executive Director

Ms Liza Carpene
Company Secretary

Issued Capital
Shares 600M
Options 4.3M

Current Share Price $2.15

Market Capitalisation
$1.3 Billion

Cash/Bullion and Investments
30 June 2015 - $178 million

Level 1, 388 Hay Street
Subiaco WA 6008
T +6 8 6188 2100
F +6 8 6188 2111
E info@nsrltd.com
www.nsrltd.com

ABN: 43 092 832 892

NORTHERN STAR GROWS MINE LIVES SIGNIFICANTLY WITH 2.7MOZ INCREASE IN RESOURCES TO 8.9MOZ

Discovery cost of just A$19/oz

KEY POINTS

- **Total Resources increase by 44% to 8.9Moz - even after mining 622,000oz**
- **Total Reserves increase by 26% to 1.5Moz**
- **Measured and Indicated Resources increase by 42% to 4.4Moz, underpinning significant growth in mine lives**
- **Eight discoveries made over past 12 months**
- **Maiden Resources declared across a number of assets:**
  - **Kundana (100%-owned tenements) 658,000oz at 6.0gpt**
  - **Hermes 224,000oz at 2.7gpt (Plutonic)**
  - **Carbine 265,000oz at 1.4gpt (Kalgoorlie)**
  - **Central Tanami Project 668,000oz at 3.1gpt (NST's 25% share)**
- **Paulsens' Resources up 7% to 441,000oz at 6.1gpt**
- **Jundee deep drilling has confirmed significant mineralised structures exist at depth. Results include:**
  - **2.1m @ 17.1gpt, 4.1m @ 8.7gpt and 0.9m @ 19.4gpt**
- **Further hits at Kalgoorlie's Velvet discovery include:**
  - **15.3m @ 10.5gpt (true width ~14m)**
  - **10.4m @ 6.7gpt (true width ~9m)**
  - **35.0m @ 3.6gpt (true width ~28m)**
- **Paradigm North Discovery at Kalgoorlie confirmed with significant hits:**
  - **197m @ 2.4gpt from 40m, including:**
    - **18.0m @ 17.9gpt from 65m (true width ~18m)**
    - **3.0m @ 25.7gpt from 206m (true width ~3m)**
  - **3.0m @ 50.4gpt from 192m (true width ~2.3m)**
- **Numerous high-grade hit across regional prospects;**
  - **30m @ 9.2gpt at Cannibal prospect (Jundee)**
  - **5m @ 5.3gpt and 1m @ 25gpt at Drake (Kundana 51%JV)**
  - **0.3m @ 303.1gpt at White Feather discovery (Kalgoorlie)**
- **FY16 guidance 535,000-570,000oz at AISC of A$1,050-$1,100/oz (US$760-$800/oz)**
- **Expansion/investing capital of A$39M in FY16 to follow up on FY15 exploration success**
- **FY16 Exploration Spend of A$35M to generate the mines of the future**

Northern Star Resources Limited (ASX: NST) is pleased to advise that its strategy to grow mine lives across its portfolio is generating outstanding results, with Resources increasing by 2.7 million ounces to a total of 8.9 million ounces.

The 44 per cent increase comes despite Northern Star mining 622,000oz since the previous estimate was calculated a year ago. It also includes Northern Star's equity share only of the Kundana (51 per cent) and Central Tanami Project (25 per cent) joint ventures.

Importantly, the new Resource estimate contains a 42 per cent increase in the Measured and Indicated category, taking that total to 4.4 million ounces.

Reserves are 26 per cent higher at 1.5 million ounces.

The new estimates are a direct result of Northern Star's highly successful A$50 million exploration campaign over the past financial year. This has led to significant extensions in known mineralisation as well as numerous discoveries.

Much of the increased inventory is at the Jundee and Kalgoorlie operations, though Northern Star has also more than replaced the ounces produced at Paulsens and Plutonic during the year.

Northern Star Managing Director Bill Beament said the results demonstrated that all its projects were set to enjoy ongoing growth in mine life.

"These figures more than justify our decision to invest A$50 million in exploration over the past year," Mr Beament said. "They also underpin our commitment to spend another A$35 million on exploration this financial year.

"We have always said that the major gold systems at each of our projects would be shown to host significantly more gold. These results prove that to be the case.

"They also provide us with further confidence that we will continue to identify more gold and continue to grow mine lives."

The additional Resources have come at a cost to Northern Star of just A$19/oz, highlighting the extremely attractive economics of the exploration and growth strategy.

"The simple fact is we would never be able to acquire Resources or Reserves at anywhere near that price," Mr Beament said.

"Growth through exploration unquestionably delivers shareholders superior returns. The economics of this strategy are even more attractive when it is remembered that each new ounce allows us to further leverage our existing infrastructure."

At Jundee, where total Resources increased by 59 per cent to 1.35 million ounces, drilling has discovered high-grade mineralisation down to 500m below the existing Resources (*refer to Figure 1*).

This mineralisation, which is contained in separate structures which were identified by testing new geological theories, is not included in the latest Resource estimate.

Results from this deep drilling include 2.1m at 17.1gpt, 4.1m at 8.7gpt and 0.9m at 19.4gpt.

In light of these results, Northern Star has committed to building a A$17 million, 2.4km long exploration drill drive to provide access for an extensive campaign to test these structures.

At Kalgoorlie, total Resources rose by 71 per cent to 3 million ounces. The increase stemmed largely from a series of maiden Resource estimates on tenements 100 per cent-owned by Northern Star.

Northern Star has made six stand-alone discoveries at its Kalgoorlie operations, which include Kundana and Kanowna Belle, over the past year, five of which are yet to be the subject of Resource estimates.

FY2015-16 Production and Cost Guidance

Northern Star expects to produce 535,000-570,000oz at an all-in sustaining cost of A$1,050-$1,100/oz.

The slightly lower production forecast, which compares with the 581,000oz produced in the past financial year, reflects mine schedules designed to optimise its asset base to sustain production rates over the long term.

Beyond this year, scheduling will be altered to reflect the start of production at the Central Tanami Project and additions due to our exploration success.

FY16	Production			AISC	
Guidance Range	oz	Oz		AUD/oz	AUD/oz
Jundee	210,000	220,000		1,000	1,050
Kundana (51%)	100,000	110,000		850	900
Kanowna Belle	80,000	85,000		1,050	1,100
Plutonic	75,000	80,000		1,350	1,400
Paulsens	70,000	75,000		1,175	1,225
NST	**535,000**	**570,000**		**1,050**	**1,100**

Mineral Resource and Reserve Summary

Group Mineral Resource Estimate is 75 million tonnes at 3.7gpt Au for 8.9 million ounces.

Group Mineral Reserve Estimate is 8.6 million tonnes at 5.4gpt Au for 1.5 million ounces.

These figures, which are estimated to 30 June 2015, represent JORC 2012 combined Resource for the five assets owned by Northern Star.

Group Exploration Update

Jundee Underground

In October 2014 Northern Star commenced a program of eight 1,500m long diamond drill holes from underground platforms at Jundee. The purpose of the program was to improve and refine the understanding of the structural and lithological geology beneath the existing operations and to test for the presence of mineralisation at depth below Jundee.

There were two main components to the programs; the first drilled from the lower levels of Barton and Gateway sought to identify the presence of mineralisation by targeting the main Jundee Dolerite sequences at depth and down plunge of the known Barton, Westside and Gateway orebodies.

These holes were testing competing or complementary models of fluid movement through the Jundee system, a traditional structural model with mineralising fluids tapped off the western Nimary Fault versus a fluid pipe type concept where mineralising fluids were associated with a plunging porphyry 'pipe' model.

The second component to the Jundee Extensional Drill Program was a series of three holes drilled from the Gateway mine into the poorly tested ground south of the main Barton and Gateway mines south of the Stirling fault. The Gateway mine is the newest of the underground mines at Jundee. The Gateway Resource has continued to grow significantly with further drilling and development over the past two years and strike extensions to the south and at depth have highlighting the potential for growth in the Jundee systems beyond the boundaries of the historical Golden Triangle.

Results from the drilling have allowed the Jundee stratigraphic and structural model at depth below the Jundee system to be refined. The new model highlights the criticality for the second order oblique fault set as a control of/on mineralising fluids and porphyries. Large zones of massive basalt have been identified in both the Barton and Gateway drilling, XFR analysis of the basalt stratigraphy

is ongoing to differentiate the different basalt flows and to potentially identify more prospective zones within the basalt sequences.

Results from these Barton/Westside holes returned grades up to 28gpt from zones of multiple structures up to 0.8m width within a zone approximately 200m below the current Westside/Barton workings. Most encouraging in these results was the strong structural continuity observed in several of features indicating potential to identify higher grade zones on these features with additional targeted drilling.

Drilling under Gateway and between the Gateway and Barton deposits has returned grades up to 19gpt from zones of multiple structures that coincide with a projection of a south plunging high grade plane through the Jundee system. These results are from poorly tested ground and highlight the potential for 'extensions' to the Gateway and Nexus systems.

Results from drilling south of the Stirling fault have been particularly positive. Drilling immediately south of Stirling Fault has identified the newly defined "Revelation" trend, an approximately 30-50m wide corridor of variably intense veining and mineralisation that has now been defined over in excess of 850m of strike and remains open 750m south of the current Gateway Resource, This trend remains open at depth.

The drilling in the Stirling south program is being integrated with detailed re-mapping of the surface geology conducted by Northern Star geologists and has identified a dolerite package in the FW to the Gateway system that should see further strike extensions to the Gateway ore body hosted in the globally more prospective dolerites and thus suggests further potential in the Gateway South prospect.

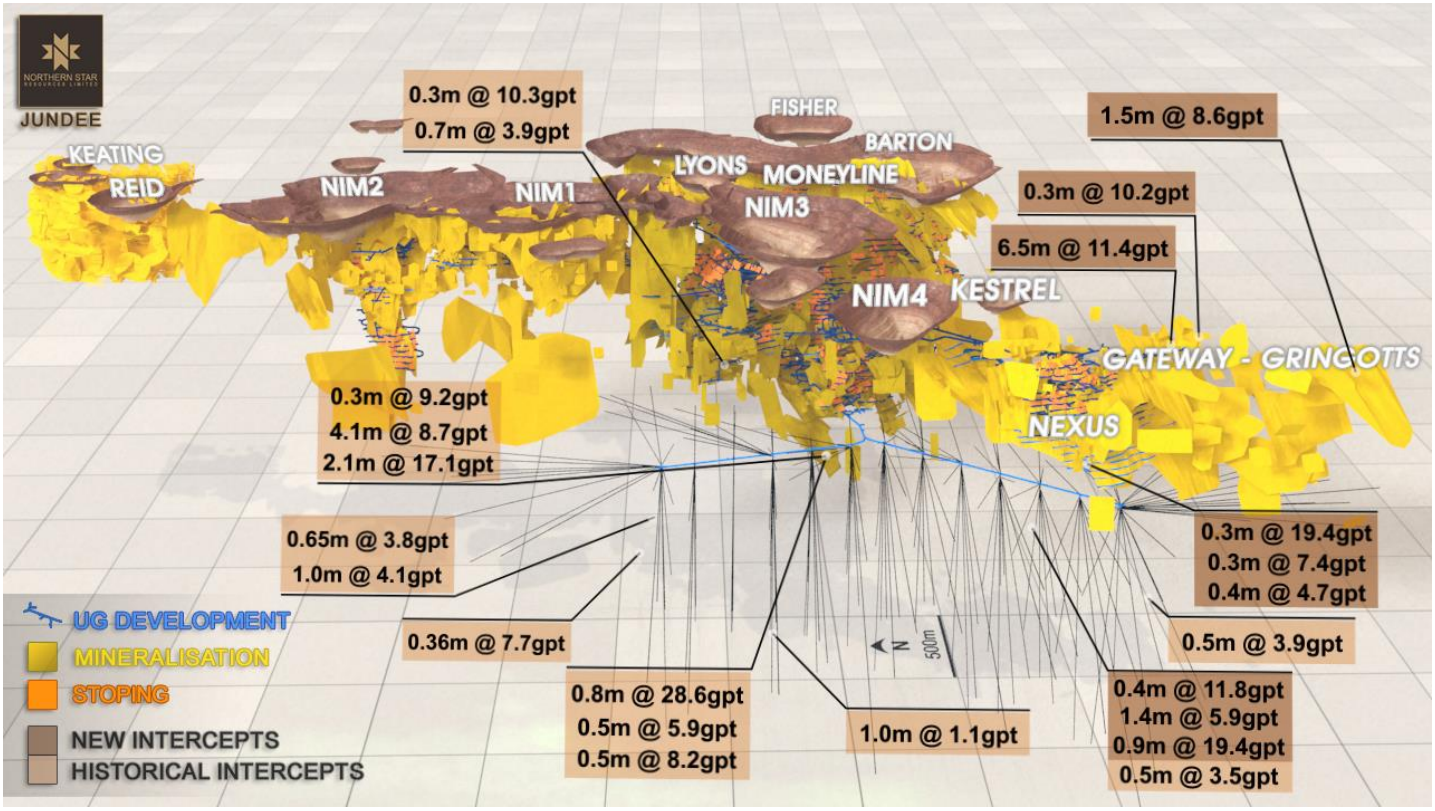


Figure 1– Deep drilling results at Jundee Gold Mine

Jundee Regional

After a year-long program to create a new regional geological map, a number of new prospective targets have been generated. Northern Star has been systematically testing these targets and is highly encouraged by a significant intersection of 9m at 32gpt at the Cannibal Prospect, 15km from the Jundee processing centre.

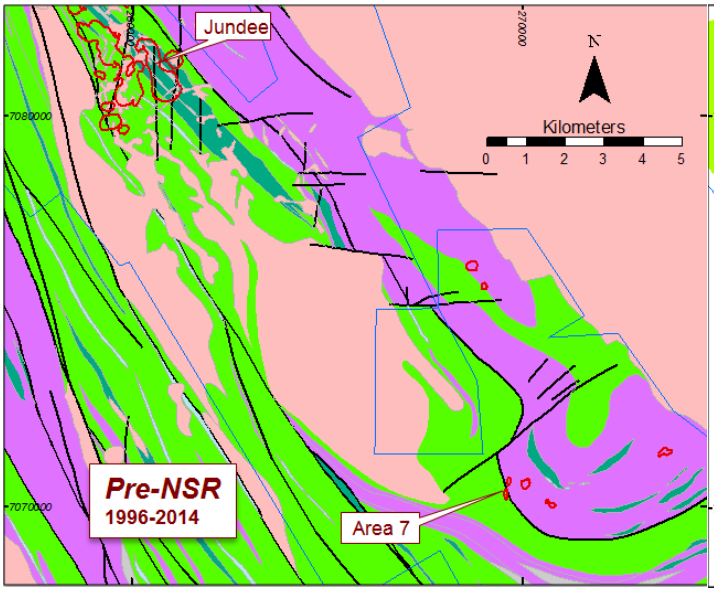


Figure 2 – Pre NST Regional Geological Map

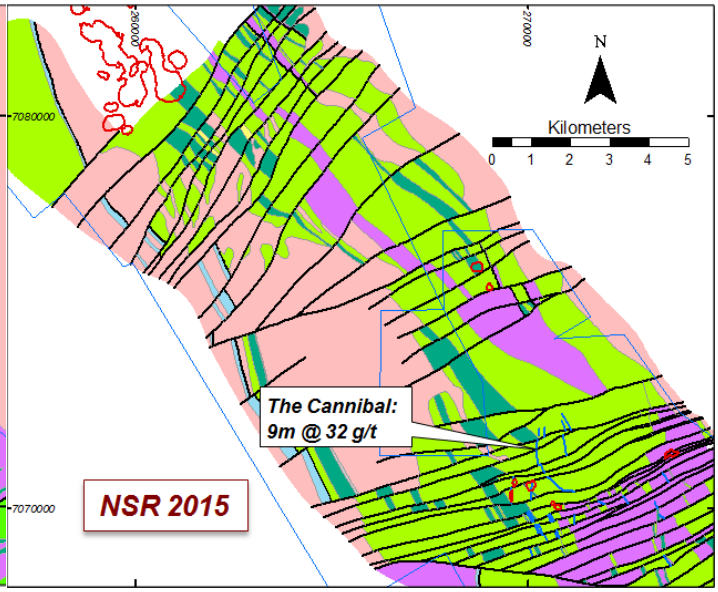


Figure 3 – Post NST Updated Regional Geological Map

Kalgoorlie

Follow-up drilling at the Velvet prospect at Kanowna Belle underground has provided encouraging results. Recently returned assays include:

- 15.3m @ 10.5gpt (true width ~14m)
- 35.0m @ 3.6gpt (true width ~28m)
- 10.4m @ 6.7gpt (true width ~9m)
- 27.0m @ 3.4gpt (true width ~22m)

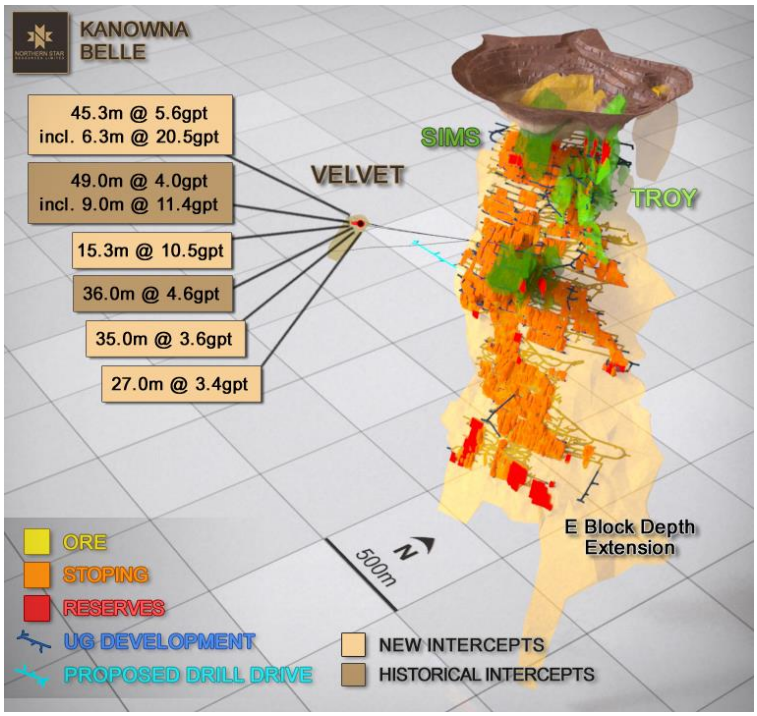


Figure 4 – Recent Velvet Drill Intersections

Further high-grade drilling results have been returned from the White Feather discovery, 2km from the Kalgoorlie processing centre. Recently returned assays include:

- 0.3m @ 303.1gpt from 165.3m (true width ~ 0.3m)

At the Raleigh mine, part of the Kundana JV (NST: 51%), a moderately west-dipping structure (55°) in the hanging wall of the Raleigh main vein, known as the Skinners Vein complex, has demonstrated the potential to extend the life of the Raleigh deposit. The vein complex typically consists of a coherent main vein (averaging ~0.5m wide) surrounded by a series of thin stringer-style quartz veins that are often mineralised. Recent results returned include:

- 30.1m @ 14.0gpt (true width ~18m), including:
  - 8.6m @ 14.2gpt
  - 6.5m @ 16.4gpt
  - 4.1m @ 23.3gpt
- 3.1m @ 32.6gpt (true width ~2.1m)
- 5.1m @ 50.4gpt (true width ~0.9m)

Further high-grade drilling results have been received at the recently announced Drake Discovery at the Kundana 51% JV. Recently returned assays include:

- 5.0m @ 5.3gpt from 273m (true width ~3.8m)
- 1.0m @ 25.0gpt from 119m (true width ~ 0.9m)

The recent Paradigm North discovery 65km from the Kalgoorlie processing centre continues to deliver significant results. The mineralisation is interpreted to be a northern series of en-echelon repetitions of the historically mined high grade Paradigm mine. A broad zone of multiple mineralised veins was intersected approximately 150m north of the Paradigm underground orebody. Results returned include:

- 197m @ 2.4gpt from 40m, including:
  - 18.0m @ 17.9gpt from 65m (true width ~18m)
  - 3.0m @ 25.7gpt from 206m (true width ~ 3m)
- 3.0m @ 50.4gpt from 192m (true width ~2.3m)

Yours faithfully

Bill Beament

BILL BEAMENT
Managing Director
Northern Star Resources Limited

Investor Enquiries:

Luke Gleeson, Investor Relations, Northern Star Resources Limited
T: +61 8 6188 2103
E: lgleeson@nsrltd.com

Competent Persons Statements

The information in this announcement that relates to Mineral Resource and Reserve estimations, exploration results, data quality, geological interpretations and potential for eventual economic extraction, is based on information compiled by Brook Ekers (Member Australian Institute of Geoscientists), who is a full-time employee of Northern Star Resources Limited. Mr Ekers has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves" for the Group reporting. Mr Ekers consents to the inclusion in this announcement of the matters based on this information in the form and context in which it appears.

The information in this announcement that relates to exploration results, data quality, geological interpretations and Mineral Resource estimations for the Company's Kanowna, EKJV, Kundana and Carbine Project areas is based on information compiled by Darren Cooke and fairly represents this information. Mr Cooke is a Member of the Australian Institute of Geoscientists who is a full-time employee of Northern Star Resources Limited who has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr Cooke consents to the inclusion in this announcement of the matters based on this information in the form and context in which it appears.

The information in this announcement that relates to Ore Reserve estimations for the Company's Project areas is based on information compiled by Jeff Brown and fairly represents this information. Mr Brown is a Member of the Australian Institute of Mining and Metallurgy who is a full-time employee of Northern Star Resources Limited and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr Brown consents to the inclusion in this announcement of the matters based on this information in the form and context in which it appears.

The information in this announcement that relates to the Central Tanami Gold Project is extracted from the Tanami Gold NL ASX announcement entitled "Quarterly Report for the Period Ending 31 March 2014" released on 1 May 2014 and is available to view on www.tanami.com.au. The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement and, in the case of estimates of Mineral Resources or Ore Reserves, that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement.

Forward Looking Statements

Northern Star Resources Limited has prepared this announcement based on information available to it. No representation or warranty, express or implied, is made as to the fairness, accuracy, completeness or correctness of the information, opinions and conclusions contained in this announcement. To the maximum extent permitted by law, none of Northern Star Resources Limited, its directors, employees or agents, advisers, nor any other person accepts any liability, including, without limitation, any liability arising from fault or negligence on the part of any of them or any other person, for any loss arising from the use of this announcement or its contents or otherwise arising in connection with it.

This announcement is not an offer, invitation, solicitation or other recommendation with respect to the subscription for, purchase or sale of any security, and neither this announcement nor anything in it shall form the basis of any contract or commitment whatsoever. This announcement may contain forward looking statements that are subject to risk factors associated with gold exploration, mining and production businesses. It is believed that the expectations reflected in these statements are reasonable but they may be affected by a variety of variables and changes in underlying assumptions which could cause actual results or trends to differ materially, including but not limited to price fluctuations, actual demand, currency fluctuations, drilling and production results, Reserve estimations, loss of market, industry competition, environmental risks, physical risks, legislative, fiscal and regulatory changes, economic and financial market conditions in various countries and regions, political risks, project delay or advancement, approvals and cost estimates.

A$/US$ currency conversion in this announcement has been converted at a $0.725 A$/US$ spot basis.

MINERAL RESOURCES STATEMENT FOR YEAR ENDED 30 JUNE 2015 – PART 1

MINERAL RESOURCES As at 30 June 2015 Based on attributable ounces Au	MEASURED			INDICATED			INFERRED			TOTAL RESOURCES		
	Tonnes (000's)	Grade (gpt)	Ounces (000's)	Tonnes (000's)	Grade (gpt)	Ounces (000's)	Tonnes (000's)	Grade (gpt)	Ounces (000's)	Tonnes (000's)	Grade (gpt)	Ounces (000's)
PAULSENS GOLD PROJECT												
Surface												
Paulsens												
Belvedere				129	3.2	13	111	4.8	17	240	4.0	31
Merlin							523	1.4	24	523	1.4	24
Mt Clement (20%)							226	1.8	13	226	1.8	13
Underground												
Upper Paulsens	147	10.8	51	106	6.6	23	65	7.2	15	318	8.7	89
Voyager (Voy1, Voy2, Titan)	562	10.7	194	106	9.7	33	160	9.9	51	828	10.4	278
Stockpiles	127	1.6	6							127	1.6	6
Gold in Circuit			1									1
Subtotal Paulsens	836	9.4	252	341	6.3	69	1,085	3.4	120	2,262	6.1	441
ASHBURTON GOLD PROJECT												
Surface												
Mt Olympus				6,038	2.3	448	9,138	2.2	632	15,176	2.2	1,080
Peake				113	5.2	19	3,544	3.3	380	3,657	3.4	399
Waugh				347	3.6	40	240	3.6	28	587	3.6	68
Zeus				508	2.1	34	532	2.2	38	1,040	2.2	72
Electric Dingo				98	1.6	5	444	1.2	17	542	1.3	22
Romulus							329	2.6	27	329	2.6	27
Subtotal Ashburton				7,104	2.4	546	14,227	2.5	1,122	21,331	2.4	1,668
PLUTONIC GOLD PROJECT												
Surface												
Hermes				1,404	2.7	121	1,196	2.7	103	2,600	2.7	224
Underground												
Plutonic East	37	6.4	8	98	5.6	18	915	5.3	155	1,050	5.3	180
NW Extension - Indian	265	5.7	49	244	6.8	53	663	4.6	98	1,173	5.3	200
NW Extension - Caspian				290	5.4	51	117	5.3	20	407	5.4	71
Zone 19 : Baltic	346	5.3	59	55	5.9	10	749	4.6	110	1,150	4.9	180
Zone 19 : Baltic Extended				158	4.9	25	766	4.4	108	924	4.5	133
Zone 61 : Caribbean	247	6.9	55	119	6.5	25	352	5.0	57	719	5.9	136
Zone 124 : Spur - Area 134	77	7.5	19	654	5.8	122	994	4.4	142	1,725	5.1	283
Zone 124 : Cortez - Med - Adr	85	5.7	16	102	5.0	17	358	3.9	45	546	4.4	77
Zone 124 North : Pacific				226	5.0	36	297	4.6	44	523	4.7	80
Zone 124 North : Timor				463	5.8	86	252	4.6	38	715	5.4	124
Stockpiles	3	3.3	0							3	3.3	0
Gold in Circuit			7									7
Subtotal Plutonic	1,062	6.2	212	3,813	4.6	564	6,660	4.3	919	11,535	4.6	1,694
KALGOORLIE GOLD PROJECT												
Kanowna												
Surface												
Woodline Pit							433	2.8	38	433	2.8	38
Six Mile Pit							429	1.5	21	429	1.5	21
Kanowna Belle Underground	1,616	4.6	239	4,196	4.4	596	1,917	4.4	270	7,729	4.4	1,105
Stockpiles	56	3.6	6	792	0.9	24				848	1.1	30
Gold in Circuit			12							-		12
Subtotal KB	1,672	4.8	257	4,988	3.9	620	2,779	3.7	329	9,439	4.0	1,206
Kundana												
Surface												
Arctic							565	2.2	41	565	2.2	41
Underground												
Raleigh North	2	80.1	4	0	106.7	0				2	82.1	5
Millenium Centenary							1,843	5.8	346	1,843	5.8	346
Pope John							538	11.1	192	538	11.1	192
Moonbeam							438	5.2	74	438	5.2	74
Subtotal Kundana	2	80.1	4	0	106.7	0	3,384	6.0	653	3,386	6.0	658
East Kundana Joint Venture(EKJV)												
Surface												
Hornet Pit (51%)				86	3.7	10	2	1.6	0	88	3.6	10
Underground												
Raleigh (50%)	24	67.4	51	12	48.0	19	13	52.3	22	49	58.5	92
Hornet (51%)	52	18.3	30	173	9.3	51	149	7.6	36	373	9.9	118
Rubicon (51%)	9	18.9	5	103	9.6	32	201	8.5	55	313	9.2	92
Pegasus (51%)				1,292	11.2	463	442	11.4	161	1,734	11.2	625
Stockpiles	49	8.4	13							49	8.4	13
Subtotal EKJV	133	23.4	100	1,666	10.7	576	806	10.6	275	2,605	11.3	950
Carbine												
Surface							5,759	1.4	265	5,759	1.4	265
Subtotal Kalgoorlie	1,806	6.2	361	6,654	5.6	1,196	12,729	3.7	1,521	21,189	4.5	3,079

MINERAL RESOURCES STATEMENT FOR YEAR ENDED 30 JUNE 2015 – PART 2

MINERAL RESOURCES As at 30 June 2015	MEASURED			INDICATED			INFERRED			TOTAL RESOURCES		
Based on attributable ounces Au	Tonnes (000's)	Grade (gpt)	Ounces (000's)	Tonnes (000's)	Grade (gpt)	Ounces (000's)	Tonnes (000's)	Grade (gpt)	Ounces (000's)	Tonnes (000's)	Grade (gpt)	Ounces (000's)
JUNDEE GOLD PROJECT												
Underground												
Barton												
Cardassian				121	4.6	18	44	7.1	10	165	5.3	28
Gateway	191	6.4	39	741	8.1	193	185	12.6	75	1,117	8.5	307
Hamptons				151	4.5	22				151	4.5	22
Invicta				42	8.1	11	31	21.1	21	73	13.6	32
Nexus/Moneyline/Midas				132	6.6	28	423	15.7	214	555	13.6	242
Nim3 / Champagne	198	9.6	61	161	7.7	40	59	3.7	7	418	8.0	108
Westside / Lyons	87	7.2	20	238	5.6	43	29	6.4	6	354	6.1	69
Wilson	47	9.9	15	347	5.7	64	50	7.5	12	444	6.4	91
Subtotal Jundee Underground	523	8.0	135	1,933	6.7	419	821	13.1	345	3,277	8.5	899
Open Pit												
Cook				17	12.8	7	163	5.5	29	180	6.2	36
Desert Dragon				259	2.2	18	112	1.9	7	371	2.1	25
Gourdis				1,128	1.6	58	2,658	1.4	123	3,786	1.5	181
Menzies				426	2.0	27	298	1.9	18	724	1.9	45
Vause				1,796	1.4	79	769	1.8	44	2,565	1.5	123
Subtotal Jundee Open Pit				3,626	1.6	189	4,000	1.7	221	7,626	1.7	410
Stockpiles	1,075	1.1	38							1,075	1.1	38
Gold in Circuit			3									3
Subtotal Jundee Stockpiles	1,075	1.2	41							1,075	1.2	41
Subtotal Jundee	1,598	3.4	176	5,559	3.4	608	4,821	3.7	566	11,978	3.5	1,350
CENTRAL TANAMI PROJECT												
CTP (25%)	1,683	3.0	162	2,373	3.1	239	2,320	3.4	256	6,375	3.2	656
Stockpiles (25%)	425	0.9	12							425	0.9	12
Subtotal CTP Stockpiles	2,108	2.6	174	2,373		239	2,320		256	6,800	3.1	668
TOTAL RESOURCES	**7,410**	**4.9**	**1,175**	**25,844**	**3.9**	**3,221**	**41,842**	**3.3**	**4,504**	**75,095**	**3.7**	**8,900**

Note :

1. Mineral Resources are inclusive of Reserves
2. Mineral Resources are reported at various gold price guidelines (a. AUD $1600/Oz Au- Paulsens,Plutonic, Kanowna, Kundana, Jundee b. AUD $1850 /Oz Au -Ashburton)
3. Rounding may result in apparent summation differences between tonnes, grade and contained metal content
4. Numbers are 100 % NST attributable

ORE RESERVES STATEMENT FOR YEAR ENDED 30 JUNE 2015

ORE RESERVES As at 30 June 2015 Based on attributable ounces Au	PROVED			PROBABLE			TOTAL RESERVES		
	Tonnes (000's)	Grade (gpt)	Ounces (000's)	Tonnes (000's)	Grade (gpt)	Ounces (000's)	Tonnes (000's)	Grade (gpt)	Ounces (000's)
PAULSENS GOLD PROJECT									
Underground									
Upper Paulsens	5	7.2	1	56	4.9	9	61	5.1	10
Voyager (Voy1, Voy2, Titan)	142	11.9	54	75	7.1	17	217	10.2	71
Stockpiles	127	1.6	6				127	1.6	6
Gold in Circuit			1						1
Subtotal Paulsens	275	7.1	63	131	6.2	26	406	6.8	89
ASHBURTON GOLD PROJECT									
Surface									
Mt Olympus	248	3.6	29	113	3.6	13	361	3.6	42
Peake				47	5.3	8	47	5.3	8
Subtotal Ashburton	248	3.6	29	160	4.1	21	408	3.8	50
PLUTONIC GOLD PROJECT									
Underground									
Plutonic East	53	5.0	9	69	4.1	9	122	4.5	18
NW Extension - Indian	81	5.7	15	90	5.3	15	171	5.5	30
NW Extension - Caspian	0	6.6	0	52	6.4	11	52	6.4	11
Zone 19 : Baltic	26	6.2	5	3	3.9	0	29	6.0	6
Zone 61 : Caribbean	69	5.4	12	104	4.6	15	173	4.9	28
Zone 124 : Spur - Area 134	87	6.0	17	40	7.3	9	128	6.4	26
Zone 124 : Cortez - Med - Adr	11	8.4	3	17	4.7	3	28	6.1	6
Zone 124 North : Pacific	0	11.2	0	49	8.5	14	50	8.5	14
Zone 124 North : Timor	1	4.4	0	52	4.3	7	52	4.3	7
Stockpiles	3	3.3	0				3	3.3	0
Gold in Circuit			7						7
Subtotal Plutonic	332	6.3	68	477	5.5	84	809	5.8	151
KALGOORLIE GOLD PROJECT									
Kanowna									
Kanowna Belle Underground	302	4.8	46	615	4.0	80	917	4.3	126
Stockpiles	56	3.6	6	792	0.9	24	848	1.1	30
Gold in Circuit			12						12
Subtotal KB	358	5.7	65	1,407	2.3	103	1,765	3.0	168
Kundana									
Underground									
Raleigh North	13	6.5	3	0	1.2	0	13	6.4	3
Subtotal Kundana	13	6.5	3	0	1.2	0	13	6.4	3
East Kundana Joint Venture (EKJV)									
Underground									
Raleigh (50%)	89	13.1	38	17	10.6	6	106	12.7	43
Rubicon / Hornet (51%)	107	10.2	35	180	7.3	42	287	8.4	77
Pegasus (51%)	3	4.8	0	1,219	7.9	310	1,222	7.9	310
Stockpiles	49	8.4	13				49	8.4	13
Subtotal EKJV	248	10.8	86	1,416	7.9	358	1,664	8.3	444
Subtotal Kalgoorlie	618	7.7	154	2,823	5.1	461	3,441	5.6	615
JUNDEE GOLD PROJECT									
Underground									
Barton									
Cardassian				121	4.6	18	121	4.6	18
Gateway	191	6.4	39	741	8.1	193	932	7.7	232
Hamptons				151	4.5	22	151	4.5	22
Invicta				42	8.1	11	42	8.1	11
Nexus/Moneyline/Midas				132		28	132	6.6	28
Nim3 / Champagne	198	9.6	61	161	7.7	40	359	8.8	101
Westside / Lyons	87	7.2	20	238	5.6	43	325	6.0	63
Wilson	47	9.93	15	347	5.7	64	394	6.2	79
Subtotal	523	8.0	135	1,933	6.7	419	2,456	7.0	554
Stockpiles	1,075	1.1	38				1,075	1.1	38
Gold in Circuit			3						3
Subtotal Jundee Stockpiles	1,075	1.2	41				1,075	1.2	41
Subtotal Jundee	1,598	3.4	176	1,933	6.7	419	3,531	5.2	595
TOTAL RESERVES	**3,071**	**5.0**	**489**	**5,524**	**5.7**	**1,011**	**8,595**	**5.4**	**1,500**

Note :

1. Mineral Reserves are reported at the following gold prices of AUD $1400/Oz Au , except Ashburton at AUD $1600/oz
2. Tonnages include allowances for losses resulting from mining methods with tonnages rounded to the nearest 1,000 tonnes
3. Ounces are estimates of metal contained in the Mineral Reserve and do not include allowances for processing losses.
4. Numbers are 100 % NST attributable

Summary of Material Information

The information in this report relates to the deposits and operations of Northern Star Resources Limited. As per the JORC 2012 Reporting Guidelines, the summary of material information used to estimate the Mineral Resources and Ore Reserves is as follows. A detailed description is contained in the following Table 1s (appended).

JUNDEE

Geology and Geological Interpretation

Jundee is an Archean lode-gold mineralised deposit that is part of the Northern Yandal Greenstone belt. Gold mineralisation is controlled by a brittle fracture-system, is commonly fracture-centred and is predominantly hosted in dolerite and basalt. Mineralisation can be disseminated or vein style gold mineralisation.

Drilling Techniques

Both RC and Diamond drilling techniques are used at Jundee. Most drilling is undertaken from underground sites and is NQ2 in size.

Sampling and Sub-Sampling Techniques

Diamond drill hole sampled sections are generally NQ2 or BQ in size. Core sample intervals are defined by the geologist to honour geological boundaries ranging from 0.3 to 1.2m in length.

RC drilling uses a rig-mounted static cone splitter with samples passed through a riffle splitter or inverted cone splitter, splitting the sample in 87.5/12.5 ratio. The material is sampled using 'pipe' or 'spear' sampling tool, generally in as 4m composites. Individual 1m composites (12% split) are sent for further analysis if any 4m composite returned a gold value > 0.1ppm or intervals containing alteration/mineralisation failed to return a significant 4m composite assay result.

Grade Control drilling uses BQ size core. Whole core sampling is undertaken with sample intervals defined by a qualified geologist to honour geological boundaries.

All mineralised zones are sampled plus associated visibly barren material in contact with mineralised zones. The minimum sample length is 0.3m while the maximum is 1.2m. Total weight of each sample generally does not exceed 5kg.

For diamond core samples, following drying at 100°C to constant mass, all samples are totally pulverised in LM5's to nominally 90% passing a 75µm screen.

For RC samples, all samples are dried at 100°C to constant mass with all samples below approximately 4kg totally pulverised in LM5's to nominally 85% passing 75µm size. Any sample generated above 4kg is crushed to -6mm and riffle split prior to pulverisation.

Sample Analysis Method

For all drill core samples, gold concentration is determined by fire assay using the lead collection technique with a 30 gram sample charge weight with atomic absorption spectroscopy (AAS) determination for gold analysis.

Various multi-element suites are analysed using a four acid digest with an AT/OES finish.

Estimation Methodology

Domains are set by grouping lodes as dictated by their structural setting, geological, mineralisation and statistical characteristics. The raw data is subdivided into domains based on geological controls and further analysed for correlation and similarity using statistics. The purpose of this analysis is to determine further domaining of the data for variographic purposes (by combining groups of lodes).

Seam compositing (from hanging wall to footwall) of drill-hole samples is almost exclusively used. A very small proportion of UG lodes, which exhibit a wider disseminated style of mineralisation, use a nominal 1 meter downhole composite.

Detailed exploratory data analysis is carried out on each deposit using Snowden Supervisor software.

The majority of the Resource is estimated using ordinary kriging (OK) and multiple indicator kriging (MIK). A minor proportion of the Resource is estimated using inverse distance squared (ID2). The estimation technique used is dictated by the data set size of the domain. Vulcan software was used for data compilation, domain wireframing, calculating and coding composite values, estimating and reporting.

Maximum distance of extrapolation from data points was statistically determined and varies by domain.

Block model volumes were compared to wireframe volumes to validate sub-blocking

Where OK or ID^2 estimates are used, treatment of extreme high grades are dealt with by using a cap grade strategy.

Cut-Off Grade(s)

Top cuts determined by statistical methods for each domain and range form 20 to 2,000gpt.

A lower reporting cut-off grade of 3.7gpt was adopted based on calculated operating costs at existing operations.

Mining and Metallurgical Methods and Parameters

Jundee undertakes preliminary design analysis to assess prospects for economic extraction for declaration of Mineral Resources using actual costs from the mining operations and minimum mining widths of 2.5 m. Mining methodology is generally by long hole retreat technique.

All material is assumed to be trucked and processed in the Jundee Mill. Recovery factors vary for the various mining areas and are based on metallurgy testwork and on-going operational experience.

Criteria Used for Classification

Measured Resources are defined from grade control models based on geological mapping, surveyed ore outlines in development drives, diamond drillholes and face samples which are imported into Vulcan and modelled in 3D.

Indicated Resources are defined by drilling which is generally 20m x 20m and may range up to a 40m x 40m maximum spacing. Lodes classified as Indicated are supported by a minimum of 5 face chip or diamond drill holes.

Inferred Resources are defined on a nominal 40m x 40m drill spacing and may range up to 80m x 80m spacing. Resources based on less than 40m x 40m spaced drilling, but which have a low level of confidence in the geological interpretation may also be classified as inferred.

Please refer to the Competent Person's statements and the detailed information given in JORC Table 1 of this announcement for more information.

KANONWA, KUNDANA, 6 MILE, CARBINE

Geology and Geological Interpretation

The deposits of the Kalgoorlie Operations are located within the Kalgoorlie Terrane, one of a number of elongate, broadly NNW-SSE striking structural-stratigraphic late Archaean greenstone terranes of the Eastern Goldfields of Western Australia.

The Kanowna Belle gold mine is located close to the centre of the NNW-SSE trending, greenstone-dominated Boorara Domain, the eastern most subdivision of the Kalgoorlie Terrane.

The Kanowna Belle deposit can be categorised as a refractory, Archean lode-gold type deposit. The Kanowna Belle deposit is hosted by sedimentary volcaniclastic and conglomeratic rocks, which are separated into hangingwall and footwall sequences by a major, steeply SSE dipping zone of structural disruption. The orebody is comprised of several ore shoots, including the large Lowes Shoot, and several smaller lodes including Troy, Hilder, Hangingwall and Footwall shoots controlled by sets of structures of various orientations oblique to the main Lowes Shoot.

The Kundana gold camp is situated within the Norseman-Wiluna Greenstone Belt, in an area dominated by the Zuleika shear zone, which separates the Coolgardie domain from the Ora Banda domain.

K2-style mineralisation (Pegasus, Rubicon, and Hornet) consists of narrow vein deposits hosted by shear zones located along steeply-dipping overturned lithological contacts. A 60° west dipping fault offsets this contact and exists as a zone of vein-filled brecciated material hosting the Pode-style mineralisation.

The Raleigh deposit is a laminated vein hosted on the Strzelecki structure which is a discrete fault zone within the broader Zuleika Shear. The Skinners Vein is a splay structure in the hangingwall of the Raleigh main vein.

The Six Mile area is dominated by massive chlorite-amphibole basalt with at least two phases of quartz feldspar porphyry intrusion. Gold mineralisation occurs within quartz-carbonate veins hosted in discrete shear zones as stockwork veins within the basalt and on porphyry contacts.
The Carbine and Paradigm area is considered to be within the northern extension of the regionally significant Zuleika Shear Zone. Gold mineralisation is hosted in laminated quartz veins and brittle fracture stockwork zones.

Drilling Techniques

Both Reverse Circulation and Diamond drilling techniques are predominately used at the Kalgoorlie Operations both from underground and surface locations dependent on the depth of mineralisation. Exceptions are 6 Mile and Carbine Projects which include some areas of RAB where no other drilling information is available.

All diamond core is orientated variously by using a spear, Ballmark™, Ezimark™, ACT system or ACE multi electronic tool.

Sampling and Sub-Sampling Techniques

All diamond drill core is routinely halved by diamond saw and sampled to geological boundaries. Sample interval lengths are usually between 0.3m and 1.2m in length.

HQ triple tube diamond drilling is used to aid core recovery through friable areas and in these cases, full core is sampled.

RC drilling samples are split using a rig-mounted cone splitter on 1m intervals to obtain a sample for assay.

Sample Analysis Method

Sample preparation is conducted at Genalysis and Bureau Veritas Kalgoorlie, commencing with sorting, checking and drying at less than 110°C to prevent sulphide breakdown. Samples are jaw crushed to a nominal -6mm particle size. If the sample is greater than 3kg weight, a Boyd crusher with rotary splitter is used to reduce the sample size to less than 3kg (typically 1.5kg) at a nominal <3mm particle size. The entire crushed sample (if less than 3kg) or sub-sample is then pulverised to 90% passing 75µm, using a Labtechnics LM5 bowl pulveriser. A 300g pulp subsample is then taken with an aluminium scoop and stored in labelled pulp packets.

The main assaying method employed by the company is normal fire assay with a 40 or 50g charge with a standard AAS finish analysis for gold. Screen fire assay methods are used where coarse gold is observed in the samples.

Certified reference materials (CRMs) are inserted into the sample sequence randomly at a rate of 1 per 20 samples. Blanks are inserted into the sample sequence at a rate of 1 per 20 samples and where high grade mineralisation is expected.

Estimation Methodology

At Kanowna Belle grade estimation for gold and sulphur is undertaken using Datamine Studio 3 software. Geostatistical analysis and variography are completed using Snowden's Supervisor software

Estimation techniques are mainly ordinary block kriging into 10mE 5mN 10mRL parent cells using 1m composites. For footwall and hangingwall lodes that are more oblique to the mine grid, 5mx5mx5m parent cells are used. Estimations are constrained by hard domain boundaries (wireframes) to prevent the overestimation of cells outside of mineralised envelopes. Search ellipses and ranges are based on the continuity derived from variogram analysis. Kriging efficiency, slope of regression and the sum of any negative kriging weights were reviewed to assess the estimation quality and optimize the estimation parameters.

In the Kundana region, estimations and modelling techniques vary depending on the deposit:

<u>Rubicon, Hornet & Raleigh Resources:</u>

Ordinary Kriging (OK) is used to estimate these resources using Datamine Studio 3 software. Two separate domains are used to constrain the main K2 mineralisation with dilution skins of 0.5m used to constrain the immediate footwall and hangingwall zones. Hangingwall lodes are constrained according to geological features. Each domain is validated against lithology and then snapped to the drill-hole trace and face sampling data to constrain the mineralised envelope as a footwall and hangingwall seam surface.

Compositing of drillhole samples is completed downhole against any domain flagged in the sample database file belonging to the corresponding wireframe for the main K2 mineralisation. Domains within the hangingwall lodes are flagged via use of the 3D wireframes. Only gold grades are estimated and no deleterious elements are noted or estimated.

<u>Pegasus, Pope John, Moonbeam & Arctic</u>:

Ordinary Kriging is used in areas with high drill density and coverage, Simple Kriging was used to estimate areas with lesser drill spacing and coverage.

Drill holes are composited into 1m intervals down hole within each interpreted domain. Composite lengths vary between 0.5m and 1.5m to ensure that no samples are lost during the compositing process. The average grade and total length of the composite data is compared against the average grade and total length of the uncomposited data to check the compositing process.

The local mean value used for Simple Kriging was calculated from the declustered mean of the top-cut composited sample data. Search distances used for estimation based on variogram ranges and vary by domain.

Top-cuts were applied to the sample data based on a statistical analysis of the data and vary by domain. The Kriging neighbourhood was refined using statistical measures of Kriging quality. The estimated grades were assessed against sample grades and against declustered mean values. Post estimation, resource estimations do not have tonnage or grade factors applied.

Millennium:

Estimation technique used at Millennium is simple kriging for estimation of all subdomains. Three subdomains were applied to the main K2 ore zone based on grade accumulation and geological interpretation. A 5m dilution zone is estimated either side of the main K2 structure

Drill holes are composited to one single interval for the main K2 structure. Drillholes are composited into 1m intervals down hole within the footwall and hangingwall dilution zones. The average grade and total length of the composite data is compared against the average grade and total length of the uncomposited data to check the compositing process. The distribution of composite lengths was checked to ensure that the majority of the composites were close to the targeted length.

The local mean value used for Simple Kriging is calculated from the declustered mean of the top-cut composited sample data. Search distances used for estimation based on variogram ranges and vary by domain. Top-cuts were applied to the sample data based on a statistical analysis of the data and vary by domain.

The Kriging neighbourhood was refined using statistical measures of Kriging quality. Estimation for the K2 was based on grade accumulation, with final grade back-calculated from estimated metal and width. No deleterious elements estimated in the model.

Six Mile

Simple Kriging is used at Six Mile to estimate all mineralised domains using 1m composites. The local mean value used for Simple Kriging was calculated from the declustered mean of the top-cut composited sample data.

Carbine/Paradigm

All Carbine/Paradigm drill holes are composited into 2m intervals down hole within each interpreted domain. Ordinary Kriging is used in areas with high density of drill coverage with Simple Kriging used in areas of lower density drill coverage. The local mean value used for Simple Kriging is calculated from the declustered mean of the top-cut composited sample data.

Search distances used for estimation are based on variogram ranges and vary by domain.

The Kriging neighbourhood was refined using statistical measures of Kriging quality.

Top-cuts are applied to the sample data based on histograms and probability plots of the assay data and vary by domain. A series of top cuts are considered for each domain. The impact of each top cut on the mean, variance and coefficient of variance was examined to identify outliers. The outliers were examined spatially and found to be randomly distributed. Top-cuts range from 5gpt to 100gpt for high grade domains.

Cut-Off Grade(s)

A lower reporting cut-off grade of 3.26gpt for Kanowna is adopted based on calculated costs and revenue at existing operations. Kundana operations use a cut-off grade of 3.67gpt calculated costs and revenue at existing operations.

Mining and Metallurgical Methods and Parameters

The gold mineralisation is amenable to conventional open cut and underground mining methodology.

Underground mining operations at Kanowna Belle are constrained by mine depth and seismic activity. Mine sequencing is optimized for geotechnical considerations and the mining of individual blocks is constrained by extraction sequencing and stress regime.

At Rubicon, Hornet, Pegasus and Skinner Vein, minimum stope widths of 3.0m are used where the vein is less than 2m wide. Stoping widths of 1m additional to the vein width are used when the vein is greater than 2m wide.

At the Raleigh mine, minimum stoping widths of 2.7m are used where the vein is less than 2m wide with a stoping width of 1 m additional to the vein width used when the vein width is greater than 2m wide. The Selected mining method deemed appropriate as it has been used at Raleigh since 2005 & Rubicon Hornet since 2011.

Where required the Resource was diluted to the minimum mining width using material with an assumed grade of 0.1gpt. Where the diluted grade was above the cut-off the material was added to the Resource inventory. Dilution material added to make the minimum mining width was not included in the Resource inventory.

Metallurgical test work results show that the mineralisation is amendable to processing through the Kanowna Belle treatment plant. Ore processing throughput and recovery parameters were estimated based on historic performance and potential improvements available using current technologies and practices.

Mining and Metallurgical recovery factors have been developed based on extensive experience processing similar material from the Kalgoorlie Area

Criteria Used for Classification

Kanowna, Carbine and Six Mile classifications of Measured, Indicated and Inferred have been assigned based on data integrity, continuity of mineralisation and geology, drill density and the quality of the estimation (kriging efficiency).

Kundana drill spacing is generally around 20m x 20m for the indicated resource and around 40m x 40m for the inferred resource, with the exception being Millennium drill spacing of 40m x 40m or more. Areas within Millennium and below the history Centenary Underground workings were defined as inferred resource.

Please refer to the Competent Person's statements and the detailed information given in JORC Table 1 appended to this announcement for more information.

PLUTONIC AND HERMES

Geology and Geological Interpretation

The gold deposits at Plutonic are hosted by an Archaean greenstone sequence and occur mainly as a multiple lode systems with variable dip (horizontal to vertical). Mineralisation is hosted almost exclusively in a mafic amphibolite sequence that is referred to as the 'Mine Mafic'.

Mineralisation regularly occurs as shallowly dipping, layer parallel lodes up to 5m wide that are hosted within ductile shear zones.

Mineralisation at Hermes is considered to be steeply dipping, mesothermal quartz reefs with minor sulphides within a quartz-biotite-sericite schist host rock near, and on, an amphibolite contact in the southwest portion of the Marymia Inlier.

Drilling Techniques

NQ2 and LTK 60 underground drilling is the main drilling technique employed at Plutonic. All drilling at Hermes is primarily surface based RC and/or diamond drilling.

Core is orientated using the Reflex ACT Core orientation system.

Sampling and Sub-Sampling Techniques

At Plutonic, diamond drilling and face sample intervals are defined by the geologist to honour geological boundaries ranging from 0.3 to 1m in length. BQ or LTK48 core is whole sampled whilst NQ2 and LTK60 is cut using a diamond saw with the top half of the core sent to the laboratory for analysis.

Samples are crushed and pulverised to produce a ~200g pulp sub sample to use in the assay process

For RC drilling, a rig mounted static cone splitter is used for dry samples to yield a primary 1m sample of approximately 4kg with off-splits retained.

Pre NST, RC drilling was initially sampled to 4m composites with any samples reporting > 0.1gpt re-split and re-assayed as 1m composites.

Sample Analysis Method

Diamond core samples are fire assayed at ALS and the Plutonic Fire Assay Lab (PFAL) facility on site using a 40g charge. Gold analysis is determined by atomic absorption spectroscopy (AAS).

Certified reference materials (CRMs) are inserted into the sample sequence randomly at a rate of 1 per 20 samples, coarse blanks inserted at a rate of 1 in 40 or after visible gold or suspected high grade samples

Estimation Methodology

At Plutonic, all drill hole and face sample compositing is completed against geological boundaries to 1m lengths.

At Plutonic, top cut values are selected using a lognormal probability plot, and considering: the lithology, coefficient of variation after top cutting, impact on average grade, sample locations and metal lost. Top cuts are applied prior to compositing. Some Plutonic block models use a high yield exclusion/threshold technique to avoid the impact of high grade values having a disproportionate effect on blocks beyond a reasonable distance.

Estimations are constrained by Mine Mafic and Dolerite interpretations. Search orientations closely related to Mine Mafic orientation.

Inverse distance interpolation method is used for all estimation passes utilizing tetra surfaces for each domain, or oriented searches where this technique is not suitable.

At Hermes resources are estimated using Ordinary Kriging. Domains are snapped to drill holes and composited to 1m length downhole. Small composites were distributed to adjacent intervals. Hermes composites were cut to 30gpt (Trapper

and Trapper West), and 20gpt (Hawkeye) based on log distribution. Modelling lower grade cut off = 0.5gpt nominally, not more than 3m of internal dilution and requires minimum 2 holes.

Five statistical domains were used to reflect the different orientations of mineralisation. Hermes estimation ellipsoids determined by use of Supervisor software.

Cut-Off Grade(s)

Plutonic reporting cut-off varies for each resource area. This is derived using calculation based on mining, process and G&A costs, recovery, metal price and selling costs. Full calculations are documented in the site cut-off grade report.

Hermes is reported at a 1.0gpt cut-off based on natural statistical cut-off. This in contrast to the previous resource reported which was reported all material above 0.0gpt.

Mining and Metallurgical Methods and Parameters

The Plutonic resource reflects the currently employed underground mining methods, generally long hole retreat, minor jumbo stripping and airleg mining.

Reserves are identified, individually designed and then evaluated using economic parameters as derived from the latest cut-off grade revision. No new or untested techniques were incorporated.

Plutonic has built up a large knowledge base of geotechnical characteristics and observations, which have led to the establishment of the existing mining practises. These practises are mirrored in the creation of the reserve blocks.

All Reserves planned as longhole retreat and Jumbo stripping, have a mining dilution factor of 15% which is the average dilution since recorded at the operation since 2013. Reserves planned for airleg mining are assigned a 5% dilution factor.

All Reserves planned as longhole retreat have a mining recovery factor of 91% which is the average recovery since 2013. All Reserves planned as Jumbo stripping and airleg mining have a 95% recovery factor.

Only stoping blocks with less than 30% Inferred Resource are classified as a Reserve. Total percentage of Inferred Resource ounces in Reserves = 7.9%

The metallurgical conditions and characteristics of the Plutonic Underground mineralisation are generally well known based on historical performance.

At Hermes, prefeasibility study test work is based on economic mining extraction using conventional open pit methods with the ore transported to the Plutonic mill for processing.

Criteria Used for Classification

Resource classification is determined based on data type and density. At Plutonic, Measured resources material is restricted to immediately around drive locations. Known geological conditions then used to determine indicated search distances, with the final inferred search double the indicated search.

Please refer to the Competent Person's statements and the detailed information given in JORC Table 1 of this announcement for more information.

PAULSENS AND BELVEDERE RESOURCES

Geology and Geological Interpretation

Both Projects are located in the Wyloo Dome of the Ashburton region

Paulsens is a high grade mesothermal gold deposit with the majority of mineralisation located within a large, shallowly plunging, variably folded and faulted quartz host, close to, or on, the contacts with the surrounding wall rock sediments between an offset Gabbro intrusive

Belvedere is a high grade, quartz hosted isothermal vein array within an intrusive dolerite that cross cuts a volcanic-sedimentary sequence

Drilling Techniques

Both RC and Diamond drilling techniques were used, with extensive underground Diamond drilling at Paulsens. Holes size predominantly NQ2 and LTK 60

Most holes have collar surveys as well as down hole surveys. Drill spacing is variable due to restricted surface and underground access.

Sampling and Sub-Sampling Techniques

Diamond core is sampled to intervals based on geological boundaries, generally 1m in length.

Older RC holes were often samples as 4 m composites, resampled to 1m based on assay. Infill RC drilling consists of sampling 1m intervals.

Face samples are taken perpendicular if possible, across the mining face to geological boundaries

Sample Analysis Method

Diamond and RC samples are fire assayed with 40g charge with Atomic absorption spectroscopy (AAS) determination for gold analysis.

Faces samples are analysed on site by Leachwell.

Blanks and certified standards are inserted regularly and QAQC tracked.

Estimation Methodology

Three dimensional mineralisation interpretations are created based on drilling/mapping and face sampling information, nominally to 0.3gpt lower cut off.

Both Paulsens and Belvedere resources are estimated using Inverse distance squared, using 1m composites and domains based on structure and geology. Estimation ellipsoid orientations based on Supervisor and domain orientation.

Cut-Off Grade(s)

High grade cutting is employed to restrict outliers and is determined by individual domain using Supervisor software and recent independent report guidelines. High grades cut limits range from 20gpt to 200gpt. Resources are reported at a lower cut of 1gpt

Mining and Metallurgical Methods and Parameters

Paulsens is predominantly mined using longhole retreat stoping methods as shown effective over the last 10 years. Belvedere will mined as a small open pit using conventional techniques.

All ore will be processed at the existing Paulsens treatment plant.

Metallurgical test work results show that the Belvedere mineralisation is amendable to processing through the Paulsens treatment plant.

Ore processing throughput and recovery parameters were estimated based on historic performance and potential improvements available using current technologies and practices.

Mining and metallurgical recovery factors have been developed based on extensive experience from the Paulsens Gold Operation.

Criteria Used for Classification

The classification of the Resource is based on a series of factors including, geological and grade continuity, as well as but not wholly dependent on a strict drill spacing. Drill spacing is generally around 20m x 20m for the Indicated Resource and around 40m x 40m for the Inferred Resource.

Ore Reserves

Ore reserves are collated using designed drives and stopes that contain less than 50% inferred material and are deemed economic at a gold price of AUD $1,400/ounce

No reserve is reported for Belvedere until further infill and extensional drilling is completed

Please refer to the Competent Person's statements and the detailed information given in JORC Table 1 of this announcement for more information.

TABLES OF SIGNIFICANT DRILL HOLE INTERCEPTS

JUNDEE DEEPS SIGNIFICANT INTERSECTIONS

Drill Hole #	Easting (Mine Grid)	Northing (Mine Grid)	Drill hole collar RL (Mine Grid)	Dip (degrees)	Azimuth (degrees, Mine Grid)	End of hole depth (m)	Downhole From (m)	Downhole To (m)	Downhole Intersection (m)	Au (gpt) uncut	Est True Thickness (m)
GRXP0117	48995	95566	2364	-17	148	1500.0	666.6	667.4	0.8	3.9	0.5
GRXP0117	**48995**	**95566**	**2364**	**-17**	**148**	**1500.0**	**106.2**	**107.7**	**1.5**	**8.6**	**1.3**
GRXP0139	49078	95732	2146	-63	73	1500.0	35.2	35.6	0.4	3.8	0.3
GRXP0139	**49078**	**95732**	**2146**	**-63**	**73**	**1500.0**	**386.4**	**386.7**	**0.3**	**19.4**	**0.3**
GRXP0139	**49078**	**95732**	**2146**	**-63**	**73**	**1500.0**	**394.5**	**394.8**	**0.3**	**7.5**	**0.3**
GRXP0139	49078	95732	2146	-63	73	1500.0	394.2	396.0	1.8	2.3	0.8
GRXP0139	49078	95732	2146	-63	73	1500.1	752.0	753.4	1.4	1.4	1.4
GRXP0139	49078	95732	2146	-63	73	1500.1	910.6	910.9	0.3	1.1	0.3
GRXP0140	48996	95567	2364	-12	108	1089.7	605.0	606.0	1.0	1.2	0.3
GRXP0140	**48996**	**95567**	**2364**	**-12**	**108**	**1089.7**	**611.0**	**611.3**	**0.3**	**10.2**	**0.3**
GRXP0140	48996	95567	2364	-12	108	1089.7	637.9	638.2	0.3	2.7	0.3
GRXP0140	48996	95567	2364	-12	108	1089.7	648.0	648.3	0.3	2.4	0.3
GRXP0140	48996	95567	2364	-12	108	1089.7	664.0	664.8	0.8	3.0	0.5
GRXP0140	48996	95567	2364	-12	108	1089.7	665.6	667.0	1.4	2.1	1.0
GWXP0186	**49078**	**95732**	**2146**	**-64**	**11**	**1528.7**	**727.1**	**728.0**	**0.9**	**19.4**	**0.9**
GWXP0186_W1	**49078**	**95732**	**2146**	**-65**	**14**	**801.7**	**705.0**	**707.0**	**2.0**	**6.9**	**1.5**
GWXP0186_W1	49078	95732	2146	-65	14	801.7	738.2	738.5	0.4	1.0	0.3
GWXP0186_W1	49078	95732	2146	-65	14	801.7	782.5	783.0	0.5	2.2	0.3
GWXP0186_W1	**49078**	**95732**	**2146**	**-65**	**14**	**801.7**	**705.4**	**706.8**	**1.4**	**5.9**	**1.2**
GWXP0186_W2	49078	95732	2146	-65	22	792.1	714.0	715.0	1.0	5.9	0.4
GWXP0186_W2	**49078**	**95732**	**2146**	**-65**	**22**	**792.1**	**714.0**	**714.4**	**0.4**	**11.8**	**0.3**
WSXP1786	49737	96588	1788	-54	309	1510.3			NSI		
WSXP1820	49737	96588	1788	-39	334	844.1			NSI		
WSXP1820_W1	49736	96589	1788	-39	334	1500.1			NSI		

JUNDEE EXPLORATION SIGNIFICANT INTERSECTIONS

Drill Hole #	Easting (MGA Z51)	Northing (MGA Z51)	Drill hole collar RL (AHD)	Dip (degrees)	Azimuth (degrees, Mag)	End of hole depth (m)	Downhole From (m)	Downhole To (m)	Downhole Intersection (m)	Au (gpt) uncut	Est True Thickness (m)
NSRJRC10293	270375	7071014	2142	-60	55	42.0			NSI		
NSRJRC10294	270349	7070996	2143	-60	55	84.0			NSI		
NSRJRC10295	270318	7070976	2362	-60	55	102.0			NSI		
NSRJRC10296	270412	7070942	2362	-60	55	66.0	15.0	23.0	8.0	1.6	6.4
NSRJRC10297	270379	7070919	2362	-60	55	90.0	53.0	58.0	5.0	1.3	4.0
NSRJRC10298	270477	7070866	2361	-60	55	108.0			NSI		
NSRJRC10299	270451	7070847	2362	-60	55	102.0			NSI		
NSRJRC10300	270422	7070826	2363	-60	55	102.0			NSI		
NSRJRC10301	270239	7071746	2364	-60	105	72.0			NSI		
NSRJRC10302	270200	7071757	2365	-60	105	108.0			NSI		
NSRJRC10303	270213	7071650	2366	-60	105	60.0			NSI		
NSRJRC10304	270174	7071660	2367	-60	105	102.0	45.0	47.0	2.0	8.1	1.6
NSRJRC10304	270174	7071660	2367	-60	105	102.0	68.0	77.0	9.0	32.2	7.2
						including	74.0	75.0	1.0	258.0	0.8
NSRJRC10305	270206	7071548	2368	-60	105	60.0			NSI		
NSRJRC10306	270168	7071558	2369	-60	105	102.0			NSI		
NSRJRC10307	272946	7072196	2370	-60	330	84.0			NSI		
NSRJRC10308	272971	7072152	2371	-60	330	84.0			NSI		
NSRJRC10309	272996	7072109	2372	-60	330	84.0			NSI		
NSRJRC10310	273021	7072066	2373	-60	330	80.0			NSI		
NSRJRC10311	273043	7072195	2374	-60	330	108.0	22.0	24.0	2.0	1.6	1.5
NSRJRC10311	273043	7072195	2374	-60	330	108.0	29.0	30.0	1.0	2.5	0.8
NSRJRC10311	273043	7072195	2374	-60	330	108.0	43.0	44.0	1.0	6.8	0.8
NSRJRC10312	273051	7072255	2375	-60	330	84.0	33.0	46.0	13.0	1.8	9.8
NSRJRC10312	273051	7072255	2375	-60	330	84.0	48.0	49.0	1.0	1.4	0.8
NSRJRC10313	273369	7071863	2376	-60	330	80.0			NSI		
NSRJRC10314	273393	7072223	2377	-60	330	84.0			NSI		
NSRJRC10315	273418	7072179	2378	-60	330	90.0			NSI		
NSRJRC10316	273456	7071913	2379	-60	330	96.0			NSI		
NSRJRC10317	273171	7071806	2380	-60	330	90.0			NSI		
NSRJRC10318	273196	7071763	2381	-60	330	84.0			NSI		
NSRJRC10319	273278	7071865	2382	-60	330	82.0			NSI		

Kanowna Bell Resource Definition Driling											
Drill Hole #	Easting (Mine Grid)	Northing (Mine Grid)	Drill hole collar RL (Mine Grid)	Dip (degrees)	Azimuth (degrees, Mine Grid)	End of hole depth (m)	Downhole From (m)	Downhole To (m)	Downhole Intersection (m)	Au (gpt) uncut	Est True Thickness (m)
KDU3240	20231	49935	9925	11	206	339.5	264.7	265.5	0.8	3.2	0.5
KDU3240	20231	49935	9925	11	206	339.5	300.3	304.3	4.0	4.7	3.0
KDU3240	20231	49935	9925	11	206	339.5	311.0	314.3	3.3	2.1	2.4
KDU3234	19766	49919	9728	-15	289	722.2	583.4	591.5	8.2	4.6	7.0
KDU3234	19766	49919	9728	-15	289	722.2	600.3	615.6	15.3	10.5	14.0
KDU3234	19766	49919	9728	-15	289	722.2	619.8	627.1	7.3	4.9	7.0
KDU3234W1	19766	49919	9728	-15	289	750.6	609.1	612.9	3.8	3.4	3.5
KDU3234W1	19766	49919	9728	-15	289	750.6	687.0	690.0	3.0	6.3	
KDU3234W1	19766	49919	9728	-15	289	750.6	714.0	720.5	6.5	1.9	
KDU3234W1	19766	49919	9728	-15	289	750.6	746.3	750.6	4.3	1.4	
KDU3243	20231	49935	9925	6	195	399.4	343.0	347.0	4.0	4.5	3.5
KDU3243	20231	49935	9925	6	195	399.4	334.5	335.1	0.6	24.9	0.5
KDU3234	19766	49919	9728	-15	289	722.2	524.0	528.0	4.0	8.6	
KDU3234W2	19766	49919	9728	-15	289	669.3	591.0	601.2	10.2	1.9	10.0
KDU3234W2	19766	49919	9728	-15	289	669.3	591.0	593.0	2.0	2.8	2.0
KDU3234W2	19766	49919	9728	-15	289	669.3	620.6	626.0	5.4	3.6	5.2
KDU3234W2	19766	49919	9728	-15	289	669.3	625.0	626.0	1.0	14.5	0.8
KDU3234W1	19766	49919	9728	-15	289	750.6	513.0	513.3	0.3	3.0	
KDU3234W1	19766	49919	9728	-15	289	750.6	527.5	528.0	0.5	3.2	
KDU3234W2	19766	49919	9728	-15	289	669.3	567.2	568.0	0.8	1.6	
KDU3246	20232	49935	9925	10	190	449.1	173.5	180.0	6.5	2.4	6.0
KDU3246	20232	49935	9925	10	190	449.1	254.9	258.3	3.3	3.3	3.0
KDU3246	20232	49935	9925	10	190	449.1	326.8	328.5	1.7	11.8	1.5
KDU3249A	19766	49919	9728	-19	284	719.9	594.0	604.4	10.4	6.7	9.0
KDU3249A	19766	49919	9728	-19	284	719.9	620.9	642.0	21.1	1.6	18.0
KDU3249W1	19766	49919	9728	-19	284	731.7	588.0	589.4	1.4	3.5	1.2
KDU3245	20230	49935	9924	10	192	423.2	273.0	277.0	4.0	2.1	4.0
KDU3245	20230	49935	9924	10	192	423.2	289.6	292.3	2.7	13.3	2.5
KDU3245	20230	49935	9924	10	192	423.2	304.0	306.0	2.0	4.5	1.8
KDU3245	20230	49935	9924	10	192	423.2	318.5	321.4	2.9	2.6	2.6
KDU3249W1	19766	49919	9728	-19	284	731.7	592.0	595.3	3.3	8.6	3.0
KDU3249W1	19766	49919	9728	-19	284	731.7	621.0	624.0	3.0	3.0	2.7
KDU3261	20111	49825	9769	-22	180	53.0	20.0	44.8	24.9	2.8	15.1
KDU3252W2	19806	49875	9613	-13	289	720.1	666.0	693.0	27.0	3.4	22.0
KDU3249W2	19766	49919	9728	-19	284	719.9	574.0	609.0	35.0	3.6	28.0
KDU3249W2	19766	49919	9728	-19	284	719.9	616.0	621.0	5.0	4.5	
KDU3258	20079	49633	9822	-6	190	26.9	9.5	10.6	1.1	9.5	0.7
KDU3258	20079	49633	9822	-6	190	26.9	16.9	18.3	1.4	2.8	0.9
KDU3258	20079	49633	9822	-6	190	26.9	24.3	26.3	2.0	18.6	1.3
KDU3255	20077	49636	9822	1	271	33.0	17.0	20.2	3.2	3.2	2.1
KDU3241	20231	49935	9924	9	196	384.2	163.0	165.6	2.6	22.1	2.0
KDU3241	20231	49935	9924	9	196	384.2	288.0	290.0	2.0	9.4	1.6
KDU3241	20231	49935	9924	9	196	384.2	297.3	300.6	3.3	11.2	2.6
KDU3241	20231	49935	9924	9	196	384.2	350.0	357.0	7.0	2.2	5.5
KDU3256	20078	49636	9825	41	265	26.9	2.9	8.2	5.3	2.2	4.2
KDU3257	20079	49633	9821	-27	238	42.0	16.6	23.0	6.4	10.6	3.5
KDU3250	19765	49919	9730	-16	289	741.0	600.0	609.0	9.0	2.3	7.2
KDU3250	19765	49919	9730	-16	289	741.0	627.0	630.0	3.0	6.0	2.4
KDU3273	20249	49737	9737	-10	56	60.2	14.0	26.5	12.5	3.7	10.3
KDU3273	20249	49737	9737	-10	56	60.2	37.0	46.6	9.6	2.7	5.7
KDU3272A	20248	49738	9739	20	7	53.7	11.0	23.5	12.5	4.6	10.6
KDU3272A	20248	49738	9739	20	7	53.7	28.0	40.0	12.0	2.7	5.1
KDU3242	20231	49935	9924	9	199	351.5	318.8	323.0	4.1	4.5	3.3

KANOWNA BELLE - VELVET EXPLORATION DRILLING											
Drill Hole #	Easting (Mine Grid)	Northing (Mine Grid)	Drill hole collar RL (Mine Grid)	Dip (degrees)	Azimuth (degrees, Mine Grid)	End of hole depth (m)	Downhole From (m)	Downhole To (m)	Downhole Intersection (m)	Au (gpt) uncut	Est True Thickness (m)
KDU3234	19766	49919	9728	-15	289	722.2	583.4	591.5	8.2	4.6	7.0
KDU3234	19766	49919	9728	-15	289	722.2	600.3	615.6	15.3	10.5	14.0
KDU3234	19766	49919	9728	-15	289	722.2	619.8	627.1	7.3	4.9	7.0
KDU3234W1	19766	49919	9728	-15	289	750.6	609.1	612.9	3.8	3.4	3.5
KDU3234W1	19766	49919	9728	-15	289	750.6	687.0	690.0	3.0	6.3	
KDU3234W1	19766	49919	9728	-15	289	750.6	714.0	720.5	6.5	1.9	
KDU3234W1	19766	49919	9728	-15	289	750.6	746.3	750.6	4.3	1.4	
KDU3234W2	19766	49919	9728	-15	289	669.3	591.0	601.2	10.2	1.8	10.0
KDU3234W2	19766	49919	9728	-15	289	669.3	620.6	626.0	5.4	3.6	5.2
KDU3249A	19766	49919	9728	-19	284	719.9	594.0	604.4	10.4	6.7	9.0
KDU3249A	19766	49919	9728	-19	284	719.9	620.9	642.0	21.1	1.6	18.0
KDU3249W1	19766	49919	9728	-19	284	731.7	588.0	589.4	1.4	3.5	1.2
KDU3249W1	19766	49919	9728	-19	284	731.7	592.0	595.3	3.3	8.6	3.0
KDU3249W1	19766	49919	9728	-19	284	731.7	621.0	624.0	3.0	3.0	2.7
KDU3249W2	19766	49919	9728	-19	284	719.9	574.0	609.0	35.0	3.5	28.0
KDU3249W2	19766	49919	9728	-19	284	719.9	616.0	621.0	5.0	4.5	
KDU3250	19765	49919	9730	-16	289	741.0	600.0	609.0	9.0	2.3	7.2
KDU3250	19765	49919	9730	-16	289	741.0	627.0	630.0	3.0	6.0	2.4
KDU3252W2	19806	49875	9613	-13	289	720.1	666.0	693.0	27.0	3.4	22.0

WHITE FEATHER RESOURCE DEFINITION DRILLING											
Drill Hole #	Easting (MGA Z51)	Northing (MGA Z51)	Drill hole collar RL (AHD)	Dip (degrees)	Azimuth (degrees, Mag)	End of hole depth (m)	Downhole From (m)	Downhole To (m)	Downhole Intersection (m)	Au (gpt) uncut	Est True Thickness (m)
WFDD15001	367366	6614151	374	280	-55	224.2	35.2	35.7	0.5	2.4	0.4
WFDD15001	367366	6614151	374	280	-55	224.2	122.8	123.5	0.7	1.4	0.6
WFDD15001	367366	6614151	374	280	-55	224.2	147.1	147.6	0.5	8.1	0.4
WFDD15001	367366	6614151	374	280	-55	224.2	165.3	165.6	0.3	303.1	0.3
WFDD15001	367366	6614151	374	280	-55	224.2	174.0	174.8	0.8	1.1	0.7
WFDD15002	367312	6614205	381	254	-62	144.4	24.6	25.4	0.8	1.1	0.8
WFDD15002	367312	6614205	381	254	-62	144.4	95.8	98.3	2.5	1.4	2.5
WFDD15002	367312	6614205	381	254	-62	144.4	116.8	121.0	4.2	1.5	4.0
WFDD15002	367312	6614205	381	254	-62	144.4	130.3	130.9	0.5	2.0	0.5

6 MILE RESOURCE DEFINITION DRILLING											
Drill Hole #	Easting (MGA Z51)	Northing (MGA Z51)	Drill hole collar RL (AHD)	Dip (degrees)	Azimuth (degrees, Mag)	End of hole depth (m)	Downhole From (m)	Downhole To (m)	Downhole Intersection (m)	Au (gpt) uncut	Est True Thickness (m)
SMDD15015	359729	6616080	361	-40	225	205.5	21.0	24.0	3.1	7.4	
SMDD15015	359729	6616080	361	-40	225	205.5	71.1	71.6	0.5	3.9	
SMDD15015	359729	6616080	361	-40	225	205.5	75.3	76.5	1.2	5.4	
SMDD15015	359729	6616080	361	-40	225	205.5	94.7	95.4	0.7	9.3	
SMDD15015	359729	6616080	361	-40	225	205.5	99.0	100.0	1.0	3.8	
SMDD15015	359729	6616080	361	-40	225	205.5	113.4	114.4	1.0	3.3	
SMDD15015	359729	6616080	361	-40	225	205.5	147.0	149.6	2.6	3.2	
SMDD15016	359709	6615989	363	-38	322	211.1	68.0	68.5	0.5	2.9	
SMDD15016	359709	6615989	363	-38	322	211.1	71.2	72.1	0.9	2.6	
SMDD15016	359709	6615989	363	-38	322	211.1	83.9	89.1	5.2	1.7	
SMDD15016	359709	6615989	363	-38	322	211.1	93.8	94.4	0.6	11.9	
SMDD15016	359709	6615989	363	-38	322	211.1	153.0	154.0	1.0	2.3	
SMDD15016	359709	6615989	363	-38	322	211.1	164.0	168.0	4.0	2.0	
SMDD15017	359385	6615758	367	-36	293	166.4	15.0	19.0	4.0	1.2	
SMDD15017	359385	6615758	367	-36	293	166.4	23.0	24.1	1.1	4.0	
SMDD15017	359385	6615758	367	-36	293	166.4	27.0	28.0	1.0	2.3	
SMDD15017	359385	6615758	367	-36	293	166.4	45.0	47.0	2.0	3.3	
SMDD15017	359385	6615758	367	-36	293	166.4	51.0	52.0	1.0	2.7	
SMDD15017	359385	6615758	367	-36	293	166.4	68.1	69.0	0.9	2.9	
SMDD15017	359385	6615758	367	-36	293	166.4	72.0	73.0	1.0	2.3	
SMDD15017	359385	6615758	367	-36	293	166.4	125.0	134.0	9.0	4.6	
SMDD15017	359385	6615758	367	-36	293	166.4	130.0	131.0	1.0	30.2	
SMDD15017	359385	6615758	367	-36	293	166.4	138.0	139.0	1.0	4.8	
SMDD15018	359402	6615936	363	-31	246	241.0	40.5	45.7	5.2	1.1	
SMDD15018	359402	6615936	363	-31	246	241.0	50.0	52.0	2.0	2.6	
SMDD15018	359402	6615936	363	-31	246	241.0	77.0	78.7	1.7	2.8	
SMDD15018	359402	6615936	363	-31	246	241.0	104.0	105.3	1.3	2.3	
SMDD15018	359402	6615936	363	-31	246	241.0	110.8	114.7	3.9	1.3	
SMDD15018	359402	6615936	363	-31	246	241.0	138.7	143.2	4.5	0.9	
SMDD15018	359402	6615936	363	-31	246	241.0	162.6	164.0	1.5	4.5	
SMDD15018	359402	6615936	363	-31	246	241.0	194.0	196.0	2.1	5.7	
SMDD15019	359401	6615939	363	-31	265	187.0	0.0	1.0	1.0	4.9	
SMDD15019	359401	6615939	363	-31	265	187.0	56.0	62.0	6.0	1.4	
SMDD15019	359401	6615939	363	-31	265	187.0	66.0	66.9	0.9	3.3	
SMDD15019	359401	6615939	363	-31	265	187.0	108.0	109.0	1.0	2.1	
SMDD15019	359401	6615939	363	-31	265	187.0	118.7	119.7	1.0	4.8	
SMDD15019	359401	6615939	363	-31	265	187.0	132.8	133.8	1.0	23.1	
SMDD15020	359189	6615963	360	-31	98	223.1	60.0	60.9	0.9	10.2	
SMDD15020	359189	6615963	360	-31	98	223.1	72.0	72.7	0.7	2.1	
SMDD15020	359189	6615963	360	-31	98	223.1	117.0	118.0	1.0	2.7	
SMDD15020	359189	6615963	360	-31	98	223.1	120.0	121.0	1.0	2.8	
SMDD15020	359189	6615963	360	-31	98	223.1	190.0	193.0	3.0	29.2	
SMRC15001	359482	6615979	363	-60	267	222.0	154.0	157.0	3.0	1.2	
SMRC15002	359482	6615962	363	-60	257	234.0	75.0	81.0	6.0	1.3	
SMRC15002	359482	6615962	363	-60	257	234.0	111.0	119.0	8.0	1.7	
SMRC15002	359482	6615962	363	-60	257	234.0	136.0	142.0	6.0	1.8	
SMRC15002	359482	6615962	363	-60	257	234.0	146.0	149.0	3.0	1.3	
SMRC15002	359482	6615962	363	-60	257	234.0	196.0	197.0	1.0	2.8	
SMRC15003	359490	6615932	364	-60	245	234.0	68.0	74.0	6.0	1.4	
SMRC15003	359490	6615932	364	-60	245	234.0	192.0	194.0	2.0	3.9	
SMRC15004	359477	6615866	365	-60	245	210.0	26.0	28.0	2.0	3.1	
SMRC15004	359477	6615866	365	-60	245	210.0	113.0	114.0	1.0	3.5	
SMRC15004	359477	6615866	365	-60	245	210.0	163.0	166.0	3.0	1.9	
SMRC15005	359450	6615819	367	-60	16	114.0	52.0	54.0	2.0	2.0	
SMRC15006	359469	6615799	367	-60	40	120.0	30.0	31.0	1.0	4.8	
SMRC15008	359404	6615771	367	-60	10	192.0	37.0	39.0	2.0	4.4	
SMRC15009	359433	6615766	366	-60	40	168.0	109.0	112.0	3.0	4.1	
SMRC15011	359528	6615962	364	-60	320	138.0	14.0	16.0	2.0	1.4	
SMRC15011	359528	6615962	364	-60	320	138.0	93.0	95.0	2.0	2.5	
SMRC15012	359540	6615887	365	-60	320	210.0	174.0	177.0	3.0	3.3	
SMRC15013	359601	6615959	363	-60	320	192.0	25.0	26.0	1.0	69.4	
SMRC15013	359601	6615959	363	-60	320	192.0	158.0	161.0	3.0	1.7	
SMRC15014	359739	6616022	367	-60	320	252.0	30.0	36.0	6.0	1.4	
SMRC15014	359739	6616022	367	-60	320	252.0	57.0	61.0	4.0	1.4	
SMRC15014	359739	6616022	367	-60	320	252.0	68.0	75.0	7.0	3.4	
SMRC15014	359739	6616022	367	-60	320	252.0	220.0	226.0	6.0	1.1	

MILENNIUM RESOURCE DEFINITION DRILLING

Drill Hole #	Easting (MGA Z51)	Northing (MGA Z51)	Drill hole collar RL (AHD)	Dip (degrees)	Azimuth (degrees, Mag)	End of hole depth (m)	Downhole From (m)	Downhole To (m)	Downhole Intersection (m)	Au (gpt) uncut	Est True Thickness (m)
CNCD15043	330867	6601740	348	-71	55	194.0	171.1	172.1	1.0	1.4	0.8
CNDD15031	330494	6601720	347	-60	50	582.3	188.6	202.7	14.1	0.0	10.6
CNDD15031	330494	6601720	347	-60	50	582.3	566.0	568.0	2.0	2.3	1.5
CNDD15032	330443	6601837	348	-60	50	504.1	464.0	470.0	6.0	2.1	4.8
CNDD15033	330694	6601715	349	-60	50	369.0	168.4	168.8	0.4	4.2	0.3
CNDD15033	330694	6601715	349	-60	50	369.0	338.8	339.8	0.9	51.2	0.7
CNDD15034A	330608	6601641	346	-62	55	531.1	314.0	317.0	3.0	1.5	2.4
CNDD15034A	330608	6601641	350	-62	55	531.1	504.8	507.7	2.9	44.5	2.2
CNDD15035	330477	6601645	349	-60	50	627.0	612.0	614.0	2.0	7.4	1.4
CNDD15036	330441	6601773	348	-60	50	564.0	543.0	550.0	7.0	2.8	5.6
CNDD15039	330204	6602256	345	-60	50	393.2	359.0	361.0	2.0	5.1	1.5
CNDD15053	330751	6601677	344	-60	50	345.8	314.1	317.0	3.0	7.1	2.2
CNDD15054	330735	6601705	345	-60	50	367.5	307.8	310.0	2.3	4.3	1.7
CNDD15056	330696	6601668	345	-60	50	422.9	255.2	255.8	0.6	5.2	0.5
CNDD15056	330696	6601668	345	-60	50	422.9	279.0	279.5	0.4	1.1	0.4
CNDD15056	330696	6601668	345	-60	50	422.9	396.4	398.0	1.6	1.4	1.3
CNDD15057	330677	6601693	346	-60	50	438.2	392.0	399.0	7.0	5.3	5.6
CNDD15058	330664	6601674	346	-60	50	449.9	285.0	286.0	1.0	1.6	0.8
CNDD15058	330664	6601674	346	-60	50	449.9	413.0	417.0	4.0	6.6	3.2
CNDD15059	330664	6601724	346	-60	50	372.2	346.0	347.2	1.2	1.8	1.0
CNDD15059	330664	6601724	346	-60	50	372.2	347.8	349.6	1.8	13.5	1.4
CNDD15060	330705	6601757	346	-60	50	309.0	287.8	289.0	1.2	6.0	1.0
CNDD15061	330667	6601777	346	-60	50	360.0	300.0	304.0	4.0	2.9	3.2
CNDD15062	330642	6601758	347	-60	50	368.6	348.0	352.0	4.0	5.6	3.2
CNDD15063	330610	6601771	347	-60	50	425.9	275.8	276.3	0.5	3.4	0.4
CNDD15063	330610	6601771	347	-60	50	425.9	358.0	359.0	1.0	2.2	0.8
CNDD15063	330610	6601771	347	-60	50	425.9	360.0	361.0	1.0	1.1	0.8
CNDD15063	330610	6601771	347	-60	50	425.9	366.3	369.2	2.9	10.9	2.3
CNDD15064	330583	6601745	347	-60	50	417.0	242.0	243.0	1.0	1.1	0.8
CNDD15064	330583	6601745	347	-60	50	417.0	263.0	264.0	1.0	3.2	0.8
CNDD15064	330583	6601745	347	-60	50	417.0	387.8	392.0	4.3	6.9	3.4
CNDD15069	330563	6601870	346	-60	50	366.1	339.0	345.6	6.6	2.1	5.3
CNDD15073	330528	6601941	346	-65	48	365.9	330.4	340.9	10.5	4.7	8.4
CNDD15073	330528	6601941	346	-65	48	365.9	345.0	345.4	0.4	2.4	0.3
CNDD15075	330483	6601969	346	-60	50	378.0	330.4	346.9	16.5	6.3	13.2
CNDD15077	330895	6601668	348	-45	60	181.5	167.0	167.5	0.5	3.3	0.4
CNDD15078	330896	6601669	347	-29	58	168.9	129.0	130.0	1.0	1.8	0.8
CNDD15078	330896	6601669	347	-29	58	168.9	133.5	135.0	1.5	1.7	1.2
CNDD15079	330804	6601660	345	-48	60	250.8	236.0	237.2	1.2	1.5	1.0
CNDD15080	330782	6601725	345	-40	61	211.5	188.3	190.2	1.9	4.4	1.5
CNDD15082	330832	6601827	348	-48	60	100.7	78.7	83.8	5.1	2.2	4.1
CNDD15083	330731	6601797	345	-40	60	217.5	153.0	154.0	1.0	4.6	0.8
CNDD15083	330731	6601797	345	-40	60	217.5	159.0	160.0	1.0	6.2	0.8
CNDD15083	330731	6601797	345	-40	60	217.5	178.4	180.7	2.3	2.7	1.6
CNDD15085	330916	6601609	346	-36	60	214.4	65.4	66.0	0.6	8.5	0.5
CNDD15085	330916	6601609	346	-36	60	214.4	96.0	98.0	2.0	1.9	1.6
CNDD15085	330916	6601609	346	-36	60	214.4	118.0	119.0	1.0	1.4	0.8
CNDD15085	330916	6601609	346	-36	60	214.4	125.0	126.0	1.0	1.0	0.8
CNDD15085	330916	6601609	346	-36	60	214.4	162.9	164.0	1.1	1.3	0.9
CNDD15085	330916	6601609	346	-36	60	214.4	170.0	171.8	1.8	1.9	1.4
CNDD15085	330916	6601609	346	-36	60	214.4	173.0	174.0	1.0	1.1	0.8
CNRC15041	330898	6601688	348	-55	60	180.0	171.0	178.0	7.0	6.7	5.3
CNRC15044	330871	6601744	348	-59	55	150.0	122.0	124.0	2.0	8.6	1.5
CNRC15044	330871	6601744	348	-59	55	150.0	122.0	126.0	4.0	4.9	3.0

PEGASUS EXPLORATION DRILLING

Drill Hole #	Easting (Mine Grid)	Northing (Mine Grid)	Drill hole collar RL (Mine Grid)	Dip (degrees)	Azimuth (degrees, Mine Grid)	End of hole depth (m)	Downhole From (m)	Downhole To (m)	Downhole Intersection (m)	Au (gpt) uncut	Est True Thickness (m)
PGDD15018	9387	17142	6343	-63	84	831.0	204.7	205.3	0.7	4.7	0.5
PGDD15018	9387	17142	6343	-63	84	831.0	211.7	212.1	0.4	10.2	0.3
PGDD15018	9387	17142	6343	-63	84	831.0	643.1	647.6	4.5	10.8	3.4
PGDD15018	9387	17142	6343	-63	84	831.0	809.9	810.4	0.6	3.8	0.4
PGDD15027	9695	17265	6345	-62	89	375.0	167.0	172.0	5.0	6.5	4.5

RALEIGH 2015 SKINNERS VEIN DRILLING

Drill Hole #	Easting (Mine Grid)	Northing (Mine Grid)	Drill hole collar RL (Mine Grid)	Dip (degrees)	Azimuth (degrees, Mine Grid)	End of hole depth (m)	Downhole From (m)	Downhole To (m)	Downhole Intersection (m)	Au (gpt) uncut	Est True Thickness (m)
SKVGC006	9004	18045	5840	20	58	48.0	44.1	44.2	0.1	3.2	0.1
SKVGC010	9043	18001	5842	39	77	27.0	18.7	20.2	1.5	27.5	0.5
SKVGC011	9042	18000	5842	-21	143	60.0	21.2	21.5	0.3	3.9	0.2
SKVGC013	9079	18041	5908	-26	73	16.0	3.0	3.2	0.2	326.0	0.1
SKVGC013	9079	18041	5908	-26	73	16.0	4.1	5.0	0.9	34.7	0.7
SKVGC014	9087	18034	5907	-27	138	45.0	0.1	30.1	30.0	14.0	18.0
Including							0.1	8.6	8.6	14.2	7.6
							11.2	17.6	6.5	16.4	5.7
							18.5	20.4	1.9	22.5	1.7
							21.0	25.1	4.1	23.3	3.6
							26.8	29.0	2.2	20.3	1.9
SKVGC015	9087	18035	5907	-31	103	30.0	0.1	8.3	8.2	5.3	8.1
SKVGC015	9087	18035	5907	-31	103	30.0	15.0	16.8	1.8	4.5	1.8
SKVGC015	9087	18035	5907	-31	103	30.0	23.0	23.5	0.5	2.4	0.5
SKVGC016	9087	18034	5910	30	95	58.0	0.2	2.0	1.8	10.5	0.9
SKVGC016	9087	18034	5910	30	95	58.0	22.4	25.8	3.4	4.1	1.6
SKVGC016	9087	18034	5910	30	95	58.0	38.3	38.9	0.6	9.0	0.4
SKVGC018	9085	18032	5907	-65	194	36.0	0.2	3.3	3.1	4.4	0.3
SKVGC019	9084	18035	5907	-45	194	37.0	0.0	7.2	7.2	2.5	0.7
SKVGC024	9104	18075	5941	-36	189	107.0	23.9	26.4	2.5	138.4	0.5
SKVGC024	9104	18075	5941	-36	189	107.0	67.0	72.1	5.1	50.4	0.9
SKVGC063A	9079	18031	5909	-17	156	71.0	12.3	52.5	40.2	3.5	27.0
Including							19.9	23.0	3.1	32.6	2.1

DRAKE EXPLORATION DRILLING

Drill Hole #	Easting (MGA Z51)	Northing (MGA Z51)	Drill hole collar RL (AHD)	Dip (degrees)	Azimuth (degrees, Mag)	End of hole depth (m)	Downhole From (m)	Downhole To (m)	Downhole Intersection (m)	Au (gpt) uncut	Est True Thickness (m)
DRDD15001	332444	6598874	343	-60	60	393.5	359.0	362.0	3.0	1.5	2.2
DRDD15003	332531	6598746	343	-60	60	393.1	90.0	91.0	1.0	2.3	0.7
DRDD15003	332531	6598746	343	-60	60	393.1	119.0	120.0	1.0	25.0	0.9
DRDD15003	332531	6598746	343	-60	60	393.1	342.1	342.7	0.7	10.2	0.5
DRCD15009	332387	6599033	343	-60	55	365.4	320.0	321.0	1.0	3.2	0.7
DRCD15010	332434	6598973	343	-59	49	318.1	273.0	278.0	5.0	5.3	3.7
DRRC15013	332426	6599188	346	-59	64	156.0	57.0	58.0	1.0	2.4	0.7
DRRC15013	332426	6599188	346	-59	64	156.0	92.0	93.0	1.0	2.4	0.7

CARRIBEAN SIGNIFICANT INTERSECTIONS

Drill Hole #	Easting (Mine Grid)	Northing (Mine Grid)	Drill hole collar RL (Mine Grid)	Dip (degrees)	Azimuth (degrees, Mine Grid)	End of hole depth (m)	Downhole From (m)	Downhole To (m)	Downhole Intersection (m)	Au (gpt) uncut	Est True Thickness (m)
UDD16015	4610	11681	1252	-7	181	276.1			NSI		
UDD16016	4610	11681	1252	-14	185	297.0	162.9	165.7	2.8	7.3	1.9
UDD16018	4611	11680	1252	-6	190	297.1	185.2	185.5	0.4	31.3	0.3
UDD16019	4611	11680	1252	-20	191	313.0			NSI		
UDD16020	4611	11680	1252	-12	193	287.1	151.9	152.2	0.4	9.2	0.2
UDD16020	4611	11680	1252	-12	193	287.1	153.3	154.0	0.7	6.1	0.5
UDD16021	4610	11681	1252	-19	198	310.0	161.4	161.8	0.5	22.4	0.3
UDD16074	4610	11681	1252	-4	206	273.0	195.5	196.5	1.0	8.2	0.8
UDD16074	4610	11681	1252	-4	206	273.0	253.2	253.8	0.6	48.0	0.4
UDD16077	4610	11681	1252	-6	209	278.4	189.7	190.0	0.3	11.8	0.3
UDD16077	4610	11681	1252	-6	209	278.4	208.7	210.1	1.4	8.5	1.2
UDD16078	4610	11681	1252	-11	202	234.0	193.1	193.5	0.4	9.4	0.3
UDD16079	4610	11681	1252	-3	207	307.6	205.0	206.2	1.2	8.4	0.6
UDD16079	4610	11681	1252	-3	207	307.6	218.9	219.3	0.4	7.9	0.2
UDD16079	4610	11681	1252	-3	207	307.6	220.5	221.0	0.5	6.5	0.3
UDD16079	4610	11681	1252	-3	207	307.6	260.4	263.8	3.5	23.0	1.8
UDD16083	4610	11681	1252	-1	213	290.0	209.5	210.0	0.5	6.7	0.3
UDD16083	4610	11681	1252	-1	213	290.0	218.2	219.4	1.2	8.0	0.6
UDD16083	4610	11681	1252	-1	213	290.0	236.0	236.3	0.3	34.0	0.2
UDD16083	4610	11681	1252	-1	213	290.0	246.6	249.3	2.7	10.3	1.4
UDD16514	4787	11846	1181	78	302	44.2			NSI		
UDD16601	4033	11074	1195	-36	212	177.2			NSI		
UDD16657	4783	11574	1229	-18	190	167.7			NSI		
UDD16685	4457	11681	1254	-43	175	239.8	121.1	121.4	0.3	5.3	0.2
UDD16685	4457	11681	1254	-43	175	239.8	127.3	128.0	0.7	5.7	0.5
UDD16685	4457	11681	1254	-43	175	239.8	135.3	136.8	1.5	15.1	1.1
UDD16686	4457	11681	1255	-34	177	182.8	137.8	139.3	1.5	28.9	1.0
UDD16686	4457	11681	1255	-34	177	182.8	133.1	135.6	2.5	15.0	1.8
UDD16686	4457	11681	1255	-34	177	182.8	119.1	119.4	0.3	5.8	0.2
UDD16687	4457	11681	1255	-16	175	135.3			NSI		
UDD16688	4457	11681	1255	-27	176	170.1	118.5	122.6	4.2	6.3	2.9
UDD16688	4457	11681	1255	-27	176	170.1	144.2	145.6	1.4	10.3	1.0
UDD16689	**4457**	**11681**	**1255**	**-32**	**167**	**191.2**	**141.5**	**147.1**	**5.6**	**19.2**	**3.9**
UDD16690	4456	11681	1254	-39	193	203.0	109.9	110.3	0.4	25.0	0.2
UDD16690	4456	11681	1254	-39	193	203.0	124.4	124.7	0.4	11.7	0.2
UDD16690	4456	11681	1254	-39	193	203.0	120.0	120.5	0.5	6.0	0.4
UDD16690	4456	11681	1254	-39	193	203.0	107.1	107.5	0.4	7.0	0.3
UDD16690	4456	11681	1254	-39	193	203.0	103.6	104.0	0.4	5.1	0.3

CARRIBEAN SIGNIFICANT INTERSECTIONS											
Drill Hole #	Easting (Mine Grid)	Northing (Mine Grid)	Drill hole collar RL (Mine Grid)	Dip (degrees)	Azimuth (degrees, Mine Grid)	End of hole depth (m)	Downhole From (m)	Downhole To (m)	Downhole Intersection (m)	Au (gpt) uncut	Est True Thickness (m)
UDD16691	4456	11681	1255	-30	192	178.0			NSI		
UDD16692	4456	11681	1255	-18	190	167.7	122.5	123.2	0.8	50.1	0.5
UDD16692	4456	11681	1255	-18	190	167.7	128.1	128.7	0.7	7.8	0.5
UDD16693	4456	11681	1254	-49	195	224.8			NSI		
UDD16694	4456	11681	1254	-34	228	203.3	109.0	109.4	0.4	14.2	0.2
UDD16694	4456	11681	1254	-34	228	203.3	137.0	139.0	2.0	11.0	1.4
UDD16694	4456	11681	1254	-34	228	203.3	188.5	188.8	0.4	8.3	0.2
UDD16695	4455	11681	1254	-39	236	221.7			NSI		
UDD16696	4456	11681	1254	-44	220	223.2	113.6	114.4	0.8	16.9	0.5
UDD16698	4457	11681	1255	-15	184	143.7	124.8	125.2	0.4	6.6	0.3
UDD16699	4457	11681	1255	-22	184	152.5			NSI		
UDD16700	4457	11681	1255	-31	184	176.7	108.2	110.1	2.0	6.0	1.4
UDD16700	4457	11681	1255	-31	184	176.7	139.5	140.5	1.0	7.2	0.7
UDD16700	4457	11681	1255	-31	184	176.7	127.1	128.0	0.9	7.9	0.6
UDD16700	4457	11681	1255	-31	184	176.7	112.1	112.5	0.4	13.5	0.3
UDD16701	4457	11681	1255	-38	185	197.1	112.9	113.3	0.4	23.1	0.3
UDD16701	4457	11681	1255	-38	185	197.1	129.2	131.9	2.7	5.7	1.9
UDD16701	4457	11681	1255	-38	185	197.1	137.4	137.9	0.6	11.9	0.4
UDD16702	4457	11681	1255	-19	167	152.8	120.2	120.6	0.4	9.3	0.3
UDD16702	4457	11681	1255	-19	167	152.8	138.0	139.6	1.6	12.4	1.1
UDD16703	**4457**	**11681**	**1254**	**-44**	**187**	**224.8**	**129.9**	**131.4**	**1.5**	**17.2**	**1.0**
UDD16703	4457	11681	1254	-44	187	224.8	112.9	113.4	0.5	5.8	0.4
UDD16749	11681	42190	1252	-37	166	209.7	167.0	168.8	1.8	5.4	1.2
UDD16749	11681	42190	1252	-37	166	209.7	173.4	174.6	1.3	17.4	0.9
UDD16749	11681	42190	1252	-37	166	209.7			NSI		
UDD16751	4548	11681	1252	-55	174	233.7			NSI		
UDD16752	11681	42188	1252	-38	176	251.7	125.2	125.8	0.6	36.3	0.4
UDD16752	11681	42188	1252	-38	176	251.7	132.4	133.1	0.7	9.0	0.5
UDD16752	11681	42188	1252	-38	176	251.7	169.1	171.3	2.2	9.6	1.5
UDD16752	11681	42188	1252	-38	176	251.7			NSI		
UDD16753	11681	42187	1252	-45	172	197.8	161.2	161.8	0.6	13.3	0.4
UDD16753	11681	42187	1252	-45	172	197.8	164.5	165.0	0.5	10.6	0.4
UDD16753	11681	42187	1252	-45	172	197.8			NSI		
UDD17009	11417	42192	1247	63	302	39.2	6.3	6.9	0.7	10.8	0.5
UDD17009	11417	42192	1247	63	302	39.2	13.7	14.2	0.5	13.6	0.3
UDD17010	11418	42192	1245	30	303	30.8	17.8	18.5	0.8	16.3	0.5
UDD17011	11418	42192	1243	-1	294	39.0			NSI		
UDD17012	11418	42191	1243	-16	288	41.1			NSI		
UDD17013	11418	42192	1242	-33	281	41.2			NSI		
UDD15919	4836	11836	1227	-73	213	74.2	20.9	21.7	0.8	9.1	0.7
UDD15920	4825	11845	1226	-81	262	71.2	5.2	5.6	0.4	6.0	0.3
UDD15920	4825	11845	1226	-81	262	71.2	17.5	18.8	1.3	13.6	1.1
UDD15920	4825	11845	1226	-81	262	71.2	28.3	28.7	0.4	5.8	0.3
UDD15921	4832	11846	1227	-66	33	66.9	12.3	12.8	0.6	7.3	0.5
UDD15922	**4827**	**11848**	**1226**	**-53**	**344**	**77.9**	**29.5**	**37.0**	**7.5**	**5.8**	**7.4**
UDD16017	4611	11680	1252	-2	187	276.1	186.6	187.0	0.4	5.3	0.3
UDD16017	4611	11680	1252	-2	187	276.1	187.9	189.4	1.6	6.7	1.1
UDD16020	4611	11680	1252	-12	193	287.1	151.9	152.2	0.4	9.2	0.2
UDD16020	4611	11680	1252	-12	193	287.1	153.3	154.0	0.7	6.1	0.5
UDD16073	4610	11681	1252	-10	214	252.0	189.9	192.9	3.1	14.7	3.1
UDD16073	4610	11681	1252	-10	214	252.0	229.1	229.5	0.4	21.4	0.4
UDD16075	4610	11681	1252	-2	200	288.0	205.9	207.7	1.9	19.1	1.7
UDD16076	**4611**	**11680**	**1252**	**-1**	**204**	**300.0**	**273.1**	**274.1**	**1.0**	**50.8**	**0.8**
UDD16076	4611	11680	1252	-1	204	300.0	207.2	207.6	0.4	13.0	0.4
UDD16076	4611	11680	1252	-1	204	300.0	230.6	231.0	0.4	10.2	0.3
UDD16076	4611	11680	1252	-1	204	300.0	233.1	234.7	1.6	6.7	1.4
UDD16076	4611	11680	1252	-1	204	300.0	239.0	239.3	0.3	16.8	0.3
UDD16076	4611	11680	1252	-1	204	300.0	293.5	293.8	0.3	5.9	0.3
UDD16076	4611	11680	1252	-1	204	300.0	294.7	295.1	0.5	7.7	0.4
UDD16080	4610	11681	1252	-4	196	210.0	206.7	207.5	0.8	7.8	0.8
UDD16081	4610	11680	1252	-4	217	291.0	218.4	218.8	0.4	7.0	0.3
UDD16082	**4610**	**11681**	**1252**	**0**	**209**	**315.0**	**249.6**	**254.8**	**5.3**	**14.2**	**2.6**
UDD16082	4610	11681	1252	0	209	315.0	219.0	219.5	0.5	7.4	0.4
UDD16082	4610	11681	1252	0	209	315.0	240.5	241.3	0.8	8.0	0.6
UDD16126	4754	11777	1203	-48	291	48.7			NSI		
UDD16127	4755	11778	1204	-48	324	47.2			NSI		
UDD16128	4754	11778	1203	-38	333	59.1			NSI		
UDD16128	4754	11778	1203	-38	333	59.1	4.8	5.8	1.0	8.8	0.7
UDD16129	4756	11778	1203	-53	347	44.1			NSI		
UDD16130	4757	11778	1203	-40	349	54.6			NSI		
UDD16130	4757	11778	1203	-40	349	54.6	52.3	53.6	1.3	13.3	1.0
UDD16131	4763	11778	1203	-41	357	48.6			NSI		
UDD16132	4763	11778	1203	-32	358	63.6	45.4	45.7	0.3	26.7	0.2
UDD16133	4778	11779	1203	-32	16	54.6			NSI		
UDD16133	4779	11779	1203	-32	16	54.6			NSI		
UDD16134	4779	11780	1203	-26	8	59.0			NSI		
UDD16134	4779	11780	1203	-26	8	59.0	27.5	27.8	0.3	5.1	0.3
UDD16134	4779	11780	1203	-26	8	59.0	28.2	28.5	0.3	5.7	0.3
UDD16135	4773	11780	1205	-32	2	59.0	53.2	53.7	0.5	5.8	0.4
UDD16269	4909	12635	1116	78	10	39.3			NSI		
UDD16301	4485	11605	1102	46	73	35.1	13.1	15.0	1.9	8.2	1.3
UDD16302	4486	11606	1100	36	39	34.1	13.6	13.9	0.4	8.6	0.2

CARRIBEAN SIGNIFICANT INTERSECTIONS											
Drill Hole #	Easting (Mine Grid)	Northing (Mine Grid)	Drill hole collar RL (Mine Grid)	Dip (degrees)	Azimuth (degrees, Mine Grid)	End of hole depth (m)	Downhole From (m)	Downhole To (m)	Downhole Intersection (m)	Au (gpt) uncut	Est True Thickness (m)
UDD16302	4486	11606	1100	36	39	34.1	16.2	16.7	0.5	6.3	0.4
UDD16302	4486	11606	1100	36	39	34.1	23.6	24.4	0.8	30.3	0.6
UDD16303	4486	11605	1100	20	58	44.2			NSI		0.0
UDD16304	4479	11614	1101	74	328	26.5			NSI		
UDD16304	4479	11614	1101	74	328	26.5	14.7	15.3	0.6	25.2	0.4
UDD16304	4479	11614	1101	74	328	26.5	24.0	25.0	1.0	6.5	0.7
UDD16305	4479	11615	1101	52	40	20.0			NSI		
UDD16305	4479	11615	1101	52	40	20.0	8.9	9.2	0.4	21.9	0.2
UDD16307	4485	11604	1102	70	112	35.2	24.9	27.0	2.1	7.7	1.5
UDD16307	4485	11604	1102	70	112	35.2	28.5	29.0	0.5	5.1	0.4
UDD16308	4483	11604	1102	84	274	34.2	11.5	11.9	0.4	24.8	0.3
UDD16308	4483	11604	1102	84	274	34.2	18.3	18.6	0.4	6.8	0.2
UDD16309	4446	11605	1109	44	60	27.7	8.3	8.8	0.5	6.2	0.4
UDD16309	4446	11605	1109	44	60	27.7	14.1	15.1	1.0	9.2	0.7
UDD16309	4446	11605	1109	44	60	27.7	21.4	21.8	0.4	10.9	0.3
UDD16310	4446	11606	1109	37	83	34.4	17.5	18.3	0.9	9.5	0.6
UDD16310	4446	11606	1109	37	83	34.4	24.2	24.5	0.3	75.7	0.2
UDD16330	4512	11593	1097	81	17	41.2	24.5	24.8	0.3	36.6	0.2
UDD16330	4512	11593	1097	81	17	41.2	34.6	35.1	0.5	8.9	0.3
UDD16331	4512	11591	1097	71	195	80.2			NSI		
UDD16331	4512	11591	1097	71	195	80.2	26.7	27.4	0.7	23.4	0.5
UDD16332	4517	11591	1096	40	33	46.5	29.9	30.2	0.4	32.5	0.2
UDD16333	4519	11587	1097	69	39	38.2			NSI		
UDD16333	4519	11587	1097	69	39	38.2	12.6	13.3	0.8	11.3	0.5
UDD16333	4519	11587	1097	69	39	38.2	14.5	14.8	0.3	6.4	0.2
UDD16333	4519	11587	1097	69	39	38.2	15.6	15.9	0.3	12.3	0.2
UDD16333	4519	11587	1097	69	39	38.2	22.8	23.1	0.3	10.7	0.2
UDD16334	4521	11586	1096	45	54	38.1			NSI		
UDD16334	4521	11586	1096	45	54	38.1	21.7	22.0	0.4	9.1	0.2
UDD16334	4521	11586	1096	45	54	38.1	22.9	23.2	0.4	10.2	0.2
UDD16334	4521	11586	1096	45	54	38.1	24.9	25.2	0.3	5.5	0.2
UDD16351	4615	11495	1274	17	157	66.6			NSI		
UDD16352	4591	11495	1268	-29	233	150.0	80.8	81.2	0.4	9.5	0.3
UDD16352	4591	11495	1268	-29	233	150.0	138.8	139.2	0.4	5.4	0.3
UDD16353	4587	11494	1269	-16	246	49.3	29.1	30.1	1.0	5.1	0.6
UDD16354	4593	11492	1268	-22	202	41.1	27.3	28.0	0.7	21.9	0.4
UDD16355	4588	11493	1269	-18	216	43.1	31.9	32.2	0.3	13.1	0.3
UDD16355	4588	11493	1269	-18	216	43.1	33.8	34.2	0.4	12.3	0.3
UDD16356	4591	11492	1270	8	222	57.6	37.1	39.3	2.2	8.5	1.2
UDD16359	4674	11489	1275	-69	302	99.4	89.3	90.3	1.0	7.8	0.7
UDD16361	4711	11474	1278	-65	100	101.6	34.6	35.6	1.0	10.2	0.7
UDD16362	4701	11480	1277	-50	11	111.7	81.7	82.0	0.4	6.4	0.2
UDD16362	4701	11480	1277	-50	11	111.7	84.6	87.3	2.7	9.2	1.9
UDD16362	4701	11480	1277	-50	11	111.7	89.5	90.8	1.3	15.7	0.9
UDD16362	4701	11480	1277	-50	11	111.7	94.3	94.9	0.6	15.7	0.4
UDD16362	4701	11480	1277	-50	11	111.7	99.4	99.7	0.4	17.2	0.2
UDD16362	4701	11480	1277	-50	11	111.7	81.7	82.0	0.4	6.4	0.2
UDD16362	4701	11480	1277	-50	11	111.7	84.6	87.3	2.7	9.2	1.9
UDD16362	4701	11480	1277	-50	11	111.7	89.5	90.8	1.3	15.7	0.9
UDD16362	4701	11480	1277	-50	11	111.7	94.3	94.9	0.6	15.7	0.4
UDD16362	4701	11480	1277	-50	11	111.7	99.4	99.7	0.4	17.2	0.2
UDD16363	4692	11482	1276	-61	338	84.5			NSI		
UDD16363	4691	11483	1276	-61	338	84.5			NSI		0.0
UDD16364	4689	11484	1276	-63	330	82.7			NSI		
UDD16364	4690	11484	1276	-63	330	82.7	74.0	75.0	1.0	5.8	0.7
UDD16365	4679	11486	1275	-82	298	99.4	77.8	80.3	2.5	8.4	1.7
UDD16366	4630	11500	1272	-70	335	78.5	64.5	65.5	1.0	5.1	0.7
UDD16367	4629	11500	1272	-65	334	93.3			NSI		
UDD16368	4614	11499	1270	-66	328	85.7	58.9	59.2	0.3	46.3	0.2
UDD16370	**4679**	**11487**	**1275**	**-76**	**325**	**104.8**	**78.8**	**83.3**	**4.5**	**11.4**	**3.1**
UDD16370	4679	11487	1275	-76	325	104.8	71.4	71.7	0.4	5.8	0.2
UDD16371	4676	11488	1275	-72	320	111.0	91.6	91.9	0.3	21.8	0.2
UDD16374	4676	11488	1275	-69	333	118.0	79.0	79.7	0.8	13.5	0.5
UDD16374	4676	11488	1275	-69	333	118.0	85.2	86.0	0.8	13.4	0.6
UDD16374	4676	11488	1275	-69	333	118.0	95.1	95.6	0.5	15.8	0.4
UDD16378	4701	11479	1277	-76	27	108.0	62.5	63.4	0.9	6.7	0.6
UDD16378	4701	11479	1277	-76	27	108.0	70.1	71.0	0.9	6.3	0.6
UDD16378	4701	11479	1277	-76	27	108.0	81.0	81.8	0.8	8.5	0.6
UDD16378	4701	11479	1277	-76	27	108.0	86.6	87.3	0.7	8.0	0.5
UDD16379	4590	11498	1268	-49	251	183.0	46.4	48.7	2.3	8.4	1.6
UDD16379	4590	11498	1268	-49	251	183.0	11.2	12.0	0.9	6.1	0.6
UDD16379	4590	11498	1268	-49	251	183.0	27.8	28.3	0.5	5.8	0.4
UDD16382	4595	11494	1270	19	207	55.6			NSI		
UDD16383	4613	11495	1273	30	176	79.5			NSI		
UDD16385	4612	11495	1273	33	190	79.6			NSI		
UDD16387	4607	11495	1272	35	202	85.9			NSI		
UDD16388	4700	11480	1277	-83	345	102.1	74.6	74.9	0.3	9.0	0.2
UDD16388	4700	11480	1277	-83	345	102.1	78.8	79.8	1.0	10.6	0.7
UDD16389	4701	11478	1277	-85	68	83.0			NSI		0.0
UDD16390	4630	11499	1272	-71	8	108.3			NSI		
UDD16391	4710	11476	1278	-60	26	113.1	72.0	73.0	1.0	9.1	0.7
UDD16391	4710	11476	1278	-60	26	113.1	78.8	79.9	1.1	13.2	0.7

CARRIBEAN SIGNIFICANT INTERSECTIONS											
Drill Hole #	Easting (Mine Grid)	Northing (Mine Grid)	Drill hole collar RL (Mine Grid)	Dip (degrees)	Azimuth (degrees, Mine Grid)	End of hole depth (m)	Downhole From (m)	Downhole To (m)	Downhole Intersection (m)	Au (gpt) uncut	Est True Thickness (m)
UDD16391	4710	11476	1278	-60	26	113.1	94.2	94.8	0.7	9.6	0.5
UDD16391	4710	11476	1278	-60	26	113.1	98.5	99.0	0.5	6.9	0.4
UDD16391	4710	11476	1278	-60	26	113.1	100.6	100.9	0.3	23.1	0.2
UDD16392	4675	11488	1275	-69	276	95.0	84.1	85.1	1.0	23.3	0.7
UDD16392	4675	11488	1275	-69	276	95.0	90.5	91.0	0.5	8.0	0.4
UDD16393	4592	11492	1270	15	203	110.1	49.6	54.5	5.0	6.7	3.5
UDD16393	4592	11492	1270	15	203	110.1	65.6	66.3	0.7	17.9	0.5
UDD16394	4587	11495	1270	10	242	75.5	55.1	56.9	1.9	11.1	1.0
UDD16395	4609	11495	1273	27	208	60.5	28.5	28.8	0.4	29.6	0.2
UDD16396	4612	11495	1272	28	192	60.5	36.0	36.4	0.4	16.4	0.3
UDD16397	4614	11495	1273	23	174	63.0			NSI		
UDD16397	4614	11495	1272	23	174	63.0	16.1	17.1	1.0	7.3	0.7
UDD16398	4616	11495	1273	22	153	80.0	28.0	29.0	1.0	5.5	0.7
UDD16437	4587	11495	1269	-1	213	107.9			NSI		
UDD16438	4588	11494	1268	-51	227	166.6			NSI		
UDD16439	4592	11492	1270	-1	213	107.9	40.8	41.3	0.5	8.1	0.3
UDD16440	4592	11492	1270	4	205	101.0	36.9	37.2	0.4	23.0	0.2
UDD16440	4592	11492	1270	4	205	101.0	39.5	40.1	0.6	5.0	0.4
UDD16441	4592	11492	1269	8	196	95.8	42.6	43.4	0.8	48.7	0.6
UDD16442	4609	11495	1271	16	200	41.7	39.3	39.7	0.4	6.8	0.3
UDD16443	4616	11495	1272	0	197	87.5	58.1	58.7	0.6	9.8	0.4
UDD16443	4616	11495	1272	0	197	87.5	28.8	29.3	0.5	8.7	0.4
UDD16444	4626	11496	1273	2	197	87.9	45.3	46.0	0.8	7.6	0.5
UDD16444	4626	11496	1273	2	197	87.9	2.6	3.1	0.5	10.9	0.3
UDD16445	4626	11496	1273	-4	187	87.2	46.3	47.4	1.2	12.3	0.8
UDD16445	4626	11496	1273	-4	187	87.2	61.8	62.3	0.5	6.7	0.4
UDD16446	4627	11496	1273	0	176	72.2	50.3	51.3	1.0	16.5	0.7
UDD16446	4627	11496	1273	0	176	72.2	42.0	42.5	0.5	10.6	0.3
UDD16448	4672	11437	1307	-16	257	84.2	28.5	29.3	0.8	5.5	0.6
UDD16449	4671	11436	1308	-8	258	104.3	92.2	93.0	0.8	34.6	0.6
UDD16453	4684	11431	1306	-42	188	24.0	11.7	12.0	0.3	22.9	0.2
UDD16453	4684	11431	1306	-42	188	24.0	20.8	21.2	0.4	10.8	0.2
UDD16455	4721	11410	1292	39	13	23.1	9.9	10.7	0.8	6.7	0.6
UDD16456	4720	11408	1294	72	4	42.0			NSI		
UDD16458	4723	11404	1293	53	74	77.1			NSI		
UDD16459	4723	11405	1291	20	51	35.1	16.7	18.4	1.7	12.9	1.2
UDD16459	4723	11405	1291	20	51	35.1	27.7	28.5	0.8	5.7	0.5
UDD16459	4723	11405	1291	20	51	35.1	30.5	30.8	0.3	17.3	0.2
UDD16517	4814	11861	1182	46	336	39.4	26.9	30.7	3.8	7.4	2.6
UDD16517	4814	11861	1182	46	336	39.4	33.3	34.6	1.4	7.4	0.9
UDD16518	4833	11867	1187	76	99	34.0	15.7	16.1	0.4	8.7	0.3
UDD16519	4831	11875	1186	39	305	44.0	21.5	23.2	1.7	5.7	1.2
UDD16519	4831	11875	1186	39	305	44.0	31.7	32.7	1.1	6.1	0.7
UDD16519	4831	11875	1186	39	305	44.0	43.1	44.0	1.0	9.3	0.7
UDD16520	4838	11880	1189	68	121	20.0			NSI		
UDD16521	4834	11876	1189	73	307	32.9	10.4	10.9	0.5	6.8	0.4
UDD16521	4834	11876	1189	73	307	32.9	25.5	26.9	1.4	10.1	1.0
UDD16644	4527	11464	1246	10	201	63.7	13.5	13.9	0.4	6.0	0.3
UDD16645	4531	11462	1246	8	195	62.0	0.7	1.1	0.5	28.6	0.3
UDD16647	4535	11461	1246	14	191	63.7			NSI		
UDD16648	4523	11465	1246	8	206	70.5	52.9	53.4	0.5	5.5	0.4
UDD16652	4524	11465	1245	-18	208	43.9	24.9	27.6	2.7	25.7	1.9
UDD16653	4527	11464	1245	-36	198	26.1			NSI		
UDD16653	4527	11464	1245	-36	198	26.1	15.3	16.9	1.6	9.2	1.1
UDD16655	4783	11574	1229	-1	193	124.0			NSI		
UDD16655	4783	11574	1229	-3	202	128.0			NSI		
UDD16657	4783	11574	1229	-1	193	124.0			NSI		
UDD16658	4655	11436	1218	39	324	74.0	62.1	62.5	0.4	8.8	0.2
UDD16658	4655	11436	1218	39	324	74.0	63.4	64.1	0.8	8.1	0.5
UDD16659	4655	11436	1216	5	346	63.0	51.0	52.0	1.0	6.5	0.7
UDD16660	4659	11439	1220	64	10	44.0			NSI		
UDD16661	4660	11439	1218	38	28	35.0			NSI		
UDD16662	4661	11439	1217	25	43	36.3			NSI		
UDD16738	3982	11177	1158	-46	293	232.0			NSI		
UDD16790	4783	11573	1229	-12	176	199.3			NSI		
UDD16792	4783	11573	1228	-34	184	146.8	38.3	38.7	0.4	16.4	0.3
UDD16792	4783	11573	1228	-34	184	146.8	55.5	57.9	2.4	6.0	1.7
UDD16793	4782	11573	1228	-38	198	167.7	52.3	52.7	0.4	14.3	0.2
UDD16794	4783	11573	1229	-24	183	140.6			NSI		
UDD16795	4776	11574	1229	-19	198	194.7	39.4	39.9	0.5	20.2	0.4
UDD16795	4776	11574	1229	-19	198	194.7	74.9	75.7	0.8	8.8	0.5
UDD16796	4775	11574	1229	-5	214	116.0	66.3	67.3	1.0	6.1	0.7
UDD16796	4775	11574	1229	-5	214	116.0	79.0	79.4	0.4	7.3	0.2
UDD16796	4775	11574	1229	-5	214	116.0	101.0	101.4	0.4	5.7	0.3
UDD16796	4775	11574	1229	-5	214	116.0	107.1	107.6	0.5	10.8	0.4
UDD16796	4775	11574	1229	-5	214	116.0	114.8	115.4	0.7	5.5	0.5
UDD16797	4776	11574	1229	-4	207	206.6	133.0	134.8	1.9	5.7	1.3
UDD16797	4776	11574	1229	-4	207	206.6	149.4	150.3	0.9	6.9	0.6
UDD16797	4776	11574	1229	-4	207	206.6	133.0	134.8	1.9	5.7	1.3
UDD16797	4776	11574	1229	-4	207	206.6	149.4	150.3	0.9	6.9	0.6
UDD16798	4776	11574	1229	-13	208	140.6			NSI		
UDD16799	4776	11574	1229	-13	203	137.6			NSI		

CARRIBEAN SIGNIFICANT INTERSECTIONS

Drill Hole #	Easting (Mine Grid)	Northing (Mine Grid)	Drill hole collar RL (Mine Grid)	Dip (degrees)	Azimuth (degrees, Mine Grid)	End of hole depth (m)	Downhole From (m)	Downhole To (m)	Downhole Intersection (m)	Au (gpt) uncut	Est True Thickness (m)
UDD16997	11470	42190	1250	83	13	18.0	8.0	8.5	0.5	7.4	0.3
UDD16998	11467	42189	1250	60	195	19.0	2.4	3.4	1.0	8.2	0.7
UDD17000	11473	42191	1250	65	343	12.0			NSI		
UDD17001	11471	42190	1250	69	240	8.2	1.4	2.1	0.7	5.3	0.5
UDD17002	11469	42190	1249	43	210	11.0			NSI		
UDD17003	11469	42190	1247	13	203	11.2			NSI		
UDD17004	**11471**	**42191**	**1246**	**-42**	**259**	**17.1**	**13.8**	**15.1**	**1.3**	**41.9**	**0.9**
UDD17004	11471	42191	1246	-42	259	17.1			NSI		
UDD17006	11466	42189	1246	-36	194	22.0	11.0	12.0	1.0	14.0	0.7
UDD17008	11464	42189	1248	16	194	21.0			NSI		

PACIFIC SIGNIFICANT INTERSECTIONS

Drill Hole #	Easting (Mine Grid)	Northing (Mine Grid)	Drill hole collar RL (Mine Grid)	Dip (degrees)	Azimuth (degrees, Mine Grid)	End of hole depth (m)	Downhole From (m)	Downhole To (m)	Downhole Intersection (m)	Au (gpt) uncut	Est True Thickness (m)
UDD16912	4998	12972	1181	41	20	86.2	41.9	43.4	1.5	12.1	1.1
UDD16912	4998	12972	1181	41	20	86.2	46.0	48.0	2.0	7.7	1.4
UDD16912	4998	12972	1181	41	20	86.2	28.7	29.3	0.7	10.6	0.5
UDD16912	4998	12972	1181	41	20	86.2	65.2	65.9	0.8	5.0	0.5
UDD16913	4998	12972	1181	40	36	98.2	30.3	31.2	0.9	14.1	0.6
UDD16913	4998	12972	1181	40	36	98.2	65.1	66.5	1.4	8.6	1.0
UDD16914	4998	12972	1180	27	22	110.2	57.8	60.5	2.7	14.3	1.9
UDD16914	4998	12972	1180	27	22	110.2	65.8	66.4	0.6	16.3	0.4
UDD16915	4999	12972	1180	18	32	125.3	84.5	84.9	0.4	26.1	0.2
UDD16924	5022	12961	1182	56	89	90.0	62.6	67.5	4.9	5.1	3.4
UDD16924	5022	12961	1182	56	89	90.0	79.0	80.0	1.0	12.1	0.7
UDD16061	4503	12720	1038						NSI		
UDD16062	4504	12730	1037						NSI		
UDD16063	4504	12730	1037	76	79	9.6	0.0	0.9	0.9	5.1	0.9
UDD16064	4503	12738	1037						NSI		
UDD16470	5038	13114	1181	30	5	27.8	10.9	13.7	2.9	5.5	1.3
UDD16471	5015	13169	1165	25	82	54.5			NSI		
UDD16473	5045	13122	1180	15	4	37.9	27.5	28.0	0.5	5.4	0.4
UDD16473	5045	13122	1180	15	4	37.9	25.7	26.0	0.3	7.0	0.3
UDD16474	**5068**	**13150**	**1177**	**-43**	**282**	**19.8**	**12.1**	**14.3**	**2.3**	**26.1**	**1.8**
UDD16523	4976	13152	1164	-7	49	122.9	110.8	111.6	0.8	10.2	0.6
UDD16523	4976	13152	1164	-7	49	122.9	92.7	93.1	0.4	8.2	0.3
UDD16525	5079	13161	1177	1	16	54.8			NSI		0.0
UDD16526	5081	13160	1178	11	49	59.1			NSI		
UDD16527	5080	13160	1177	-23	51	103.1	72.9	73.9	1.0	9.0	0.7
UDD16528	5080	13161	1177	-10	28	54.9			NSI		0.0
UDD16530	5080	13160	1177	-21	34	76.0			NSI		0.0
UDD16532	5057	13169	1165	-6	19	62.1	5.6	8.3	2.8	7.8	1.9
UDD16532	5057	13169	1165	-6	19	62.1	40.4	41.1	0.7	29.8	0.5
UDD16532	5057	13169	1165	-6	19	62.1	12.0	12.5	0.5	26.4	0.4
UDD16534	4976	13152	1164	-6	38				NSI		
UDD16536A	5028	13188	1167	55	26	60.5	8.7	9.2	0.5	6.7	0.4
UDD16606	5069	13151	1178	-15	288	37.7	24.7	26.6	2.0	12.8	1.4
UDD16606	5069	13151	1178	-15	288	37.7	15.4	15.7	0.3	29.6	0.2
UDD16663	**5039**	**13176**	**1166**	**16**	**59**	**36.6**	**28.0**	**34.5**	**6.5**	**12.4**	**4.6**
UDD16761	5052	13140	1182	65	213	11.0			NSI		
UDD16762	5055	13143	1182	50	30	6.7			NSI		
UDD16763	5054	13143	1177	-70	31	13.8	7.7	10.8	3.1	13.7	2.1
UDD16763	5054	13143	1177	-70	31	13.8	3.1	3.4	0.3	19.9	0.2
UDD16764	5051	13140	1178	-38	183	14.5			NSI		
UDD16765	5044	13145	1180	29	211	33.4	23.0	25.5	2.5	15.5	1.8
UDD16765	5044	13145	1180	29	211	33.4	17.3	20.0	2.8	8.3	1.9
UDD16766	5045	13146	1182	88	205	14.0	4.2	5.0	0.9	7.8	0.6
UDD16767	5045	13145	1177	-48	179	13.1	3.9	4.7	0.8	16.9	0.6
UDD16768	5036	13149	1182	64	212	14.0	6.4	6.9	0.5	9.1	0.4
UDD16769	5037	13152	1180	44	32	24.2			NSI		
UDD16770	5028	13152	1181	54	218	24.0	8.1	9.7	1.6	12.2	1.1
UDD16771	5028	13154	1181	72	25	21.6	4.6	6.7	2.1	8.4	1.5
UDD16772	5027	13151	1178	1	216	17.0			NSI		
UDD16773	5029	13178	1168	53	31	24.7	5.3	7.2	1.9	12.0	1.3
UDD16773	5029	13178	1168	53	31	24.7	15.6	16.1	0.5	12.4	0.3
UDD16774	5029	13178	1168	88	39	27.9	6.0	8.7	2.7	5.0	1.9
UDD16774	5029	13178	1168	88	39	27.9	12.9	13.5	0.6	6.6	0.4
UDD16775	5046	13173	1166	18	21	34.9	7.7	9.0	1.3	8.1	0.9
UDD16775	5046	13173	1166	18	21	34.9	12.4	13.4	1.0	6.8	0.7
UDD16776	5045	13169	1168	51	205	20.0	1.9	4.2	2.3	10.1	1.6
UDD16777	5059	13170	1168	66	30	18.8	2.0	2.9	0.9	8.8	0.6
UDD16777	5059	13170	1168	66	30	18.8			NSI		
UDD16778	5065	13166	1165	6	22	44.3	29.2	30.8	1.6	13.3	1.1
UDD16779	5066	13166	1165	19	17	34.9	0.0	3.8	3.8	8.2	2.7
UDD16779	5066	13166	1165	19	17	34.9	7.9	8.7	0.8	7.1	0.5
UDD16779	5066	13166	1165	19	17	34.9	12.7	13.2	0.6	7.4	0.4
UDD16780	5068	13163	1168	84	276	17.3			NSI		
UDD16781	5074	13163	1164	1	47	17.3			NSI		
UDD16782	5076	13161	1167	57	90	6.0			NSI		

PACIFIC SIGNIFICANT INTERSECTIONS

Drill Hole #	Easting (Mine Grid)	Northing (Mine Grid)	Drill hole collar RL (Mine Grid)	Dip (degrees)	Azimuth (degrees, Mine Grid)	End of hole depth (m)	Downhole From (m)	Downhole To (m)	Downhole Intersection (m)	Au (gpt) uncut	Est True Thickness (m)
UDD16783	**5071**	**13159**	**1166**	**28**	**192**	**13.8**	**0.7**	**6.2**	**5.5**	**12.9**	**3.9**
UDD16784	5071	13159	1163	-16	195	15.8			NSI		
UDD16785	5050	13200	1164	-12	123	41.3			NSI		
UDD16786	5056	13199	1164	-12	123	41.3	2.7	3.5	0.8	5.6	0.6
UDD16786	5056	13199	1164	-12	123	41.3	20.2	20.7	0.5	8.1	0.4
UDD16787	5056	13201	1164	-22	79	32.3			NSI		
UDD16788	**5056**	**13201**	**1164**	**-22**	**79**	**32.3**	**5.8**	**8.3**	**2.5**	**48.2**	**1.8**
UDD16789	5054	13204	1164	-1	32	54.6			NSI		
UDD16800	5073	13163	1164	-7	21	75.2			NSI		
UDD16801	5073	13163	1164	-7	21	75.2	47.2	47.8	0.7	17.7	0.5
UDD16801	5073	13163	1164	-7	21	75.2	0.6	1.6	1.0	7.2	0.7
UDD16801	5073	13163	1164	-7	21	75.2	62.4	63.4	1.0	6.6	0.7
UDD16801	5073	13163	1164	-7	21	75.2	51.1	51.8	0.8	7.8	0.5
UDD16802	4949	13039	1179	22	8	62.2	25.0	25.5	0.5	18.6	0.3
UDD16802	4949	13039	1179	22	8	62.2	19.5	20.0	0.5	9.0	0.4
UDD16803	4961	13048	1178	15	43	77.3	29.7	30.6	0.9	35.0	0.6
UDD16803	4961	13048	1178	15	43	77.3	38.8	39.3	0.5	18.9	0.4
UDD16803	4961	13048	1178	15	43	77.3	11.5	11.8	0.3	10.5	0.2
UDD16804	4962	13048	1179	23	61	57.8	32.8	33.2	0.4	6.9	0.3
UDD16804A	4962	13048	1179	23	61	14.3			NSI		
UDD16805	4949	13038	1180	43	42	50.0	30.4	31.8	1.4	19.9	1.0
UDD16806	4949	13038	1181	45	23	47.2	32.2	33.2	1.0	8.2	0.7
UDD16806	4949	13038	1181	45	23	47.2	18.2	19.0	0.8	7.3	0.6
UDD16806	4949	13038	1181	45	23	47.2	41.3	41.7	0.4	6.8	0.3
UDD16807	4934	13048	1179	12	36	69.8	49.3	49.8	0.5	10.0	0.4
UDD16807	4934	13048	1179	12	36	69.8	46.0	46.4	0.4	9.8	0.3
UDD16808	4949	13038	1180	42	64	47.0	41.3	41.9	0.7	13.0	0.5
UDD16808	4949	13038	1180	42	64	47.0	20.8	21.5	0.8	6.2	0.5
UDD16916	12963	42189	1179	15	49	194.4			NSI		
UDD16919	**12961**	**42192**	**1180**	**17**	**88**	**138.6**	**25.5**	**27.6**	**2.2**	**30.4**	**1.5**
UDD16919	12961	42192	1180	17	88	138.6	87.6	88.0	0.4	5.2	0.2
UDD16920	12961	42194	1181	28	80	141.5	31.7	32.2	0.5	6.0	0.4
UDD16923	**12961**	**42190**	**1182**	**47**	**80**	**89.3**	**16.0**	**19.2**	**3.2**	**21.2**	**2.2**
UDD16923	12961	42190	1182	47	80	89.3	88.3	89.3	1.0	5.5	0.7
UDD15574	4994	12973	1181	36	84	110.1	21.8	24.8	3.0	10.8	2.0
UDD15574	4994	12973	1181	36	84	110.1	72.4	73.6	1.2	23.5	0.9
UDD15574	4994	12973	1181	36	84	110.1	45.0	46.0	1.0	13.6	0.8
UDD15574	4994	12973	1181	36	84	110.1	99.2	101.2	2.0	9.3	1.1
UDD15574	4994	12973	1181	36	84	110.1	35.7	36.7	1.0	7.4	0.6
UDD15785	4993	12972	1182	70	136	60.7	22.0	27.0	5.0	8.1	4.1
UDD15786	4993	12972	1182	54	107	56.2	27.2	28.2	1.0	5.7	0.7
UDD15788	4993	12971	1181	49	129	72.6	24.1	24.8	0.7	9.8	0.6

INDIAN SIGNIFICANT INTERSECTIONS

Drill Hole #	Easting (Mine Grid)	Northing (Mine Grid)	Drill hole collar RL (Mine Grid)	Dip (degrees)	Azimuth (degrees, Mine Grid)	End of hole depth (m)	Downhole From (m)	Downhole To (m)	Downhole Intersection (m)	Au (gpt) uncut	Est True Thickness (m)
UDD15762	4046	11168	1157	-47	12	163.0	4.7	6.2	1.5	7.8	1.2
UDD15763	4047	11167	1157	-41	8	182.9	8.1	12.8	4.7	6.6	4.2
UDD15763	4047	11167	1157	-41	8	182.9	2.2	2.6	0.4	20.6	0.4
UDD15764	4047	11167	1157	-46	356	164.0	1.9	6.0	4.1	5.8	3.6
UDD15764	4047	11167	1157	-46	356	164.0	7.3	7.8	0.5	6.3	0.5
UDD16038	4448	11258	1251	-52	56	108.9	9.8	10.8	1.0	6.6	0.7
UDD16038	4448	11258	1251	-52	56	108.9	13.8	14.5	0.8	5.9	0.5
UDD16038	4448	11258	1251	-52	56	108.9	38.6	40.4	1.8	10.8	1.4
UDD16038	4448	11258	1251	-52	56	108.9	60.0	61.3	1.3	15.4	1.0
UDD16052	4445	11263	1251	-49	356	177.0	28.2	29.6	1.5	16.9	1.1
UDD16052	4445	11263	1251	-49	356	177.0	42.4	42.8	0.4	17.3	0.3
UDD16056	4447	11263	1251	-52	41	102.8	58.8	61.2	2.4	23.8	1.3
UDD16056	4447	11263	1251	-52	41	102.8	15.0	15.9	1.0	13.3	0.8
UDD16056	4447	11263	1251	-52	41	102.8	22.6	22.9	0.4	9.3	0.3
UDD16056	4447	11263	1251	-52	41	102.8	29.1	29.5	0.5	5.1	0.4
UDD16191	4189	11111	1346	6	248	102.5	2.6	3.9	1.3	8.3	1.0
UDD16191	4189	11111	1346	6	248	102.5	7.0	8.0	1.0	17.6	0.8
UDD16192	4191	11111	1347	14	238	87.8	0.0	1.0	1.0	5.3	0.8
UDD16192	4191	11111	1347	14	238	87.8	6.0	6.4	0.4	9.6	0.3
UDD16192	4191	11111	1347	14	238	87.8	10.2	11.1	1.0	5.0	0.7
UDD16194	**4191**	**11111**	**1347**	**21**	**235**	**96.9**	**85.0**	**95.4**	**10.4**	**48.2**	**8.0**
UDD16194	4191	11111	1347	21	235	96.9	0.0	0.4	0.4	7.8	0.3
UDD16554	4075	11880	905	59	359	31.7			NSI		
UDD16591	4071	11061	1194	-78	208	106.7	30.9	31.2	0.3	10.1	0.2
UDD16592	4071	11060	1194	-33	209	131.8	14.7	15.0	0.3	16.8	0.2
UDD16592	4071	11060	1194	-33	209	131.8	23.8	24.1	0.3	7.1	0.2
UDD16592	4071	11060	1194	-33	209	131.8	25.2	25.9	0.7	5.1	0.5
UDD16593	4055	11041	1198	-14	206	143.8			NSI		
UDD16595	4090	11054	1194	-90	139	103.6			NSI		
UDD16595	4090	11054	1194	-90	139	103.6			NSI		
UDD16598	4110	11048	1194	-65	210	69.1			NSI		
UDD16599	4109	11047	1195	-24	208	85.8	20.0	20.3	0.3	8.2	0.2
UDD16601	4033	11074	1195	-36	212	177.2			NSI		

INDIAN SIGNIFICANT INTERSECTIONS											
Drill Hole #	Easting (Mine Grid)	Northing (Mine Grid)	Drill hole collar RL (Mine Grid)	Dip (degrees)	Azimuth (degrees, Mine Grid)	End of hole depth (m)	Downhole From (m)	Downhole To (m)	Downhole Intersection (m)	Au (gpt) uncut	Est True Thickness (m)
UDD16603	4034	11075	1195	-88	206	126.0	21.8	22.4	0.7	5.4	0.5
UDD16730	4150	11548	1063	0	9	72.1			NSI		
UDD16731	3982	11178	1158	-59	334	245.8	0.0	0.9	0.9	5.1	0.6
UDD16732	3982	11178	1158	-51	328	152.8	0.5	1.2	0.7	12.9	0.5
UDD16732	3982	11178	1158	-51	328	152.8	14.8	16.2	1.4	7.6	1.0
UDD16733	3982	11177	1158	-71	306	229.3			NSI		
UDD16734	3982	11177	1158	-58	309	242.7			NSI		
UDD16735	3982	11177	1158	-49	310	194.7			NSI		
UDD16736	3982	11178	1158	-42	310	185.8			NSI		
UDD16737	3982	11177	1158	-52	285	263.7	6.5	7.2	0.7	8.0	0.5
UDD16737	3982	11177	1158	-52	285	263.7	98.3	99.3	1.0	13.3	0.7
UDD16737	3982	11177	1158	-52	285	263.7			NSI		
UDD16738	3982	11177	1158	-46	293	232.0	7.3	7.8	0.5	5.3	0.4
UDD16738	3982	11177	1158	-46	293	232.0	79.2	81.1	1.9	10.0	1.3
UDD16738	3982	11177	1158	-46	293	232.0	86.9	87.6	0.7	8.6	0.5
UDD16738	3982	11177	1158	-46	293	232.0			NSI		
UDD15657	4214	11075	1204	-3	73	42.6	15.0	16.3	1.3	22.1	1.2
UDD15658	4214	11075	1204	6	73	59.5	55.7	56.7	1.0	14.1	0.9
UDD15659	4214	11075	1205	17	75	57.4			NSI		
UDD15897	4221	11102	1348	35	27	51.5	11.5	14.4	2.9	5.2	2.8
UDD15897	4221	11102	1348	35	27	51.5	17.4	18.4	1.0	6.5	1.0
UDD15899	4255	11062	1348	26	47	75.5	15.3	15.7	0.4	9.7	0.4
UDD15899	4255	11062	1348	26	47	75.5	41.3	42.3	1.0	6.1	1.0
UDD15900	4203	11109	1345	-33	177	48.0	4.2	4.8	0.6	9.3	0.4
UDD15901	4202	11108	1346	-10	177	59.1	6.5	7.5	1.0	8.2	0.7
UDD15903	4190	11099	1362	-20	244	54.6	0.0	1.0	1.0	15.0	0.7
UDD15904	**4190**	**11099**	**1362**	**6**	**250**	**77.1**	**62.9**	**66.9**	**4.0**	**65.8**	**2.8**
UDD15904	4190	11099	1362	6	250	77.1	2.0	3.0	1.0	5.1	0.7
UDD15907	4222	11085	1363	20	55	76.9	19.7	22.7	3.0	18.8	1.8
UDD15907	4222	11085	1363	20	55	76.9	3.0	5.0	2.0	6.2	1.5
UDD15950	4056	11099	1200	75	339	31.9	4.6	5.1	0.6	19.1	0.5
UDD15952	4058	11099	1199	32	5	38.0	2.9	3.5	0.6	6.4	0.3
UDD15953	4059	11098	1199	39	40	42.6			NSI		
UDD15954	4057	11100	1198	16	5	49.9	20.6	21.3	0.7	7.7	0.3
UDD15955	4059	11099	1198	14	33	34.0	19.2	20.2	1.0	6.2	0.8
UDD15956	4083	11073	1199	70	24	14.1	6.8	7.3	0.5	6.0	0.5
UDD15957	4092	11062	1198	46	24	20.8	0.0	0.8	0.8	14.4	0.6
UDD15957	4092	11062	1198	46	24	20.8	7.2	8.0	0.8	5.4	0.6
UDD15957	4092	11062	1198	46	24	20.8	10.0	11.0	1.0	7.0	0.4
UDD15957	4092	11062	1198	46	24	20.8	15.9	16.6	0.7	12.7	0.4
UDD15958	4039	11074	1200	56	279	35.7	25.9	27.5	1.6	9.0	1.2
UDD15959	4038	11076	1200	55	300	41.0	19.2	19.7	0.5	12.8	0.4
UDD15959	4038	11076	1200	55	300	41.0	24.2	24.9	0.7	24.0	0.6
UDD15961	4053	11066	1197	14	204	41.0	3.4	4.0	0.6	6.2	0.3
UDD15961	4053	11066	1197	14	204	41.0	10.8	12.8	2.0	11.4	0.9
UDD15962	4058	11067	1200	69	21	20.1			NSI		
UDD15963	4067	11066	1198	36	24	25.0	18.8	19.3	0.5	5.8	0.3
UDD15964	4078	11060	1199	88	63	24.5	19.3	19.8	0.5	10.9	0.4
UDD15965	4069	11071	1210	-24	209	45.2	22.1	22.4	0.3	21.3	0.2
UDD15979	4029	11080	1199	36	319	65.0	8.9	9.8	0.9	7.7	0.7
UDD15980	4031	11080	1198	22	344	99.5	7.3	8.5	1.2	11.0	0.9
UDD15980	4031	11080	1198	22	344	99.5	17.4	18.4	1.0	15.9	0.8
UDD15980	4031	11080	1198	22	344	99.5	32.0	33.0	1.0	7.5	0.8
UDD15980	4031	11080	1198	22	344	99.5	58.9	59.7	0.8	27.9	0.6
UDD15982	4031	11080	1199	40	1	59.0	12.8	13.3	0.5	11.7	0.4
UDD15982	4031	11080	1199	40	1	59.0	21.5	22.1	0.6	12.9	0.5
UDD16066	4295	11019	1375	79	327	64.0	49.9	51.9	2.0	11.3	1.7
UDD16067	**4306**	**11030**	**1378**	**70**	**351**	**48.0**	**21.0**	**24.2**	**3.2**	**22.2**	**2.6**
UDD16068	4270	10994	1372	67	355	85.8	68.9	69.9	1.0	5.1	1.0
UDD16070	4297	11018	1375	76	82	46.0			NSI		
UDD16071	4313	11033	1378	62	63	27.0	16.4	17.1	0.7	8.7	0.5
UDD16179	4105	11596	1062	61	27	21.0			NSI		
UDD16180	4103	11597	1058	3	11	23.0	3.8	4.8	1.0	14.6	0.5
UDD16180	4103	11597	1058	3	11	23.0	14.1	14.9	0.8	5.4	0.4
UDD16182	4135	11594	1055	23	350	28.9			NSI		
UDD16183	4135	11591	1059	57	340	26.4	13.8	14.8	1.0	39.8	1.0
UDD16184	4138	11592	1058	41	20	29.0			NSI		
UDD16185	4137	11590	1059	51	32	29.0			NSI		
UDD16186	4139	11592	1057	37	63	38.9	16.9	17.8	0.9	19.5	0.8
UDD16187	**4136**	**11590**	**1059**	**20**	**48**	**40.0**	**18.5**	**19.3**	**0.8**	**117.0**	**0.7**
UDD16188	4189	11112	1346	6	263	95.0			NSI		
UDD16193	4189	11112	1346	10	257	96.5	1.0	2.0	1.0	13.0	0.6
UDD16196	4189	11112	1346	15	259	99.2			NSI		
UDD16205	4327	11055	1378	-23	47	29.2	21.6	23.5	2.0	5.1	1.0
UDD16206	4327	11055	1379	-37	36	38.0	9.0	11.0	2.0	17.2	1.0
UDD16206	4327	11055	1379	-37	36	38.0	20.0	21.0	1.0	6.7	0.5
UDD16206	4327	11055	1379	-37	36	38.0	27.4	28.3	0.9	16.5	0.4
UDD16207	4311	11033	1378	-5	20	78.6	52.5	55.9	3.4	9.8	2.8
UDD16208	4311	11033	1378	-14	12	95.9			NSI		
UDD16225	4253	11062	1346	1	37	32.0	29.4	30.1	0.7	23.7	0.6
UDD16227	4255	11062	1349	57	46	27.6	18.3	19.5	1.2	16.3	1.1
UDD16227	4255	11062	1349	57	46	27.6	26.5	27.0	0.5	7.5	0.5

INDIAN SIGNIFICANT INTERSECTIONS											
Drill Hole #	Easting (Mine Grid)	Northing (Mine Grid)	Drill hole collar RL (Mine Grid)	Dip (degrees)	Azimuth (degrees, Mine Grid)	End of hole depth (m)	Downhole From (m)	Downhole To (m)	Downhole Intersection (m)	Au (gpt) uncut	Est True Thickness (m)
UDD16228	4253	11062	1346	3	120	33.4	20.4	22.4	2.0	26.8	1.6
UDD16229	4251	11063	1347	24	332	41.2	27.2	27.8	0.6	5.4	0.5
UDD16240	3985	11179	1158	-61	348	106.8	90.8	92.0	1.2	8.1	0.9
UDD16241	3985	11179	1158	-56	263	144.0	1.0	2.0	1.0	5.5	0.7
UDD16241	3985	11179	1158	-56	263	144.0	102.8	103.5	0.7	6.0	0.5
UDD16242	3985	11179	1158	-54	350	131.0	107.6	109.7	2.1	10.2	1.5
UDD16244	3985	11179	1158	-63	5	122.1	0.9	1.3	0.4	7.8	0.3
UDD16245	3985	11179	1158	-59	5	128.2	1.0	3.0	2.0	17.9	1.2
UDD16245	3985	11179	1158	-59	5	128.2	96.0	99.0	3.0	13.6	1.5
UDD16245	3985	11179	1158	-59	5	128.2	18.1	20.2	2.1	6.0	1.1
UDD16245	3985	11179	1158	-59	5	128.2	57.4	57.8	0.4	8.9	0.3
UDD16245	3985	11179	1158	-59	5	128.2	101.1	101.8	0.7	5.8	0.4
UDD16247	3985	11178	1158	-62	15	119.1	1.3	1.8	0.5	6.9	0.4
UDD16247	3985	11178	1158	-62	15	119.1	19.8	21.1	1.3	10.2	0.9
UDD16287	4579	10982	1314	0	8	21.0	0.6	1.6	1.0	8.3	0.8
UDD16288	4579	10981	1313	-1	41	42.6	5.2	6.2	1.0	7.0	0.7
UDD16288A	4579	10982	1313	-1	40	17.1			NSI		
UDD16289	4579	10981	1313	-7	47	30.0	0.6	1.3	0.7	7.2	0.5
UDD16289	4579	10981	1313	-7	47	30.0	6.3	7.6	1.3	9.0	0.9
UDD16290	4579	10982	1313	-2	28	34.7	0.8	1.1	0.3	8.1	0.2
UDD16290	4579	10982	1313	-2	28	34.7	3.0	4.2	1.2	10.1	0.8
UDD16290	4579	10982	1313	-2	28	34.7	13.4	13.8	0.4	7.0	0.3
UDD16290	4579	10982	1313	-2	28	34.7	17.4	18.5	1.2	11.2	0.8
UDD16291	4593	10970	1312	-11	45	36.8	14.6	16.2	1.7	7.0	1.2
UDD16293	4478	10993	1302	10	23	39.5	13.0	13.6	0.6	5.5	0.4
UDD16296	4478	10993	1302	10	9	98.1			NSI		
UDD16297	4477	10993	1302	7	5	108.7			NSI		
UDD16298	4479	10993	1301	7	14	98.2	39.1	40.1	1.1	8.8	0.7
UDD16299	4476	10993	1302	0	15	114.7	10.4	10.9	0.5	9.6	0.4
UDD16300	4475	10994	1302	3	6	109.9			NSI		
UDD16335	3909	11567	1004	-41	201	105.5	21.2	21.7	0.5	9.0	0.4
UDD16335	3909	11567	1004	-41	201	105.5	62.7	63.7	1.0	5.1	0.7
UDD16336	3911	11566	1004	-66	177	59.1			NSI		
UDD16337	3910	11565	1004	-44	183	78.0	23.9	24.4	0.5	23.4	0.4
UDD16337	3910	11565	1004	-44	183	78.0	33.0	33.6	0.6	7.7	0.4
UDD16337	3910	11565	1004	-44	183	78.0	41.8	42.2	0.5	5.3	0.3
UDD16337	3910	11565	1004	-44	183	78.0	52.1	54.1	2.0	8.7	1.4
UDD16338	3912	11564	1004	-39	142	58.8			NSI		
UDD16339	**4050**	**11618**	**1022**	**-20**	**198**	**154.5**	**81.2**	**82.2**	**1.0**	**101.0**	**0.7**
UDD16339	4050	11618	1022	-20	198	154.5			NSI		
UDD16339	4050	11618	1022	-20	198	154.5	109.4	110.1	0.7	10.3	0.5
UDD16339	4050	11618	1022	-20	198	154.5	130.0	130.5	0.5	9.9	0.4
UDD16341	**4107**	**11621**	**1023**	**-26**	**203**	**163.5**	**121.2**	**131.7**	**10.6**	**20.5**	**3.2**
UDD16341	4107	11621	1023	-26	203	163.5	101.5	102.5	1.0	7.2	0.7
UDD16341	4107	11621	1023	-26	203	163.5			NSI		
UDD16348	4050	11618	1021	-20	203	149.4	127.6	128.6	1.1	23.0	0.7
UDD16349	3998	11612	1015	-22	201	114.6	76.6	77.6	1.0	10.1	0.7
UDD16350	3998	11612	1015	-24	212	122.7			NSI		
UDD16400	4184	11067	1365	1	269				NSI		
UDD16401	4184	11067	1365	0	259	130.6			NSI		
UDD16402	4202	11062	1366	20	220	79.7			NSI		
UDD16403	4205	11061	1367	19	220	166.0			NSI		
UDD16406	4192	11064	1365	1	230	118.5	64.3	65.3	1.0	21.5	0.7
UDD16407	4192	11064	1365	16	229	152.8			NSI		
UDD16411	4192	11065	1367	25	234				NSI		
UDD16412	4184	11067	1367	17	246	68.0			NSI		
UDD16413	4184	11067	1365	1	244	124.2			NSI		
UDD16415	4184	11067	1367	26	251	90.1			NSI		
UDD16416	4184	11067	1365	14	258	67.7	57.3	57.9	0.7	7.4	0.5
UDD16417	4184	11067	1367	22	259	85.8			NSI		
UDD16419	4184	11067	1365	-1	278	69.6			NSI		
UDD16426	4205	11061	1366	19	211	88.4			NSI		
UDD16429	4202	11062	1367	26	221	94.5			NSI		
UDD16432	4194	11064	1366	19	220	166.0	48.4	48.7	0.3	11.7	0.2
UDD16433	4193	11064	1367	18	236	67.7			NSI		
UDD16434	4192	11064	1366	9	239	139.4			NSI		
UDD16498	4142	10964	1291	75	21	138.6			NSI		
UDD16499	4141	10963	1290	71	357	146.1	63.7	64.0	0.4	5.3	0.2
UDD16500	4141	10964	1290	69	126	30.9			NSI		
UDD16555	4331	11043	1377	-30	34	50.0	33.1	39.9	6.8	10.7	4.7
UDD16555	4331	11043	1377	-30	34	50.0	29.7	30.1	0.4	8.1	0.2
UDD16557	4337	11040	1377	-37	60	58.3	36.0	41.0	5.0	8.2	3.5
UDD16557	4337	11040	1377	-37	60	58.3	22.4	22.9	0.5	32.6	0.3
UDD16559	4337	11040	1377	-25	64				NSI		
UDD16560	4323	11066	1380	1	34	29.0	13.3	15.6	2.3	9.0	1.6
UDD16561	4323	11066	1381	37	36	30.7	16.7	17.7	1.0	5.7	0.7
UDD16561	4323	11066	1381	37	36	30.7	25.5	25.8	0.3	7.3	0.2
UDD16562	4329	11044	1377	-28	13	45.0	16.8	17.7	0.9	9.7	0.6
UDD16562	4329	11044	1377	-28	13	45.0	25.7	26.6	1.0	5.9	0.7
UDD16562	4329	11044	1377	-28	13	45.0	36.0	37.6	1.6	7.0	1.1
UDD16563	4324	11065	1379	-22	51	28.7	17.5	17.8	0.4	10.6	0.2
UDD16564	4324	11064	1382	22	58				NSI		

INDIAN SIGNIFICANT INTERSECTIONS											
Drill Hole #	Easting (Mine Grid)	Northing (Mine Grid)	Drill hole collar RL (Mine Grid)	Dip (degrees)	Azimuth (degrees, Mine Grid)	End of hole depth (m)	Downhole From (m)	Downhole To (m)	Downhole Intersection (m)	Au (gpt) uncut	Est True Thickness (m)
UDD16565	4331	11043	1378	1	27	44.0	16.2	17.6	1.4	11.0	1.0
UDD16565	4331	11043	1378	1	27	44.0	27.2	27.7	0.5	12.7	0.4
UDD16567	4336	11041	1378	1	37				NSI		
UDD16568	4106	11044	1241	18	227	42.0	11.9	12.6	0.8	9.8	0.5
UDD16568	4106	11044	1241	18	227	42.0	31.7	32.2	0.5	16.2	0.3
UDD16569	4109	11033	1241	28	227				NSI		
UDD16570	4106	11044	1241	15	241	47.0	6.1	7.1	1.0	43.2	0.7
UDD16570	4106	11044	1241	15	241	47.0	11.3	12.3	1.0	5.5	0.7
UDD16570	4106	11044	1241	15	241	47.0	15.0	15.4	0.4	5.4	0.2
UDD16571	4111	11041	1241	20	251	65.1	11.5	12.0	0.5	14.4	0.4
UDD16571	4111	11041	1241	20	251	65.1	21.4	22.1	0.7	7.1	0.5
UDD16571	4111	11041	1241	20	251	65.1	24.5	25.2	0.8	7.6	0.5
UDD16571	4111	11041	1241	20	251	65.1	52.3	52.6	0.3	14.7	0.2
UDD16703	4457	11681	1254	-44	187	224.8			NSI		
UDD16716	4123	11594	1057	35	31	35.0	15.3	15.6	0.3	5.1	0.2
UDD16717	4112	11602	1055	69	31	23.3	4.2	5.2	1.0	6.7	0.7
UDD16717	4112	11602	1055	69	31	23.3	12.0	12.6	0.6	9.7	0.4
UDD16718	4122	11595	1055	8	30	21.1	17.2	18.1	0.9	13.0	0.6
UDD16719	4128	11590	1056	5	31	32.3	21.9	22.2	0.4	15.6	0.2
UDD16720	4128	11587	1059	81	31	29.4	18.0	18.6	0.6	8.1	0.4
UDD16721	4134	11590	1055	-59	296	17.3	3.8	4.2	0.4	20.4	0.3
UDD16722	4129	11589	1055	-13	47	35.4			NSI		
UDD16723	4143	11597	1054	-82	73	16.0			NSI		
UDD16724	4151	11547	1062	-7	51	89.5			NSI		
UDD16725	4151	11547	1063	4	40	91.0			NSI		
UDD16726	4150	11548	1062	-14	40	88.0			NSI		
UDD16728	4150	11548	1063	4	18	74.9	63.2	63.9	0.7	9.3	0.5
UDD16728	4150	11548	1063	4	18	74.9			NSI		
UDD16729	4150	11547	1063	-17	18	68.1			NSI		
UDD16730	4150	11548	1063	0	9	72.1			NSI		
UDD16926	4038	11408	1047	66	109	21.5	4.5	7.8	3.4	6.8	2.3
UDD16927	4035	11414	1046	45	100	16.9	1.9	2.9	1.0	76.8	0.7
UDD16928	4034	11409	1047	64	298	14.2			NSI		
UDD16928A	11410	42186	1047	64	295	14.2	3.4	4.0	0.6	5.7	0.4
UDD16929	4033	11414	1047	81	284	14.2			NSI		
UDD16929A	11415	42187	1047	81	280	12.0	3.1	4.3	1.3	18.3	0.9
UDD16930	11405	42186	1043	-23	175	76.7			NSI		
UDD16931	11405	42188	1042	-48	188	63.7			NSI		
UDD16931	11405	42188	1042	-48	188	63.7			NSI		
UDD16932	11405	42187	1043	-26	204	73.0	18.5	19.3	0.8	19.0	0.6
UDD16932	11405	42187	1043	-26	204	73.0	63.1	63.9	0.8	5.8	0.6
UDD16982A	11003	42188	1397	28	34	43.2	27.1	28.7	1.6	17.6	1.1
UDD16983	11003	42188	1399	46	36	36.0	23.2	24.2	1.0	5.1	0.7
UDD16984	11005	42191	1396	26	33	55.0	2.5	4.5	2.0	5.9	1.4
UDD16984	11005	42191	1396	26	33	55.0	22.0	23.0	1.0	5.1	0.7
UDD16984	11005	42191	1396	26	33	55.0	24.9	25.4	0.5	16.4	0.3
UDD16985	4273	11010	1397	85	43	49.0	28.5	29.3	0.8	7.8	0.6
UDD16986	11011	42189	1395	27	36	50.0	6.5	7.4	0.9	6.2	0.6
UDD16986	11011	42189	1395	27	36	50.0	12.1	13.4	1.3	9.4	0.9
UDD16986	11011	42189	1395	27	36	50.0	30.2	30.7	0.5	22.9	0.3
UDD16987	11011	42189	1396	48	31	55.1	4.6	5.5	0.9	5.7	0.6
UDD16987	11011	42189	1396	48	31	55.1	35.9	36.2	0.3	19.9	0.2
UDD16988	11000	42192	1400	85	214	41.7			NSI		
UDD16989	11004	42189	1399	64	32	44.1	0.7	1.0	0.3	11.5	0.2
UDD16989	11004	42189	1399	64	32	44.1	20.4	20.9	0.6	6.0	0.4
UDD16989	11004	42189	1399	64	32	44.1	28.3	29.3	1.0	13.7	0.7
UDD16990	11003	42193	1400	82	29	38.2	19.4	19.9	0.5	17.2	0.3
UDD16990	11003	42193	1400	82	29	38.2	30.7	31.5	0.8	11.2	0.5
UDD16991	11005	42191	1397	36	32	48.7	4.3	6.2	1.9	6.6	1.3
UDD16991	11005	42191	1397	36	32	48.7	22.6	23.6	1.0	12.5	0.7
UDD16992	11005	42192	1396	15	33	54.6	2.4	2.9	0.5	6.6	0.3
UDD16992	11005	42192	1396	15	33	54.6	32.8	33.7	1.0	10.3	0.7
UDD16993	11001	42160	1399	76	33	45.0			NSI		
UDD16994	11010	42193	1403	79	83	21.7			NSI		
UDD15655	4214	11074	1206	42	109				NSI		
UDD15656	4214	11075	1204	11	62				NSI		
UDD16059	4445	11263	1251	-44	5	151.4	41.8	44.4	2.6	16.4	1.8
UDD16059	4445	11263	1251	-44	5	151.4	29.7	31.4	1.8	10.8	1.4

PAULSENS VOYAGER 2 SIGNIFICANT INTERSECTIONS - GRADE CONTROL AND RES DEV.											
Drill Hole #	Easting (Mine Grid)	Northing (Mine Grid)	Drill hole collar RL (Mine Grid)	Dip (degrees)	Azimuth (degrees, Mine Grid)	End of hole depth (m)	Downhole From (m)	Downhole To (m)	Downhole Intersection (m)	Au (gpt) uncut	Est True Thickness (m)
PDU3406	**8419**	**50347**	**329**	**-35**	**287**	**219.9**	**154.6**	**159.2**	**4.5**	**41.1**	**2.5**
PDU3529	8650	50362	425	-26	289	221.3	165.7	168.0	2.3	6.1	1.8
PDU3481	8443	50347	331	15	10	86.5	69.9	72.4	2.6	31.9	2.4
PDU3470	**8419**	**50347**	**329**	**-36**	**279**	**287.3**	**219.5**	**222.5**	**3.0**	**38.5**	**2.2**
PDU3527	8650	50362	425	-25	286	233.6	207.6	211.9	4.3	31.7	2.8
PDU3529	**8650**	**50362**	**425**	**-26**	**289**	**221.3**	**181.2**	**186.0**	**4.8**	**60.3**	**2.1**
PDU3348	8650	50362	425	-21	283	220.9	177.4	179.5	2.1	50.9	0.9
PDU3348	8650	50362	425	-21	283	220.9	205.0	211.4	6.4	36.9	1.6
PDU3351	8650	50362	425	-24	283	236.4	215.5	220.0	4.5	18.7	1.3
PDU3357	8650	50362	425	-19	286	194.6	143.4	146.0	2.6	6.9	1.4
PDU3360	8650	50362	425	-19	284	215.4	163.9	166.5	2.6	22.8	1.0
PDU3598	8419	50347	329	-31	276	230.1	211.4	211.9	0.5	7.3	0.2
PDU3598	8419	50347	329	-31	276	230.1	215.3	216.9	1.6	10.3	0.6
PDU3616	8424	50347	329	-30	273	385.8	314.5	318.0	3.5	6.0	1.3
PDU3643	8419	50347	329	-36	280	296.5	199.0	202.6	3.5	4.9	1.5
PDU3643	8419	50347	329	-36	280	296.5	205.9	206.6	0.7	3.9	0.3
PDU3542	8670	50529	413	-2	177	77.4			NSI		
PDU3543	8671	50529	413	-5	184	74.5			NSI		
PDU3544	8671	50529	413	-14	195	77.4			NSI		
PDU3546	8670	50528	412	-40	195	101.4			NSI		
PDU3461	8561	50365	347	3	317	103.6	71.0	74.2	3.2	11.0	3.1
PDU3461	8561	50365	347	3	317	103.6	86.0	87.0	1.0	12.5	0.9
PDU3464	8562	50365	347	13	330	89.5	61.3	62.0	0.7	2.9	0.7
PDU3466	8562	50366	347	3	344	86.5	61.0	63.8	2.8	5.5	2.6
PDU3465	8563	50365	347	8	354	83.4	71.9	72.6	0.7	9.4	0.5
PDU3372	**8561**	**50365**	**347**	**9**	**330**	**86.4**	**74.8**	**78.8**	**4.0**	**37.3**	**3.4**
PDU3369	8561	50365	347	7	339	83.3	74.9	76.0	1.1	20.8	0.9
PDU3370	8561	50365	347	15	340	80.4	69.7	72.9	3.2	7.5	2.8
PDU3395	8419	50347	329	-30	279	192.5	172.6	173.0	0.5	2.4	0.3
PDU3461	**8561**	**50365**	**347**	**3**	**317**	**103.6**	**89.4**	**91.6**	**2.2**	**46.3**	**1.9**
PDU3462	8561	50365	346	-3	317	106.7	92.3	93.9	1.6	30.3	1.4
PDU3464	8562	50365	347	13	330	89.5	74.0	76.4	2.4	21.2	2.3
PDU3466	8562	50366	347	3	344	86.5	73.2	74.8	1.6	11.9	1.5
PDU3467	8562	50365	347	0	354	88.3	74.9	76.9	2.0	7.0	1.9
PDU3468	8562	50365	347	13	330	95.5	78.3	79.0	0.7	2.9	0.6
PDU3475	8442	50347	329	15	0	80.0	66.2	67.0	0.8	13.4	0.8
PDU3458	8561	50365	346	-9	310	112.1	103.1	104.3	1.2	18.4	0.8
PDU3459	8561	50365	346	-14	310	115.7	107.5	109.0	1.5	33.4	1.1
PDU3460	8561	50365	347	-21	310	121.1	102.9	103.2	0.3	3.2	0.2
PDU3460	8561	50365	347	-21	310	121.1	109.3	112.2	2.9	3.2	2.5
PDU3485	8560	50365	347	5	310	97.7	71.5	75.9	4.5	20.9	3.9
PDU3485	**8560**	**50365**	**347**	**5**	**310**	**97.7**	**89.0**	**92.9**	**3.9**	**65.9**	**2.8**
PDU3486	8561	50366	348	12	317	95.0	66.0	67.7	1.7	15.6	1.6
PDU3486	8561	50366	348	12	317	95.0	80.4	81.3	0.9	9.5	0.9
PDU3486	8561	50366	348	12	317	95.0	82.7	84.0	1.3	15.7	1.2
PDU3487	8561	50365	348	18	330	71.2			NSI		
PDU3526	8650	50362	425	-21	286	215.4	160.6	162.9	2.3	31.5	1.2
PDU3526	8650	50362	425	-21	286	215.4	193.2	199.8	6.7	14.0	2.5
PDU3456	8561	50365	347	3	310	104.2	87.8	88.5	0.7	3.3	0.6
PDU3456	**8561**	**50365**	**347**	**3**	**310**	**104.2**	**92.7**	**95.8**	**3.1**	**37.4**	**3.0**
PDU3545	8670	50528	412	-26	195	80.0	68.5	69.0	0.5	3.7	0.4
PDU3547	8670	50529	412	-21	209	94.0	101.0	101.4	0.4	5.1	0.3
PDU3541	8672	50529	413	-10	163	76.6	63.0	66.0	3.0	2.3	2.9
PDU3548	8670	50529	412	-28	210	89.0	30.0	31.0	1.0	13.6	0.8
PDU3610	8424	50348	330	4	347	71.3			NSI		
PDU3611	8424	50348	330	347	3	71.5	59.0	60.0	1.0	7.5	0.9
PDU3612	8424	50348	330	3	6	77.3	63.9	65.6	1.7	49.3	1.4
PDU3385	8419	50348	329	-19	307	104.1	88.4	88.9	0.5	16.8	0.4
PDU3389	8422	50348	329	-10	327	80.6	67.8	69.0	1.3	31.0	1.1
PDU3613	8424	50348	330	-13	6	77.1	61.8	63.5	1.7	8.5	1.3
PDU3622	8583	50387	346	28	18	74.4	64.0	65.0	1.0	3.4	0.8
PDU3623	8583	50387	346	27	321	62.5	54.1	55.0	0.9	2.0	0.7
PDU3626	8582	50387	346	23	311	74.0	53.4	54.3	0.9	1.8	0.7
PDU3628	8570	50384	346	21	306	81.0	55.5	56.1	0.6	5.5	0.5
PDU3629	8570	50384	346	17	301	89.4	59.1	60.7	1.6	9.2	1.4
PDU3630	8570	50384	346	25	296	83.2	67.0	68.0	1.0	7.1	0.7
PDU3631	8570	50384	346	22	289	95.2	75.0	75.6	0.6	6.7	0.5
PDU3412	8484	50396	326	-13	305	62.4	50.7	53.8	3.2	19.7	1.8
PDU3414	8484	50396	326	-22	305	73.3	55.0	63.2	8.2	16.5	4.0
PDU3415	8484	50396	326	-14	322	53.5	43.4	48.1	4.7	8.0	3.4
PDU3415	8484	50396	326	-14	322	53.5	49.0	49.5	0.5	8.3	0.4
PDU3417	8484	50396	326	-25	322	59.5	51.1	53.5	2.4	37.1	1.8
PDU3419	8484	50396	326	-38	322	74.4	59.5	60.0	0.5	2.1	0.4
PDU3421	8484	50396	326	-16	340	49.2	41.8	43.1	1.3	16.5	1.2
PDU3422	8484	50396	326	-28	340	52.9	41.3	42.0	0.7	3.9	0.6
PDU3422	8484	50396	326	-28	340	52.9	43.2	45.6	2.4	29.1	0.7
PDU3423	8573	50384	343	-31	342	74.6	61.4	63.4	2.0	2.3	1.8
PDU3424	8572	50384	343	-41	329	97.8	65.6	66.1	0.5	7.4	0.4
PDU3424	8572	50384	343	-41	329	97.8	71.0	74.4	3.4	4.6	2.8
PDU3424	8572	50384	343	-41	329	97.8	77.8	78.4	0.6	3.7	0.5
PDU3427	8572	50384	343	-27	309	122.1	87.6	88.3	0.7	1.8	0.6
PDU3429	8572	50384	343	-34	305	140.3	91.0	92.0	1.0	5.3	1.0

PAULSENS VOYAGER 2 SIGNIFICANT INTERSECTIONS - GRADE CONTROL AND RES DEV.											
Drill Hole #	Easting (Mine Grid)	Northing (Mine Grid)	Drill hole collar RL (Mine Grid)	Dip (degrees)	Azimuth (degrees, Mine Grid)	End of hole depth (m)	Downhole From (m)	Downhole To (m)	Downhole Intersection (m)	Au (gpt) uncut	Est True Thickness (m)
PDU3429	8572	50384	343	-34	305	140.3	96.0	99.4	3.4	7.4	2.9
PDU3429	8572	50384	343	-34	305	140.3	125.4	126.4	1.0	35.6	0.8
PDU3430	8484	50396	326	-40	351	62.6	48.6	50.4	1.8	25.0	1.7
PDU3431	8489	50396	326	-22	14	50.3	39.8	41.7	1.9	2.2	1.7
PDU3432	8489	50396	326	-10	28	53.5	44.5	46.1	1.6	27.6	1.2
PDU3627	8570	50384	346	21	312	74.0			NSI		
PDU3095	8489	50398	325	-36	44	74.4	61.6	62.2	0.7	2.4	0.6
PDU3095	8489	50398	325	-36	44	74.4	65.4	66.3	0.9	8.4	0.8
PDU3271	8425	50348	329	-27	7	116.8	94.5	96.0	1.6	14.7	1.1
PDU3271	8425	50348	329	-27	7	116.8	98.0	100.9	2.9	2.4	2.2
PDU3434	8489	50396	326	-23	36	104.6	43.9	44.6	0.7	4.5	0.6
PDU3434	8489	50396	326	-23	36	104.6	52.9	53.1	0.3	2.7	0.2
PDU3434	8489	50396	326	-23	36	104.6	53.7	54.0	0.4	2.0	0.3
PDU3434	8489	50396	326	-23	36	104.6	97.1	97.5	0.5	3.0	0.4
PDU3156	8419	50348	329	-23	301	130.4	104.4	104.8	0.4	3.6	0.3
PDU3203	8425	50348	329	-26	9	107.6	94.7	96.0	1.3	2.5	1.0
PDU3204	8419	50348	329	-25	313	113.4	88.4	91.2	2.8	28.5	2.1
PDU3297	8420	50348	329	-6	309	85.6	75.1	75.5	0.4	5.4	0.4
PDU3297	8420	50348	329	-6	309	85.6	77.3	78.0	0.7	5.6	0.6
PDU3387	8419	50348	329	-26	307	119.4	97.5	99.8	2.3	32.5	1.4
PDU3388	8419	50348	329	-30	307	131.3	108.8	110.8	2.1	46.3	1.4
PDU3391	**8422**	**50348**	**329**	**-27**	**326**	**101.3**	**81.8**	**89.0**	**7.2**	**21.0**	**5.0**
PDU3404	8424	50348	329	-23	332	95.4	80.0	85.9	5.9	19.2	4.7
PDU3472	8424	50348	329	-28	332	104.4	85.6	91.5	6.0	14.3	4.4
PDU3476	8419	50348	330	-34	332	114.0	96.3	101.3	5.0	11.5	3.5
PDU3477	**8425**	**50348**	**329**	**-25**	**340**	**101.4**	**82.4**	**87.0**	**4.7**	**34.6**	**3.6**
PDU3479	8425	50348	329	-30	340	104.4	86.4	94.0	7.6	13.2	5.4
PDU3591	8425	50348	329	-30	347	110.4	94.8	98.5	3.7	12.1	3.0
PDU3605	8425	50348	329	-29	354	104.3	92.0	96.0	4.0	20.3	2.6
PDU3638	8419	50348	329	-17	319	95.0	74.5	78.1	3.6	11.8	3.1
PDU3253	8419	50348	329	-7	319	80.4	56.2	56.5	0.3	5.4	0.3
PDU3253	8419	50348	329	-7	319	80.4	70.3	70.9	0.6	18.8	0.5
PDU3640	8419	50347	329	-33	283	230.2	179.5	182.4	2.9	8.1	1.4
PDU3642	**8419**	**50347**	**329**	**-39**	**283**	**251.3**	**223.0**	**231.1**	**8.1**	**16.0**	**3.9**
PDU3614	8424	50348	330	16	18	80.5			NSI		
PDU3624	8582	50387	346	27	311	62.3			N SI		
PDU3639	8419	50347	329	-32	279	209.1			NSI		

JORC Code, 2012 Edition – Table 1 Report: Jundee (Underground) and deep drilling at Stirling and Gateway – As at 30 June 2015

Section 1 Sampling Techniques and Data

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

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.	This deposit is sampled by diamond drilling (DD) and Reverse Circulation (RC) drilling completed by previous operators. DD - Sampled sections are generally NQ2 or BQ. Core sample intervals are defined by the geologist to honour geological boundaries ranging from 0.3 to 1.2m in length. RC - Rig-mounted static cone splitter used, with sample falling though a riffle splitter or inverted cone splitter, splitting the sample in 87.5/12.5 ratio. 12.5% Off-split retained. 87.5% split sampled using 'pipe' or 'spear' sampling tool. Generally sampled as 4m composites. 1m composites (12% split) was sent for further analysis if any 4m composite values returned a gold value > 0.1ppm or intervals containing alteration/mineralisation failed to return a significant 4m composite assay result. RC and DD sampling by previous operators are to industry standard at that time often using 1m samples after initial 4m composites. It is unknown what grade threshold triggers the 1m re-samples. The greater majority (>90%) of samples used for Reserve and Resource estimates are DD.
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	Core is aligned and measured by tape, comparing back to down hole core blocks consistent with industry practice. RC and surface core drilling completed by previous operators to industry standard at that time.
	Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' 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 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.	Diamond drilling completed to industry standard using varying sample lengths (0.3 to 1.2m) based on geological intervals, which are then crushed and pulverised to produce a ~200g pulp sub sample to use in the assay process. Diamond core samples are fire assayed (30g charge). Visible gold is occasionally encountered in core RC sampling to industry standard at the time of drilling.
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-sampling bit or other type, whether core is oriented and if so, by what method, etc.).	RC – Reverse circulation drilling was carried out using a face sampling hammer and a 130mm diameter bit Previous operators surface diamond drilling carried out by using both HQ2 or HQ3 or PQ2 (triple tube) and NQ2 (standard tube) techniques. Sampled sections are generally NQ2. Underground DD is generally NQ2 Core is routinely orientated using the ORI-shot device.
Drill sample recovery	Method of recording and assessing core and chip sample recoveries and results assessed.	RC – Approximate recoveries are sometimes recorded as percentage ranges based on a visual and weight estimate of the sample. DD – Recoveries are recorded as a percentage calculated from measured core verses drilled intervals.
	Measures taken to maximise sample recovery and ensure representative nature of the samples.	Diamond drilling practice results in high core recovery due to the competent nature of the ground. RC and diamond drilling by previous operators are to industry standard at that time.
	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.	There is no known relationship between sample recovery and grade, diamond drill sample recovery is very high.
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.	Core and chip samples have been logged by qualified Geologist to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies Percussion holes logging were carried out on a metre by metre basis and at the time of drilling. Surface core and RC logging completed by previous operators assumed to be to industry standard.
	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.	Logging is Qualitative and Quantitative and all core is photographed wet (some older core is pre-digital, photos not all reviewed). Visual estimates of sulphide, quartz and alteration as percentages

Criteria	JORC Code explanation	Commentary
	The total length and percentage of the relevant intersections logged.	100% of the drill core is logged. 100% of RC drilling is logged.
Sub-sampling techniques and sample preparation	If core, whether cut or sawn and whether quarter, half or all core taken.	DD –Resource definition Drilling uses NQ2: Core is half cut with an Almonté diamond core saw. Sample intervals are defined by a qualified geologist to honour geological boundaries. The left half is archived -Grade Control Drilling uses BQ: Whole core sampling is undertaken. Sample intervals are defined by a qualified geologist to honour geological boundaries All mineralised zones are sampled, plus associated visibly barren material in contact with mineralised zones Core is sampled on the width of the geological/mineralised structure in recognized ore zones. The minimum sample length is 0.3m while the maximum is 1.2m. Total weight of each sample generally does not exceed 5kg Following drying at 100°C to constant mass, all samples are totally pulverised in LM5's to nominally 90% passing a 75µm screen. For RC samples, all drying at 100°C to constant mass, all samples below approximately 4kg are totally pulverised in LM5's to nominally 85% passing a 75µm screen. The very few samples generated above 4kg are crushed to <6mm and riffle split first prior to pulverisation. For RC samples, No formal heterogeneity study has been carried out or nomographed. An informal analysis suggests that the sampling protocol currently in use are appropriate to the mineralisation encountered and should provide representative results. For pre-Northern Star Resources (NSR) best practice is assumed.
	If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.	RC – Cyclone mounted riffle splitter or inverted cone splitter Pre NSR RC sub sampling assumed to be at industry standard at that time.
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	Following drying at 100°C to constant mass, all samples below approximately 4kg are totally pulverised in LM5's to nominally 90% passing a 75µm screen. The very few samples generated above 4kg are crushed to <6mm and riffle split first prior to pulverisation. In 2012, Francois-Bongarcon (Agoratek International) conducted a heterogeneity studies, audit of site laboratory, and audit of plant samplers. Confirmed that the sampling protocol currently in use are appropriate to the mineralisation encountered and should provide representative results. For pre- NSR samples, best practice is assumed.
	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	Repeat analysis of pulp samples (for all sample types – diamond, RC, rock chip) occurs at an incidence of 1 in 20 samples. RC drilling by previous operators to industry standard at that time
	Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate / second-half sampling.	Field duplicates, i.e. other half of cut core, have not been routinely assayed. RC drilling by previous operators assumed to be to industry standard at that time.
	Whether sample sizes are appropriate to the grain size of the material being sampled.	Sample sizes are considered appropriate.
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.	For all drill core samples, gold concentration is determined by fire assay using the lead collection technique with a 30gram sample charge weight. An AAS finish is used to be considered as total gold Various multi-element suites are analysed using a four acid digest with an AT/OES finish RC drilling by previous operators to industry standard at the time and not reviewed for this resource
	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.	Not applicable to this report.
	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.	The QAQC protocols used include the following for all drill samples: ▪ The field QAQC protocols used include the following for all drill samples: - Commercially prepared certified reference materials (CRM) are inserted at an incidence of 1 in 30

Criteria	JORC Code explanation	Commentary
		samples. The CRM used is not identifiable to the laboratory, - QAQC data is assessed on import to the database and reported monthly, quarterly and yearly. ▪ The laboratory QAQC protocols used include the following for all drill samples: - Repeat analysis of pulp samples occurs at an incidence of 1 in 20 samples, - Screen tests (percentage of pulverised sample passing a 75µm mesh) are undertaken on 1 in 40 samples, - The laboratories' own standards are loaded into the database, - The laboratory reports its own QAQC data on a monthly basis. - In addition to the above, about 3% of samples are sent to a check laboratory. Samples for check -assay are selected automatically from holes, based on the following criteria: grade above 1gpt or logged as a mineralised zone or is followed by feldspar flush or blank. ▪ Failed standards are generally followed up by re-assaying a second 30g pulp sample of all samples in the fire above 0.1ppm by the same method at the primary laboratory. Both the accuracy component (CRM's and third party checks) and the precision component (duplicates and repeats) of the QAQC protocols are thought to demonstrate acceptable levels of accuracy and precision. QAQC protocols for Surface RC and diamond drilling by some previous operators is assumed to be industry standard.
Verification of sampling and assaying	The verification of significant intersections by either independent or alternative company personnel.	Significant intersections not verified
	The use of twinned holes.	There are no purpose drilled twinned holes
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	Primary Data imported into SQL database using semi-automated or automated data entry Hard copies of NSR and previous operators core assays and surveys are stored at site Visual checks are part of daily use of the data in Vulcan. Data from previous operators thoroughly vetted and imported to SQL database
	Discuss any adjustment to assay data.	The first gold assay is almost always utilised for any resource estimation. Exceptions occur when evidence from re-assaying and/or check-assaying dictates. A systematic procedure utilizing several re-assays and/or check assays is in place to determine when the final assay is changed from the first gold assay. Some minor adjustments have been made to overlapping 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 in Mineral Resource estimation.	Collar positions are recorded using conventional survey methods based on Leica TS15 3" total stations and Trimble R10 GNSS instruments. The location of each station is referenced to statewide network of Standard Survey Marks (SSM) established and coordinated by the Department of Land Administration (W.A Government). Where regional drill hole positions are distant from the SSM network the world wide Global Navigational Satellite System (GNSS) network is used. Positional checks are carried out using a combination of existing known positions (usually based on prominent landmarks) and grid referenced information such as ortholinear rectified photogrammetry based on the Australian Map Grid 1984 (AMG84_51). Collar coordinates are recorded in AMG84 or Local Jundee Grid (JUNL2) dependant on the location and orientation of ore-bodies. Cross checks were made on the survey control points and data in June 2005. Collar information is stored in both local coordinates and AMG84 coordinate in the drilling database. In-mine drill-hole collars are normally accurate to 10 cm. Multi shot cameras and gyro units were used for down-hole survey. Previous drilling have been set-out and picked up in both national and local grids using a combination of GPS and Survey instruments, and are assumed to be to industry standards
	Specification of the grid system used.	Collar coordinates are recorded in AMG84 Zone 51 (AMG GN) and Local Jundee Grid (JUNL2) dependant on the location and orientation of ore-bodies. The difference between Jundee mine grid (GN) and magnetic north (MN) as at 31 December 2011 is 39° 35' 00" and the difference between magnetic north (MN) and true north

Criteria	JORC Code explanation	Commentary
		(TN) is 1° 34' 30". The difference between true north (TN) and AMG84 Zone 51 (AMG GN) is 1° 02' 47". The difference between true north and GDA is zero.
	Quality and adequacy of topographic control.	Topographic control is from Digital Elevation Contours (DEM) 2010, 1m contour data and site surveyed pit pickups.
Data spacing and distribution	Data spacing for reporting of Exploration Results.	All Reserves are based on a maximum drill hole spacing of 40m x 40m and all Resources are based on a maximum of 80m x 80m.
	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.	Reserves are generally based on 20m x 20m drilling up to a maximum of 40m x 40m. Resources are generally based on 40m x 40m drilling up to a maximum of 80m x 80m. The data spacing and distribution is sufficient to establish geological and/or grade continuity appropriate for the Mineral Resource and classifications to be applied.
	Whether sample compositing has been applied.	Core is sampled to geology; sample compositing is not applied until the estimation stage. RC samples initially taken as 4m composites to be replaced by 1 m samples if any 4m composite values returned a gold value > 0.1ppm or intervals containing alteration/mineralisation failed to return a significant 4m composite assay result. No RC samples greater than 1m were used in estimation.
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 orientation of sampling is generally perpendicular to the main mineralisation trends. The orientation achieves unbiased sampling of all possible mineralisation and the extent to which this is known.
	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 drill orientation to mineralised structures biases the number of samples per drill hole. It is not thought to make a material difference in the resource estimation. As the opportunity arises, better angled holes are infill drilled.
Sample security	The measures taken to ensure sample security.	All samples are selected, cut and bagged in tied numbered calico bags, grouped in larger tied plastic bags, and placed in large sample cages with a sample submission sheet. The cages are either sent to the site laboratory or are transported via freight truck to Perth, with consignment note and receipted by external and independent laboratory All sample submissions are documented and all assays are returned via email. Sample pulp splits from the site lab are stored at the Jundee mine site and those from the Newburn Lab in Perth are stored at the Newburn Lab. Pre NSR operator sample security assumed to be similar and adequate.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	In 2006, Maxwell conducted an audit of all Jundee data. In 2012, Francois-Bongarcon (Agoratek International) conducted a heterogeneity studies, audit of site laboratory, and audit of plant samplers. Both audits found the sampling techniques and data to be adequate. All recent NSR sample data has been extensively QAQC reviewed both internally and externally. Pre NSR data audits found to be minimal in regards to QAQC though in line with industry standards of the time

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 interests, historical sites, wilderness or national park and environmental settings.	The Jundee project consists of tenements comprising 62 mining leases and 1 general purpose lease, covering a total area of approximately 57,422.2 Ha. All are registered in the name of Northern Star Resources Limited. The project also includes 23 miscellaneous licences, 3 groundwater licenses, a pipeline license, and the Jundee Pastoral Lease. These cover the bore fields, roads, airstrip, and gas pipeline. There are numerous access agreements in place including access rights over part of Mark Creasy's mining lease 53/193 which lies contiguous to and beneath the general purpose lease on which the Jundee gold mine processing plant is located. There are no heritage issues with the current operation. The majority of the Jundee leases are granted Mining Leases prior to 1994 (pre Mabo) and as such Native Title negotiations are not required. During 2004, two agreements where struck between Ngaanyatjarra Council (now Central Desert native Title Services (CDNTS)) and NYO, these agreements being the Wiluna Land Access Agreement 2004 and the Wiluna Claim Heritage Agreement 2004.
	The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.	All leases and licences to operate are granted and in the order for between 3 and 20 years.
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	Data relevant to this resource was predominantly NSR (Northern Star Resources), who have operated the mine since1 July, 2014. The Jundee/Nimary Deposits were discovered in the late 1980's/early 1990's after LAG and soil sampling by Mark Creasy (Jundee) and Hunter Resources (Nimary) identified large surface gold anomalies. The deposits were drilled out over the following years by Eagle Mining (which took over Hunter Resources), and Great Central Mines (which formed a joint venture with Creasy and later purchased his share). Open pit operations commenced in mid-1995, with the first gold poured in December 1995. Great Central Mines assumed full control of the field with its successful takeover of Eagle Mining in mid-1997. Great Central Mines was later taken over by Normandy in mid-2000, which in turn was taken over by Newmont in early-2002. All previous work is accepted and assumed to industry standard at that time.
Geology	Deposit type, geological setting and style of mineralisation.	Jundee is an Archean lode-gold mineralised deposit that is part of the Northern Yandal Greenstone belt. Gold mineralisation is controlled by a brittle fracture-system, is commonly fracture-centred, and is predominantly hosted in dolerite and basalt. Mineralisation can be disseminated or vein style host.
Drill hole Information	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: o easting and northing of the drill hole collar o elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar o dip and azimuth of the hole o down hole length and interception depth o hole length.	Too many holes to practically summarise all resource drill information used. (See diagram). A summary of exploration drilling into the Jundee deeps is attached.
	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.	Exclusion of the drill information will not detract from the understanding of the report. Holes are close spaced and tightly constrained to an active mine area.
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.	Reported Exploration drill results are uncut

Criteria	JORC Code explanation	Commentary
	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.	Short intervals are length weighted
	The assumptions used for any reporting of metal equivalent values should be clearly stated.	No metal equivalents are reported
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 hole angle is known, its nature should be reported.	Due to complex mineralisation geometry and varying intercept angles the true thickness is manually estimated on a hole by hole basis
	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').	True width as well as downhole length 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.	Plan view and long section view of Jundee showing drill collars is attached.
Balanced reporting	Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	All holes related to Jundee deeps program are reported here or have been released before (ASX 12/02/2015)
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.	No other meaningful data to report
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).	Not applicable.
	Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	As part of main document

Section 3 Estimation and Reporting of Mineral Resources

(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

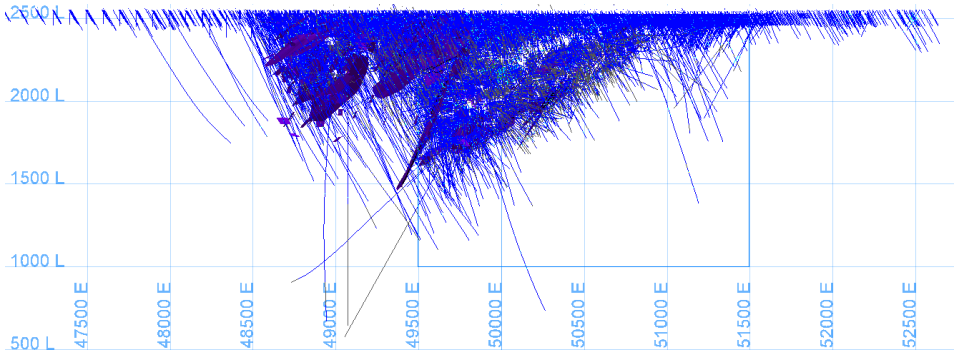
Criteria	JORC Code explanation	Commentary
Database integrity	Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.	NSR (Northern star Resources) sampling and logging data is digitally entered into a tablet then transferred to an SQL based database. There are checks in place to avoid duplicate holes and sample numbers. Where possible, raw data is loaded directly to the database from lab, logging and survey derived files. Pre NSR data considered correct.
	Data validation procedures used.	Pre NSR data has been partially validated by internal database administrators.
Site visits	Comment on any site visits undertaken by the Competent Person and the outcome of those visits.	The competent person for this resource report has worked on site for extensive periods between 2005 and 2010.
	If no site visits have been undertaken indicate why this is the case.	Site visits have been undertaken.
Geological interpretation	Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.	The interpretation of the deposit was carried out using a systematic approach to ensure continuity of the geology and estimated mineral resource using Vulcan software. The confidence in the geological

Criteria	JORC Code explanation	Commentary
		interpretation is relatively high, though a certain degree of uncertainly always remains due to the structurally complex and nuggetty nature of the orebody on a local scale. The confidence is supported by all the information and 18 years of open pit and underground operations.
	Nature of the data used and of any assumptions made.	All available geological data was used in the interpretation including mapping, drilling, oxidation surfaces, and underground style high grade ore zone interpretations.
	The effect, if any, of alternative interpretations on Mineral Resource estimation.	No alternative interpretations have been completed or put forward.
	The use of geology in guiding and controlling Mineral Resource estimation.	Drill core logging, pit mapping, and underground mapping used to create 3D constrained wireframes.
	The factors affecting continuity both of grade and geology.	Continuity of the grade varies significantly, though the lodes with the greatest continuity are generally sub-parallel to the dolerite and basalt packages in which they are hosted. Splays or link lodes coming off of this main trend tend to have a shorter continuity.
Dimensions	The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.	Mineralised zones are narrow, with true width ranging from 0.3 to 1m, but can be up to 5m. They are extensive along strike and down dip, up to 1000m and 500m, respectively, but are often highly discontinuous, and generally have a tabular geometry. Depth = surface to ~1770mRl (~780m below surface)
Estimation and modelling techniques.	The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.	Domains are set by grouping lodes as dictated by their structural setting, geological mineralisation and statistical characteristics. The raw data is subdivided into domains based on geological controls and further analysed for correlation and similarity using statistics. The purpose of this analysis is to determine further domaining of the data for variographic purposes (by combining groups of lodes). Seam compositing (from hanging wall to footwall) of drill-hole samples is almost exclusively used. A very small proportion of UG lodes, which exhibit a wider disseminated style of mineralisation, use a nominal 1 meter downhole composite. Detailed exploratory data analysis is carried out on each deposit, using Snowden Supervisor software. The majority of the Resource is estimated using ordinary kriging (OK) and multiple indicator kriging (MIK). A minor proportion of the Resource is estimated using inverse distance squared (ID2). The estimation type used is dictated by the dataset size of the domain. Vulcan software was used for data compilation, domain wireframing, calculating and coding composite values, estimating and reporting. Maximum distance of extrapolation from data points was statistically determined and varies by domain. Blockmodel volumes were compared to wireframe volumes to validate sub-blocking Where OK or ID2 estimates were used, treatment of extreme high grades were dealt with by using a cap grade strategy.
	The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.	Reconciled historical production from underground operations is comparable with new estimate
	The assumptions made regarding recovery of by-products.	No assumptions are made and only gold is defined for estimation.
	Estimation of deleterious elements or other non-grade variables of economic significance (e.g. sulphur for acid mine drainage characterisation).	No deleterious elements estimated in the model
	In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.	All underground models use a seam modelling methodology where the parent block size is 2.5m in strike, 1m in RL, and a variable width constrained by the width of the vein in the across strike direction. Sub-block sizes are 2.5m in strike, 1m in RL, and 0.2m across strike direction The use of seam models is more amenable for narrow vein mineralisation and gives greater flexibility in manipulating models for mining dilution. Reserves are generally based on 20m x 20m drilling up to a maximum of 40m x 40m. Resources are generally based on 40m x 40m drilling up to a maximum of 80m x 80m.
	Any assumptions behind modelling of selective mining units.	A 2.5m minimum mining width for underground environment is assumed.

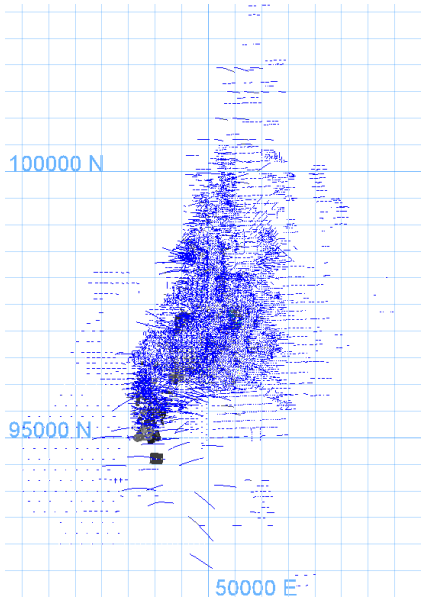
Criteria	JORC Code explanation	Commentary
	Any assumptions about correlation between variables.	There is no correlation between variables.
	Description of how the geological interpretation was used to control the resource estimates.	"Mineralised" wireframes are created within the geological shapes based on drill core logs, mapping and grade. Low grades can form part of an ore wireframe. Estimations are constrained by the interpretations.
	Discussion of basis for using or not using grade cutting or capping.	Top Cuts were determined by a range of statistical techniques including: • Analysis of Histogram, Log-probability and Mean- CV plots • Contained metal plots: assessment of contribution of the highest values on the quantity of metal in an estimate • Coefficient of Variation plots: analysis of impact topcuts have on the CV A range of top cuts are then selected for each domain utilising the above strategies and an appropriate top cut chosen subsequent to further examination in order to assess sensitivity of selected cap grades and associated risk. Metal estimated in the resource models are finally reconciled with production models of like areas to determine the appropriateness of the high grade treatment on the assays. No top cutting or capping of high grades is done at the raw sample or compositing stage For OK and ID2, treatment of the high grade assays occurs at the estimation stage. In MIK estimation this occurs in the form of the grade assigned to the highest indicator bin. Topcuts vary by domain and range from 20gpt – 2,000gpt
	The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.	The Mineral Resource estimate was validated using processes that are based on a combination of visual, graphical and reconciliation style validations summarised as: - Visual validation of the lode and lithology coding of both the composite data and the block model. - Comparison of lode wireframe volumes to block model volumes - Visual validation of Mineral Resource estimate against composite data in plan, section, and in 3D. - Sensitivity to top-cut values: a variety of top-cuts are estimated and compared to themselves and to the un-cut nearest neighbour estimate at a variety of cut-offs. - Comparison of nearest neighbour, inverse distance squared, and ordinary kriged estimates to the final estimate (generally OK or MIK). These comparisons are conducted through visual validation and trend analysis along Northing, Easting, and RL slices. - Comparison with previous Mineral Resource estimates. Global, level and lode tonnages and grades, at various elemental cut-offs were compared, and, given the changes in support data, were considered to be consistent; - Comparison of Mineral Resource estimate versus grade control models. Local underground GC models are produced using, in addition to the diamond drillholes used in the Mineral Resource estimate, face chip and drive mapping data. These comparisons are done on a level basis at various cut-offs. - Statistical comparison of composites versus all estimates in block model: trend analysis plots for each domain are produced by Northing / Easting / RL. The Mineral Resource estimate generally shows a reasonably reflection of the composites where there are high numbers of composites used in the estimate. When the numbers of samples reduce the accuracy of the estimation suffers and a more significant deviation is noted between the Mineral Resource estimate and associated composite data. These deviations are taken into account when assigning a resource classification.
Moisture	Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	Tonnages are estimated on a dry basis. Moisture content within the ore is expected to be low.
Cut-off parameters	The basis of the adopted cut-off grade(s) or quality parameters applied.	Jundee undertook preliminary design analysis to assess reasonable prospects for economic extraction for declaration of Mineral Resources, using actual costs from the mining operations. These costs are based on a twelve month average of actual site costs.

Criteria	JORC Code explanation	Commentary
Mining factors or assumptions	Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.	Jundee undertook preliminary design analysis to assess reasonable prospects for economic extraction for declaration of Mineral Resources, using actual costs from the mining operations and minimum mining widths of 2.5 m. These costs are a twelve month average of actual site costs.
Metallurgical factors or assumptions	The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.	Assumed that material will be trucked and processed in the Jundee Mill. Recovery factors vary for the various mining areas and are based on lab testing and on-going operational experience. No Metallurgical assumptions have been built or applied to the resource model
Environmental factors or assumptions	Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.	Jundee currently possesses all necessary government permits, licenses and statutory approvals in order to be compliant with all legal and regulatory requirements.
Bulk density	Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.	Bulk density values used were based on an updated study of the average lithological densities across the mine site completed in 2013. This study consisted of a detailed statistical analysis of 72,634 measurements that have been recorded from all underground deposits. These values are also in agreement with over 10 years of production data.
	The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc.), moisture and differences between rock and alteration zones within the deposit.	Bulk density measurements are taken daily using the water displacement technique. One bulk density measurement is taken for each lithology in every hole every day. An attempt is made to collect a bulk density measurement from every mineralised zone and each lithology represented in drill hole core. A total of 72,634 bulk density measurements have been taken.
	Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.	Individual bulk densities are applied in accordance with specific lithologies, mineralisation, and weathering states.
Classification	The basis for the classification of the Mineral Resources into varying confidence categories.	Measured resources are defined from grade control models based on geological mapping and surveyed ore outlines in development drives, diamond drillholes and face samples which are imported into Vulcan and modelled in 3D. Indicated resources are defined by drilling which is generally 20m x 20m and may range up to 40m x 40m maximum. Lodes classified as Indicated are supported by a minimum of 5 face chip or Diamond drill holes. Inferred resources are defined on a nominal 40m x 40m drilling pattern and may range up to 80m x 80m. Resources based on less than 40m x 40m spaced drilling, but which have a low level of confidence in the geological interpretation may also be classified as inferred.
	Whether appropriate account has been taken of all relevant factors (i.e. relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).	Input and geological data is assumed accurate backed up by previous successful mining history at the site on this mineralisation.
	Whether the result appropriately reflects the Competent Person's view of the deposit.	This mineral resource estimate is considered representative with comments noted in the discussion below.
Audits or reviews	The results of any audits or reviews of Mineral Resource estimates.	The Mineral resource estimates, methodology and systems have been subject to one external review through NSR and four internal audits by previous operators and senior technical personnel over the last 10 years.
Discussion of	Where appropriate a statement of the relative accuracy and confidence level in the	This mineral resource estimate is considered as robust and representative of the Jundee mineralisation with local

Criteria	JORC Code explanation	Commentary
relative accuracy/ confidence	Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.	estimates considered variable in nature. The application of geostatistical methods has supported to increase the confidence of the model and quantify the relative accuracy of the resource on a global scale and against actual production reconciliation
	The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.	This resource report relates to the Jundee deposit and is likely to have local variability. The global assessment is a better reflection of the average tonnes and grade estimate, further supported and reconciled against actual mine production.
	These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.	Comparison with previous Mineral Resource estimates and production data was undertaken. Global, level and lode tonnages and grades, at various elemental cut-offs were compared, and, given the changes in support data, were considered to be consistent.



Long Section – Jundee mine area drillhole traces and mineralised domains.



Plan View – Jundee drillhole collars

Section 4 Estimation and Reporting of Ore Reserves

(Criteria listed in section 1, and where relevant in sections 2 and 3, also apply to this section.)

Criteria	JORC Code explanation	Commentary
Mineral Resource estimate for conversion to Ore Reserves	Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve.	Reported ore reserve based on numerous Resource and Grade Control models.
	Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.	Mineral Resources are reported inclusive of the Ore Reserves
Site visits	Comment on any site visits undertaken by the Competent Person and the outcome of those visits.	Site Visits are common along with actual work being based at Jundee site.
	If no site visits have been undertaken indicate why this is the case.	Familiarity with the minesite and historical performance was considered sufficient information to provide the Reserve Estimate.
Study status	The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.	Detailed mine design and costing based upon ongoing mine performance.
	The Code requires that a study to at least Pre-Feasibility Study level has been undertaken to convert Mineral Resources to Ore Reserves. Such studies will have been carried out and will have determined a mine plan that is technically achievable and economically viable, and that material Modifying Factors have been considered.	This is a current and operating mine with no material Modifying Factors considered
Cut-off parameters	The basis of the cut-off grade(s) or quality parameters applied.	All stopes were evaluated on an incremental basis, with a fully costed break even cut-off grade of approximately 3.5gpt.
Mining factors or assumptions	The method and assumptions used as reported in the Pre-Feasibility or Feasibility Study to convert the Mineral Resource to an Ore Reserve (i.e. either by application of appropriate factors by optimisation or by preliminary or detailed design).	Stope shapes were created manually, with a minimum stope mining width of 2.5m.
	The choice, nature and appropriateness of the selected mining method(s) and other mining parameters including associated design issues such as pre-strip, access, etc.	Deemed appropriate due to ongoing successful implementation of design assumptions on site.
	The assumptions made regarding geotechnical parameters (e.g. pit slopes, stope sizes, etc.), grade control and pre-production drilling.	2.5m minimum mining width (stopes) and 85% stope mining recovery to account for internal pillars, in line with historical performance.
	The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate).	2.5m minimum mining width for stopes.
	The mining dilution factors used.	. A 15% tonne dilution factor was used for development.
	The mining recovery factors used.	85% where stope pillars have not been incorporated into the design and 100% for detailed design where pillars have been taken into account.
	Any minimum mining widths used.	The minimum mining width for stopes is 2.5m.
	The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.	Inferred material is included within the mine plan, however material is only classified as Reserve when the Reserve material is able to cover all fixed and variable costs associated with the mining of that material (including capital).
	The infrastructure requirements of the selected mining methods.	Typical underground capital development, in addition to camp, workshop, office, water bores, ROM pad and mill which are already in place.
Metallurgical factors or assumptions	The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.	Material will be trucked and processed in the existing Jundee Mill which is a standard CIP plant with gravity circuit, operating since 1995.
	Whether the metallurgical process is well-tested technology or novel in nature.	Well tested technology.

Criteria	JORC Code explanation	Commentary
	The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.	Recovery factors vary for the various mining areas and are based on lab testing and on-going operational experience. Recoveries can range from 87% up to 95% with an average 92.5% on blended feed. Historical processing further supports this.
	Any assumptions or allowances made for deleterious elements.	No allowances made and considered immaterial to the mineralisation reported.
	The existence of any bulk sample or pilot scale test work and the degree to which such samples are considered representative of the orebody as a whole.	All mineralisation systems have significant bulk drillcore testwork undertaken prior to mining and current resource/reserves have a history of operational experience
	For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications?	Yes
Environmental	The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterisation and the consideration of potential sites, status of design options considered and, where applicable, the status of approvals for process residue storage and waste dumps should be reported.	Jundee currently possesses all necessary government permits, licenses and statutory approvals in order to be compliant with all legal and regulatory requirements.
Infrastructure	The existence of appropriate infrastructure: availability of land for plant development, power, water, transportation (particularly for bulk commodities), labour, accommodation; or the ease with which the infrastructure can be provided, or accessed.	As the Jundee mine has been operating for a number of years, all required surface infrastructure is already in place to facilitate mining and processing.
Costs	The derivation of, or assumptions made, regarding projected capital costs in the study.	All capital costs have been estimated based upon projected requirements and experience of costs incurred through similar activities in the past.
	The methodology used to estimate operating costs.	The operating cost estimates are based upon historical costs incurred over previous periods.
	Allowances made for the content of deleterious elements.	No, none expected
	The derivation of assumptions made of metal or commodity price(s), for the principal minerals and co- products.	Revenue was based on a gold price $1,400 (AUD)
	The source of exchange rates used in the study.	Based upon an internal technical and economic analysis.
	Derivation of transportation charges.	Mining and Haulage costs are based on historical costs incurred in the previous cost periods.
	The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.	Processing costs are based on historical processing data from the plant at Jundee.
	The allowances made for royalties payable, both Government and private.	WA State Govt royalty of 2.5%
Revenue factors	The derivation of, or assumptions made regarding revenue factors including head grade, metal or commodity price(s) exchange rates, transportation and treatment charges, penalties, net smelter returns, etc.	N/A
	The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.	Revenue was based on a gold price of AUD $1,400 (which is seen as representative of current economic forecasts for the period)
Market assessment	The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future.	All product is sold direct at market prices.
	A customer and competitor analysis along with the identification of likely market windows for the product.	N/A
	Price and volume forecasts and the basis for these forecasts.	N/A
	For industrial minerals the customer specification, testing and acceptance requirements	N/A

Criteria	JORC Code explanation	Commentary
	prior to a supply contract.	
Economic	The inputs to the economic analysis to produce the net present value (NPV) in the study, the source and confidence of these economic inputs including estimated inflation, discount rate, etc.	All costs assumptions are made based on historical performance from the plant and quotes from experienced mining contractor. The economic forecast is seen as representative of the current market condition, with an assumed discount rate of 8%.
	NPV ranges and sensitivity to variations in the significant assumptions and inputs.	The revised business plan, based on the updated reserves is still in progress, regarding NPV ranges. Jundee reserves are relatively insensitive to gold price fluctuations due to the higher grade nature of the mineralised systems.
Social	The status of agreements with key stakeholders and matters leading to social licence to operate.	Agreements are in place and are current with all key stakeholders including traditional land owner claimants.
Other	To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves:	
	Any identified material naturally occurring risks.	None
	The status of material legal agreements and marketing arrangements.	None
	The status of governmental agreements and approvals critical to the viability of the project, such as mineral tenement status, and government and statutory approvals. There must be reasonable grounds to expect that all necessary Government approvals will be received within the timeframes anticipated in the Pre-Feasibility or Feasibility study. Highlight and discuss the materiality of any unresolved matter that is dependent on a third party on which extraction of the reserve is contingent.	A current operating operation with all government and third party approvals in place for the stated reserves.
Classification	The basis for the classification of the Ore Reserves into varying confidence categories.	All Ore Reserves include Proved (if any) and Probable classifications
	Whether the result appropriately reflects the Competent Person's view of the deposit.	The results appropriately reflect the Competent Persons view of the deposit
	The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).	Negligible.
Audits or reviews	The results of any audits or reviews of Ore Reserve estimates.	The Ore Reserve has been prepared and peer reviewed internally within Northern Star Resources
Discussion of relative accuracy/ confidence	Where appropriate a statement of the relative accuracy and confidence level in the Ore Reserve estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the reserve within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors which could affect the relative accuracy and confidence of the estimate.	Confidence in the reserve is high based on current industry practices and actual operating costs.
	The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.	The reserves are best reflected as Global estimates.
	Accuracy and confidence discussions should extend to specific discussions of any applied Modifying Factors that may have a material impact on Ore Reserve viability, or for which there are remaining areas of uncertainty at the current study stage.	Not applicable as the mine is currently in operation with appropriate licences in place
	It is recognised that this may not be possible or appropriate in all circumstances. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.	Reconciliation results from past mining at Jundee has been considered and factored into the reserve assumptions where appropriate.

JORC Code, 2012 Edition – Table 1 Report: Kanowna Belle Underground Resource (30 June 2015) and Velvet Drill Results August 2015

Section 1 Sampling Techniques and Data

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

Criteria	JORC Code explanation	Commentary
Sampling techniques	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.	The deposit is sampled in majority by diamond drilling with the addition of reverse circulation drilling. Sample intervals are defined by the geologist to honour geological boundaries. Diamond drill core was fitted together at breaks, measured and then sampled by cutting the core in half longitudinally using an "Almonte" diamond saw. Cutting was along orientation lines, which are retained in the tray or where orientation lines are absent along cutting lines marked on the pieced together core.
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	Sample intervals were marked on the core by a geologist typically every 1m. Where significant changes to the geology were encountered the sample boundary was marked there. Sample interval lengths were usually kept between 0.3m and 1.2m (NQ). The same half of the core was selected for each sample interval and placed in numbered calico bags and submitted to the laboratory for analysis. The other half of the core was left in the core tray which was stamped for identification, stored and catalogued. A minor amount of infill or grade control drilling was submitted as whole core Due to the refractory nature of the mineralisation there is very little free, coarse gold. It is considered that the half core samples submitted for assay are representative of the ore being sampled.
	Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.	The main assaying method employed by the company is normal fire assay with a 40 or 50g charge and AAS analysis for Au. All sampling data was entered onto logging sheets or tablet computer and entered into the central acquire database. Some historic RC holes from surface and the pit were also used for resource estimation. These holes typically have 2m sample intervals.
Drilling techniques	Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).	Kanowna Belle Resource: 679 RC holes and 3222 diamond holes were used for estimation. Diameters for the diamond holes were mostly NQ (50.5mmm) with some BQ, HQ and LTK60. Depth of diamond tails are generally 20-30m. Velvet: Diamond drilling (HQ and NQ2 diameter drill core) Where appropriate diamond core was orientated using a spear, Ballmark™, Ezimark™, or ACE multi electronic tool
Drill sample recovery	Method of recording and assessing core and chip sample recoveries and results assessed.	Core recovery factors for core drilling were generally very high with in excess of 95% recovery. Reverse circulation recovery was also recorded and was good to very good. Historic diamond drilling stored onsite shows excellent recovery.
	Measures taken to maximise sample recovery and ensure representative nature of the samples.	For diamond drilling the contractors adjust their rate of drilling and method if recovery issues arise. All recovery is recorded by the drillers on core blocks. This is checked and compared to the measurements of the core by the geological team. Any issues are communicated back to the drilling contractor. Some loss occurred when drilling through fault zones such as the Kanowna Belle's Fitzroy Fault. Areas of potential lower recovery were generally known beforehand and controlled drilling techniques were employed to maximize recovery.
	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.	The is no known relationship between recovery and grade
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 diamond core was inspected by geologists; lithology, mineralisation, structure, alteration, veining and specific gravity were recorded. Quantitative measures were also recorded where possible such as structural measurements, intensity of alteration, percentage of mineralisation, thickness of veins and veins per metre. Geotechnical measurements on diamond core include RQD, Recovery, and Fracture Frequency. Prior to Apr-12; Joint sets, infill, infill thickness and roughness were also geotechnically measured. Photographs are taken of

Criteria	JORC Code explanation	Commentary
		each core tray when wet. All mineralised intersections are logged and sampled.
	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.	Logging is qualitative and all core is photographed. Visual estimates are made for mineralisation percentages for core.
	The total length and percentage of the relevant intersections logged.	100% of the drill core is logged
Sub-sampling techniques and sample preparation	If core, whether cut or sawn and whether quarter, half or all core taken.	Diamond core samples from exploration and resource definition targets are sampled by half-core on intervals controlled by geological domaining represented by mineralisation, alteration and lithology. A selected number of grade control holes were full cored. Mineralised intersections are sampled with a maximum and minimum length of 1.2m and 0.2m, respecting lithological or alteration contacts. The down hole depth of all sample interval extents are recorded.
	If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.	Development face samples are chipped directly off the face into a sample bag, aiming for sample sizes of at least 2.5kg. Samples are a maximum of 1.2m in width and are modified to honour geological boundaries. Samples are taken horizontally across the mineralisation.
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	The sample preparation is considered appropriate
	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	Most holes have all intervals sampled
	Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate / second-half sampling.	Quarter core sampling is often undertaken as a check
	Whether sample sizes are appropriate to the grain size of the material being sampled.	Grind checks are performed at both the crushing stage(3mm) and pulverising stage (75µm), requiring 90% of material to pass through the relevant size.
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.	All samples from Kanowna Belle are prepared and assayed at commercial laboratories. No Northern Star personnel are involved in the preparation or analysis procedures. Preparation involves crushing/pulverizing the entire sample to 95% minus 75µ, splitting off 200g, and preparing a 50g charge for Kanowna Belle samples. The Kanowna Belle samples are tested by fire assay with an atomic absorption finish (FA/AA) for Au, LECO for S, and inductively coupled plasma (ICP) for As and other multi-elements. Monthly QAQC reports are prepared to check for any bias or trends with conclusions discussed with the laboratory management. Holes that do not pass QAQC are not used for resource estimation.
	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 geophysical tools were used to determine any element concentrations
	Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie. lack of bias) and precision have been established.	Sampling and assaying QAQC procedures include: - Periodical resubmission of samples (umpires) to primary and secondary laboratories in Kalgoorlie (minimum >5%). - Submittal of independent certified reference material - Review of internal laboratory quality control standards - Review of laboratory (analytical) duplicates - Sieve testing to check grind size - Sample recovery checks. - Unannounced laboratory inspections Standard control samples and blanks are inserted into the sample stream at a ratio of 1:20. The samples are purchased from certified commercial suppliers and range from 0.29gpt Au to 9.85gpt Au. The standard control samples are changed on a three month rotation. The results are reviewed on a per batch basis and batches of

Criteria	JORC Code explanation	Commentary
		samples are re-analysed if the result is greater than three standard deviations from the expected result. Any result outside of two standard deviations is flagged for investigation by a geologist and may also be re-assayed. Primary laboratory Bureau Veritas meets ISO 9001:2000.
Verification of sampling and assaying	The verification of significant intersections by either independent or alternative company personnel.	All significant intersections are verified by another Northern Star geologist during the drill hole validation process, and later by a Competent person to be signed off
	The use of twinned holes.	No Twinned holes were drilled for this data set
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	All assay data adheres to Kanowna QAQC standards and is further validated by a qualified person before it can be used in the resource estimation process. All data is stored in the site Acquire database with hard copies of all logging and sample results filed for each hole. Assay files are received in csv format and loaded directly into the database by the supervising geologist who then checks that the results have inserted correctly. Hardcopy and electronic copies of these are also kept. Holes that cannot be accurately validated or do not meet the requirements of Kanowna QAQC are excluded prior to estimation.
	Discuss any adjustment to assay 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 in Mineral Resource estimation.	All holes were surveyed for collar positions. All recent diamond drill holes were surveyed down hole by various methods; including a single shot down hole camera, EMS (Electronic Multi Shot) method, or in-rod gyroscopic survey tools. Holes are typically surveyed at 15m and 30m intervals down hole thereafter. Since the 1st of June 2015, the Reflex TN14 tool is used for lining the rig and true north gyroscopic survey at 0 recorded. Any poor surveys are re-surveyed and in some cases holes have been gyroscope surveyed by ABIMS for non-magnetic affected survey. Since April 2014, a Reflex Gyro has been used on holes with a depth >500m. If survey data was missing or quality was suspect and not replaced by more recent drilling, affected data was not used in estimation. A local grid system (KBMINE grid) is used. It is rotated anticlockwise 29.16 degrees to the MGA94 grid. Drill hole collars were located by the underground mine surveyors using a Laser system, respective to the local mine grid and to the overall property in UTM or Australian grid coordinates Topographic control is not relevant to the underground mine.
	Specification of the grid system used.	
	Quality and adequacy of topographic control.	
Data spacing and distribution	Data spacing for reporting of Exploration Results.	Drill hole spacing is a nominal 40m x 40m that has been in-filled to a nominal 20m x 20m in the main zones of mineralisation at Kanowna Secondary mineralised structures in the hangingwall and footwall are typically narrower and less consistent so have a nominal spacing of 15m x 15m. The above spacing of 20x20 and 15x15 in conjunction with geological continuity and confidence is used to assign classifications of indicated plus in the resource estimation model. Samples have been composited to 1m, which is the dominant sample length, prior to estimation. The Velvet drill core results are composited into significant intersections
	Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.	The data spacing is considered appropriate
	Whether sample compositing has been applied.	No compositing has been applied to these exploration results, although composite intersections are reported.
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 majority of drilled data is perpendicular to the strike of the Kanowna orebodies. Grade continuity follows the plane of mineralisation so no bias is expected from this drilling direction
	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	Holes with orientations that are considered likely to introduce sampling bias are excluded from the estimation during the validation process. The orientation of mineralisation at the Velvet prospect is not fully understood at

Criteria	JORC Code explanation	Commentary
	and reported if material.	this point in time
Sample security	The measures taken to ensure sample security.	All core is kept within the site perimeter fence on the mining lease M27/103. Samples are dispatched and/or collected by an offsite delivery service on a regular basis. Each sample batch is accompanied with a - Job number - Number of Samples - Sample Numbers (including standards and duplicates) - Required analytical methods - A job priority rating A Chain of Custody is demonstrated by both Company and Bureau Veritas in the delivery and receipt of sample materials. Any damage to or loss of samples within each batch (e.g., total loss, spillage or obvious contamination), must also be reported to the Company in the form of a list of samples affected and detailing the nature of the problem(s)
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	The last external audit was conducted in 2009 with the conclusion that industry best practice was being followed. Standards and procedures have remained largely unchanged since this time. A review of sampling techniques, assay results and data usage was conducted internally by the companies' principal resource geologist during the model peer review process with no material issues found.

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 interests, historical sites, wilderness or national park and environmental settings.	Mines of the Kanowna Operations operate subject to the requirements of the Western Australian Mining Act 1978 and its amendments, and the Mines Safety and Inspection Act 1994, regulated by the Department of Consumer Protection (DoCEP) and the Department of Industry and Resources (DoIR). Mining leases issued by the DoIR covering mining operations stipulate environmental conditions for operation, rehabilitation, and reporting, as well as the requirement to lodge unconditional performance bonds The mine and associated infrastructure is located on granted mining leases M27/92 and M27/103. Mining lease M27/92 was granted on March 14 1988 and has an area of 972.65 ha. Lease M27/103 was granted on January 12 1989 and has an area of 944.25 ha. Both leases were granted for periods of 21 years after which they can be renewed for a further 21 years. The tenements were surveyed as part of the application process. The mining leases which contain the deposit and most of the surrounding tenement holdings are 100% owned by Northern Star Resources. The mining tenements are located on vacant crown land. The leases containing the deposit are pre-1994 leases so are not subject to Native Title claims.
	The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.	No known impediments exist and the tenements are in good standing
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	Kanowna was discovered in 1989 by Delta Gold, open pit mining commenced between 1993 and 1998 resulting in a 220m deep pit. Underground operation began in 1998. In 2002, Delta Gold Limited and Goldfields Limited merged to form Aurion Gold Limited and Placer Dome Inc. (Placer Dome) subsequently acquired Aurion Gold Limited. In 2006 Barrick Gold Corporation acquired Placer Dome and in 2014 Northern Star acquired the operation from Barrick. Exploration drilling is ongoing from underground to extend the known mineral resources.
Geology	Deposit type, geological setting and style of mineralisation.	Kanowna Belle is located within the Kalgoorlie Terrane, one of a number of elongate, broadly NNW-SSE striking structural-stratigraphic late Archaean greenstone terranes of the Eastern Goldfields of Western Australia. The Kanowna Belle gold mine is located close to the centre of the NNW-SSE trending, greenstone-dominated

Criteria	JORC Code explanation	Commentary
		Boorara Domain, the eastern most subdivision of the Kalgoorlie Terrane. The Kanowna Belle deposit can be categorised as a refractory, Archean lode-gold type deposit. The orebody is comprised of several ore shoots, including the large Lowes Shoot, and several smaller lodes including Troy, Hilder, Hangingwall and Footwall shoots controlled by sets of structures of various orientations oblique to Lowes. Lowes contains some 80% of known gold mineralisation and strikes ENE (mine grid east), dips steeply SSW, and plunges steeply SW. Lowes Shoot has a strike length of 500m, width of 5m to 50m, and down-plunge extent greater than 1250m. The overall steep SE plunge is interpreted to reflect the intersection of D1 (ENE) and D2 (NW) structures Kanowna Belle is one of the only known refractory pyritic orebodies in the Yilgarn Craton. Arsenopyrite is not a major sulphide phase. Gold in the Kanowna Belle deposit occurs mostly as fine-grained (<10 µm) inclusions in pyrite or as very fine-grained gold located in arsenic-rich growth zones in pyrite. Typical ore assemblages contain 0.5% S to 1.5% S and 40 ppm As. The Kanowna Belle deposit is hosted by sedimentary volcaniclastic and conglomeratic rocks, which are separated into hangingwall and footwall sequences by a major, steeply SSE dipping zone of structural disruption. This structure represents the product of at least three temporally distinct stages of deformation, comprising the Fitzroy Mylonite, the Fitzroy Shear Zone and the Fitzroy Fault, which have produced clear structural overprinting relations. Importantly, this structure has localised emplacement of the Kanowna Belle porphyry, which hosts at least 70% of known mineralisation. Localisation of highest grade mineralisation and most intense alteration around the composite structure emphasises its importance for acting as the major plumbing system for auriferous fluids. Formation of the Fitzroy Mylonite and Fitzroy Shear Zone are interpreted to have occurred during regional south-to-north D1 thrusting. A switch in far-field stress axes to the approximately ENE-WSW D2 orientation caused reactivation of the Fitzroy ShearZone, resulting in sigmoidal folding of pre-existing structures and formation of a shallow lineation associated with sinistral transcurrent shearing. The Kanowna Belle porphyry cross-cuts fabrics associated with the D1 Fitzroy Mylonite and Fitzroy Shear Zone and is in turn overprinted by S2
Drill hole Information	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: o easting and northing of the drill hole collar o elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar o dip and azimuth of the hole o down hole length and interception depth o hole length.	Too many holes to practically list the complete dataset, the long section and plan reflect the hole positions used for previous estimation stated. All recent Velvet drill intersections yet to be reported to the ASX are presented with this report
	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.	
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.	All reported assay results have been length weighted to provide an intersection width. A maximum of 2m of barren material between mineralised samples has been permitted in the calculation of these widths.
	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.	No assay results have been top-cut for the purpose of this report. A lower cut-off of 1gpt has been used to identify significant results, although lower results are included where a known ore zone has been intercepted, and the entire intercept is low grade.
	The assumptions used for any reporting of metal equivalent values should be clearly stated.	No metal equivalent values have been used for the reporting of these exploration results
Relationship between	These relationships are particularly important in the reporting of Exploration Results.	True widths have been calculated for intersections of the known ore zones, based on existing knowledge of the nature of these structures. The orientation of the Velvet mineralisation is not fully known at this point in time

Criteria	JORC Code explanation	Commentary
mineralisation widths and intercept lengths	If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.	Both the downhole width and true width have been clearly specified when used.
	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 plans and section have been included in this report
Balanced reporting	Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	Both high and low grades have been reported accurately, clearly identified with the drillhole attributes and 'From' and 'To' depths.
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.	Nil
Further work	The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).	KB Resource: Further mine planning work is planned for the area that is subject to the resource model.
	Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	Velvet: Because of the difficulty in targeting the mineralisation from current development, an exploration decline is in progress to better position testing of the prospect. The first drilling from the exploration development is scheduled for September 2015.

Section 3 Estimation and Reporting of Mineral Resources

(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

Criteria	JORC Code explanation	Commentary
Database integrity	Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.	The Kanowna-Belle resource data is stored in Acquire database. The Company employs a database administrator to manage the database. Data was logged onto sheets and entered directly into the database by geologists working on the project. User access logs are maintained for all fields in the dataset. Data validation tools and sign off facilities to record data cross-checking have occurred. Original data sheets and files are retained and used to validate the contents of the database against the original logging. Currently designing field level validation tools
	Data validation procedures used.	Random checks through use of the data and data validation procedure prior to resource estimation.
Site visits	Comment on any site visits undertaken by the Competent Person and the outcome of those visits.	The CP has been involved with the project in an advisory role with respect to geological modelling.
	If no site visits have been undertaken indicate why this is the case.	Site visits are conducted at least monthly to check and advise on modelling techniques and to introduce more appropriate techniques
Geological interpretation	Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.	The interpretation of the deposit was carried out using a systematic approach honouring the continuity of the geology and applying that to the estimation of the mineral resource. The confidence in the geological interpretation is high with the information gained from ore development and underground drilling. Mine to mill reconciliations add strong support to the interpretation.

Criteria	JORC Code explanation	Commentary
		Interpretations of the mineralised zones were developed from diamond drill data, and further refined with underground geological mapping. Interpretations and confining wireframes are developed using the geology related to the mineralised lode. This includes lithology, alteration, veining, structure and mineralisation. This data is sourced from geological logging of drillholes and mapping.
	Nature of the data used and of any assumptions made.	All available geological data was used in the interpretation including mapping, drillholes, 3D photogrammetry, structures.
	The effect, if any, of alternative interpretations on Mineral Resource estimation.	No alternative interpretations have been completed.
	The use of geology in guiding and controlling Mineral Resource estimation.	Interpretations and confining wireframes are developed using the geology related to the mineralised lode. This includes lithology, alteration, veining, structure and mineralisation. This data is sourced from geological logging of drillholes and mapping.
	The factors affecting continuity both of grade and geology.	Continuity can be affected by changes in lithology, dilation of structures, intersecting structures, vein density and proximity to the main ore body.
Dimensions	The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.	The near-surface weathered portion of the zone deposit shows significant gold depletion (averaging <0.01gpt Au) to at least 35 m above an undulating supergene "blanket" horizon. This mineralised blanket had plan dimensions of 600 m x 250 m and a thickness of 1m to 10 m. The main Lowes shoot has a strike length of 500 m, width of 5 m to 50 m, and a down-plunge extent greater than 1,250 m. Hanging wall shoots, of which 20 are interpolated, have a maximum strike of 240m, width of 2m to 10 m, and a current down plunge extent of no more than 700m. Footwall shoots, of which 16 are interpolated, have a maximum strike of 240 m, width of 2-20 m and a current down plunge extent of no more than 500 m
Estimation and modelling techniques	The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.	Grade estimation for gold and sulphur were completed using Datamine Studio 3 software. Geostatistical analysis and variography were completed using Snowden's Supervisor software The great majority of estimation was by ordinary block kriging into 10mE 5mN 10mRL parent cells using 1m composites. For footwall and hangingwall lodes that are more oblique to the mine grid 5x5x5 parent cells are used. Estimations are constrained by hard domain boundaries (wireframes) to prevent the overestimation of cells outside of mineralised envelopes. 1m sample composites are used which is the dominant sample length. Domains were further checked to geostatistically contain single grade populations and whether further refinement was required. Search ellipses and ranges were based on the continuity seen in the variograms. Kriging efficiency, slope of regression and the sum of any negative kriging weights were reviewed to assess the estimation quality and optimize the estimation parameters. For pass 1 estimations a minimum of 10 samples and a maximum of 30 samples were often used. Octants were often used to ensure that multiple drillholes were used from multiple directions. If octants were not used the maximum number of composites from a single drillhole was set at 5. Estimates are compared against previous estimates and variances recorded and justified. It is assumed that some minor silver will be recovered with the gold. The silver is not estimated as it is not economically significant. Sulphur can be deleterious to the gold extraction process when it exceeds concentrations of 1.6%. Sulphur is therefore estimated using ordinary kriging although it is not constrained by domain wireframes. Over the past 12 months sulphur levels in the processing plant have been 101% of that predicted in the sulphur estimation model.

Criteria	JORC Code explanation	Commentary
	The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.	The estimated grades were assessed against sample grades and, where applicable, previous estimates. The estimate was also reconciled to historic production
	The assumptions made regarding recovery of by-products.	No assumptions are made and only gold is defined for estimation
	Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).	Sulphur can be deleterious to the gold extraction process when it exceeds concentrations of 1.6%. Sulphur is therefore estimated using ordinary kriging although it is not constrained by domain wireframes. Over the past 12 months sulphur levels in the processing plant have been 101% of that predicted in the sulphur estimation model.
	In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.	10mE 5mN 10mRL parent cells using 1m composites. For footwall and hangingwall lodes that are more oblique to the mine grid 5x5x5 parent cells are used Search ellipsoids for the main lode are 70 * 50 * 20m and vary down to 50 * 20 * 12m on the narrower and more variable footwall and hangingwall lodes. Drillhole spacing is 20m on the main lode and 15m on the HW and FW splays. Where the geostatistics no longer supported higher grades, typically around the 98th percentile.
	Any assumptions behind modelling of selective mining units.	No assumptions made
	Any assumptions about correlation between variables.	No assumptions made
	Description of how the geological interpretation was used to control the resource estimates.	Estimation is constrained within domain wireframes that are developed using the geology related to the mineralised lode. This includes lithology, alteration, veining, structure and mineralisation. This data is sourced from geological logging of drillholes and mapping.
	Discussion of basis for using or not using grade cutting or capping.	As is typical for gold deposits the data distributions are highly skewed and typically have a CV > 1.5 (ratio of standard deviation to the mean). In order to prevent overestimation topcuts were chosen
	The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.	Swath plots by northing, easting and RL were produced for each lode to verify that the model grades honoured the tenor of the drillhole grades. Production reconciliation data is used to check the accuracy of estimation. Over the past 12 months ounces produced have been 115% of that predicted in the grade estimation model.
Moisture	Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	Tonnages are estimated on a dry basis.
Cut-off parameters	The basis of the adopted cut-off grade(s) or quality parameters applied.	Various cut off grades are calculated including a break even cut off grade (BCOG), incremental cut off grade (ICOG) and Mill Cut-Off grade (MCOG). The BCOG is used as the basis for stope design, though any areas which are marginal or require significant development are assessed by a more detailed financial analysis to confirm their profitability. Kanowna Belle operates at a number of horizons in the mine from as shallow as 170m down to over 1,000m of depth. With depth, come additional costs in terms of haulage and ground support. Consequently, a number of cut-off grades take this into account. Cut-off grades are applied on a block by block basis depending on the relative costs.
Mining factors or assumptions	Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.	The mineralisation is amenable to open cut and underground mining methodology subject to gold price. Underground operations at Kanowna Belle are limited by mine depth and seismic activity. Mine sequencing is optimized for geotechnical considerations and the mining of individual blocks is constrained by the sequence and stress regime. Ultimately this impacts the operation by limiting the number of small stopes that can be mined in isolation and there is limited ability to leave single low grade stopes as pillars when surrounded by mining areas.
Metallurgical factors or	The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions	Metallurgical test work results show that the mineralisation is amendable to processing through the Kanowna Belle treatment plant.

Criteria	JORC Code explanation	Commentary
assumptions	regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.	Ore processing throughput and recovery parameters were estimated based on historic performance and potential improvements available using current technologies and practices
Environmental factors or assumptions	Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.	A "Licence to Operate" is held by the operation which is issued under the requirement of the "Environmental Protection Act 1986", administered by the Department of Environment (DoE). The licence stipulates environmental conditions for the control of air quality, solid waste management, water quality, and general conditions for operation. Groundwater licenses are held for water abstraction, including production borefield water use for mineral processing, and mine dewatering, in accordance with the Rights in Water and Irrigation Act 1914. These licenses are also regulated by DoE and are renewable on a regular basis. Kanowna Operations conduct extensive environmental monitoring and management programs to ensure compliance with the requirements of the licences and lease conditions. An Environmental Management System is in place to ensure that Northern Star employees and contractors exceed environmental compliance requirements. The Kanowna operations are fully permitted including groundwater extraction and dewatering, removal of vegetation, mineral processing, and open pits. Compliance with air quality permits is particularly important at Kanowna because of the roaster operation and because there are three facilities in the Kalgoorlie region emitting SO2 gas. Kanowna has a management program in place to minimize the impact of SO2 on regional air quality, and ensure compliance with regulatory limits.
Bulk density	Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.	A simple water immersion method referred to as the MARCEY Technique was used for the measurements, where the samples are dried and weighed in air then weighed in water.
	The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.	No/minimal voids are encountered in the ore zones and underground environment
	Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.	The bulk density of all samples is determined using the water displacement method (SG). A global density factor of 2.75 t/m3 is used for the purposes of resource estimation at Kanowna Belle, and represents the average density recorded from core sample measurements. Attempts have been made to improve the density model by correlating SG and rock type. However, no significant differences were found between the various rock types to warrant additional refinement to the resource model.
Classification	The basis for the classification of the Mineral Resources into varying confidence categories.	Classifications of Measured, Indicated and Inferred have been assigned based on data integrity, continuity of mineralisation and geology, drill density and the quality of the estimation (kriging efficiency).
	Whether appropriate account has been taken of all relevant factors (ie. relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).	Input and geological data is assumed accurate and supported by successful mining history at the site on this mineralisation.
	Whether the result appropriately reflects the Competent Person's view of the deposit.	This mineral resource estimate is considered representative
Audits or reviews	The results of any audits or reviews of Mineral Resource estimates.	2009, NI 43-101 report and reserve audit, conducted by Scott Wilson Roscoe Postle Associates Inc. Concluded industry best practice adhered to. June 2015 model internally reviewed by company principal resource geologist (competent Person). No material issues found.
Discussion of relative accuracy/ confidence	Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.	Swath plots by northing, easting and RL were produced for each lode to verify that the model grades honoured the tenor of the drillhole grades.

Criteria	JORC Code explanation	Commentary
	The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.	This resource report relates to the entirety of the Kanowna Belle orebody. Each of the estimated lodes will show local variability even though the global estimate reflects the total average tonnes and grade.
	These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.	No reconciliation factors are applied to the resource post-modelling.

Section 4 Estimation and Reporting of Ore Reserves

(Criteria listed in section 1, and where relevant in sections 2 and 3, also apply to this section.)

Criteria	JORC Code explanation	Commentary
Mineral Resource estimate for conversion to Ore Reserves	Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve.	Northern Star Resources, LTD June 2015 resource
	Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.	The Mineral Resources are reported inclusive of the Ore Reserve
Site visits	Comment on any site visits undertaken by the Competent Person and the outcome of those visits.	Competent person is based at the site.
	If no site visits have been undertaken indicate why this is the case.	Site visits undertaken
Study status	The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.	A minimum Pre-Feasibility level study is completed prior to converting an ore zone into reserves
	The Code requires that a study to at least Pre-Feasibility Study level has been undertaken to convert Mineral Resources to Ore Reserves. Such studies will have been carried out and will have determined a mine plan that is technically achievable and economically viable, and that material Modifying Factors have been considered.	The reserves are re-optimised on a half yearly basis taking the most up to date model, gold price and cost forecasts into account. The Reserve methodology at Kanowna Belle is to complete a full mine design built from the latest block model using calculated cut off as a guide. Stopes are included or excluded from the reserves based on the BCOG for the particular mining area. A stope shape is designed around material at the BCOG and evaluated using the design software. Stope shapes of grade close to the BCOG are assessed using a more detailed financial evaluation to determine if they are to be included in reserves. Design of stopes is also carried out below the BCOG to ensure that sensitivity results are meaningful. Mine planners are supplied with guidelines for blocking out stopes. These guidelines take into account the effect of major structures and their impact on stoping designs. In general, the stope designs will not contain material below the breakeven block cut off unless there is reasonable grounds to mine that material. Exceptions to this include sub-economic material which is encapsulated by payable ore, or unavoidable extraction circumstances. The stope shape does not include dilution, which is factored in numerically at an assumed grade for each individual stope based on the block model. All design work is carried out with the software Studio5D Planner. The existing mine design provides the starting point for the reserves. Planned stope geometry follows geotechnical design guidelines which have been in place for a number of years. As the Reserves form the basis of the Life of Mine plan (LOM), it is important that the stopes are 'realistic mining envelopes' and can form part of the mines extraction sequence. The designs are evaluated for gold sulphur and tonnes by Resource category bins. Consequently, a given stope may contain material in more than one Resource category. In this way, the Measured and Indicated portions of the design can easily be established. The evaluation results are automatically output to the scheduler software EPS. EPS is used as a flagging and calculation tool in the processing of reserves. Factors for dilution and recovery are applied in EPS. The stoping blocks are then classified into a number of Reserve categories based on cut-off.

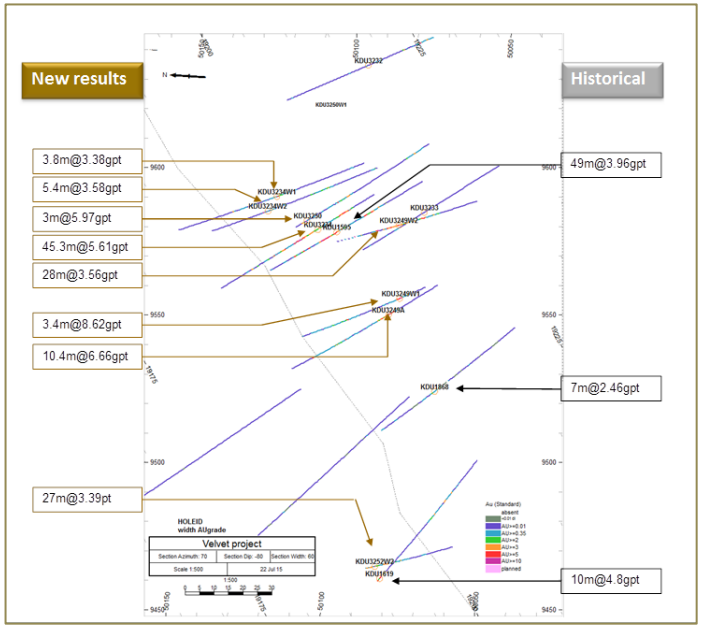
Criteria	JORC Code explanation	Commentary
		COG margin and reserve code attributes are then attached to the reserve wireframe. The wireframes are then coloured by a legend to allow visual representation of reserve code and stope margins. For a stope or group of stopes to be included in the Reserve, they need to generate enough cash to pay for all applicable costs, including access development to the stopes. If the stopes do not meet these criteria and are mined then value will be destroyed. Consequently, it is possible for stopes to have higher than the block BCOG but to be excluded from Reserves. Conversely, it is possible for stopes with lower than the block BCOG to be included in Reserves. This occurs normally for geotechnical reasons whereby not mining the stopes will create a more hazardous environment than what is acceptable, or whereby very favourable economic circumstances exists which allow to mine a stope profitably despite being below BCOG. Reviewing all the stopes enables the setting of all the Reserve codes. Reserves are reported as Measured and Indicated material with a Reserve code of 1 to 3 inclusive
Cut-off parameters	The basis of the cut-off grade(s) or quality parameters applied.	12 Months forward looking forecast costs and physicals form the basis of the cut-off grade calculations. • The assumed AUD gold price is the average of the previous 12 months. • Mill recovery factors are based on test work and historical averages. • Various cut off grades are calculated including a break even cut off grade (BCOG), incremental cut off grade (ICOG) and Mill Cut-Off grade (MCOG). The BCOG is used as the basis for stope design, though any areas which are marginal or require significant development are assessed by a more detailed financial analysis to confirm their profitability. • Kanowna Belle operates at a number of horizons in the mine from as shallow as 170m down to over 1,000m of depth. With depth, come additional costs in terms of haulage and ground support. Consequently, a number of cut-off grades take this into account. Cut-off grades are applied on a block by block basis depending on the relative costs.
Mining factors or assumptions	The method and assumptions used as reported in the Pre-Feasibility or Feasibility Study to convert the Mineral Resource to an Ore Reserve (i.e. either by application of appropriate factors by optimisation or by preliminary or detailed design).	Mineral Resource is converted to Ore Reserve after completing a detailed mine design complete with a detailed financial assessment. The Mineral Resource block model is used.
	The choice, nature and appropriateness of the selected mining method(s) and other mining parameters including associated design issues such as pre-strip, access, etc.	Kanowna Belle underground mine is accessed via a portal within the open pit. A decline has been developed in the footwall of the orebody to a depth of more than one kilometre below surface. The ore is accessed on a level spacing of 30 m, with development of footwall and ore drives to enable longhole open stoping. The mine is subdivided Vertically in mining blocks of nominally 150 to 250 vertical metres, three to five million tonnes. Ore is mined from the stopes and tipped into an orepass system, before being loaded into 775 haul trucks to bring to surface. Stopes are nominally 30 m by 20 m by 20 m in size. This may be increased or decreased depending on the local ground conditions. Once stopes are emptied of ore, they are backfilled with paste reticulated from a surface paste plant. Kanowna Belle applies a pillarless, bottom up approach for each block. Mining fronts are maintained in a triangular shape in order to push stress out, towards the abutments of the production and mined out areas.
	The assumptions made regarding geotechnical parameters (eg pit slopes, stope sizes, etc), grade control and pre-production drilling.	The design takes geotechnical constraints into account and is reviewed by geotechnical engineers prior to been finalised Underground operations at Kanowna Belle are limited by mine depth and seismic activity. Kanowna Belle has a relatively high stress rock mass and a history of seismic events. Ultimately this impacts the operation by limiting the amount of small stopes that can be mined in isolation and there is limited ability to leave single low grade stopes as pillars when surrounded by mining areas. The environment is controlled by adherence to a geotechnically favourable extraction sequence, and by the application of appropriate ground support. The success of this approach relies on maintaining a highly skilled technical team and scheduling with contingency for undesirable seismic events.
	The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate).	This table 1 applies to underground mining only

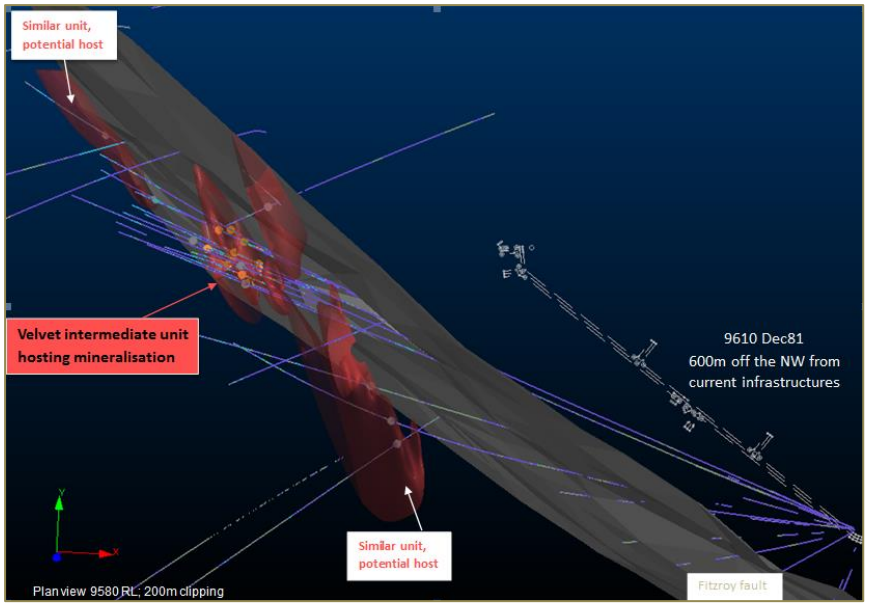
Criteria	JORC Code explanation	Commentary
	The mining dilution factors used.	Dilution factors are updated annually and are based on the historical performance of each mining block and evaluation of the geotechnical block model. Average stope dilution is currently 20.6%.
	The mining recovery factors used.	The recovery factor is reviewed and updated annually. It is based on historical recovery at the site. Average stope recovery is currently 86.3%.
	Any minimum mining widths used.	Standard stope sizes are 15m along strike with a 30m level spacing. Minimum mining width of 4m is assumed.
	The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.	Designed stopes with greater than 50% inferred blocks are excluded from the reported reserve.
	The infrastructure requirements of the selected mining methods.	The Kanowna Belle mine infrastructure is developed and in place and includes mine dewatering pumps, compressed air supply, mine ventilation, and a small shop on the 800 level. The main access ramp connects the mine to an adit in the Kanowna Belle open pit. The ramp is well maintained and is watered to reduce dust generation from the haul trucks. There is a radio communication system throughout the mine.
Metallurgical factors or assumptions	The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.	The Kanowna Belle milling facilities are designed to handle approximately 1.8 million tonnes of feed per annum. The plant has the capability to treat both refractory and free milling ores, through either using the flotation circuit and associated concentrate roaster circuit (including carbon-in-leach (CIL) gold recovery), or bypassing the flotation circuit and going directly to a CIL circuit designed to treat flotation tails. The plant campaigns both refractory and free milling ores every month. Between campaigns, the circuit is "cleaned out" using essentially barren ore. The plant is made up of crushing, grinding, gravity gold recovery, flotation, roasting, CIL, elution and gold recovery circuits. Reserves are calculated using processing plant recovery factors that are based on test work and historical performance
	Whether the metallurgical process is well-tested technology or novel in nature.	Milling experience gained since 2005, 8 years continuous operation
	The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.	Milling experience gained since 2005, 8 years continuous operation
	Any assumptions or allowances made for deleterious elements.	No assumption made
	The existence of any bulk sample or pilot scale test work and the degree to which such samples are considered representative of the orebody as a whole.	Milling experience gained since 2005, 8 years continuous operation
	For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications?	Not applicable
Environmental	The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterisation and the consideration of potential sites, status of design options considered and, where applicable, the status of approvals for process residue storage and waste dumps should be reported.	The Kanowna Belle Mine is operated subject to the requirements of the Western Australian Mining Act 1978 and the Mines (Safety) Act, regulated by the Department of Minerals and Petroleum Resources (DMPR) Mines Inspectorate. The Mining Leases issued by the DMPR covering the Kanowna Belle operation stipulate environmental conditions for operation, rehabilitation, reporting and lodgement of unconditional performance bonds. A "Licence to Operate" is held by the operation which is issued under the requirements of the "Environmental Protection Act 1986". Kanowna Belle and East Kundana are prescribed premises requiring Department of Environment (DoE) licences to operate. It covers the following activities: - Crushing plant - CIP process plant - Sulphide concentrate roaster - Tailings dam cells 1 and 2 - Calcine tails dam

Criteria	JORC Code explanation	Commentary
		- Wastewater treatment plant - Arsenic waste stabilisation plant and disposal into underground workings - Open cut and underground mines - Paste backfill plant - Batch plant The key environmental areas covered in the licence are: - Air pollution and control conditions - Water pollution control conditions - Solid waste conditions In late September 2001, DoE approval was granted to commence on-site encapsulation and disposal of arsenic trioxide (As2O3). The waste material containing approximately 30% As2O3 to 35% As2O3. In accordance with the licence from the DoE, the encapsulated blocks that are disposed of underground are enclosed in backfill generated from the plant tailings
Infrastructure	The existence of appropriate infrastructure: availability of land for plant development, power, water, transportation (particularly for bulk commodities), labour, accommodation; or the ease with which the infrastructure can be provided, or accessed.	Access to the Kanowna Belle operation is provided by a series of well-maintained public and private roads. Employees reside in Kalgoorlie and commute to site daily. There are no housing facilities at the operation. Normal communication channels through cellphone, satellite and land-based facilities are available. All of Kalgoorlie's fresh water is pumped along a 540 km pipeline from Mundaring near Perth. Potable water for the Kanowna Belle operations is pumped from Kalgoorlie to a storage facility on site. Non-fresh water requirements are sourced from borefields up to 10 km away from the minesites. Makeup water for the Kanowna Belle process plant is supplied by pipeline from a bore field located in the Gidgi paleochannel approximately 15 km from the plant site. Some water is sourced from abandoned pits. This water is hypersaline with total dissolved solids (TDS) levels of up to 150,000 ppm. The primary user of hypersaline water is the Kanowna Belle processing plant. Electricity is provided by the government-owned agency, Western Power, and is sourced via the state electricity grid. A 15 km long 33 kV line from Kalgoorlie provides all electricity requirements of the operations. There are no power generation services on site. Sources of fuel, such as diesel, gasoline, propane, etc., are readily available at competitive pricing from local suppliers, as there are multiple operating plants in the Kalgoorlie area.
Costs	The derivation of, or assumptions made, regarding projected capital costs in the study.	Capital costs are projected through an annual budget process.
	The methodology used to estimate operating costs.	After a design is completed the mining sequence and processing sequence are scheduled. The schedules are costed in detail using a zero based budgeting system.
	Allowances made for the content of deleterious elements.	No allowances made
	The derivation of assumptions made of metal or commodity price(s), for the principal minerals and co- products.	The gold price is set by corporate based on the 12 month historical price
	The source of exchange rates used in the study.	All in $A
	Derivation of transportation charges.	Historic performance
	The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.	Historic performance
	The allowances made for royalties payable, both Government and private.	All royalties are built into the cost model
Revenue factors	The derivation of, or assumptions made regarding revenue factors including head grade, metal or commodity price(s) exchange rates, transportation and treatment charges, penalties, net smelter returns, etc.	A$1,400/oz gold

Criteria	JORC Code explanation	Commentary
	The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.	Corporate guidance
Market assessment	The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future.	All product is sold direct at market prices with no hedges in place
	A customer and competitor analysis along with the identification of likely market windows for the product.	Not applicable
	Price and volume forecasts and the basis for these forecasts.	Corporate guidance
	For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.	Not applicable
Economic	The inputs to the economic analysis to produce the net present value (NPV) in the study, the source and confidence of these economic inputs including estimated inflation, discount rate, etc.	NPV is used during Pre-Feasibility and Feasibility studies as these are required. Economic assumptions such as discount rate and estimated inflation are finalised at the time of the study. NPV is not used in the bi annual reserve optimisation. Cut off grades derived from 12 month forward looking unit costs form the basis of the bi annual reserve optimisation.
	NPV ranges and sensitivity to variations in the significant assumptions and inputs.	Sensitivities have been using gold price ranges of A$1,200 to A$1,600.
Social	The status of agreements with key stakeholders and matters leading to social licence to operate.	Agreements are in place and are current with all key stakeholders
Other	To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves:	No issues.
	Any identified material naturally occurring risks.	No issues.
	The status of material legal agreements and marketing arrangements.	No issues.
	The status of governmental agreements and approvals critical to the viability of the project, such as mineral tenement status, and government and statutory approvals. There must be reasonable grounds to expect that all necessary Government approvals will be received within the timeframes anticipated in the Pre-Feasibility or Feasibility study. Highlight and discuss the materiality of any unresolved matter that is dependent on a third party on which extraction of the reserve is contingent.	No issues.
Classification	The basis for the classification of the Ore Reserves into varying confidence categories.	Classifications of Measured, Indicated and Inferred have been assigned based on data integrity, continuity of mineralisation and geology, drill density and the quality of the estimation (kriging efficiency).
	Whether the result appropriately reflects the Competent Person's view of the deposit.	The results accurately reflect the competent persons view of the deposit
	The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).	7% of reserve ounces are derived from measured resources.
Audits or reviews	The results of any audits or reviews of Ore Reserve estimates.	Reserve estimates are reviewed and approved by site management prior to release. 2009, NI 43-101 report and reserve audit, conducted by Scott Wilson Roscoe Postle Associates Inc. 2006, AMER Qualified Person's report in support of the declaration of the 2005 EOY Mineral Resources and Mineral Reserves, Ore Reserve Audit, by Kal West
Discussion of relative accuracy/	Where appropriate a statement of the relative accuracy and confidence level in the Ore Reserve estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical	Confidence in the model and Ore Reserve Estimate is considered high based on current mine and reconciliation performance

Criteria	JORC Code explanation	Commentary
confidence	procedures to quantify the relative accuracy of the reserve within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors which could affect the relative accuracy and confidence of the estimate.	
	The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.	Estimates are global but will be reasonable accurate on a local scale.
	Accuracy and confidence discussions should extend to specific discussions of any applied Modifying Factors that may have a material impact on Ore Reserve viability, or for which there are remaining areas of uncertainty at the current study stage.	Not applicable
	It is recognised that this may not be possible or appropriate in all circumstances. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.	Reconciliation results from past mining at Kanowna Belle has been considered and factored into the reserve assumptions where appropriate.





Plan View and 3d Views of the Velvet Drilling

JORC Code, 2012 Edition – Table 1 Report: White Feather Reward Drill Results August 2015

Section 1 Sampling Techniques and Data

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

Criteria	JORC Code explanation	Commentary
Sampling techniques	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.	Sampling was completed using full and half core samples from HQ3 gauge drill core. Friable oxide material was sampled full core to prevent loss during splitting. Competent core was sampled on a half core basis.
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	Samples varied between 0.3 – 1.5m in length, with a nominal length of 1m. Samples were assigned by the logging geologist respecting geological boundaries. The core was split using an industry standard almonte core diamond blade core saw.
	Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.	Full and half core samples were taken to a nominal 1m sample. This sample was pulverised to produce a 50g charge for fire assay. Where visible gold was observed, samples were submitted for 1kg screen fire assay utilising a 75um screen. The entire half core sample is pulverised, then split to produce a 1kg sample. The sample is passed through a 75um screen to produce a coarse and fine fraction sample. The entire coarse fraction (and screen) are fired to calculate the amount of coarse gold. Two 50g charges of the fine fraction are fire to assay the fine fraction. The weighted average grade of the coarse and fine fraction assays are reported as the Calculated Grade for the interval.
Drilling techniques	Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).	Diamond Drilling completed as part of this program in HQ gauge. Due to difficult drilling, a wedge was drilled off one hole in NQ2 gauge, but failed. The hole was re-drilled by RC to 115m, then continued to the planned EOH depth by HQ gauge diamond.
Drill sample recovery	Method of recording and assessing core and chip sample recoveries and results assessed.	DD drilling contractors completed core blocks for each run recording the length of the run and whether any core loss occurred.
	Measures taken to maximise sample recovery and ensure representative nature of the samples.	Most sample recovery issues occurred in the top 50m of the holes in the oxide zone. As this was not the target of the program and no significant mineralisation was expected, no additional measures were taken to increase recovery through this zone.
	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.	There is no relationship between sample recovery and grade, or any evidence of bias in the data
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.	Diamond drill core has been logged geologically, recording lithology, alteration, mineralisation, veining and structural data. Basic geotechnical logging including RQD and fracture frequency are being recorded approximately +/- 50m of the targeted mineralised structures. Logging of alteration intensity is semi-quantitative. Logging of mineralisation and veining intensity is quantitative. The entire length of each drill hole was logged, with the exception of the RC pre-collar to the re-drilled hole (WFCD15011), which was 5m from the original cored hole (WFDD15006).
	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.	All logging is quantitative where possible and qualitative elsewhere. A photograph is taken of every core tray.
	The total length and percentage of the relevant intersections logged.	The entire hole is logged
Sub-sampling techniques and sample preparation	If core, whether cut or sawn and whether quarter, half or all core taken.	For DD samples, for highly oxidized saprolite, full core samples were submitted for assay as the sample deteriorates significantly upon cutting. Once competent core is reached, sampling switches to half core sampling.
	If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.	N/A
	For all sample types, the nature, quality and appropriateness of the sample preparation	The sample preparation is considered appropriate.

Criteria	JORC Code explanation	Commentary
	technique.	
	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	All core is sampled
	Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate / second-half sampling.	The majority of core is sampled.
	Whether sample sizes are appropriate to the grain size of the material being sampled.	Grind checks are performed at both the crushing stage(3mm) and pulverising stage (75µm), requiring 90% of material to pass through the relevant size.
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.	A 50g Fire assay charge is used with a lead flux, dissolved in the furnace. The prill is totally digested by HCl and HNO3 acids before Atomic absorption spectroscopy (AAS) determination for gold analysis.
	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 geophysical tools were used to determine any element concentrations
	Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie. lack of bias) and precision have been established.	Certified reference materials (CRMs) are inserted into the sample sequence randomly at a rate of 1 per 20 samples to ensure correct calibration. All standards passed within acceptable limits for this results in this report Blanks are inserted into the sample sequence at a rate of 1 per 20 samples, This is random, except where high grade mineralisation is expected. Here, a Blank is inserted after the high grade sample to test for contamination. All blanks returned values below detection limits for results in this report
Verification of sampling and assaying	The verification of significant intersections by either independent or alternative company personnel.	All significant intersections are verified by another Northern Star geologist during the drill hole validation process, and later by a Competent person to be signed off
	The use of twinned holes.	No Twinned holes were drilled for this data set
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	Geological logging logged directly into an acQuire database at the drill rig. Data was transferred to the main acQuire database at the completion of the project utilising a briefcase transfer. Assay files are received in csv format and loaded directly into the database by the Database administrator (DBA). A geologist then checks that the results have inserted correctly. Hardcopy and electronic copies of these are also kept. No adjustments are made to this assay data.
	Discuss any adjustment to assay 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 in Mineral Resource estimation.	A planned hole is pegged using a Differential GPS (DGPS) by field assistants During drilling single-shot magnetic surveys are taken every 30m to ensure the hole remains close to design. This is performed by the driller using the Globaltech Pathfinder DS1 survey system, and checked by the supervising geologist. A final survey is taken once the end of hole is reached The final collar is picked up after hole completion by Differential GPS in the MGA 94 Zone 51 grid. For 2014 Diamond drilling, each hole had a Gyroscopic survey performed, to verify the single shot surveys. Topographic control has been achieved through an airborne survey conducted in 2009 by Survey Graphics mapping consultants. This was achieved using airborne DGPS (Differential Global Positioning System). Alternative frames were orthorectified using a 30m DEM within the mapping area, and a 50m DEM outside the mapping area, captured using photogrammetry. This topographic control has been verified by the DGPS pickup of numerous hole collars
	Specification of the grid system used.	
	Quality and adequacy of topographic control.	
Data spacing and distribution	Data spacing for reporting of Exploration Results.	Drillhole spacing across the area varies. Typical spacing within the area tested is approximately varies from 40m by 40m to greater than 80m by 80m. The current drill program was designed to infill existing drilling so the maximum spacing between holes was 40m x 80m No compositing has been applied to these exploration results, although composite intersections are reported.
	Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore	The data spacing is considered appropriate

Criteria	JORC Code explanation	Commentary
	Reserve estimation procedure(s) and classifications applied.	
	Whether sample compositing has been applied.	No compositing has been applied to these exploration results, although composite intersections are reported.
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.	Drilling is targeting an array of moderately southeast dipping quartz veins. Drilling was designed to intersect the target veins in an orientation close to orthogonal. In some instances due to topography and historic surface workings, holes were drilled on less than optimal azimuths. True width of drill intercepts have been reported.
	If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.	No sampling bias is considered to have been introduced by the drilling orientation
Sample security	The measures taken to ensure sample security.	Drilling was conducted on a 24hr basis (Two 12hr shifts). Drill core was collected from the rig by Northern Star personnel and transferred the exploration core yard at 14 Williams St, West Kalgoorlie. The yard is fully fenced and locked every evening. Random security patrols are completed overnight.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	No audits or reviews have recently been conducted on sampling techniques.

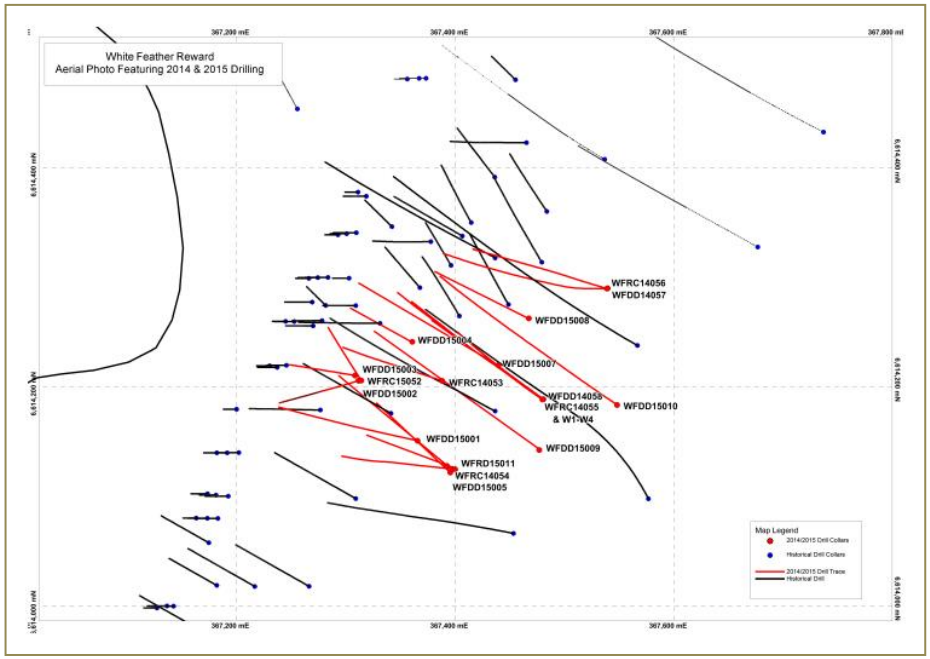
Section 2 Reporting of Exploration Results

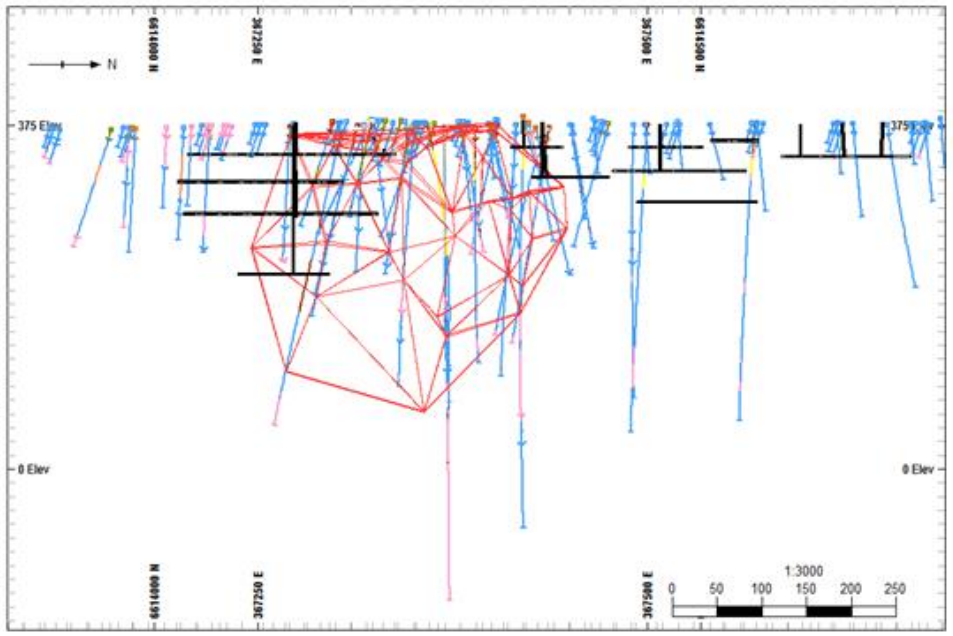
(Criteria listed in the preceding section also apply to this section.)

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 interests, historical sites, wilderness or national park and environmental settings.	All holes mentioned in this report are located within the mining lease M27/164 held by Kanowna Mines Ltd, a wholly owned subsidiary of Northern Star Resources Ltd. The tenement on which the White Feather Reward deposit is hosted (M27/164) covers the historic Kanowna Townsite which remains gazetted. The townsite boundary is approximately 500m south-west of White Feather Reward. White Feather Reward is located on Crown Reserve 4459 – Common M27/164 has a partial royalty to Oxford Credits Corporation Pty Ltd however this royalty does not extend over the area of drilling that is the subject of this release.
	The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.	No known impediments exist and the tenements are in good standing.
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	The original gold discovery at Kanowna in 1893 was White Feather Reward (McAuliffes Reward as it was known then), with subsequent discovery of the Main Reef and Lily Australis lodes to the South. Historic production (1895-1939) from the White Feather Line of workings is recorded at 457K Tonnes @ 16gpt for 230K oz. Production from the Reward lodings is recorded at 457K Tonnes @ 16gpt for 230K oz. Production from the Reward lode (1895 – 1907) is recorded as 38,798 Tonnes @ 17.8gpt for 22,255 Oz. Production from 1907 onwards mainly by tributors and is poorly recorded. Sporadic production may have occurred through till 1939. Recent gold exploration commenced in the 1980's Placer Dome completed 59 RC drill holes in 2004 targeting shallow remnant mineralisation over a strike of 1200m to a depth of 40mbs assess the potential for an open pit. Placer Dome completed 8 DD holes in 2005 testing down-dip from the White Feather Reward workings to assess the potential for underground mining below historic workings. The drilling identified mineralisation over a strike of at least 100m with a down-dip extent of 80m. Further drilling was recommended to extend the strike and down-dip extent of the high grade shoot, and to improve confidence in the grade continuity, but not completed at that time.
Geology	Deposit type, geological setting and style of mineralisation.	The Kanowna camp is situated within the Norseman-Wiluna Greenstone Belt, within the Kanowna Camp of the Boorara domain which sits in the southern closure of the SE dipping Scotia-Kanowna anticline. The target area is within the Black Flag Formation which manifests as a sequence of clastic sedimentary units. Within the target area, the main unit is the Ballarat Conglomerate which is a mafic dominated, but polymictic

Criteria	JORC Code explanation	Commentary
		conglomerate with well rounded clasts typically between 2cm and 40cm in diameter. The Ballarat Conglomerate is cut by the White Feather Fault, which is interpreted as a reactivated D1 fault, similar to the Fitzroy Fault which hosts the Kanowna Belle Deposit. Mineralisation is hosted by laminated to bucky quartz carbonate veins which outcrop over a strike of approximate 3.5km and were mined historically, mainly between 1893 – 1939m. Historic production records is recorded as 457Kt @ 16gpt for 250Koz along the entire White Feather trend, with production from the Reward shoot recorded as 38,798 Tonnes @ 17.8gpt for 22,255 oz.
Drill hole Information	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: o easting and northing of the drill hole collar o elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar o dip and azimuth of the hole o down hole length and interception depth o hole length.	See attached drill hole tables.
	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.	
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.	All reported assay results have been length weighted to provide an intersection width. A maximum of 2m of barren material between mineralised samples has been permitted in the calculation of these widths.
	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.	No assay results have been top-cut for the purpose of this report. A lower cut-off of 1gpt has been used to identify significant results, although lower results are included where a known ore zone has been intercepted, and the entire intercept is low grade.
	The assumptions used for any reporting of metal equivalent values should be clearly stated.	No metal equivalent values have been used for the reporting of these exploration results
Relationship between mineralisation widths and intercept lengths	These relationships are particularly important in the reporting of Exploration Results.	The geometry of the mineralisation with respect to the drill holes is well constrained. Holes have been planned such that downhole widths are generally close to the actual true width. In some instances, topography and historic surface infrastructure prevented holes being drilled at the optimal azimuth. Downhole and true width for intercepts have been reported.
	If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.	Both the downhole width and true width have been clearly specified when used.
	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 plans and section have been included in this report.
Balanced reporting	Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	The assays presented in this release are representative of all results received during the drill program being reported. At the time of release, not all results had been received. Further results will be released as they become available.
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	No further relevant work has been carried out at the Six mile project.

Criteria	JORC Code explanation	Commentary
	contaminating substances.	
Further work	The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).	Follow up work will include testing along strike in both directions of current mineralisation.
	Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	





Plan view and section of White Feather Reward Drilling

JORC Code, 2012 Edition – Table 1 Report: Six Mile Resource (30 June 2015) and Drill Results at August 2015

Section 1 Sampling Techniques and Data

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

Criteria	JORC Code explanation	Commentary
Sampling techniques	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.	Samples were obtained using Reverse circulation (RC) drilling and HQ diamond drilling (DD).
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	For 2014 RC samples were split using a rig-mounted cone splitter on 1m intervals to obtain a sample for assay. 4m Composite spear samples were collected for the entirety each hole. The 1m split samples were then taken for any composite sample that returned an assay grade >0.1gpt. The 1m splits were also taken for composite samples either side of the anomalous composite. For 2015 RC drilling the 1m cone-split sample was submitted for assay for all intervals For DD drilling, half core samples were submitted for assay. Holes were sampled at a nominal 1m sample interval, although this was varied to match geological criteria. The minimum sample size used is 0.3m.
	Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.	Samples were taken to Genalysis Kalgoorlie for preparation by drying, crushing to <3mm, and pulverizing the entire sample to <75µm. 300g Pulps splits were then dispatched to Genalysis Perth for 50g Fire assay charge and AAS analysis. Anticipated high grade zones were analysed by 1kg Leachwell or triplicate fire assay analysis.
Drilling techniques	Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).	RC Drilling was completed using a 5.75" drill bit, downsized to 5.25" at depth. Historically, RAB, Aircore, RC and diamond holes have been drilled in the area. Historic diamond drilling in the area has been conducted in NQ2 diameter (50.5mm). Diamond Core was drilled in HQ diameter and oriented using the Reflex ACT Core orientation system.
Drill sample recovery	Method of recording and assessing core and chip sample recoveries and results assessed.	Core is measured and any determined loss recorded in the database. RC samples are routinely weighed to assess recovery
	Measures taken to maximise sample recovery and ensure representative nature of the samples.	RC drilling contractors adjust their drilling approach to specific conditions to maximize sample recovery. Moisture content and sample recovery is recorded for each RC sample. No recovery issues were identified during 2014-2015 RC drilling. For diamond drilling the contractors adjust their rate of drilling and method if recovery issues arise. All recovery is recorded by the drillers on core blocks. This is checked and compared to the measurements of the core by the geological team. Any issues are communicated back to the drilling contractor.
	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 bias has been noted
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.	Chips from all metres were sieved, washed and logged. RC sample chips are logged in 1m intervals, for the entire length of each hole. Regolith, Lithology, alteration, veining and mineralisation are all logged separately for each metre. Where possible, quantitative measures are used such as percentage values for individual minerals or vein types. A total of 5428m of RC drilling was logged, which was 100% of the 2014/15 RC drilling. All diamond holes were logged from start of hole to end of hole for regolith, lithology, alteration, veining and mineralisation. Where possible, quantitative measures are used such as percentage values for individual minerals or vein types. Quantitative structural measurements were also taken. A total of 2356m of DD core was logged, which was 100% of the 2014/15 DD drilling.
	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc)	All logging is quantitative where possible and qualitative elsewhere. A photograph is taken of every core tray.

Criteria	JORC Code explanation	Commentary
	photography.	
	The total length and percentage of the relevant intersections logged.	RC sample chips are logged in 1m intervals. For the entire length of each hole. Regolith, Lithology, alteration, veining and mineralisation are all recorded.
Sub-sampling techniques and sample preparation	If core, whether cut or sawn and whether quarter, half or all core taken.	For DD samples, for highly oxidized saprolite, full core samples were submitted for assay as the sample deteriorates significantly upon cutting. Once competent core is reached, sampling switches to half core sampling.
	If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.	All RC samples are split using a rig-mounted cone splitter to collect a 1m sample 3-4kg in size. These samples were submitted to the lab from any zones approaching known mineralisation and from any areas identified as having anomalous gold. Outside of mineralised zones spear samples were taken over a 4m interval for composite sampling.
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	The sample preparation is considered appropriate
	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	Field duplicates were taken for RC samples at a rate of 1 in 20. For the composite samples the spearing process was repeated from the opposite side of the green bag. For 1m split samples the full rig sample was passed through a riffle splitter to provide a duplicate. For 2015 RC drilling, the duplicate was taken from the cone splitter. No duplicate sampling of core (sending the remaining half core sample) has been conducted as the geological value of the core is considered higher than the need to duplicate sample.
	Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate / second-half sampling.	Sample preparation was conducted at Genalysis Kalgoorlie, commencing with sorting, checking and drying at less than 110°C to prevent sulphide breakdown. Core samples are jaw crushed to a nominal -6mm particle size. If the sample is greater than 3kg a Boyd crusher with rotary splitter is used to reduce the sample size to less than 3kg (typically 1.5kg) at a nominal <3mm particle size. The entire crushed sample (if less than 3kg) or sub-sample is then pulverized to 90% passing 75µm, using a Labtechnics LM5 bowl pulveriser. For Fire assay, 300g Pulp subsamples are then taken with an aluminium scoop and stored in labelled pulp packets. For leachwell, 1kg of pulped sample is taken.
	Whether sample sizes are appropriate to the grain size of the material being sampled.	Grind checks are performed at both the crushing stage(3mm) and pulverising stage (75µm), requiring 90% of material to pass through the relevant size.
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.	A 50g Fire assay charge is used with a lead flux, dissolved in the furnace. The prill is totally digested by HCl and HNO3 acids before Atomic absorption spectroscopy. Repeatability of sub-samples was outside acceptable limits with 2014 DD drilling indicated the presence of coarse gold within cm scale stockwork veining as the likely cause for the poor repeatability. In order to improve assay repeatability testwork analyzing 1kg samples using the Leachwell technique with AAS finish, was completed on coarse bulk reject sample from 2014 RC and DD drilling. Leachwell is not to "total" technique, but is considered to approximate the cyanide extractable gold that would be recovered in routine metallurgical processes. The initial conditions involved a 12 hour bottle roll. A fire assay on the leachwell tails was completed to assess how effective the method had been in extracting the gold. The initial testwork indicates a slightly longer bottle roll is required to leach the coarse gold. Additional testwork utilizing a 24hr bottle roll is planned. Leachwell was not available for 2015 Diamond Drilling so a triplicate fire assay was sued for zones with anticipated coarse gold. The average was then taken as the final sample grade.
	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 geophysical tools were used to determine any element concentrations
	Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie. lack of	Certified reference materials (CRMs) are inserted into the sample sequence randomly at a rate of 1 per 20 samples to ensure correct calibration. Any values outside of 3 standard deviations are re-assayed with a new

Criteria	JORC Code explanation	Commentary
	bias) and precision have been established.	CRM. Blanks are inserted into the sample sequence at a rate of 1 per 20 samples, This is random, except where high grade mineralisation is expected. Here, a Blank is inserted after the high grade sample to test for contamination. Failures above 0.2gpt are followed up, and re-assayed. New pulps are prepared if failures remain. Field Duplicates are taken for all RC samples (1 in 20 sample). No Field duplicates are submitted for diamond core.
Verification of sampling and assaying	The verification of significant intersections by either independent or alternative company personnel.	All significant intersections are verified by another Northern Star geologist during the drill hole validation process, and later by a Competent person to be signed off
	The use of twinned holes.	No Twinned holes were drilled for this data set
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	Geological logging was captured using excel templates. Both a hardcopy and electronic copy of these are stored, as well as being loaded in to the database using automatic acquire loaders. Assay files are received in csv format and loaded directly into the database by the Database administrator (DBA). A geologist then checks that the results have inserted correctly. Hardcopy and electronic copies of these are stored. No adjustments are made to this assay data.
	Discuss any adjustment to assay 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 in Mineral Resource estimation.	A planned hole is pegged using a Differential GPS (DGPS) by field assistants During drilling single-shot magnetic surveys are taken every 30m to ensure the hole remains close to design. This is performed by the driller using the Globaltech Pathfinder DS1 survey system, and checked by the supervising geologist. A final survey is taken once the end of hole is reached The final collar is picked up after hole completion by Differential GPS in the MGA 94 Zone 51 grid. For 2014 Diamond drilling, each hole had a Gyroscopic survey performed, to verify the single shot surveys. Topographic control has been achieved through an airborne survey conducted in 2009 by Survey Graphics mapping consultants. This was achieved using airborne DGPS (Differential Global Positioning System). Alternative frames were orthorectified using a 30m DEM within the mapping area, and a 50m DEM outside the mapping area, captured using photogrammetry. This topographic control has been verified by the DGPS pickup of numerous hole collars
	Specification of the grid system used.	
	Quality and adequacy of topographic control.	
Data spacing and distribution	Data spacing for reporting of Exploration Results.	Drillhole spacing across the area greatly varies. Up to 100m below surface, spacing is typically 40m x 40m. This is drastically reduced however at depth where few drillholes intersect ore. Beyond the original composite samples described earlier, no compositing has been applied to these exploration results, although composite intersections are reported.
	Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.	The data spacing is considered appropriate
	Whether sample compositing has been applied.	No compositing has been applied to these exploration results, although composite intersections are reported.
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.	There are various mineralised orientations at Six Mile, including porphyry contacts and stockwork lodes, with two main shear orientations; NW-trending shears dipping steeply (70-80°) to the SW, and ENE trending shears dipping steeply (70-80°) to the South. Many of the drillholes in the Six Mile area have been drilled at poor orientations to these structures. This is due to poor understanding of the project geology prior to the recent interpretation. Wherever this has occurred, it is clearly noted in the report. These holes are only suitable as an exploration tool for further targeting and are unlikely to be used in any future resource.
	If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.	No sampling bias is considered to have been introduced by the drilling orientation
Sample security	The measures taken to ensure sample security.	Prior to laboratory submission samples are stored by Northern Star Resources in a secure yard. Once submitted

Criteria	JORC Code explanation	Commentary
		to the laboratories they are stored in a secure fenced compound, and tracked through their chain of custody and via audit trails
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	Due to the poor duplicate repeatability seen in RC drilling at Six Mile, an internal review of RC sampling has been conducted to determine if the repeatability is due to coarse gold, poor sampling or both. This was conducted by the QAQC geologist. A number of steps have been taken to improve the primary sampling including the fitting of an additional arm and spirit level to the cone splitter to ensure it is kept straight, and training drill offsiders in sample theory to help ensure a more consistent sample.

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 interests, historical sites, wilderness or national park and environmental settings.	All holes mentioned in this report are located within on Tenement M27/63, held by The Kanowna Mines Ltd, a wholly owned subsidiary of Northern Star Resources.
	The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.	No known impediments exist and the tenements are in good standing
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	Western Mining Corporation (WMC) commenced exploration in the Six mile Area in 1983 Early exploration consisted of costeans, followed by 28 RC holes. A resource of 119482 tonnes @ 3.2gpt was calculated and mining began in 1986. Mining ceased in 1988 due to reconciliation issues In the mid 1990's 3 diamond holes were drilled by WMC to test for mineralisation below the main pit, although assay results were poor. The current location of the core is unknown. Delta gold acquired the tenement in 2000, and drilled 20 RC holes and 1 diamond hole below the existing pit. This allowed a resource to be calculated of 2.6 million tonnes @ 2.1gpt. Placer Dome subsequently acquired the tenement through their takeover of AurionGold in 2002, and conducted no exploration until a Barrick takeover in 2004. Barrick gold conducted channel sampling of the pit walls in 2007, followed by 2 diamond drillholes in 2008, with limited success. No further exploration has taken place on the tenement since.
Geology	Deposit type, geological setting and style of mineralisation.	The Six mile Deposit is situated within the Boorara domain of the Kalgoorlie Terrane, part of the Norseman-Wiluna Greenstone Belt. The Scotia-Kanowna dome, a D2 granodioritic pluton, intrudes a Boorara domain sequence of lower basalt, komatiites, upper basalt and felsic volcanics The six mile area is dominated by massive chlorite-amphibole basalt with at least two phases of quartz feldspar porphyry intrusion. Two main shear orientations exist within the pit. NW-trending and ENE-trending. Mineralisation occurs within quartz-carbonate veins hosted by these discrete shears Stockwork mineralisation is hosted within the basalt in proximity to shallow to moderately dipping lodes. Mineralisation also exists on the Footwall and Hangingwall of porphyry contacts. The Main Fletcher Porphyry hosts consistent low grade mineralisation, and a supergene lode exists in the Main Pit zone (the Main Pit Pod).
Drill hole Information	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: o easting and northing of the drill hole collar o elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar	Too many holes to practically list the complete dataset, the long section and plan reflect the hole positions used for previous estimation stated. All recent drill intersections yet to be reported to the ASX are presented with this report.

Criteria	JORC Code explanation	Commentary
	○ dip and azimuth of the hole ○ down hole length and interception depth ○ hole length.	
	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.	
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.	All reported assay results have been length weighted to provide an intersection width. A maximum of 2m of barren material between mineralised samples has been permitted in the calculation of these widths.
	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.	No assay results have been top-cut for the purpose of this report. A lower cut-off of 1gpt has been used to identify significant results, although lower results are included where a known ore zone has been intercepted, and the entire intercept is low grade.
	The assumptions used for any reporting of metal equivalent values should be clearly stated.	No metal equivalent values have been used for the reporting of these exploration results.
Relationship between mineralisation widths and intercept lengths	These relationships are particularly important in the reporting of Exploration Results.	True widths have been calculated for intersections of the known ore zones, based on existing knowledge of the nature of these structures. Both the downhole width and true width have been clearly specified when used. A reinterpretation of the area has made it clear that many of the historic holes have been drilled in poor orientations, with regards to the mineralised structures. Further holes are being planned at more appropriate orientations to better test the mineralised structures
	If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.	Both the downhole width and true width have been clearly specified when used.
	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 plans and section have been included in this report
Balanced reporting	Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	Both high and low grades have been reported accurately, clearly identified with the drillhole attributes and 'From' and 'To' depths.
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.	No further relevant work has been carried out at the Six mile project.
Further work	The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).	Following the reinterpretation of the Six Mile project, and the creation of a new geological model, resource estimation is currently underway. A pit optimisaiton will then follow. Once this is completed, further drillholes are planned to increase the confidence in the area and convert the inferred resource to indicated, as well as increasing the size of the reportable resource.
	Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	

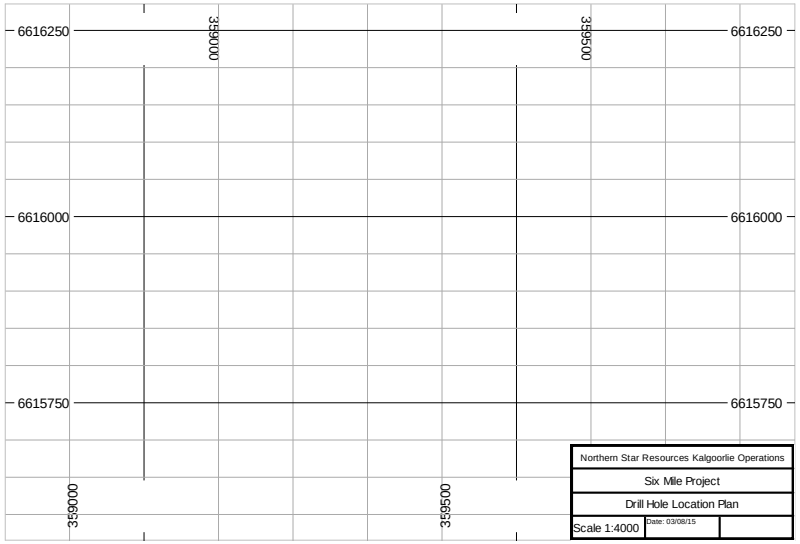
Section 3 Estimation and Reporting of Mineral Resources

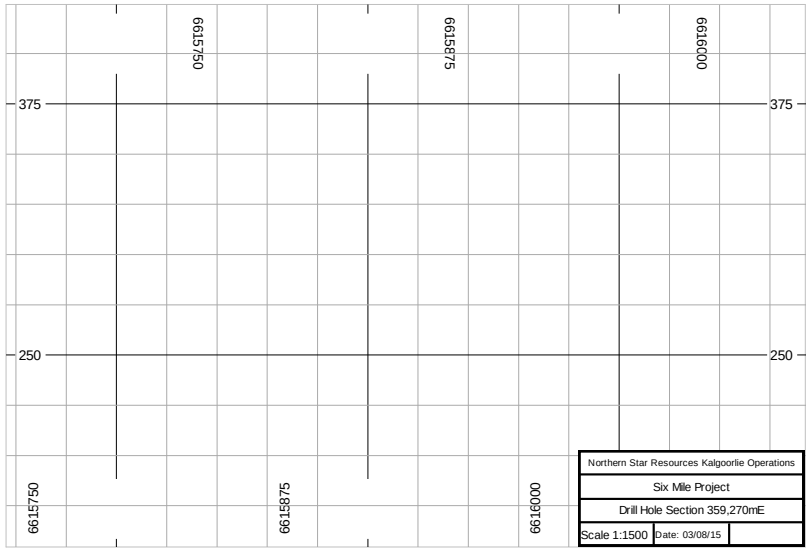
(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

Criteria	JORC Code explanation	Commentary
Database integrity	Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.	All data is stored in a digital database with logging of changes and management of data integrity. Validation is enforced when the data is captured. Data is exported to ASCII files before importation into resource modeling software, no manual editing is undertaken on any data during the export/import process
	Data validation procedures used.	Random checks through use of the data and data validation procedure prior to resource estimation.
Site visits	Comment on any site visits undertaken by the Competent Person and the outcome of those visits.	This resource estimate has been conducted by geologists working in the area and in direct, daily contact with the data used in this resource estimate.
	If no site visits have been undertaken indicate why this is the case.	Multiple site visits undertaken by Geologists supervising the drilling programs and preparing the Geological interpretation.
Geological interpretation	Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.	There is reasonable confidence in the geological interpretation. The Geological interpretation is based on a combination of Geological logging and mapping within the existing pit. Geological logging includes both contemporary and historic data. The main geological features are exposed in the existing pit and are believed to be well understood. Geological features not exposed are solely supported by drill data.
	Nature of the data used and of any assumptions made.	Nil
	The effect, if any, of alternative interpretations on Mineral Resource estimation.	No alternative estimates have been conducted
	The use of geology in guiding and controlling Mineral Resource estimation.	Wireframes of the interpreted geology have been used to constrain mineralisation
	The factors affecting continuity both of grade and geology.	
Dimensions	The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.	Mineralisation has been identified over a strike length of approximatly 600m and over a depth of approximately 350m. Mineralised horizons vary in thickness between 2.6m and 15m, with an average thickness of around 4.0m
Estimation and modelling techniques	The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.	Most drill holes were composited into 1m intervals down hole within each interpreted domain. 2m composite lengths were selected for two horizons as the uncomposited data set contained significant numbers of samples with lengths greater than 1m. The composite lengths were allowed to vary between half and one and a half times the nominal composite length to ensure that no sampling was lost during the compositing process. The average grade and total length of the composite data was compared against the average grade and total length of the uncomposited data to check the compositing process. The distribution of composite lengths was checked to ensure that the majority of the composites were close to the targeted length. Simple Kriging was used to estimate all mineralised domains. The local mean value used for Simple Kriging was calculated from the declustered mean of the top-cut composited sample data.
	The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.	The estimated grades were assessed against sample grades and, where applicable, previous estimates.
	The assumptions made regarding recovery of by-products.	No assumptions are made and only gold is defined for estimation.
	Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).	No deleterious elements estimated in the model.
	In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.	Block size is 20m x20m. Search distances used for estimation based on variogram ranges and vary by domain.

Criteria	JORC Code explanation	Commentary
	Any assumptions behind modelling of selective mining units.	No assumptions made
	Any assumptions about correlation between variables.	No assumptions made
	Description of how the geological interpretation was used to control the resource estimates.	"Ore" wireframes are created within the geological shapes based on drill core logs.
	Discussion of basis for using or not using grade cutting or capping.	Top-cuts were applied to the sample data based on a statistical analysis of the data and vary by domain.
	The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.	The Kriging neighbourhood was refined using statistical measures of Kriging quality. The estimated grades were assessed against sample grades and against declustered mean values.
Moisture	Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	Tonnages are estimated on a dry basis.
Cut-off parameters	The basis of the adopted cut-off grade(s) or quality parameters applied.	Cut-off grades for reporting the resource were developed using a Gold Price of A$1,600 and budgeted mining costs for 2015/16.
Mining factors or assumptions	Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.	An open pit optimisation study was run to select the portion of the model to be included in the resource tabulation. Dilution and recovery factors were included in the optimisation study. Mining costs were developed with reference to typical costs currently available. The reported resource is contained within the optimum shell for a A$1,600/oz gold price.
Metallurgical factors or assumptions	The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.	Metallurgical recovery factors have been developed based on extensive experience processing similar material from the Kanowna area.
Environmental factors or assumptions	Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.	The utilisation of existing infrastructure will minimize the impact of development of the project. It has been assumed that the permits required for the operation will be readily obtainable.
Bulk density	Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.	Bulk density measurements from project drilling and from production within the area were used to assign values within interpreted weathering horizons.
	The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.	No/minimal voids are encountered in the ore zones.
	Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.	Bulk densities are applied to domains for the ore zone and by oxidation state.
Classification	The basis for the classification of the Mineral Resources into varying confidence categories.	Classification is based on a series of factors including: • Geologic grade continuity • Density of available drilling • Statistical evaluation of the quality of the kriging estimate

Criteria	JORC Code explanation	Commentary
	Whether appropriate account has been taken of all relevant factors (ie. relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).	
	Whether the result appropriately reflects the Competent Person's view of the deposit.	This mineral resource estimate is considered representative
Audits or reviews	The results of any audits or reviews of Mineral Resource estimates.	The resource model has been reviewed internally by Northern Star staff
Discussion of relative accuracy/ confidence	Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.	This mineral resource estimate is considered as robust and representative of the Six Mile style of mineralisation. The estimate is considered to be robustly estimated on a global scale for material classified as inferred.
	The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.	
	These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.	No production data to compare.





Plan view and representative section of the Six Mile deposit

JORC Code, 2012 Edition – Table 1 Report: Kundana Underground Resource (30 June 2015) and Drill Results at August 2015

(Rubicon, Hornet, Pegasus, Drake, Pope John, Moonbeam, Millennium, Arctic, Raleigh and Skinners Vein)

Section 1 Sampling Techniques and Data

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

Criteria	JORC Code explanation	Commentary
Sampling techniques	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.	Sampling was completed using a combination of Reverse circulation (RC) and Diamond Drilling (DD). RC drilling was used to drill pre-collars for many of the Resource definition holes with diamond tails. Diamond drilling constitutes the rest of the drilling.
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	Diamond core was transferred to core trays for logging and sampling. Half core samples were nominated by the geologist from both NQ2 and HQ diamond core, with a minimum sample width of either 20cm (HQ) or 30cm (NQ2). RC samples were split using a rig-mounted cone splitter on 1m intervals to obtain a sample for assay. 4m Composite spear samples were collected for most of each hole, with 1m samples submitted for areas of known mineralisation or anomalism.
	Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.	Samples were taken to Genalysis Kalgoorlie for preparation by drying, crushing to <3mm, and pulverizing the entire sample to <75µm. 300g Pulps splits were then dispatched to Genalysis Perth for 50g Fire assay charge and AAS analysis.
Drilling techniques	Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).	Both RC and Diamond Drilling techniques were used at the K2 deposits. Diamond drillholes completed pre-2011 were predominantly NQ2 (50.5mm). All resource definition holes completed post 2011 were drilled using HQ (63.5mm) diameter core Core was orientated using the Reflex ACT Core orientation system. RC Drilling was completed using a 5.75" drill bit, downsized to 5.25" at depth. 7 RC pre-collars were drilled followed by diamond tails. Pre-collar depth was to 180m or less if approaching known mineralisation.
Drill sample recovery	Method of recording and assessing core and chip sample recoveries and results assessed.	RC drilling contractors adjust their drilling approach to specific conditions to maximize sample recovery. Moisture content and sample recovery is recorded for each RC sample. No recovery issues were identified during 2013 RC drilling. Recovery was poor at the very beginning of each hole, as is normal for this type of drilling in overburden.
	Measures taken to maximise sample recovery and ensure representative nature of the samples.	For diamond drilling the contractors adjust their rate of drilling and method if recovery issues arise. All recovery is recorded by the drillers on core blocks. This is checked and compared to the measurements of the core by the geological team. Any issues are communicated back to the drilling contractor.
	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.	Recovery was excellent for diamond core and no relationship between grade and recovery was observed. For RC drilling, pre-collars were ended before known zones of mineralisation and recovery was very good through any anomalous zones, so no issues occurred.
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 diamond core is logged for Regolith, Lithology, veining, alteration, mineralisation and structure. Structural measurements of specific features are also taken through oriented zones.
	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.	All logging is quantitative where possible and qualitative elsewhere. A photograph is taken of every core tray.

Criteria	JORC Code explanation	Commentary
	The total length and percentage of the relevant intersections logged.	RC sample chips are logged in 1m intervals. For the entire length of each hole. Regolith, Lithology, alteration, veining and mineralisation are all recorded.
Sub-sampling techniques and sample preparation	If core, whether cut or sawn and whether quarter, half or all core taken.	All Diamond core is cut and half the core is taken for sampling. The remaining half is stored for later use.
	If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.	All RC samples are split using a rig-mounted cone splitter to collect a 1m sample 3-4kg in size. These samples were submitted to the lab from any zones approaching known mineralisation and from any areas identified as having anomalous gold. Outside of mineralised zones spear samples were taken over a 4m interval for composite sampling.
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	The sample preparation is considered appropriate
	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	Field duplicates were taken for RC samples at a rate of 1 in 20
	Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate / second-half sampling.	Sample preparation was conducted at Genalysis Kalgoorlie, commencing with sorting, checking and drying at less than 110°C to prevent sulphide breakdown. Samples are jaw crushed to a nominal -6mm particle size. If the sample is greater than 3kg a Boyd crusher with rotary splitter is used to reduce the sample size to less than 3kg (typically 1.5kg) at a nominal <3mm particle size. The entire crushed sample (if less than 3kg) or sub-sample is then pulverized to 90% passing 75µm, using a Labtechnics LM5 bowl pulveriser. 300g Pulp subsamples are then taken with an aluminium scoop and stored in labelled pulp packets.
	Whether sample sizes are appropriate to the grain size of the material being sampled.	Grind checks are performed at both the crushing stage(3mm) and pulverising stage (75µm), requiring 90% of material to pass through the relevant size.
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.	A 50g Fire assay charge is used with a lead flux, dissolved in the furnace. The prill is totally digested by HCl and HNO3 acids before Atomic absorption spectroscopy (AAS) determination for gold analysis.
	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 geophysical tools were used to determine any element concentrations
	Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie. lack of bias) and precision have been established.	Certified reference materials (CRMs) are inserted into the sample sequence randomly at a rate of 1 per 20 samples to ensure correct calibration. Any values outside of 3 standard deviations are re-assayed with a new CRM. Blanks are inserted into the sample sequence at a rate of 1 per 20 samples, This is random, except where high grade mineralisation is expected. Here, a Blank is inserted after the high grade sample to test for contamination. Failures above 0.2gpt are followed up, and re-assayed. New pulps are prepared if failures remain. Field Duplicates are taken for all RC samples (1 in 20 sample). No Field duplicates are submitted for diamond core.
Verification of sampling and assaying	The verification of significant intersections by either independent or alternative company personnel.	All significant intersections are verified by another Northern Star geologist during the drill hole validation process, and later by a Competent person to be signed off
	The use of twinned holes.	No Twinned holes were drilled for this data set
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	Geological logging was captured using excel templates. Both a hardcopy and electronic copy of these are stored, as well as being loaded in to the database using automatic acquire loaders. Assay files are received in csv format and loaded directly into the database by the Database administrator (DBA). A geologist then checks that the results have inserted correctly. Hardcopy and electronic copies of these are stored. No adjustments are made to this assay data.
	Discuss any adjustment to assay data.	
Location of data	Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource	A planned hole is pegged using a Differential GPS by the field assistants

Criteria	JORC Code explanation	Commentary
points	estimation.	Underground diamond holes are picked up by mine surveyors
	Specification of the grid system used.	During drilling single-shot surveys are every 30m to ensure the hole remains close to design. This is performed using the Reflex Ez-Trac system. Upon hole completion, a Gyroscopic survey is conducted by ABIMS, taking readings every 5m for improved accuracy. This is done in true north.
	Quality and adequacy of topographic control.	The final collar is picked up after hole completion by Differential GPS in the MGA 94_51 grid. Quality topographic control has been achieved through Lidar data and survey pickups of holes over the last 15 years.
Data spacing and distribution	Data spacing for reporting of Exploration Results.	Drillhole spacing across the area varies. For the Resource definition drilling, spacing was typically 40m x 40m, to allow the resource to be upgraded to indicated. For the Pode drilling spacing was approximately 20m x 20m. The HRPD drilling was much more wide spaced, as this is largely unclassified. Spacing is wider than 160m in some areas.
	Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.	The data spacing is considered appropriate
	Whether sample compositing has been applied.	No compositing has been applied to these exploration results, although composite intersections are reported.
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 majority of the structures in the Kundana camp dip steeply (80°) to WSW. The Pode structure has a much shallower dip in a similar direction, approximately 60° . To target these orientations the drillhole dips of 60-70° towards ~060° achieve high angle intersections on all structures.
	If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.	No sampling bias is considered to have been introduced by the drilling orientation
Sample security	The measures taken to ensure sample security.	Prior to laboratory submission samples are stored by Northern Star Resources in a secure yard. Once submitted to the laboratories they are stored in a secure fenced compound, and tracked through their chain of custody and via audit trails
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	No audits or reviews have recently been conducted on sampling techniques.

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 interests, historical sites, wilderness or national park and environmental settings.	The Hornet, Rubicon and Pegasus project are held by The East Kundana Joint Venture (EKJV). The EKJV is majority owned and managed by Northern Star Resources Limited (51%). The minority holding in the EKJV is held by Tribune Resources Ltd (36.75%) and Rand Mining Ltd (12.25%). The Hornet, Rubicon Pegasus and Drake deposits are hosted on M16/309 The tenement on which the Hornet, Rubicon, Pegasus and Drake deposits are hosted (M16/309) is subject to two royalty agreements; however neither of these is applicable to the actual Pegasus deposit. The agreements that are on M16/309 but not relevant to the Pegasus project are the Kundana-Hornet Central Royalty and the Kundana Pope John Agreement No. 2602-13. The Moonbeam deposit is hosted within M16/157, which is owned 100% by Northern Star Resource The Pope John deposit occurs at the junction of 3 tenements. The deposit is hosted on 100% NST tenure (M16/157, M16/97, M16/87). The Millennium and Centenary deposits are within M16/87. The Arctic deposit is hosted within M16/72

Criteria	JORC Code explanation	Commentary
		The Raleigh and Skinners deposits are located on M15/993. A small portion of the Raleigh orebody (Raleigh North) crosses on to M16/157
	The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.	No known impediments exist and the tenements are in good standing
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	The first reference to the mineralisation style encountered at the Pegasus project was the mines department report on the area produced by Dr. I. Martin (1987). He reviewed work completed in 1983 – 1984 by a company called Southern Resources, who identified two geochemical anomalies, creatively named Kundana #1 and Kundana #2. The Kundana #2 prospect was subdivided into a further two prospects, dubbed K2 and K2A. Between 1987 and 1997, limited work was completed. Between 1997 and 2006 Tern Resources (subsequently Rand Mining and Tribune Resources), and Gilt-edged mining focused on shallow open pit potential which was not considered viable. In 2011, Pegasus was highlighted by an operational review team and follow-up drilling was planned through 2012. This report is concerned solely with 2014 drilling that led on from this period. Raleigh was discovered by Goldfields Limited in the early 2000's
Geology	Deposit type, geological setting and style of mineralisation.	The Kundana camp is situated within the Norseman-Wiluna Greenstone Belt, in an area dominated by the Zuleika shear zone, which separates the Coolgardie domain from the Ora Banda domain. K2-style mineralisation (Pegasus, Rubicon, Hornet) consists of narrow vein deposits hosted by shear zones located along steeply-dipping overturned lithological contacts. The K2 structure is present along the contact between a black shale unit (Centenary shale) and intermediate volcaniclastics (Sparogville formation). Minor mineralisation, termed K2B, also occurs further west, on the contact between the Victorious basalt and Bent Tree Basalt (both part of the regional upper Basalt Sequence). A 60° W dipping fault, offsets this contact and exists as a zone of vein-filled brecciated material hosting the Pode-style mineralisation. Raleigh is a laminated vein hosted on the Strzelecki structure, which is a discrete fault zone within the broader Zuleika Shear. Skinners vein is a flatter splay in the hangingwall of the Raleigh main vein.
Drill hole Information	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: o easting and northing of the drill hole collar o elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar o dip and azimuth of the hole o down hole length and interception depth o hole length.	Too many holes to practically list the complete dataset, the long section and plan reflect the hole positions used for previous estimation stated. All recent drill intersections yet to be reported to the ASX are presented with this report
	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.	
Data aggregation	In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off	All reported assay results have been length weighted to provide an intersection width. A maximum of 2m of barren material between mineralised samples has been permitted in the calculation of these

Criteria	JORC Code explanation	Commentary
methods	grades are usually Material and should be stated.	widths.
	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.	No assay results have been top-cut for the purpose of this report. A lower cut-off of 1gpt has been used to identify significant results, although lower results are included where a known ore zone has been intercepted, and the entire intercept is low grade.
	The assumptions used for any reporting of metal equivalent values should be clearly stated.	No metal equivalent values have been used for the reporting of these exploration results
Relationship between mineralisation widths and intercept lengths	These relationships are particularly important in the reporting of Exploration Results.	True widths have been calculated for intersections of the known ore zones, based on existing knowledge of the nature of these structures.
	If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.	Both the downhole width and true width have been clearly specified when used.
	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 plans and section have been included in this report
Balanced reporting	Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	Both high and low grades have been reported accurately, clearly identified with the drillhole attributes and 'From' and 'To' depths.
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.	Metallurgical testwork was conducted on 9 Pegasus samples. The results are summarized as follows: - All Pegasus recoveries were above 91% for the leach tests - Gravity gold recovery estimated at 55% - Cyanide consumption 0.62 kgpt; Lime 2.29 kgpt - Oxygen Consumption 60gpt per hour - Bond Ball mill work index average 18.1 kWh/t - Bond Abrasion Index average 0.1522
Further work	The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).	Further work will continue in 2015 to extend the indicated resource deeper by additional drilling and identify new mineralised shoots on the K2 structure. At Skinners, definition and extensional drilling are ongoing.
	Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	

Section 3 Estimation and Reporting of Mineral Resources

(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

Criteria	JORC Code explanation	Commentary
Database integrity	Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.	Sampling and logging data is either recorded on paper and manually into to an AcQuire database, or transferred from a logging laptop over to Acquire via an offline database. There are checks in place to avoid duplicate holes and sample numbers. Where possible, raw data is loaded directly to the database from laboratory and survey derived files.
	Data validation procedures used.	Random checks through use of the data and data validation procedure prior to resource estimation.
Site visits	Comment on any site visits undertaken by the Competent Person and the outcome of those visits.	This resource estimate has been conducted by geologists working in the mine and in direct, daily contact with the ore body data used in this resource estimate.
	If no site visits have been undertaken indicate why this is the case.	Multiple site visits undertaken by Geologists supervising the drilling programs and preparing the Geological interpretation.
Geological interpretation	Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.	The interpretation of the deposit was carried out using a systematic approach to ensure continuity of the geology and estimated mineral resource. The confidence in the geological interpretation is high with the information gained from ore development and underground drilling.
	Nature of the data used and of any assumptions made.	All available geological data was used in the interpretation including mapping, drillholes, 3D photogrammetry, structures.
	The effect, if any, of alternative interpretations on Mineral Resource estimation.	No alternative interpretations have been completed.
	The use of geology in guiding and controlling Mineral Resource estimation.	The interpretation of the main K2 structure is based on the presence of Quartz veining and continuity between sections on the K2 structure. Drill core logging and face development mapping is used to create 3D constrained wireframes.
	The factors affecting continuity both of grade and geology.	Continuity is affected by the orientation of the K2 structure, and several dextral offset fault structures
Dimensions	The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.	The dimensions for each deposit reported vary, however typically the following dimensions: • Strike length = Up to 1000m for each K2 and Strzelecki shoot and associated structures • Width = ~0.5-2m average, with widths up greater than 5m • Depth = from surface to ~700m maximum below surface
Estimation and modelling techniques	The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.	Estimation and modelling techniques varied depending on the deposit: **Rubicon, Hornet & Raleigh Resources:** Ordinary Kriging (OK) was used to estimate this resource, using Datamine Studio 3. Two separate domains were used to constrain the main K2 with dilution skins of 0.5m used to constrain the immediate footwall and hangingwall outside the main ore zone. Hangingwall lodes were constrained according to geological features. Each domain is validated against the lithology, and then snapped to the drill-hole and face data to constrain the mineralised envelope as a footwall and hangingwall surface. Compositing of drill-hole samples was completed downhole against any domain flagged in the sample file to belong to the corresponding wireframe for the main K2. Domains within the hangingwall lodes were flagged via use of the 3D wireframes. Post estimation, resource estimations do not have tonnage or grade factors applied. Only gold was estimated and no deleterious elements are noted or estimated.
		Pegasus, Pope John, Moonbeam & Arctic Resources: Ordinary Kriging was used in areas with good drill coverage, Simple Kriging was used to estimate areas with poor drill coverage.

Criteria	JORC Code explanation	Commentary
		Drill holes were composited into 1m intervals down hole within each interpreted domain. The composite lengths were allowed to vary between 0.5m and 1.5m to ensure that no sampling was lost during the compositing process. The average grade and total length of the composite data was compared against the average grade and total length of the uncomposited data to check the compositing process. The distribution of composite lengths was checked to ensure that the majority of the composites were close to the targeted length. The local mean value used for Simple Kriging was calculated from the declustered mean of the top-cut composited sample data. Search distances used for estimation based on variogram ranges and vary by domain. Drill spacing is generally around 20m x 20m for the indicated resource and around 40m x 40m for the inferred resource. Top-cuts were applied to the sample data based on a statistical analysis of the data and vary by domain. The Kriging neighborhood was refined using statistical measures of Kriging quality. The estimated grades were assessed against sample grades and against declustered mean values Post estimation, resource estimations do not have tonnage or grade factors applied.
		Millennium Resource: Simple Kriging was used for all estimation of all subdomains. Three subdomains were applied to the main K2 ore zone based on grade/grade accumulation and geological interpretation. A 5m dilution zone was estimated either side of the main K2. Drill holes were composited to one single interval for the main K2. Drillholes were composited into 1m intervals down hole within the footwall and hangingwall dilution zones. The average grade and total length of the composite data was compared against the average grade and total length of the uncomposited data to check the compositing process. The distribution of composite lengths was checked to ensure that the majority of the composites were close to the targeted length. The local mean value used for Simple Kriging was calculated from the declustered mean of the top-cut composited sample data. Search distances used for estimation based on variogram ranges and vary by domain. Drill spacing is generally around 40m x 40m or more. Areas within Millennium and below the history Centenary Underground workings were defined as inferred resource. Top-cuts were applied to the sample data based on a statistical analysis of the data and vary by domain. The Kriging neighbourhood was refined using statistical measures of Kriging quality. Estimation for the K2 was based on grade accumulation, with final grade back-calculated from estimated metal and width. No assumptions are made and only gold is defined for estimation No deleterious elements estimated in the model "Ore" wireframes are created within the geological shapes based on drill core logging. Low grades can form part of an ore wireframe.
	The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.	The estimated grades were assessed against sample grades and, where applicable, previous estimates.
	The assumptions made regarding recovery of by-products.	No assumptions are made and only gold is defined for estimation
	Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).	No deleterious elements estimated in the model
	In the case of block model interpolation, the block size in relation to the average	Rubicon, Hornet, Raleigh:

Criteria	JORC Code explanation	Commentary
	sample spacing and the search employed.	Block size is 5m x 5m sub-blocked to 2.5m x 2.5m to suit the narrow north-south orientation of the majority of the domains Average sample spacing is 3.5m (Rub-Hor) and 3.1m (Ral) in the case of face samples. Search ellipsoids are 50 * 80 * 30m to 75 * 80 * 70m (Rub-Hor) & 50 * 120 * 30m to 75 * 120 * 75m (Ral), varying for each zone and the minimum number of samples required on successive passes. Pegasus: Grades were estimated into 10m(N/S) x 10m(elev) panels. Millennium: Block size is 50m x 50m sub-blocked to 2.5m x 2.5m to suit the narrow north-south orientation of the majority of the domains Average sample spacing ranges between 40x40m for Centenary to >50x50mm for Millennium. Search ellipsoids range between minimum 60 * 60 * 5m (hangingwall dilution domain) to 200 * 200 * 5m (Centenary), varying for each zone and the minimum number of samples required on successive passes.
	Any assumptions behind modelling of selective mining units.	No assumptions made
	Any assumptions about correlation between variables.	No assumptions made
	Description of how the geological interpretation was used to control the resource estimates.	"Ore" wireframes are created within the geological shapes based on drill core logs, face samples, 3D digitized mapping and grade. Low grades can form part of an ore wireframe. A dilution 'skin' is translated 0.5m on both the footwall and hangingwall of the main ore wireframe and is estimated separately to the main ore and surrounding waste but not reported.
	Discussion of basis for using or not using grade cutting or capping.	Top-cuts were applied to the composited sample data with the intention of reducing the impact of outlier values on the average grade. Top cuts were selected based on a statistical analysis of the data with a general aim of not impacting the mean by more than 5% and vary by domain (ranging from 1 to 400gpt for individual domains and deposits)
	The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.	Validation is through swath plots comparing composites to block model grades, along 20m eastings and RL. Visually, block grades are assessed against drill hole and face data data
Moisture	Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	Tonnages are estimated on a dry basis.
Cut-off parameters	The basis of the adopted cut-off grade(s) or quality parameters applied.	A cut-off grade (COG) of 3.26gpt was developed based on an assumed A$1,600/oz gold price. The COG was calculated by site based engineers using the cost inputs at the producing Kundana operations. A minimum mining width of 2.0m was assumed.
Mining factors or assumptions	Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.	Historical mining and reconciliation data does not affect wire frame interpretation.
Metallurgical factors or assumptions	The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.	Metallurgical test work results show that the mineralisation is amendable to processing through the Kanowna Belle treatment plant. Ore processing throughput and recovery parameters were estimated based on historic performance and potential improvements available using current technologies and practices.

Criteria	JORC Code explanation	Commentary
Environmental factors or assumptions	Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.	A "License to Operate" is held by the operation which is issued under the requirement of the "Environmental Protection Act 1986", administered by the Department of Environment (DoE). The licence stipulates environmental conditions for the control of air quality, solid waste management, water quality, and general conditions for operation. Groundwater licenses are held for water abstraction, including production borefield water use for mineral processing, and mine dewatering, in accordance with the Rights in Water and Irrigation Act 1914. These licenses are also regulated by DoE and are renewable on a regular basis. Kanowna Operations conduct extensive environmental monitoring and management programs to ensure compliance with the requirements of the licenses and lease conditions. An Environmental Management System is in place to ensure that Northern Star employees and contractors exceed environmental compliance requirements. The Kalgoorlie operations (including Kundana) are fully permitted including groundwater extraction and dewatering, removal of vegetation, mineral processing, and open pits.
Bulk density	Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.	Bulk density is assumed and comparable to neighbouring deposits at Kundana. Bulk densities from neighbouring deposits were determined from surface diamond drillholes with intervals taken from mineralised and non-mineralised zones within the project area. The bulk densities are derived from wet and dry weighting of core no greater than 30cm total length, with core samples selected by changes in lithology/alteration or every 30-40m where no change is evident.
	The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.	No/minimal voids are encountered in the ore zones and underground environment
	Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.	Bulk densities are applied to domains for the ore zone, footwall and hangingwall as constrained by the lode wireframes
Classification	The basis for the classification of the Mineral Resources into varying confidence categories.	Classification is based on a series of factors including: • Geologic grade continuity • Density of available drilling • Statistical evaluation of the quality of the kriging estimate
	Whether appropriate account has been taken of all relevant factors (ie. relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).	
	Whether the result appropriately reflects the Competent Person's view of the deposit.	This mineral resource estimate is considered representative
Audits or reviews	The results of any audits or reviews of Mineral Resource estimates.	This particular resource has not been audited externally. The 2014 YE Pegasus estimate was audited externally by CSA Global, with no significant issues identified. The methodology has not since changed.
Discussion of relative accuracy/ confidence	Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.	This mineral resource estimate is considered as robust and representative of the Kundana style of mineralisation. The application of geostatistical methods has helped to increase the confidence of the model and quantify the relative accuracy of the resource.
	The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.	This resource report relates to the entirety of the ore zone and surrounding dilution skins. Each of these will show local variability even though the global estimate reflects the total average tonnes and grade.
	These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.	No reconciliation factors are applied to the resource post-modelling.

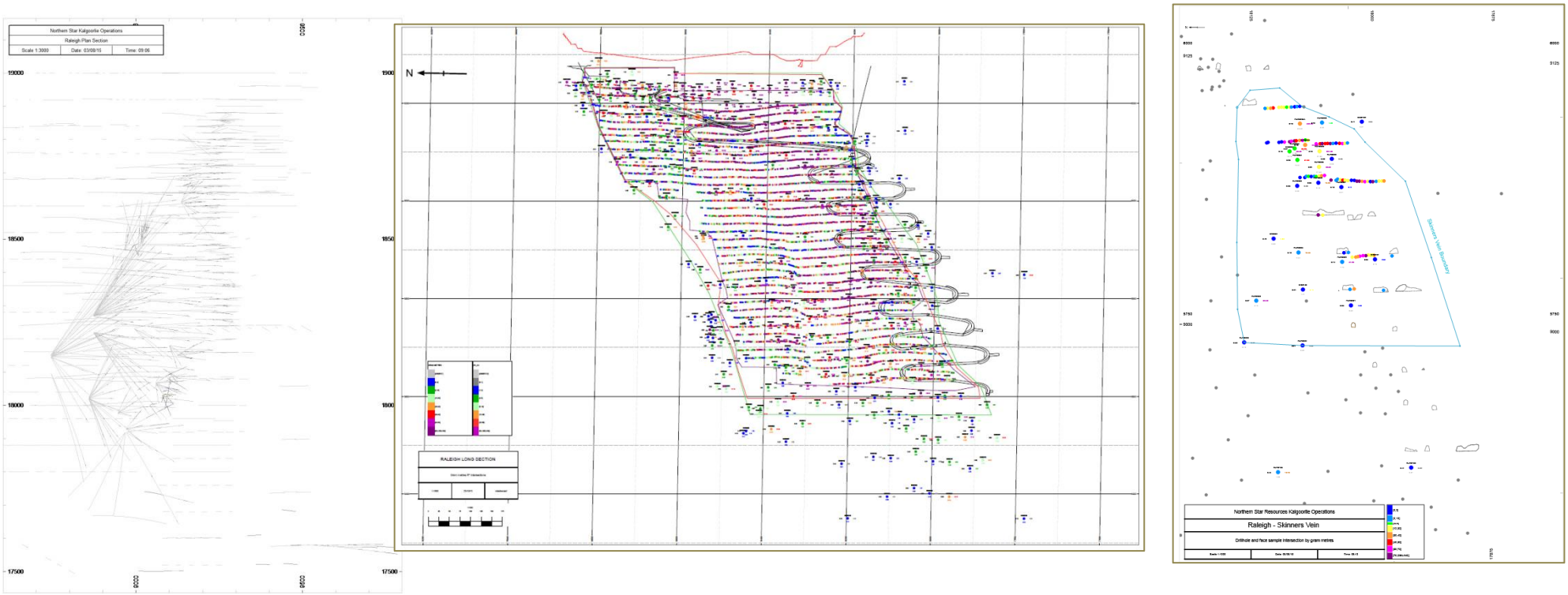
Section 4 Estimation and Reporting of Ore Reserves

(Criteria listed in section 1, and where relevant in sections 2 and 3, also apply to this section.)

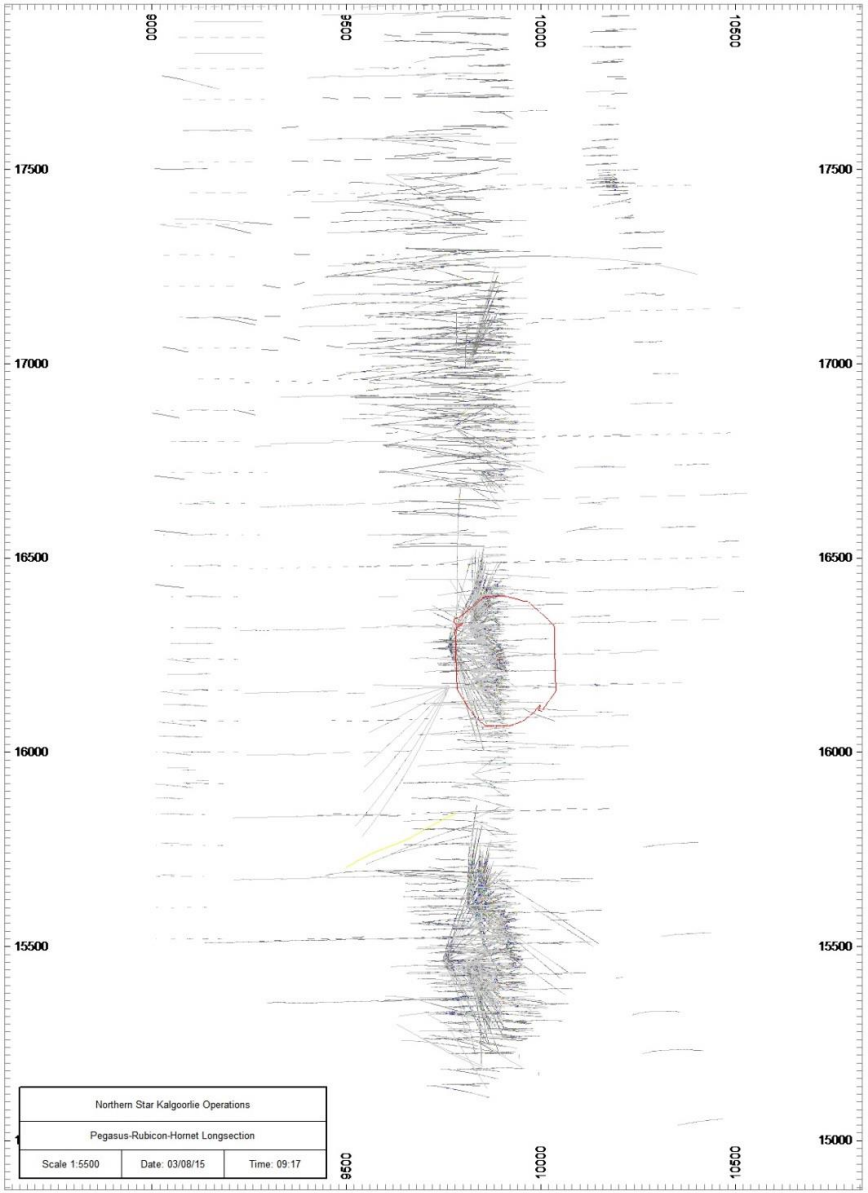
Criteria	JORC Code explanation	Commentary
Mineral Resource estimate for conversion to Ore Reserves	Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve.	Northern Star 2015MY resource
	Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.	The Mineral Resources are reported inclusive of the Ore Reserve
Site visits	Comment on any site visits undertaken by the Competent Person and the outcome of those visits.	Site visits have been undertaken by the competent person. The competent person is currently engaged to work on site
	If no site visits have been undertaken indicate why this is the case.	Site visits undertaken
Study status	The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.	Feasibility Study
	The Code requires that a study to at least Pre-Feasibility Study level has been undertaken to convert Mineral Resources to Ore Reserves. Such studies will have been carried out and will have determined a mine plan that is technically achievable and economically viable, and that material Modifying Factors have been considered.	Upgrade of previous Ore Reserve
Cut-off parameters	The basis of the cut-off grade(s) or quality parameters applied.	Break even cut off of 3.67gpt applied based on forecast costs
Mining factors or assumptions	The method and assumptions used as reported in the Pre-Feasibility or Feasibility Study to convert the Mineral Resource to an Ore Reserve (i.e. either by application of appropriate factors by optimisation or by preliminary or detailed design).	Indicated Resources were converted to Probable Ore Reserves subject to mine design physicals and an economic evaluation.
	The choice, nature and appropriateness of the selected mining method(s) and other mining parameters including associated design issues such as pre-strip, access, etc.	Selected mining method deemed appropriate as it has been used at Raleigh since 2005 & Rubicon Hornet since 2011.
	The assumptions made regarding geotechnical parameters (eg pit slopes, stope sizes, etc), grade control and pre-production drilling.	Stope strike length generally 15m for dilution control purposes.
	The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate).	This table 1 applies to underground mining only.
	The mining dilution factors used.	Based on historical mine performance, mining dilution of 2% Rock and 7% Paste dilution (9% total) for stoping additional to minimum mining width is applied as well as 10% dilution for Ore development.
	The mining recovery factors used.	Mining recovery factor of 95% is applied based on historical data
	Any minimum mining widths used.	At Rubicon, Hornet, Pegasus and Skinners vein (Raleigh): Minimum stope width of 3.0m where the vein is less than 2m wide. 1m additional to vein width when greater than 2m wide. At Raleigh main vein: Minimum stope width of 2.7m where the vein is less than 2m ide. 1m additional to vein width when greater than 2m wide.
	The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.	Designed stopes with greater than 50% inferred blocks are excluded from the reported reserve
	The infrastructure requirements of the selected mining methods.	Infrastructure in place, currently is an operating mine. Pegasus will make use of existing infrastructure.
Metallurgical factors or assumptions	The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.	All Kundana ore is treated at the Kanowna Belle milling facilities. These facilities are designed to handle approximately 1.8 million tonnes of feed per annum. The plant has the capability to treat both refractory and free milling ores, through either using the flotation circuit and associated concentrate roaster circuit (including carbon-in-leach (CIL) gold recovery), or bypassing the flotation circuit and going directly to a CIL circuit designed to treat flotation tails. The plant campaigns both refractory and free milling ores every month.

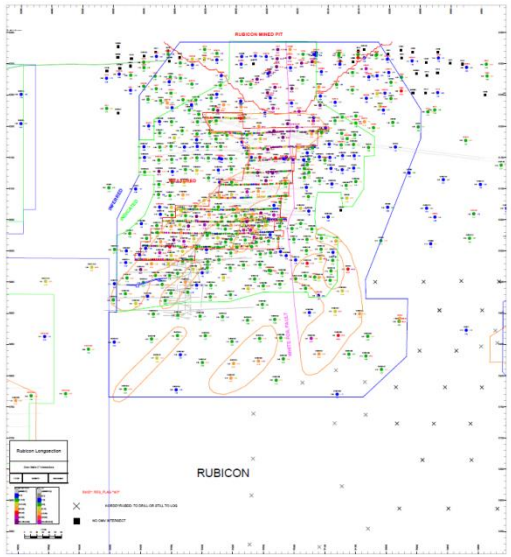
Criteria	JORC Code explanation	Commentary
		Between campaigns, the circuit is "cleaned out" using mineralised waste. The plant is made up of crushing, grinding, gravity gold recovery, flotation, roasting, CIL, elution and gold recovery circuits.
	Whether the metallurgical process is well-tested technology or novel in nature.	Milling experience gained since 2005, 8 years continuous operation
	The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.	Milling experience gained since 2005, 8 years continuous operation
	Any assumptions or allowances made for deleterious elements.	No assumption made
	The existence of any bulk sample or pilot scale test work and the degree to which such samples are considered representative of the orebody as a whole.	Milling experience gained since 2005, 8 years continuous operation
	For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications?	Not applicable
Environmental	The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterisation and the consideration of potential sites, status of design options considered and, where applicable, the status of approvals for process residue storage and waste dumps should be reported.	Rubicon, Hornet, Pegasus and Raleigh are currently compliant with all legal and regulatory requirements. All government permits and licenses and statutory approvals are either granted or in the process of being granted
Infrastructure	The existence of appropriate infrastructure: availability of land for plant development, power, water, transportation (particularly for bulk commodities), labour, accommodation; or the ease with which the infrastructure can be provided, or accessed.	All current site infrastructure is suitable to the proposed mining plan.
Costs	The derivation of, or assumptions made, regarding projected capital costs in the study.	Mine development capital cost based on historical performance on site and life-of-mine forward planning. Plant and equipment capital also based on site experience and the LOM plan
	The methodology used to estimate operating costs.	All overhead costs and operational costs are projected forward on a A$/t based on historical data
	Allowances made for the content of deleterious elements.	No allowances made
	The derivation of assumptions made of metal or commodity price(s), for the principal minerals and co- products.	Corporate guidance
	The source of exchange rates used in the study.	All in $A
	Derivation of transportation charges.	Historic performance
	The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.	Historic performance
	The allowances made for royalties payable, both Government and private.	All royalties are built into the cost model
Revenue factors	The derivation of, or assumptions made regarding revenue factors including head grade, metal or commodity price(s) exchange rates, transportation and treatment charges, penalties, net smelter returns, etc.	A$1,400/oz gold
	The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.	Corporate guidance
Market assessment	The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future.	All product is sold direct at market prices with no hedges in place
	A customer and competitor analysis along with the identification of likely market windows for the product.	Not applicable

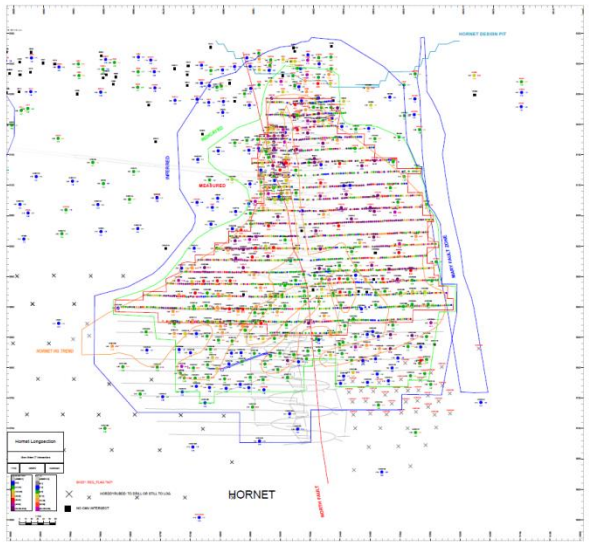
Criteria	JORC Code explanation	Commentary
	Price and volume forecasts and the basis for these forecasts.	Corporate guidance
	For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.	Not applicable
Economic	The inputs to the economic analysis to produce the net present value (NPV) in the study, the source and confidence of these economic inputs including estimated inflation, discount rate, etc.	All costs assumptions are made based on historical performance from the mine and current economic forecast seen as representative of current market conditions
	NPV ranges and sensitivity to variations in the significant assumptions and inputs.	Not available
Social	The status of agreements with key stakeholders and matters leading to social licence to operate.	Agreements are in place and are current with all key stakeholders
Other	To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves:	No issues.
	Any identified material naturally occurring risks.	No issues.
	The status of material legal agreements and marketing arrangements.	No issues.
	The status of governmental agreements and approvals critical to the viability of the project, such as mineral tenement status, and government and statutory approvals. There must be reasonable grounds to expect that all necessary Government approvals will be received within the timeframes anticipated in the Pre-Feasibility or Feasibility study. Highlight and discuss the materiality of any unresolved matter that is dependent on a third party on which extraction of the reserve is contingent.	No issues.
Classification	The basis for the classification of the Ore Reserves into varying confidence categories.	All Ore Reserves include Proved (if any) and Probable classifications
	Whether the result appropriately reflects the Competent Person's view of the deposit.	The results accurately reflect the competent persons view of the deposit
	The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).	Nil
Audits or reviews	The results of any audits or reviews of Ore Reserve estimates.	There have been no external reviews of this Ore reserve estimate
Discussion of relative accuracy/ confidence	Where appropriate a statement of the relative accuracy and confidence level in the Ore Reserve estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the reserve within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors which could affect the relative accuracy and confidence of the estimate.	Confidence in the model and Ore Reserve Estimate is considered high based on current mine and reconciliation performance
	The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.	Estimates are global but will be reasonable accurate on a local scale.
	Accuracy and confidence discussions should extend to specific discussions of any applied Modifying Factors that may have a material impact on Ore Reserve viability, or for which there are remaining areas of uncertainty at the current study stage.	Not applicable
	It is recognised that this may not be possible or appropriate in all circumstances. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.	Reconciliation of Rubicon and Hornet to date reflects estimates in studies

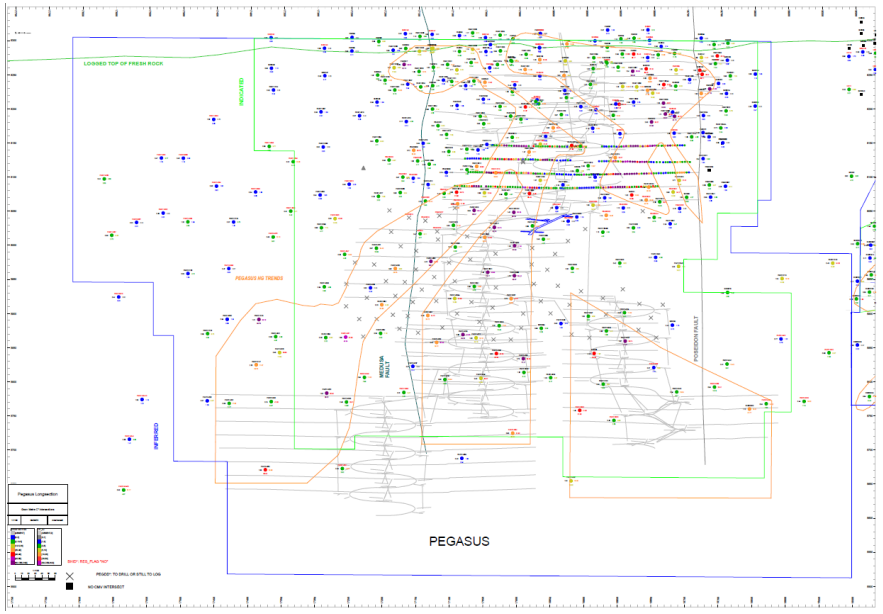


Plan View and Section Views of the Raleigh and Skinners Vein deposits









Plan and sections of the Rubicon Hornet and Pegasus Deposits

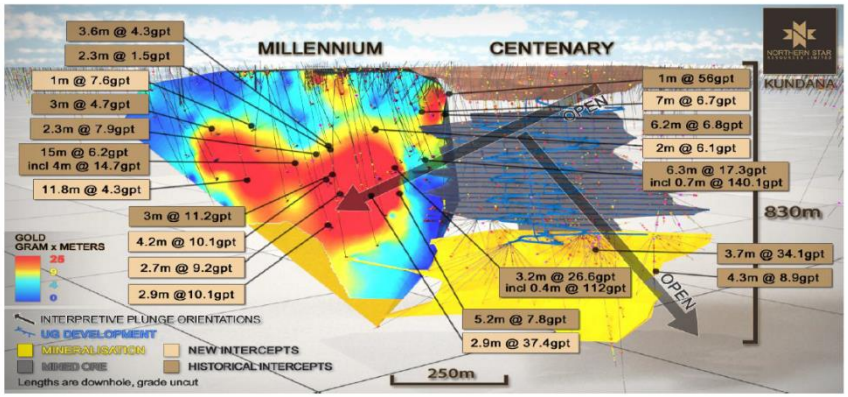


Figure 3: Long Section of the high grade Millennium discovery.

Long Section of the Millennium Deposit

JORC Code, 2012 Edition – Table 1 Report: Kundana EKJV Underground Resources and Drill Results 30 June 2015

(Rubicon, Hornet, Pegasus, Drake, Raleigh and Skinners Vein)

Section 1 Sampling Techniques and Data

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

Criteria	JORC Code explanation	Commentary
Sampling techniques	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.	Sampling was completed using a combination of Reverse circulation (RC) and Diamond Drilling (DD). RC drilling was used to drill pre-collars for many of the Resource definition holes with diamond tails. Diamond drilling constitutes the rest of the drilling.
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	Diamond core was transferred to core trays for logging and sampling. Half core samples were nominated by the geologist from both NQ2 and HQ diamond core, with a minimum sample width of either 20cm (HQ) or 30cm (NQ2). RC samples were split using a rig-mounted cone splitter on 1m intervals to obtain a sample for assay. 4m Composite spear samples were collected for most of each hole, with 1m samples submitted for areas of known mineralisation or anomalism.
	Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.	Samples were taken to Genalysis Kalgoorlie for preparation by drying, crushing to <3mm, and pulverizing the entire sample to <75µm. 300g Pulps splits were then dispatched to Genalysis Perth for 50g Fire assay charge and AAS analysis.
Drilling techniques	Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).	Both RC and Diamond Drilling techniques were used at the K2 deposits. Diamond drillholes completed pre-2011 were predominantly NQ2 (50.5mm). All resource definition holes completed post 2011 were drilled using HQ (63.5mm) diameter core Core was orientated using the Reflex ACT Core orientation system. RC Drilling was completed using a 5.75" drill bit, downsized to 5.25" at depth. 7 RC pre-collars were drilled followed by diamond tails. Pre-collar depth was to 180m or less if approaching known mineralisation.
Drill sample recovery	Method of recording and assessing core and chip sample recoveries and results assessed.	RC drilling contractors adjust their drilling approach to specific conditions to maximize sample recovery. Moisture content and sample recovery is recorded for each RC sample. No recovery issues were identified during 2013 RC drilling. Recovery was poor at the very beginning of each hole, as is normal for this type of drilling in overburden.
	Measures taken to maximise sample recovery and ensure representative nature of the samples.	For diamond drilling the contractors adjust their rate of drilling and method if recovery issues arise. All recovery is recorded by the drillers on core blocks. This is checked and compared to the measurements of the core by the geological team. Any issues are communicated back to the drilling contractor.
	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.	Recovery was excellent for diamond core and no relationship between grade and recovery was observed. For RC drilling, pre-collars were ended before known zones of mineralisation and recovery was very good through any anomalous zones, so no issues occurred.
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 diamond core is logged for Regolith, Lithology, veining, alteration, mineralisation and structure. Structural measurements of specific features are also taken through oriented zones.
	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.	All logging is quantitative where possible and qualitative elsewhere. A photograph is taken of every core tray.

Criteria	JORC Code explanation	Commentary
	The total length and percentage of the relevant intersections logged.	RC sample chips are logged in 1m intervals. For the entire length of each hole. Regolith, Lithology, alteration, veining and mineralisation are all recorded.
Sub-sampling techniques and sample preparation	If core, whether cut or sawn and whether quarter, half or all core taken.	All Diamond core is cut and half the core is taken for sampling. The remaining half is stored for later use.
	If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.	All RC samples are split using a rig-mounted cone splitter to collect a 1m sample 3-4kg in size. These samples were submitted to the lab from any zones approaching known mineralisation and from any areas identified as having anomalous gold. Outside of mineralised zones spear samples were taken over a 4m interval for composite sampling.
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	The sample preparation is considered appropriate
	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	Field duplicates were taken for RC samples at a rate of 1 in 20
	Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate / second-half sampling.	Sample preparation was conducted at Genalysis Kalgoorlie, commencing with sorting, checking and drying at less than 110°C to prevent sulphide breakdown. Samples are jaw crushed to a nominal -6mm particle size. If the sample is greater than 3kg a Boyd crusher with rotary splitter is used to reduce the sample size to less than 3kg (typically 1.5kg) at a nominal <3mm particle size. The entire crushed sample (if less than 3kg) or sub-sample is then pulverized to 90% passing 75µm, using a Labtechnics LM5 bowl pulveriser. 300g Pulp subsamples are then taken with an aluminium scoop and stored in labelled pulp packets.
	Whether sample sizes are appropriate to the grain size of the material being sampled.	Grind checks are performed at both the crushing stage(3mm) and pulverising stage (75µm), requiring 90% of material to pass through the relevant size.
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.	A 50g Fire assay charge is used with a lead flux, dissolved in the furnace. The prill is totally digested by HCl and HNO3 acids before Atomic absorption spectroscopy (AAS) determination for gold analysis.
	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 geophysical tools were used to determine any element concentrations
	Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie. lack of bias) and precision have been established.	Certified reference materials (CRMs) are inserted into the sample sequence randomly at a rate of 1 per 20 samples to ensure correct calibration. Any values outside of 3 standard deviations are re-assayed with a new CRM. Blanks are inserted into the sample sequence at a rate of 1 per 20 samples, This is random, except where high grade mineralisation is expected. Here, a Blank is inserted after the high grade sample to test for contamination. Failures above 0.2gpt are followed up, and re-assayed. New pulps are prepared if failures remain. Field Duplicates are taken for all RC samples (1 in 20 sample). No Field duplicates are submitted for diamond core.
Verification of sampling and assaying	The verification of significant intersections by either independent or alternative company personnel.	All significant intersections are verified by another Northern Star geologist during the drill hole validation process, and later by a Competent person to be signed off
	The use of twinned holes.	No Twinned holes were drilled for this data set
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	Geological logging was captured using excel templates. Both a hardcopy and electronic copy of these are stored, as well as being loaded in to the database using automatic acquire loaders. Assay files are received in csv format and loaded directly into the database by the Database administrator (DBA). A geologist then checks that the results have inserted correctly. Hardcopy and electronic copies of these are stored. No adjustments are made to this assay data.
	Discuss any adjustment to assay data.	
Location of data	Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource	A planned hole is pegged using a Differential GPS by the field assistants

Criteria	JORC Code explanation	Commentary
points	estimation.	Underground diamond holes are picked up by mine surveyors
	Specification of the grid system used.	During drilling single-shot surveys are every 30m to ensure the hole remains close to design. This is performed using the Reflex Ez-Trac system. Upon hole completion, a Gyroscopic survey is conducted by ABIMS, taking readings every 5m for improved accuracy. This is done in true north.
	Quality and adequacy of topographic control.	The final collar is picked up after hole completion by Differential GPS in the MGA 94_51 grid. Quality topographic control has been achieved through Lidar data and survey pickups of holes over the last 15 years.
Data spacing and distribution	Data spacing for reporting of Exploration Results.	Drillhole spacing across the area varies. For the Resource definition drilling, spacing was typically 40m x 40m, to allow the resource to be upgraded to indicated. For the Pode drilling spacing was approximately 20m x 20m. The HRPD drilling was much more wide spaced, as this is largely unclassified. Spacing is wider than 160m in some areas.
	Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.	The data spacing is considered appropriate
	Whether sample compositing has been applied.	No compositing has been applied to these exploration results, although composite intersections are reported.
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 majority of the structures in the Kundana camp dip steeply (80°) to WSW. The Pode structure has a much shallower dip in a similar direction, approximately 60° . To target these orientations the drillhole dips of 60-70° towards ~060° achieve high angle intersections on all structures.
	If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.	No sampling bias is considered to have been introduced by the drilling orientation
Sample security	The measures taken to ensure sample security.	Prior to laboratory submission samples are stored by Northern Star Resources in a secure yard. Once submitted to the laboratories they are stored in a secure fenced compound, and tracked through their chain of custody and via audit trails
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	No audits or reviews have recently been conducted on sampling techniques.

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 interests, historical sites, wilderness or national park and environmental settings.	The Hornet, Rubicon and Pegasus project are held by The East Kundana Joint Venture (EKJV). The EKJV is majority owned and managed by Northern Star Resources Limited (51%). The minority holding in the EKJV is held by Tribune Resources Ltd (36.75%) and Rand Mining Ltd (12.25%). The Hornet, Rubicon Pegasus and Drake deposits are hosted on M16/309 The tenement on which the Hornet, Rubicon, Pegasus and Drake deposits are hosted (M16/309) is subject to two royalty agreements; however neither of these is applicable to the actual Pegasus deposit. The agreements that are on M16/309 but not relevant to the Pegasus project are the Kundana- Hornet Central Royalty and the Kundana Pope John Agreement No. 2602-13. The Raleigh and Skinners deposits are located on M15/993. A small portion of the Raleigh orebody (Raleigh North) crosses on to M16/157
	The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.	No known impediments exist and the tenements are in good standing
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	The first reference to the mineralisation style encountered at the Pegasus project was the mines department report on the area produced by Dr. I. Martin (1987). He reviewed work completed in 1983 – 1984 by a company

Criteria	JORC Code explanation	Commentary
		called Southern Resources, who identified two geochemical anomalies, creatively named Kundana #1 and Kundana #2. The Kundana #2 prospect was subdivided into a further two prospects, dubbed K2 and K2A. Between 1987 and 1997, limited work was completed. Between 1997 and 2006 Tern Resources (subsequently Rand Mining and Tribune Resources), and Gilt-edged mining focused on shallow open pit potential which was not considered viable. In 2011, Pegasus was highlighted by an operational review team and follow-up drilling was planned through 2012. This report is concerned solely with 2014 drilling that led on from this period. Raleigh was discovered by Goldfields Limited in the early 2000's
Geology	Deposit type, geological setting and style of mineralisation.	The Kundana camp is situated within the Norseman-Wiluna Greenstone Belt, in an area dominated by the Zuleika shear zone, which separates the Coolgardie domain from the Ora Banda domain. K2-style mineralisation (Pegasus, Rubicon, Hornet) consists of narrow vein deposits hosted by shear zones located along steeply-dipping overturned lithological contacts. The K2 structure is present along the contact between a black shale unit (Centenary shale) and intermediate volcaniclastics (Sparogville formation). Minor mineralisation, termed K2B, also occurs further west, on the contact between the Victorious basalt and Bent Tree Basalt (both part of the regional upper Basalt Sequence). A 60° W dipping fault, offsets this contact and exists as a zone of vein-filled brecciated material hosting the Pode-style mineralisation. Raleigh is a laminated vein hosted on the Strzelecki structure, which is a discrete fault zone within the broader Zuleika Shear. Skinners vein is a flatter splay in the hangingwall of the Raleigh main vein.
Drill hole Information	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: o easting and northing of the drill hole collar o elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar o dip and azimuth of the hole o down hole length and interception depth o hole length.	Too many holes to practically list the complete dataset, the long section and plan reflect the hole positions used for previous estimation stated. All recent drill intersections yet to be reported to the ASX are presented with this report
	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.	
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.	All reported assay results have been length weighted to provide an intersection width. A maximum of 2m of barren material between mineralised samples has been permitted in the calculation of these widths.
	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.	No assay results have been top-cut for the purpose of this report. A lower cut-off of 1gpt has been used to identify significant results, although lower results are included where a known ore zone has been intercepted, and the entire intercept is low grade.
	The assumptions used for any reporting of metal equivalent values should be clearly stated.	No metal equivalent values have been used for the reporting of these exploration results
Relationship between mineralisation widths and	These relationships are particularly important in the reporting of Exploration Results.	True widths have been calculated for intersections of the known ore zones, based on existing knowledge of the nature of these structures.
	If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.	Both the downhole width and true width have been clearly specified when used.

Criteria	JORC Code explanation	Commentary
intercept lengths	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 plans and section have been included in this report
Balanced reporting	Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	Both high and low grades have been reported accurately, clearly identified with the drillhole attributes and 'From' and 'To' depths.
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.	Metallurgical testwork was conducted on 9 Pegasus samples. The results are summarized as follows: - All Pegasus recoveries were above 91% for the leach tests - Gravity gold recovery estimated at 55% - Cyanide consumption 0.62 kgpt; Lime 2.29 kgpt - Oxygen Consumption 60gpt per hour - Bond Ball mill work index average 18.1 kWh/t - Bond Abrasion Index average 0.1522
Further work	The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).	Further work will continue in 2015 to extend the indicated resource deeper by additional drilling and identify new mineralised shoots on the K2 structure.
	Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	At Skinners, definition and extensional drilling are ongoing.

Section 3 Estimation and Reporting of Mineral Resources

(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

Criteria	JORC Code explanation	Commentary
Database integrity	Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.	Sampling and logging data is either recorded on paper and manually into to an AcQuire database, or transferred from a logging laptop over to Acquire via an offline database. There are checks in place to avoid duplicate holes and sample numbers. Where possible, raw data is loaded directly to the database from laboratory and survey derived files.
	Data validation procedures used.	Random checks through use of the data and data validation procedure prior to resource estimation.
Site visits	Comment on any site visits undertaken by the Competent Person and the outcome of those visits.	This resource estimate has been conducted by geologists working in the mine and in direct, daily contact with the ore body data used in this resource estimate.
	If no site visits have been undertaken indicate why this is the case.	Multiple site visits undertaken by Geologists supervising the drilling programs and preparing the Geological interpretation.
Geological interpretation	Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.	The interpretation of the deposit was carried out using a systematic approach to ensure continuity of the geology and estimated mineral resource. The confidence in the geological interpretation is high with the information gained from ore development and underground drilling.
	Nature of the data used and of any assumptions made.	All available geological data was used in the interpretation including mapping, drillholes, 3D photogrammetry, structures.
	The effect, if any, of alternative interpretations on Mineral Resource estimation.	No alternative interpretations have been completed.

Criteria	JORC Code explanation	Commentary
	The use of geology in guiding and controlling Mineral Resource estimation.	The interpretation of the main K2 structure is based on the presence of Quartz veining and continuity between sections on the K2 structure. Drill core logging and face development mapping is used to create 3D constrained wireframes.
	The factors affecting continuity both of grade and geology.	Continuity is affected by the orientation of the K2 structure, and several dextral offset fault structures
Dimensions	The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.	The dimensions for each deposit reported vary, however typically the following dimensions: • Strike length = Up to 1000m for each K2 and Strzelecki shoot and associated structures • Width = ~0.5-2m average, with widths up greater than 5m • Depth = from surface to ~700m maximum below surface
Estimation and modelling techniques	The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.	Estimation and modelling techniques varied depending on the deposit: **Rubicon, Hornet & Raleigh Resources:** Ordinary Kriging (OK) was used to estimate this resource, using Datamine Studio 3. Two separate domains were used to constrain the main K2 with dilution skins of 0.5m used to constrain the immediate footwall and hangingwall outside the main ore zone. Hangingwall lodes were constrained according to geological features. Each domain is validated against the lithology, and then snapped to the drill-hole and face data to constrain the mineralised envelope as a footwall and hangingwall surface. Compositing of drill-hole samples was completed downhole against any domain flagged in the sample file to belong to the corresponding wireframe for the main K2. Domains within the hangingwall lodes were flagged via use of the 3D wireframes. Post estimation, resource estimations do not have tonnage or grade factors applied. Only gold was estimated and no deleterious elements are noted or estimated.
		Pegasus Ordinary Kriging was used in areas with good drill coverage, Simple Kriging was used to estimate areas with poor drill coverage. Drill holes were composited into 1m intervals down hole within each interpreted domain. The composite lengths were allowed to vary between 0.5m and 1.5m to ensure that no sampling was lost during the compositing process. The average grade and total length of the composite data was compared against the average grade and total length of the uncomposited data to check the compositing process. The distribution of composite lengths was checked to ensure that the majority of the composites were close to the targeted length. The local mean value used for Simple Kriging was calculated from the declustered mean of the top-cut composited sample data. Search distances used for estimation based on variogram ranges and vary by domain. Drill spacing is generally around 20m x 20m for the indicated resource and around 40m x 40m for the inferred resource. Top-cuts were applied to the sample data based on a statistical analysis of the data and vary by domain. The Kriging neighborhood was refined using statistical measures of Kriging quality. The estimated grades were assessed against sample grades and against declustered mean values Post estimation, resource estimations do not have tonnage or grade factors applied.
	The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.	The estimated grades were assessed against sample grades and, where applicable, previous estimates.
	The assumptions made regarding recovery of by-products.	No assumptions are made and only gold is defined for estimation
	Estimation of deleterious elements or other non-grade variables of economic	No deleterious elements estimated in the model

Criteria	JORC Code explanation	Commentary
	significance (eg sulphur for acid mine drainage characterisation).	
	In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.	Rubicon, Hornet, Raleigh: Block size is 5m x 5m sub-blocked to 2.5m x 2.5m to suit the narrow north-south orientation of the majority of the domains Average sample spacing is 3.5m (Rub-Hor) and 3.1m (Ral) in the case of face samples. Search ellipsoids are 50 * 80 * 30m to 75 * 80 * 70m (Rub-Hor) & 50 * 120 * 30m to 75 * 120 * 75m (Ral), varying for each zone and the minimum number of samples required on successive passes. Pegasus: Grades were estimated into 10m(N/S) x 10m(elev) panels.
	Any assumptions behind modelling of selective mining units.	No assumptions made
	Any assumptions about correlation between variables.	No assumptions made
	Description of how the geological interpretation was used to control the resource estimates.	"Ore" wireframes are created within the geological shapes based on drill core logs, face samples, 3D digitized mapping and grade. Low grades can form part of an ore wireframe. A dilution 'skin' is translated 0.5m on both the footwall and hangingwall of the main ore wireframe and is estimated separately to the main ore and surrounding waste but not reported.
	Discussion of basis for using or not using grade cutting or capping.	Top-cuts were applied to the composited sample data with the intention of reducing the impact of outlier values on the average grade. Top cuts were selected based on a statistical analysis of the data with a general aim of not impacting the mean by more than 5% and vary by domain (ranging from 1 to 400gpt for individual domains and deposits)
	The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.	Validation is through swath plots comparing composites to block model grades, along 20m eastings and RL. Visually, block grades are assessed against drill hole and face data data
Moisture	Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	Tonnages are estimated on a dry basis.
Cut-off parameters	The basis of the adopted cut-off grade(s) or quality parameters applied.	A cut-off grade (COG) of 3.26gpt was developed based on an assumed A$1,600/oz gold price. The COG was calculated by site based engineers using the cost inputs at the producing Kundana operations. A minimum mining width of 2.0m was assumed.
Mining factors or assumptions	Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.	Historical mining and reconciliation data does not affect wire frame interpretation.
Metallurgical factors or assumptions	The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.	Metallurgical test work results show that the mineralisation is amendable to processing through the Kanowna Belle treatment plant. Ore processing throughput and recovery parameters were estimated based on historic performance and potential improvements available using current technologies and practices.
Environmental factors or assumptions	Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well	A "License to Operate" is held by the operation which is issued under the requirement of the "Environmental Protection Act 1986", administered by the Department of Environment (DoE). The licence stipulates environmental conditions for the control of air quality, solid waste management, water quality, and general conditions for operation. Groundwater licenses are held for water abstraction, including production borefield water use for mineral processing, and mine dewatering, in accordance with the Rights in Water and Irrigation

Criteria	JORC Code explanation	Commentary
	advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.	Act 1914. These licenses are also regulated by DoE and are renewable on a regular basis. Kanowna Operations conduct extensive environmental monitoring and management programs to ensure compliance with the requirements of the licenses and lease conditions. An Environmental Management System is in place to ensure that Northern Star employees and contractors exceed environmental compliance requirements. The Kalgoorlie operations (including Kundana) are fully permitted including groundwater extraction and dewatering, removal of vegetation, mineral processing, and open pits.
Bulk density	Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.	Bulk density is assumed and comparable to neighbouring deposits at Kundana. Bulk densities from neighbouring deposits were determined from surface diamond drillholes with intervals taken from mineralised and non-mineralised zones within the project area. The bulk densities are derived from wet and dry weighting of core no greater than 30cm total length, with core samples selected by changes in lithology/alteration or every 30-40m where no change is evident.
	The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.	No/minimal voids are encountered in the ore zones and underground environment
	Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.	Bulk densities are applied to domains for the ore zone, footwall and hangingwall as constrained by the lode wireframes
Classification	The basis for the classification of the Mineral Resources into varying confidence categories.	Classification is based on a series of factors including: • Geologic grade continuity • Density of available drilling • Statistical evaluation of the quality of the kriging estimate
	Whether appropriate account has been taken of all relevant factors (ie. relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).	
	Whether the result appropriately reflects the Competent Person's view of the deposit.	This mineral resource estimate is considered representative
Audits or reviews	The results of any audits or reviews of Mineral Resource estimates.	This particular resource has not been audited externally. The 2014 YE Pegasus estimate was audited externally by CSA Global, with no significant issues identified. The methodology has not since changed.
Discussion of relative accuracy/ confidence	Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.	This mineral resource estimate is considered as robust and representative of the Kundana style of mineralisation. The application of geostatistical methods has helped to increase the confidence of the model and quantify the relative accuracy of the resource.
	The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.	This resource report relates to the entirety of the ore zone and surrounding dilution skins. Each of these will show local variability even though the global estimate reflects the total average tonnes and grade.
	These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.	No reconciliation factors are applied to the resource post-modelling.

Section 4 Estimation and Reporting of Ore Reserves

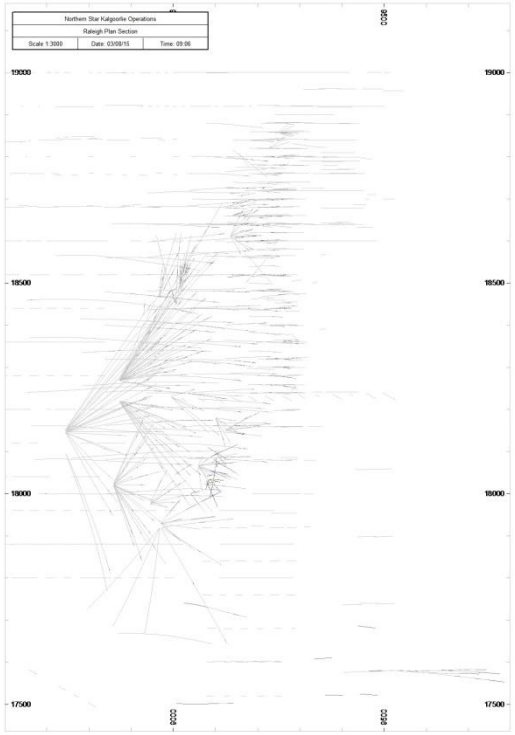
(Criteria listed in section 1, and where relevant in sections 2 and 3, also apply to this section.)

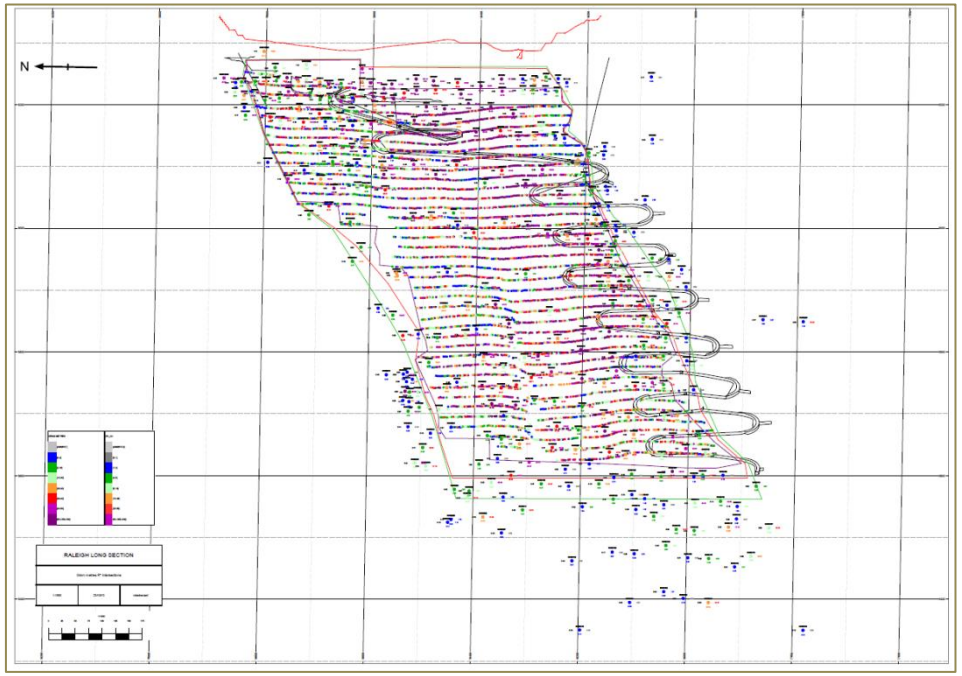
Criteria	JORC Code explanation	Commentary
Mineral Resource estimate for conversion to Ore Reserves	Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve.	Northern Star 2015MY resource
	Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.	The Mineral Resources are reported inclusive of the Ore Reserve
Site visits	Comment on any site visits undertaken by the Competent Person and the outcome of those visits.	Site visits have been undertaken by the competent person. The competent person is currently engaged to work on site
	If no site visits have been undertaken indicate why this is the case.	Site visits undertaken
Study status	The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.	Feasibility Study
	The Code requires that a study to at least Pre-Feasibility Study level has been undertaken to convert Mineral Resources to Ore Reserves. Such studies will have been carried out and will have determined a mine plan that is technically achievable and economically viable, and that material Modifying Factors have been considered.	Upgrade of previous Ore Reserve
Cut-off parameters	The basis of the cut-off grade(s) or quality parameters applied.	Break even cut off of 3.67gpt applied based on forecast costs
Mining factors or assumptions	The method and assumptions used as reported in the Pre-Feasibility or Feasibility Study to convert the Mineral Resource to an Ore Reserve (i.e. either by application of appropriate factors by optimisation or by preliminary or detailed design).	Indicated Resources were converted to Probable Ore Reserves subject to mine design physicals and an economic evaluation.
	The choice, nature and appropriateness of the selected mining method(s) and other mining parameters including associated design issues such as pre-strip, access, etc.	Selected mining method deemed appropriate as it has been used at Raleigh since 2005 & Rubicon Hornet since 2011.
	The assumptions made regarding geotechnical parameters (eg pit slopes, stope sizes, etc), grade control and pre-production drilling.	Stope strike length generally 15m for dilution control purposes
	The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate).	This table 1 applies to underground mining only
	The mining dilution factors used.	Based on historical mine performance, mining dilution of 2% Rock and 7% Paste dilution (9% total) for stoping additional to minimum mining width is applied as well as 10% dilution for Ore development.
	The mining recovery factors used.	Mining recovery factor of 95% is applied based on historical data
	Any minimum mining widths used.	At Rubicon, Hornet, Pegasus and Skinners vein (Raleigh): Minimum stope width of 3.0m where the vein is less than 2m wide. 1m additional to vein width when greater than 2m wide. At Raleigh main vein: Minimum stope width of 2.7m where the vein is less than 2m ide. 1m additional to vein width when greater than 2m wide.
	The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.	Designed stopes with greater than 50% inferred blocks are excluded from the reported reserve
	The infrastructure requirements of the selected mining methods.	Infrastructure in place, currently is an operating mine. Pegasus will make use of existing infrastructure.
Metallurgical factors or assumptions	The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.	All Kundana ore is treated at the Kanowna Belle milling facilities. These facilities are designed to handle approximately 1.8 million tonnes of feed per annum. The plant has the capability to treat both refractory and free milling ores, through either using the flotation circuit and associated concentrate roaster circuit (including carbon-in-leach (CIL) gold recovery), or bypassing the flotation circuit and going directly to a CIL circuit

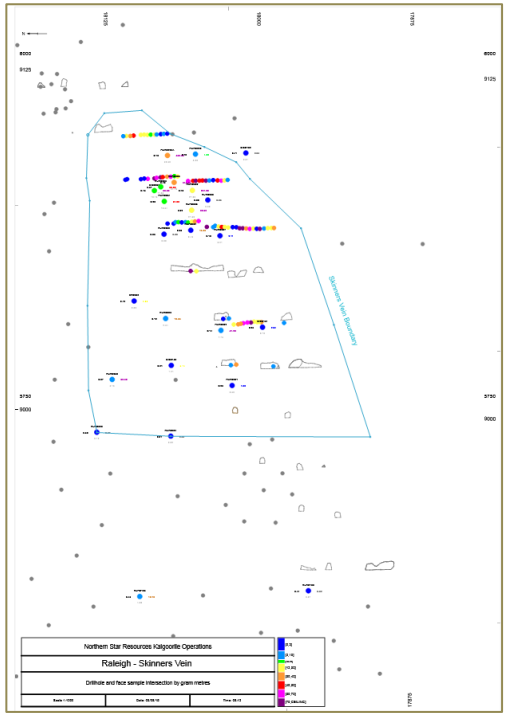
Criteria	JORC Code explanation	Commentary
		designed to treat flotation tails. The plant campaigns both refractory and free milling ores every month. Between campaigns, the circuit is "cleaned out" using mineralised waste. The plant is made up of crushing, grinding, gravity gold recovery, flotation, roasting, CIL, elution and gold recovery circuits.
	Whether the metallurgical process is well-tested technology or novel in nature.	Milling experience gained since 2005, 8 years continuous operation
	The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.	Milling experience gained since 2005, 8 years continuous operation
	Any assumptions or allowances made for deleterious elements.	No assumption made
	The existence of any bulk sample or pilot scale test work and the degree to which such samples are considered representative of the orebody as a whole.	Milling experience gained since 2005, 8 years continuous operation
	For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications?	Not applicable
Environmental	The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterisation and the consideration of potential sites, status of design options considered and, where applicable, the status of approvals for process residue storage and waste dumps should be reported.	Rubicon, Hornet, Pegasus and Raleigh are currently compliant with all legal and regulatory requirements. All government permits and licenses and statutory approvals are either granted or in the process of being granted
Infrastructure	The existence of appropriate infrastructure: availability of land for plant development, power, water, transportation (particularly for bulk commodities), labour, accommodation; or the ease with which the infrastructure can be provided, or accessed.	All current site infrastructure is suitable to the proposed mining plan.
Costs	The derivation of, or assumptions made, regarding projected capital costs in the study.	Mine development capital cost based on historical performance on site and life-of-mine forward planning. Plant and equipment capital also based on site experience and the LOM plan
	The methodology used to estimate operating costs.	All overhead costs and operational costs are projected forward on a $/t based on historical data
	Allowances made for the content of deleterious elements.	No allowances made
	The derivation of assumptions made of metal or commodity price(s), for the principal minerals and co- products.	Corporate guidance
	The source of exchange rates used in the study.	All in $A
	Derivation of transportation charges.	Historic performance
	The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.	Historic performance
	The allowances made for royalties payable, both Government and private.	All royalties are built into the cost model
Revenue factors	The derivation of, or assumptions made regarding revenue factors including head grade, metal or commodity price(s) exchange rates, transportation and treatment charges, penalties, net smelter returns, etc.	A$1,400/oz gold
	The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.	Corporate guidance
Market assessment	The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future.	All product is sold direct at market prices with no hedges in place
	A customer and competitor analysis along with the identification of likely market	Not applicable

Criteria	JORC Code explanation	Commentary
	windows for the product.	
	Price and volume forecasts and the basis for these forecasts.	Corporate guidance
	For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.	Not applicable
Economic	The inputs to the economic analysis to produce the net present value (NPV) in the study, the source and confidence of these economic inputs including estimated inflation, discount rate, etc.	All costs assumptions are made based on historical performance from the mine and current economic forecast seen as representative of current market conditions
	NPV ranges and sensitivity to variations in the significant assumptions and inputs.	Not available
Social	The status of agreements with key stakeholders and matters leading to social licence to operate.	Agreements are in place and are current with all key stakeholders
Other	To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves:	No issues.
	Any identified material naturally occurring risks.	No issues.
	The status of material legal agreements and marketing arrangements.	No issues.
	The status of governmental agreements and approvals critical to the viability of the project, such as mineral tenement status, and government and statutory approvals. There must be reasonable grounds to expect that all necessary Government approvals will be received within the timeframes anticipated in the Pre-Feasibility or Feasibility study. Highlight and discuss the materiality of any unresolved matter that is dependent on a third party on which extraction of the reserve is contingent.	No issues.
Classification	The basis for the classification of the Ore Reserves into varying confidence categories.	All Ore Reserves include Proved (if any) and Probable classifications
	Whether the result appropriately reflects the Competent Person's view of the deposit.	The results accurately reflect the competent persons view of the deposit
	The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).	Nil
Audits or reviews	The results of any audits or reviews of Ore Reserve estimates.	There have been no external reviews of this Ore reserve estimate
Discussion of relative accuracy/ confidence	Where appropriate a statement of the relative accuracy and confidence level in the Ore Reserve estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the reserve within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors which could affect the relative accuracy and confidence of the estimate.	Confidence in the model and Ore Reserve Estimate is considered high based on current mine and reconciliation performance
	The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.	Estimates are global but will be reasonable accurate on a local scale.
	Accuracy and confidence discussions should extend to specific discussions of any applied Modifying Factors that may have a material impact on Ore Reserve viability, or for which there are remaining areas of uncertainty at the current study stage.	Not applicable
	It is recognised that this may not be possible or appropriate in all circumstances. These statements of relative accuracy and confidence of the estimate should be compared	Reconciliation of Rubicon and Hornet to date reflects estimates in studies

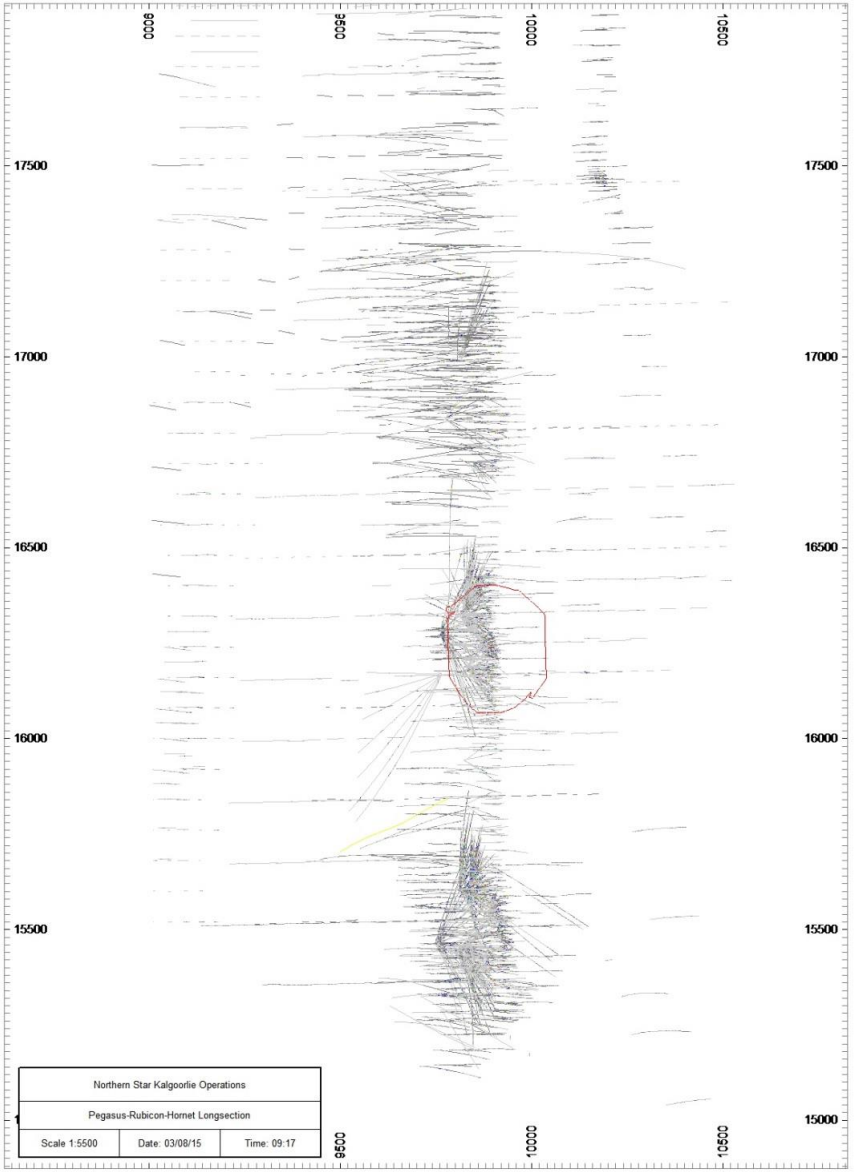
Criteria	JORC Code explanation	Commentary
	with production data, where available.	

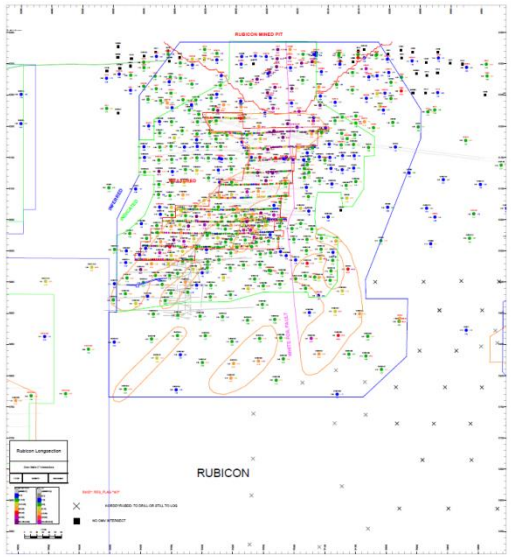


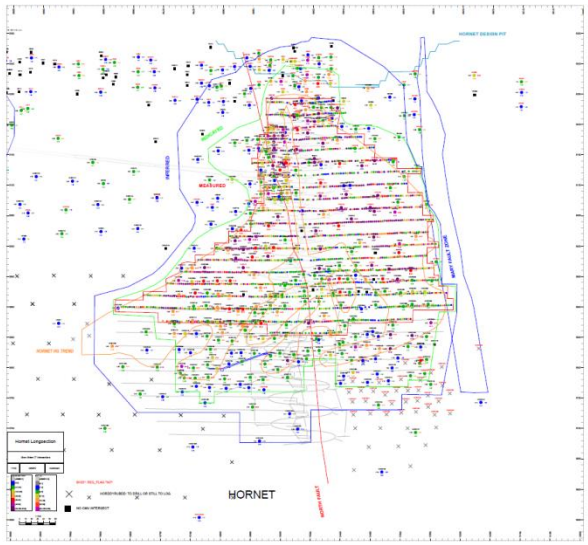


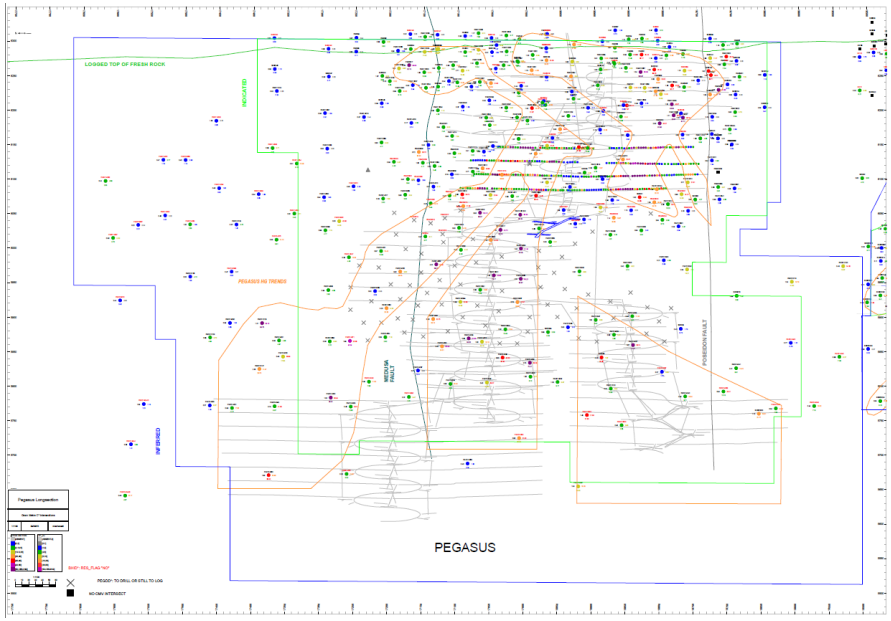


Plan View and Section Views of the Raleigh and Skinners Vein deposits









Plan and sections of the Rubicon Hornet and Pegasus Deposits

JORC Code, 2012 Edition – Table 1 Report: Carbine Resource (30 June 2015) and Paradigm North Drill Results as at August 2015

Section 1 Sampling Techniques and Data

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

Criteria	JORC Code explanation	Commentary
Sampling techniques	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.	Sampling was historically completed using a combination of Reverse circulation (RC), Rotary air blast (RAB) and diamond (DD) drilling. RAB drilling was used in areas with no other drilling, where mineralisation is consistent. No areas using RAB drilling was taken past inferred.
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	RC samples were split using a rig-mounted cone splitter on 1m intervals to obtain a sample for assay.
	Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.	Samples were taken to Genalysis Kalgoorlie for preparation by drying, crushing to <3mm, and pulverizing the entire sample to <75µm. 300g Pulps splits were then dispatched to Genalysis Perth for 50g Fire assay charge and AAS analysis.
Drilling techniques	Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc.) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc.).	Carbine resource: The resource calculation was based on both historic validated drill data and recent drilling. Recent RC Drilling was completed using a 5.75" drill bit, downsized to 5.25" at depth. Paradigm North: Both RC and diamond techniques were used for recent drilling. Diamond core was typically NQ2 and RC drilling was completed using a 5.75" drill bit.
Drill sample recovery	Method of recording and assessing core and chip sample recoveries and results assessed.	Moisture content and sample recovery is recorded for each RC sample.
	Measures taken to maximise sample recovery and ensure representative nature of the samples.	RC drilling contractors adjust their drilling approach to specific conditions to maximize sample recovery. Moisture content and sample recovery is recorded for each RC sample. No recovery issues were identified during 2014 RC drilling. Recovery was poor at the very beginning of each hole, as is normal for this type of drilling in overburden.
	Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.	No relationship or bias has identified between grade and sample recovery.
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.	RC sample chips are logged in 1m intervals. For the entire length of each hole. Regolith, Lithology, alteration, veining and mineralisation are all recorded
	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.	All logging is quantitative where possible and qualitative elsewhere. A photograph is taken of every chip tray.
	The total length and percentage of the relevant intersections logged.	In all instances, the entire drill hole is logged.
Sub-sampling techniques and sample preparation	If core, whether cut or sawn and whether quarter, half or all core taken.	For recent Paradigm North results, all holes were cut and half core sent to the lab. The remained was stored for reference
	If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.	All RC samples are split using a rig-mounted cone splitter to collect a 1m sample 3-4kg in size. All samples were intended and assumed to be dry, moisture content was recorded for every sample.
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	Sample preparation was conducted at Genalysis Kalgoorlie, commencing with sorting, checking and drying at less than 110°C to prevent sulphide breakdown. Samples are jaw crushed to a nominal -6mm particle size. If the sample is greater than 3kg a Boyd crusher with rotary splitter is used to reduce the sample size to less than 3kg (typically 1.5kg) at a nominal <3mm particle size. The entire crushed sample (if less than 3kg) or sub-sample is then pulverized to 90% passing 75µm, using a Labtechnics LM5 bowl pulveriser. 300g Pulp subsamples are then

Criteria	JORC Code explanation	Commentary
		taken with an aluminium scoop and stored in labelled pulp packets
	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	Grind checks are performed at both the crushing stage(3mm) and pulverising stage (75µm), requiring 90% of material to pass through the relevant size.
	Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate / second-half sampling.	Field duplicates were taken for RC samples at a rate of 1 in 50.
	Whether sample sizes are appropriate to the grain size of the material being sampled.	Sample sizes are considered appropriate.
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.	A 50g Fire assay charge is used with a lead flux, dissolved in the furnace. The prill is totally digested by HCl and HNO3 acids before Atomic absorption spectroscopy (AAS) determination for gold analysis.
	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 geophysical tools were used to determine any element concentrations
	Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie. lack of bias) and precision have been established.	Certified reference materials (CRMs) are inserted into the sample sequence randomly at a rate of 1 per 20 samples to ensure correct calibration. Any values outside of 3 standard deviations are re-assayed with a new CRM. Blanks are inserted into the sample sequence at a rate of 1 per 20 samples, This is random, except where high grade mineralisation is expected. Here, a Blank is inserted after the high grade sample to test for contamination. Failures above 0.2gpt are followed up, and re-assayed. New pulps are prepared if failures remain. Field Duplicates are taken for all RC samples (1 in 50 samples). No Field duplicates are submitted for diamond core.
Verification of sampling and assaying	The verification of significant intersections by either independent or alternative company personnel.	All significant intersections are verified by another Northern Star geologist during the drill hole validation process, and later by a Competent person to be signed off.
	The use of twinned holes.	No Twinned holes were drilled for this data set.
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	Geological logging is directly entered into an Acquire database. Assay files are received in csv format and loaded directly into the database by the project's responsible geologist with an Acquire importer object. Hardcopy and electronic copies of these are stored.
	Discuss any adjustment to assay data.	No adjustments are made to this assay 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 in Mineral Resource estimation.	A planned hole is pegged using a Differential GPS by the field assistants The final collar is picked up after hole completion by Differential GPS in the MGA 94_51 grid. During drilling single-shot surveys are every 30m to ensure the hole remains close to design. This is performed using the Reflex Ez-Trac system which measures the gravitational dip and magnetic azimuth results are uploaded directly from the Reflex software export into the Acquire database.
	Specification of the grid system used.	Collar coordinates are recorded in MGA94 Zone 51
	Quality and adequacy of topographic control.	The Differential GPS returns reliable elevation data which has been confirmed against older (early 2000's) topographic surveys.
Data spacing and distribution	Data spacing for reporting of Exploration Results.	Drillhole spacing across the area varies.
	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.	Exploration results only being reported
	Whether sample compositing has been applied.	No compositing has been applied to these exploration results, although composite intersections are reported.

Criteria	JORC Code explanation	Commentary
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 orientation of the target is still to be determined. But knowledge of previous orebodies in the area suggests drilling direction is perpendicular to the orientation of mineralisation.
	If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.	No sampling bias is considered to have been introduced by the drilling orientation.
Sample security	The measures taken to ensure sample security.	Prior to laboratory submission samples are stored by Northern Star Resources in a secure yard. Once submitted to the laboratories they are stored in a secure fenced compound, and tracked through their chain of custody and via audit trails
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	No such exercise has been undertaken for the drillholes at this stage.

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 interests, historical sites, wilderness or national park and environmental settings.	All holes mentioned in this report are located within the M16/239 tenement, which is owned by KUNDANA GOLD PTY LTD a wholly owned subsidiary of Northern Star Resources. There are no private royalty agreements applicable to this tenement.
	The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.	No known impediments exist and the tenements are in good standing
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	The Carbine area has been explored since the late 1800's. Numerous companies, including BHP, Newcrest, Centaur Mining, Goldfields, Placer Dome and Barrick have been active in the area. Drilling reported with this release is contiguous with the Paradigm underground and open cut mines. Drilling of these projects adds gold grade and geological context information to the interpretation of the area tested by PDRC14001 to PDRC14004.
Geology	Deposit type, geological setting and style of mineralisation.	The Carbine / Paradigm areas are considered to be northern extensions of the regionally significant Zuleika Shear Zone. The tenements are located in the Norseman-Wiluna Archaean greenstone belt in the Eastern Goldfields province of the Yilgarn Craton, Western Australia. Gold mineralisation in the Zuleika Shear Zone and adjacent greenstone sequences occurs in all rock types, although historical and recent production is dominated by two predominant styles: • Brittle D2 faults with laminated (multiple crack-seal) quartz veining containing gold and trace base metal sulphides (galena, sphalerite, chalcopyrite, scheelite), • Brittle quartz vein stockworks developed within granophyric gabbro within the Powder Sill Paradigm mineralisation is hosted in sub-vertical narrow laminated quartz veins. At the Carbine main deposit, gold is hosted in veins and disseminated sulphides associated with structural disruption caused by a series of thrust faults, where the lower mafic/ultramafic sequence has been thrust over younger sediments.
Drill hole Information	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: o easting and northing of the drill hole collar o elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar o dip and azimuth of the hole	See attached Appendix for a table of results. All holes in this programme are listed in the table. There is historical drilling inside the area of interest, these are presented in the significant intersection table, to show up dip continuity. The Carbine Resource is based predominantly on historic validated drilling, with the addition of recent drilling to validate and extend.

Criteria	JORC Code explanation	Commentary
	○ down hole length and interception depth ○ hole length.	
	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.	Exclusion of the drill information will not detract from the understanding of the report.
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.	All reported assay results have been length weighted to provide an intersection width. Barren material between mineralised samples has been permitted in the calculation of these widths where the resultant average composite grade of samples beyond (and not including) the core mineralised zone exceeds the 1gpt cut-off grade used for intercept calculation.
	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.	No assay results have been top-cut for the purpose of this report. A lower cut-off of 1gpt has been used to identify significant results. Where the target zone does not exceed the 1gpt cut-off the intercept has been calculated across the target structure with no cut-off grade applied
	The assumptions used for any reporting of metal equivalent values should be clearly stated.	No metal equivalent values have been used for the reporting of these exploration results
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 hole angle is known, its nature should be reported.	The exact orientation of the Paradigm vein system and width has yet to be determined. There is enough historic data at Carbine to infer geological continuity in 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').	The downhole widths have been clearly specified when used.
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 plans and section have been included in this release
Balanced reporting	Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	Both high and low grades have been reported accurately, clearly identified with the drillhole attributes and 'From' and 'To' depths. All target zone intercepts for all eight holes have been reported for this drill program regardless of grade
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.	No other material exploration data has been collected for this drill program.
Further work	The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).	Paradigm North: Further work will continue in 2015 to determine the extents of the Paradigm North system Carbine: Design work will be conducted on the resource and further drilling planned to target extensions.
	Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	Appropriate Diagrams accompany this release

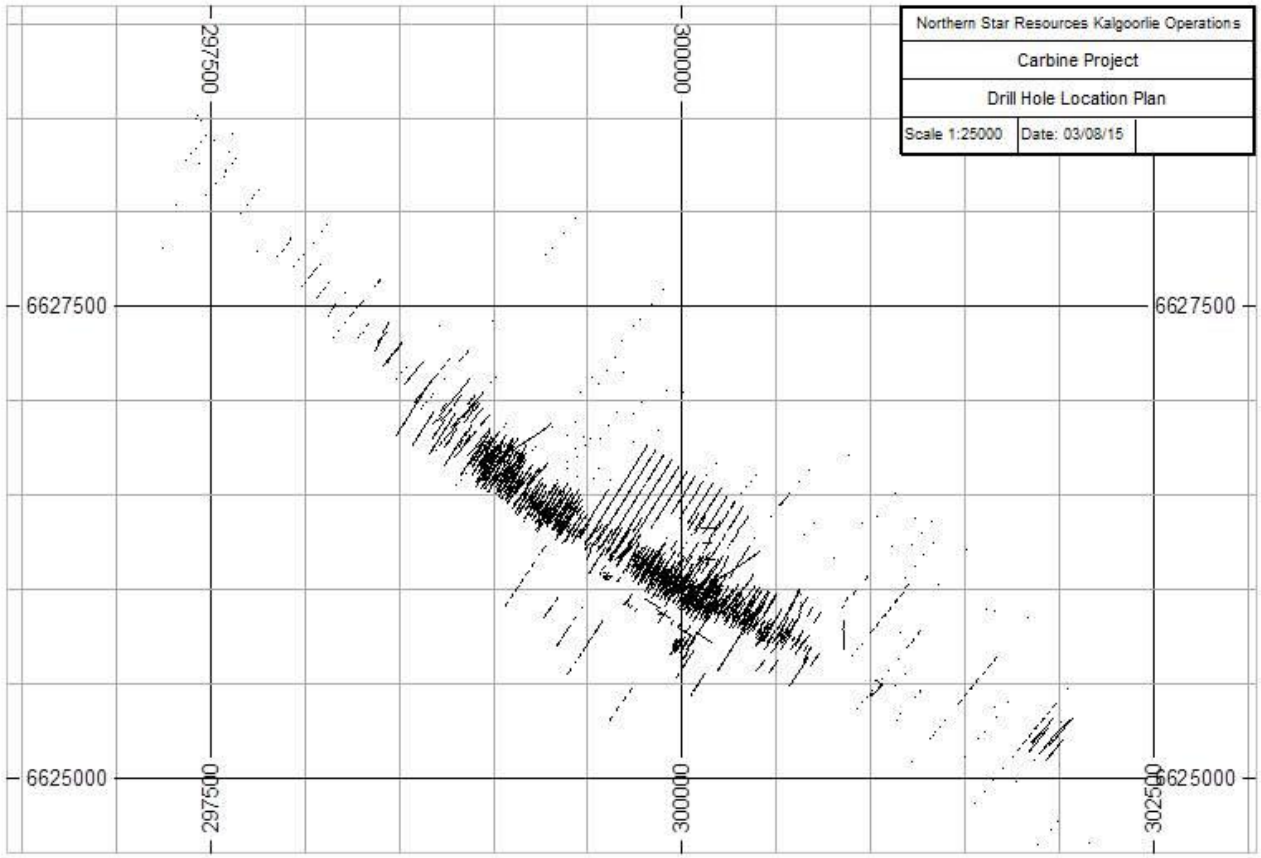
Section 3 Estimation and Reporting of Mineral Resources

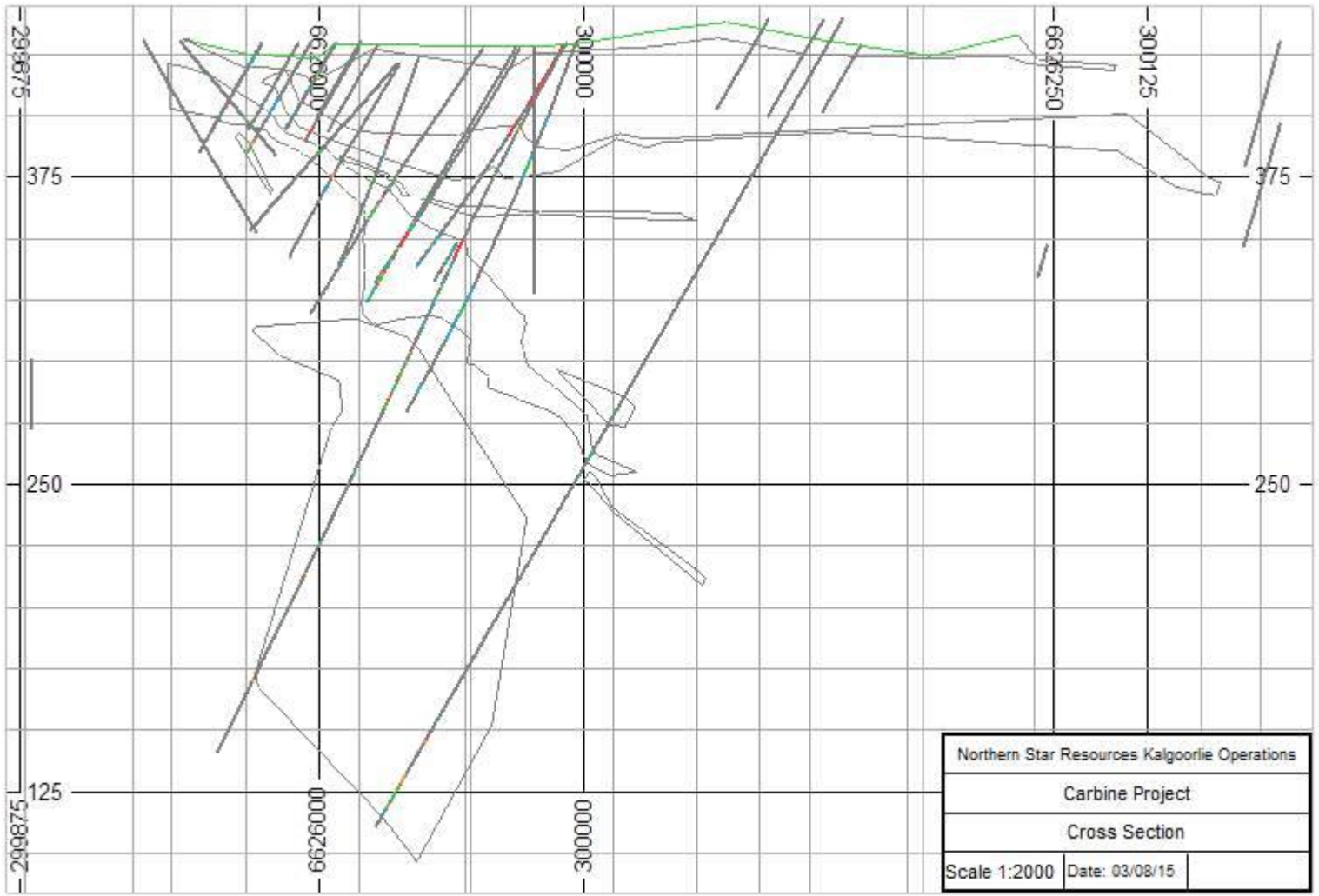
(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

Criteria	JORC Code explanation	Commentary
Database integrity	Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes. Data validation procedures used.	All data is stored in a digital database with logging of changes and management of data integrity. Validation is enforced when the data is captured. Data is exported to ASCII files before importation into resource modelling software, no manual editing is undertaken on any data during the export/import process The data extracted from the database was accepted as valid.
Site visits	Comment on any site visits undertaken by the Competent Person and the outcome of those visits. If no site visits have been undertaken indicate why this is the case.	Multiple site visits undertaken by Geologists supervising the drilling programs and preparing the Geological interpretation.
Geological interpretation	Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit. Nature of the data used and of any assumptions made. The effect, if any, of alternative interpretations on Mineral Resource estimation. The use of geology in guiding and controlling Mineral Resource estimation. The factors affecting continuity both of grade and geology.	The Geological logging data supporting the interpretation was collected over a significant time frame utilizing legends designed by different companies. Some inconsistencies have been noted between the different generations of logging. However, the available data is sufficiently detailed to establish the geological controls on the mineralisation In addition to the geological logging from drill data geological mapping from the existing open pit is available and supports the interpretation The interpretation is consistent with similar known ore bodies in the immediate area There are several known Structural offsets in the ore body, however, detailed information on the localised impact of the structural controls is not currently available.
Dimensions	The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.	Mineralisation has been identified over a strike length over 2000m and over a depth of approximately 550m. Mineralisation is between 1m and 20m thick
Estimation and modelling techniques	The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used. The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data. The assumptions made regarding recovery of by-products. Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation). In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed. Any assumptions behind modelling of selective mining units. Any assumptions about correlation between variables. Description of how the geological interpretation was used to control the resource estimates. Discussion of basis for using or not using grade cutting or capping. The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.	Drill holes were composited into 2m intervals down hole within each interpreted domain. The composite lengths were allowed to vary between 1.5m and 2.5m to ensure that no sampling was lost during the compositing process. The average grade and total length of the composite data was compared against the average grade and total length of the uncomposited data to check the compositing process. The distribution of composite lengths was checked to ensure that the majority of the composites were close to the targeted length. Ordinary Kriging was used in areas with good drill coverage, Simple Kriging was used to estimate areas with poor drill coverage. The local mean value used for Simple Kriging was calculated from the declustered mean of the top-cut composited sample data. Search distances used for estimation based on variogram ranges and vary by domain. Drill spacing is generally around 20m x 20m. Top-cuts were applied to the sample data based on a statistical analysis of the data and vary by domain. The Kriging neighborhood was refined using statistical measures of Kriging quality. The estimated grades were assessed against sample grades and against declustered mean values
Moisture	Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	Tonnes were assumed to be dry

Criteria	JORC Code explanation	Commentary
Cut-off parameters	The basis of the adopted cut-off grade(s) or quality parameters applied.	Cut-off grades for reporting the resource were developed using a Gold Price of A$1,600 and budgeted mining costs for 2015/16.
Mining factors or assumptions	Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.	An open pit optimization study was conducted to determine the portion of the more to report as the resource The pit shell was evaluated using a gold price of $A1,600/oz Mining costs typical of those currently available for an operation of the anticipated size were assumed The optimization study allowed for mining dilution of 10% and 98% ore recovery Metallurgical recovery was assumed to be 93%
Metallurgical factors or assumptions	The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.	Metallurgical recovery factors have been developed based on extensive experience processing similar material from the Kanowna area.
Environmen-tal factors or assumptions	Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.	The utilisation of existing infrastructure will minimize the impact of development of the project Existing waste rock and tailings storage facilities have adequate available capacity to accommodate the project
Bulk density	Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples. The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit. Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.	Bulk density measurements from project drilling and from production within the area were used to assign values within interpreted weathering horizons.
Classification	The basis for the classification of the Mineral Resources into varying confidence categories. Whether appropriate account has been taken of all relevant factors (ie relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data). Whether the result appropriately reflects the Competent Person's view of the deposit.	The classification of the resource was based on a series of factors including: Geological and grade continuity Density of available drilling Statistical evaluation of the quality of the kriging estimate
Audits or reviews	The results of any audits or reviews of Mineral Resource estimates.	The resource model has been reviewed internally by Northern Star staff
Discussion of relative accuracy/ confidence	Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate. The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the	This mineral resource estimate is considered as robust and representative of the Kanowna style of mineralisation. The estimate is considered to be robustly estimated on a global scale for material classified as inferred.

Criteria	JORC Code explanation	Commentary
	procedures used. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.	

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Northern Star Resources Kalgoorlie Operations
Carbine Project
Cross Section
Scale 1:2000
Date: 03/08/15

JORC Code, 2012 Edition – Table 1 Report: Voyager, Titan, Upper Paulsens Underground Resources and Voy2 Drill Results – 30 June 2015

Section 1 Sampling Techniques and Data

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

Criteria	JORC Code explanation	Commentary
Sampling techniques	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.	This deposit is sampled by diamond drilling and face chip sampling. Sample intervals are defined by the geologist to honour geological boundaries. RC drill results are also used in the Upper Paulsens model.
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	Core is aligned and measured by tape, comparing back to down hole core blocks consistent with industry practice. RC and most surface core drilling completed by previous operators to industry standard at the time (late 1990's to 2011).
	Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.	Diamond drilling and face sampling are completed to industry standard using varying sample lengths (0.3 to 1.5m) based on geological intervals, which are then crushed and pulverised to produce a ~200g pulp sub sample to use in the assay process. Pre Jun 2013Diamond core samples are fire assayed (30g charge), post fire assay charge is 40g. Face samples are assayed by Leachwell. Visible gold is occasionally encountered in core and face sampling. RC sampling to industry standard at the time. These is evidence of mineralisation widths being exaggerated in Lower Zone particularly, these areas have now been mined out and not affect current resource.
Drilling techniques	Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).	Upper Paulsens model: Surface RC drilling, 176 holes (face sampling hammer, ~5 1/4" bit size), Surface drill core, 16 holes, (NQ2 sized, standard tube), 1,664 sludge holes, 1,354 Underground DD, 3,669 faces. Voyager and Titan model: Surface drill core, 18 holes, Underground drill core, 2,233 holes as well as 4,682 faces/rises used to generate sample composite. The diamond holes are LTK60 and NQ2 size. Surface core is orientated using the EZ ORI-shot device, underground drill core is rarely oriented. Faces are chip sampled aiming to sample every ore development cut but ~10% of ore cuts are missed.
Drill sample recovery	Method of recording and assessing core and chip sample recoveries and results assessed.	Diamond drill recoveries are recorded as a percentage calculated from measured core versus drilled intervals. Achieving >95% recovery. Greater than 0.2m discrepancies are resolved with the drill supervisor. Surface RC drill recoveries are unknown.
	Measures taken to maximise sample recovery and ensure representative nature of the samples.	Standard diamond drilling practice results in high recovery due to competent nature of the ground. RC drilling by previous operators to industry standard at the time.
	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.	There is no known relationship between sample recovery and grade, sample recovery is very high.
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.	Core Logging is carried out by Company Geologists, who delineate intervals on geological, structural, alteration and/or mineralogical boundaries, to industry standard. Surface core and RC logging completed by previous operators to industry standard.
	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.	Logging is qualitative and all core is photographed. All sampled development faces are photographed. Visual estimates are made of sulphide, quartz and alteration percentages
	The total length and percentage of the relevant intersections logged.	100% of the drill core is logged. 100% of RC drilling is logged.

Criteria	JORC Code explanation	Commentary
Sub-sampling techniques and sample preparation	If core, whether cut or sawn and whether quarter, half or all core taken.	LTK 60 is generally whole core sampled, NQ2 core is generally half core sampled. If not whole core sampled, then core is half cut with Almonté diamond core saw and half core sampled. The right half is sampled, to sample intervals defined by the Logging Geologist along geological boundaries. The left half is archived. All major mineralised zones are sampled, plus associated visibly barren material, >5m of hangingwall/footwall. As well, quartz veins >0.3m, that are encountered outside the know ore zone and ±1m on either side. Ideally, sample intervals are to be 1m in length, though range from 0.30m to 1.50m in length. Total weight of each sample generally does not exceed 5kg. All samples are oven-dried overnight (max 120^0), jaw crushed to <6mm, and split to <3kg in a static riffle splitter. The coarse reject is then discarded. The remainder is pulverised in an LM5 to >85% passing 75µm (Tyler 200 mesh) and bagged. The analytical sample is further reduced to a 30gm charge weight using a spatula, and the pulp packet is stored awaiting collection by Northern Star Resources Limited(NSR). Post 2013, samples are to crushed to 90% passing 3mm before a rotary split to 2.5 kg, all of which is then pulverised to 90% passing 75 micron. For older core pre- NSR, best practice is assumed.
	If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.	Development face samples are chipped directly off the face into a sample bag, aiming for >2.5kg. Sample intervals range between 0.3 – 1.2m in length, modified to honour geological boundaries, and taken perpendicular to the mineralisation if practical. Site lab sample prep has since January 2013 used a Boyd to crush and split to 3mm. Previous to that a jaw crusher (6mm aperture) and 50/50 rifle splitter were used.
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	Sample preparation is deemed adequate though further improvement is underway.
	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	For drill core the external labs coarse duplicates are used. One face sub sample per day is sent offsite for fire assay analysis to compare to Leachwell assay results. RC drilling by previous operators to industry standard at that time.
	Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate / second-half sampling.	Field duplicates, ie. other half of cut core, are not been routinely assayed. For each development face, one field duplicate is taken of the highest grade area, to assess the reproducibility of the assays, and the variability of the samples. Variability is very high due sampling technique and to nuggetty nature of the mineralisation. The variability is accepted, countered by the high density of sampling.
	Whether sample sizes are appropriate to the grain size of the material being sampled.	Sample sizes are considered appropriate.
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.	For all drill core samples, gold concentration is determined by fire assay using the lead collection technique with a 30 gram sample charge weight. An AAS finish is used, considered to be total gold. 40gram fire assay charge used post June 2013 Various multi-element suites are analysed using a four acid digest with an ICP-OES finish Face samples are analysed using Leachwell process, and are not considered total gold. RC drill samples by previous operators assumed Fire assay with AAS finished.
	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.	Not applicable to this report.
	Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie. lack of bias) and precision have been established.	The QAQC protocols used include the following for all drill samples: Site sourced coarse blanks are inserted at an incidence of 1 in 40 samples. From April 2013 commercial blanks are used. Commercially prepared certified reference materials are inserted at an incidence of 1 in 40 samples. The CRM

Criteria	JORC Code explanation	Commentary
		used is not identifiable to the laboratory. NSR's Blanks and Standards data is assessed on import to the database and reported monthly and yearly. The primary laboratory QAQC protocols used include the following for all drill samples: Repeat of pulps at a rate of 5% Screen tests (percentage of pulverised sample passing a 75µm mesh) are undertaken on 1 in 100 samples. The laboratory and Geology department report QAQC data on a monthly basis. Failed standards are followed up by re-assaying a second 30g pulp sample of the failed standard ± 10 samples either side by the same method at the primary laboratory. One standard is inserted with every face sampling submission to assess site lab performance. Both the accuracy component (CRM's and umpire checks) and the precision component (duplicates and repeats) are deemed acceptable. QAQC protocols for Surface RC and diamond drilling by previous operators unknown, assumed to be industry standard.
Verification of sampling and assaying	The verification of significant intersections by either independent or alternative company personnel.	Significant intersections are reviewed by the geology superintendent and senior corporate personnel
	The use of twinned holes.	Twinned holes are not specifically designed. Occasionally deviating holes could be considered twins, showing similar tenor of mineralisation.
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	Until 12 months ago data was hard keyed or copied into excel spreadsheets for transfer and storage in an access database. Data is now entered in the OCRIS data capture system, where it is then exported to the GBIS Geology database after validating. Hard copies of face and core / assays and surveys are kept on site. Internal checks are made comparing database to raw assays files. Visual checks are part of daily use of the data in Vulcan. Data from previous operators taken from 2006 database compilation by Maxwell Geoservices and further maintained by a succession of Paulsens owners All data now stored in GBIS and electronically logged and downloaded.
	Discuss any adjustment to assay data.	No adjustments are made to any assay data. First gold assay is utilised for any resource estimation.
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 in Mineral Resource estimation.	Drill hole collar positions are picked up by survey using a calibrated total station Leica 1203+ instrument. Drill hole, downhole surveys are recorded at 15m and 30m, and then every 30m after, by calibrated Pathfinder downhole cameras. Face samples are located by laser distance measurement device and digitised into Vulcan software. The faces are represented as "pseudo-drill holes" to allow assignation of survey, lithology, assay, and other relevant information. Underground workings are tied into defined surface survey stations Surface hole collars picked up by the mine surveyors in mine grid Pre - NSR survey accuracy and quality assumed to be industry standard
	Specification of the grid system used.	A local grid system (Paulsen Mine Grid) is used. It is rotated 41.5 degrees to the west of MGA94 grid. Local origin is 50,000N and 10,000E Conversion. MGA E = (East_LOC*0.75107808+North_LOC*0.659680194+381504.5)+137.5 MGA N = (East_LOC*-0.65968062+North_LOC*0.751079811+7471806)+153.7 MGA RL = mRL_LOC-1000

Criteria	JORC Code explanation	Commentary
	Quality and adequacy of topographic control.	Topographic control is not that relevant to the underground mine. For general use recent Arvista aerial surveys are flown annually. Resolution is +/- 0.5m
Data spacing and distribution	Data spacing for reporting of Exploration Results.	Exploration result data spacing can be highly variable, up to 100m and down to 10m.
	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.	Measured data spacing is better than 7m x 7m, and restricted to areas in immediate proximity to mined development. Data spacing for indicated material is approximately, or better than, 20m x 20m. All other areas where sample data is greater than 20m x 20m, or where intercept angle is low, is classified as inferred.
	Whether sample compositing has been applied.	Core and faces are sampled to geology, sample compositing is not applied until the estimation stage. RC samples initially taken as 4m composites to be replaced by 1 m samples in ores zones above assumed threshold.
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.	Intercept angles are mixed, however, all material remains inferred until reconciled by moderate to high angle (45° to 90°) grade control drilling, or mining activities. Hanging-wall drill drives provide excellent intercept orientation to the geological structures used in the estimate.
	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 drill orientation to mineralised structures biases the number of samples per drill hole. It is not thought to make a material difference in the resource estimation. As the opportunity arises, better angled holes are drilled with higher intersection angles.
Sample security	The measures taken to ensure sample security.	All samples are selected, cut and bagged in tied numbered calico bags, grouped in larger tied plastic bags, and placed in large sample cages with a sample submission sheet. The cages are transported via freight truck to Perth, with consignment note and receipts. Sample pulp splits are returned to NSR via return freight and stored in shelved containers on site Pre NSR operator sample security assumed to be similar and adequate.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	Recent external review confirmed core and face sampling techniques are to industry standard. Data handling is considered adequate and was further improved recently with a new database. Pre NSR data audits found less QAQC reports ,though in line with industry standards at that time

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 interests, historical sites, wilderness or national park and environmental settings.	M08/196 and M08/99 are wholly owned by Northern Star Resources (NSR) and in good standing. Surface expression of the Paulsens Gold Mine is on M08/99, most of underground workings are on neighbouring M08/196. There are no heritage issues with the current operation. Relationship with the traditional owners is good.
	The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.	M08/196 and M08/99 are valid until 2020 and 2032 respectively.
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	Data relevant to these resources was collected by CRA, Hallmark, Taipan, St Barbara, Nustar and Intrepid Mines Ltd previous to NSR. All previous work is accepted as to industry standard at the time.
Geology	Deposit type, geological setting and style of mineralisation.	Paulsens is a high grade, quartz hosted, mesothermal gold deposit within metasediments.
Drill hole Information	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:	Too many (>6000) holes to practically summarise all information for all drill holes and faces used in the resources. All holes for Voyager 2 for this reporting period are tabled in the main release

Criteria	JORC Code explanation	Commentary
	○ easting and northing of the drill hole collar ○ elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar ○ dip and azimuth of the hole ○ down hole length and interception depth ○ hole length.	Detailed drill hole data is periodically released on ASX with all relevant information attached and can be found on the Northern Star website.
	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.	Last releases: 13/01/2015, 19/02/2014, 05/09/2013, 23/09/2013, 02/08/2013, 29/05/2013, 16/05/2013, 20/01/2013, 12/12/2012, 1/10/2012, 24/8/2012, 04/07/2012, 07/06/12, 29/05/2012, 12/04/2012, 6/03/2012, 25/11/2011, 17/11/2011, 09/11/2011, 13/10/2011, 12/09/11, 30/05/2011, 12/04/2011, 16/03/2011, 06/01/2011, 04/01/2011, 22/12/2010, 10/12/2010, 02/12/2010, 14/10/2010, 04/08/2010.
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.	Length weighted averages are used, cut and uncut reported (cut to 150gpt).
	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.	Short high assays are length weighted and aggregated to relevant down hole length.
	The assumptions used for any reporting of metal equivalent values should be clearly stated.	No metal equivalents are reported
Relationship between mineralisation widths and intercept lengths	These relationships are particularly important in the reporting of Exploration Results:	Exploration results include an estimate of true thickness.
	If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.	Due to complex mineralisation geometry and varying intercept angles the true thickness is manually estimated on a hole by hole basis. Both true width and downhole lengths are reported.
	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').	Both true width and downhole lengths are 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.	See long section in main release and previous ASX releases. See plan view with drill traces.
Balanced reporting	Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	Grade control results that are not seen to be material may not be 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.	No other relevant data to report
Further work	The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).	Drilling will continue down plunge, to the north, and as needed for grade control in line with the mine plan.
	Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	Part of this ASX announcement

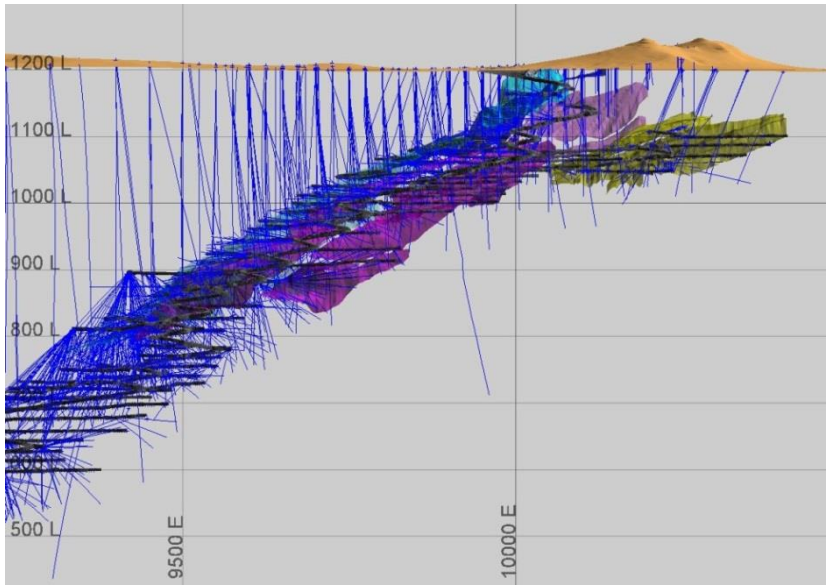
Section 3 Estimation and Reporting of Mineral Resources

(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

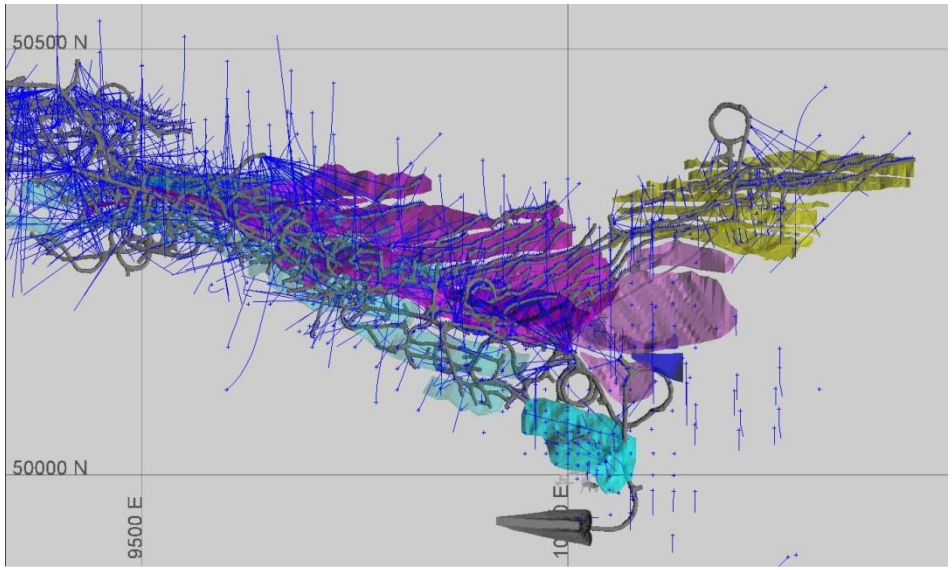
Criteria	JORC Code explanation	Commentary
Database integrity	Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.	Sampling and logging data is entered into OCRIS logging data capture system then transferred to GBIS database. There are checks in place to avoid duplicate holes and sample numbers. Where possible, raw data is loaded directly to the database from the laboratory. Pre Northern Star Resources (NSR) data assumed correct, this has been maintained by database administrators
	Data validation procedures used.	Random checks through use of the data as well as database validations. Checks as part of reporting significant intersections and end of program completion reports. Maxwell Geo Services extensively validated the 2006 data compilation.
Site visits	Comment on any site visits undertaken by the Competent Person and the outcome of those visits.	This resource estimate has been conducted by geologists working in the mine and in direct, daily contact with the ore body data used in this resource estimate. The competent person, has worked at the deposit for >3 years, and is the Geology Superintendent.
	If no site visits have been undertaken indicate why this is the case.	See above
Geological interpretation	Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.	The interpretation of the deposit was carried out using a systematic approach to ensure continuity of the geology and estimated mineral resource. The confidence in the geological interpretation is high with all the information and plus 10 years of operation.
	Nature of the data used and of any assumptions made.	All available geological data was used in the interpretation including mapping, drilling faces, photos, structures.
	The effect, if any, of alternative interpretations on Mineral Resource estimation.	No substantially different, alternative interpretations have been completed or put forward.
	The use of geology in guiding and controlling Mineral Resource estimation.	The majority of mineralisation is located within a large, variably folded and faulted quartz host, close to, or on, the contacts with the surrounding wall rock sediments between an offset Gabbro intrusive. Drill core logging and face development is used to create 3D constrained wireframes.
	The factors affecting continuity both of grade and geology.	Grade continuity is related to the quartz and sulphide events within the boundaries of the gabbro extent. Mineralised veins are also within the gabbro.
Dimensions	The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.	Upper Paulsens: Strike length = 1,100m down plunge at 30-35deg to the west Width = ~80m (though high grade component ~ 5m wide) Depth = from ~130m below surface to ~550m below surface Voyager: Strike length = 1,700m down plunge, 25-30 deg to grid west Width = ~190m Depth = from ~550m below surface to ~1,100m below surface
Estimation and modelling techniques	The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.	Inverse distance squared (ID2) was used to estimate this resource, using Vulcan 8. 39 domains (in two models) were used to constrain the various lodes, defined by orientation, geological continuity, and grade population. Each domain is validated against the lithology, and then snapped to the drill-hole and face data to constrain the mineralised envelope as a 3D wireframe. Compositing of drill-hole samples was completed against these wireframed domains at 1m (downhole) interval.
	The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.	Recent reconciliations of the area have been in line with resource expectations.
	The assumptions made regarding recovery of by-products.	No assumptions are made, but silver is a by-product that makes up part of the refinery revenue. This is not in the model and only gold is defined for estimation

Criteria	JORC Code explanation	Commentary
	Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).	No deleterious elements estimated in the model.
	In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.	Block size is 5m x 4m x 5m, sub-blocked to 1m x 0.25m x 1m to suit the narrow east-west orientation of the majority of the domains. Average sample spacing is 3m in the case of face samples. Search ellipsoids are 25 * 12 * 6m to 50 * 20 * 10 m, varying the minimum number of samples required on successive passes as well as utilizing an octant search to decluster.
	Any assumptions behind modelling of selective mining units.	No assumptions made.
	Any assumptions about correlation between variables.	No assumptions made.
	Description of how the geological interpretation was used to control the resource estimates.	Mineralisation wireframes are created within the geological shapes based on drill core logs, mapping and grade. Low grades can form part of an ore wireframe.
	Discussion of basis for using or not using grade cutting or capping.	Top-cuts were used as presented by Optiro Pty Ltd in 2012 that ranges from 25 to 200gpt on individual domains. Top cuts are set to incorporate approximately 97.5% of the available sample population for each domain.
	The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.	Validation is through swath plots comparing composites to block model grades, along 20m eastings and RL, comparing the block model means vs composite means for each domain. Visually, block grades are assessed against drill hole data.
Moisture	Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	Tonnages are estimated on a dry basis. Moisture content within the ore is low (~1-2 %)
Cut-off parameters	The basis of the adopted cut-off grade(s) or quality parameters applied.	Reporting cut off = 2.5gpt based on breakeven stope grade with development in place. Modelling lower grade cut off = 0.3gpt nominally
Mining factors or assumptions	Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.	Standard sub level retreat mining methods are predominantly used. Historical mining and reconciliation data has been taken into consideration but without affecting wire frame interpretation The total model has been coded to identify previously mined areas and only reports remnant mineralisation, most of which was left behind as uneconomic at the time, with previous operators hedged at A$650/ounce.
Metallurgical factors or assumptions	The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.	The ore is considered to be free milling (Life of Mine over 10 years 91.5% recovery), average hardness (BWI15-16), and with no significant refractory component. There are few minor deleterious elements, the footwall graphitic shales being the only concern in that this can affect recovery through preg-robbing if processed on its own. This known effect is managed through blending the ROM feed to the crusher prior to milling.
Environmental factors or assumptions	Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.	Paulsens is an operating mine with 10 years history and all permits and closure plans in place. As with all unweathered, underground deposits, when mined, natural oxidation and weathering occurs, however, the ore and waste material mined at Paulsens has been reviewed several times by both independent and contracted consultants with the overall comment that there appears to be no major effects on the environment outside of the environmental conditions imposed with the granting of the initial mining license.
Bulk density	Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the	Over 4,000 bulk density measurements from diamond drill holes have been taken from mineralised and unmineralised intervals within the project area. The bulk densities are derived from laboratory pycnometer

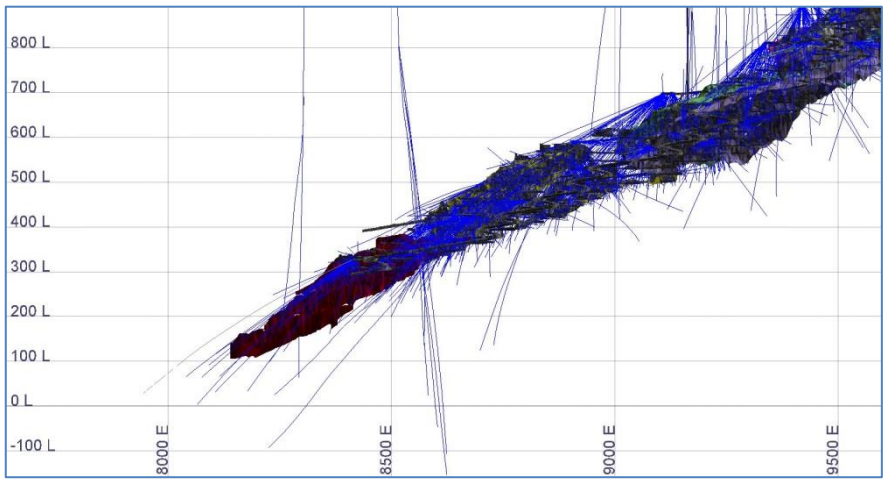
Criteria	JORC Code explanation	Commentary
	measurements, the nature, size and representativeness of the samples.	readings, with some of the domain densities adjusted over time through mine tonnage reconciliations. Immersion method SG calculations are now routinely preformed
	The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.	Minimal voids are encountered in the ore zones and underground environment.
	Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.	Individual bulk densities are applied to geological units and ore zones.
Classification	The basis for the classification of the Mineral Resources into varying confidence categories.	Classification is defined by data spacing of diamond holes, face/wall and rise sampling and reflects the degree of confidence in the areas specified. Measured resource classification is where the estimate is supported by data less than 5m apart and/or within 5-7m of development. Indicated resource classification is where the mineralisation has been sufficiently defined by a drill spacing of 12-15m x 12-15m or better, and/or where development has occurred within 12-15m. Inferred resource is based in addition to the above to a maximum search distance of 50 m from last sample point This Upper Paulsens resource has not been audited externally. Previous estimates of this area utilising the same, or very similar variables, have been reviewed by external parties and internal parties with protocols deemed appropriate. The area has also been externally estimated by Ordinary Kriging (Hellman and Schofield 2007-2010), Inverse distance (ResEval Pty Ltd) 2004-2006, Conditional Simulation and Ordinary Kriging (Golders) 2002
	Whether appropriate account has been taken of all relevant factors (ie. relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).	Classification is primarily based on 10 years of Paulsens mining experience.
	Whether the result appropriately reflects the Competent Person's view of the deposit.	This mineral resource estimate is considered representative.
Audits or reviews	The results of any audits or reviews of Mineral Resource estimates.	This particular resource has not been audited externally. Previous estimates of this area utilising the same, or very similar variables, have been reviewed by external parties and internal parties with protocols deemed appropriate.
Discussion of relative accuracy/ confidence	Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.	This resource is one in an iterative, evolutionary approach, attempting to increase confidence with each estimation. Taking account of all reconciliation, audits, mentor, and increased ore body knowledge the qualitative confidence improves with mining and drilling.
	The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.	This resource report relates to the Upper Paulsens, Voyager 1 and 2 and Titan, and will show local variability. The global assessment is more of a reflection of the average tonnes and grade estimate.
	These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.	The current Inverse Distance estimation methodology appears to perform sufficiently as an estimation technique for the Paulsens mineralisation.



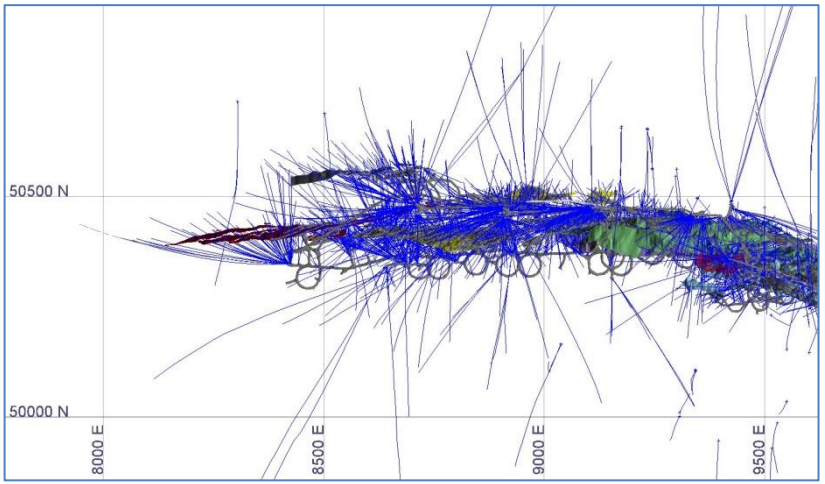
Upper Paulsens Long Section with drillhole traces and mineralised domains



Upper Paulsens Plan View with drillhole traces and mineralised domains



Voyager and Titan Long Section with drillhole traces and mineralised domains



Voyager and Titan Plan View with drillhole traces and mineralised domains

Section 4 Estimation and Reporting of Ore Reserves

(Criteria listed in section 1, and where relevant in sections 2 and 3, also apply to this section.)

Criteria	JORC Code explanation	Commentary
Mineral Resource estimate for conversion to Ore Reserves	Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve.	NST Jun 2014 resource
	Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.	The Mineral Resources are reported inclusive of the Ore Reserve
Site visits	Comment on any site visits undertaken by the Competent Person and the outcome of those visits.	Site visits have been undertaken by the competent person. The competent person is currently engaged to work on site
	If no site visits have been undertaken indicate why this is the case.	Site visits undertaken
Study status	The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.	Update of previous Ore Reserve
	The Code requires that a study to at least Pre-Feasibility Study level has been undertaken to convert Mineral Resources to Ore Reserves. Such studies will have been carried out and will have determined a mine plan that is technically achievable and economically viable, and that material Modifying Factors have been considered.	Update of previous Ore Reserve
Cut-off parameters	The basis of the cut-off grade(s) or quality parameters applied.	Break even cut off of 3.03gpt applied
Mining factors or assumptions	The method and assumptions used as reported in the Pre-Feasibility or Feasibility Study to convert the Mineral Resource to an Ore Reserve (i.e. either by application of appropriate factors by optimisation or by preliminary or detailed design).	Indicated Resources were converted to Probable Ore Reserves subject to mine design physicals and an economic evaluation. Measured material existed in the Voyager Resource model which subsequently converted to Proven Reserves. Further to this stockpiles and gold in circuit (GIC) and gold in transit (GIT) were considered as Proven.
	The choice, nature and appropriateness of the selected mining method(s) and other mining parameters including associated design issues such as pre-strip, access, etc.	Selected mining method deemed appropriate as it has been used at Paulsens since 2005
	The assumptions made regarding geotechnical parameters (eg pit slopes, stope sizes, etc), grade control and pre-production drilling.	Assumptions based on actual mining conditions
	The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate).	This table one applies to underground miring only
	The mining dilution factors used.	Based on historical mine performance, mining dilution of 20% for stoping and 17% for development is applied based on historical data
	The mining recovery factors used.	Mining recovery factor of 100%, mining dilution of 20% for stoping and 17% for development is applied based on historical data
	Any minimum mining widths used.	2.0m
	The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.	Designed stopes with greater than 50% inferred blocks are excluded from the reported reserve
	The infrastructure requirements of the selected mining methods.	Infrastructure in place, currently is an operating mine
Metallurgical factors or assumptions	The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.	The Paulsens gold mill utilises a CIL (Carbon In Leach) circuit for the extraction of gold. Reserves are based on historical data from the operation of the plant and a Processing recovery of 93% is used for Paulsens
	Whether the metallurgical process is well-tested technology or novel in nature.	Milling experience gained since 2005, 10 years continuous operation
	The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical	Milling experience gained since 2005, 10 years continuous operation

Criteria	JORC Code explanation	Commentary
	recovery factors applied.	
	Any assumptions or allowances made for deleterious elements.	No assumption made
	The existence of any bulk sample or pilot scale test work and the degree to which such samples are considered representative of the orebody as a whole.	Milling experience gained since 2005, 10 years continuous operation
	For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications?	Not applicable
Environmental	The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterisation and the consideration of potential sites, status of design options considered and, where applicable, the status of approvals for process residue storage and waste dumps should be reported.	Paulsens is currently compliant with all legal and regulatory requirements. All government permits and licenses and statutory approvals are either granted or in the process of being granted
Infrastructure	The existence of appropriate infrastructure: availability of land for plant development, power, water, transportation (particularly for bulk commodities), labour, accommodation; or the ease with which the infrastructure can be provided, or accessed.	All current site infrastructure is suitable to the proposed mining plan.
Costs	The derivation of, or assumptions made, regarding projected capital costs in the study.	Actual mine operating costs used
	The methodology used to estimate operating costs.	Processing, Mining Services, Geology Services and Administration costs have been estimated as a cost per ore tonne based on tracked historical performance. Mining Services fixed cost is based on the monthly lump sum provided in the schedule of rates and then annualised and divided by the budgeted annual processing rate to obtain a cost per ore tonne.
	Allowances made for the content of deleterious elements.	No allowances made for deleterious elements
	The derivation of assumptions made of metal or commodity price(s), for the principal minerals and co- products.	Single commodity pricing for gold only, using a long-term gold price of A$1,450 per ounce 2.5% WA State Government royalty.
	The source of exchange rates used in the study.	All in $A
	Derivation of transportation charges.	Historic performance
	The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.	Refining charge built into the cost model
	The allowances made for royalties payable, both Government and private.	All royalties are built into the cost model
Revenue factors	The derivation of, or assumptions made regarding revenue factors including head grade, metal or commodity price(s) exchange rates, transportation and treatment charges, penalties, net smelter returns, etc.	Revenue was based on a gold price of A$1,400
	The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.	NSR internal resource and reserve guidelines 2015. These are documented in emails and memos
Market assessment	The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future.	All product is sold direct at market prices with no hedges in place
	A customer and competitor analysis along with the identification of likely market windows for the product.	Not applicable
	Price and volume forecasts and the basis for these forecasts.	Not applicable
	For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.	Not applicable

Criteria	JORC Code explanation	Commentary
Economic	The inputs to the economic analysis to produce the net present value (NPV) in the study, the source and confidence of these economic inputs including estimated inflation, discount rate, etc.	All costs assumptions are made based on historical performance from the mine and current economic forecast seen as representative of current market conditions
	NPV ranges and sensitivity to variations in the significant assumptions and inputs.	Sensitivities not assessed
Social	The status of agreements with key stakeholders and matters leading to social licence to operate.	Agreements are in place and are current with all key stakeholders including traditional land owner claimants
Other	To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves:	
	Any identified material naturally occurring risks.	No issues foreseen
	The status of material legal agreements and marketing arrangements.	No issues foreseen
	The status of governmental agreements and approvals critical to the viability of the project, such as mineral tenement status, and government and statutory approvals. There must be reasonable grounds to expect that all necessary Government approvals will be received within the timeframes anticipated in the Pre-Feasibility or Feasibility study. Highlight and discuss the materiality of any unresolved matter that is dependent on a third party on which extraction of the reserve is contingent.	As a current operation, all government approvals are in place. No impediments are seen in any of these agreements for the continuation of mining activities.
Classification	The basis for the classification of the Ore Reserves into varying confidence categories.	All Ore Reserves include Proved (if any) and Probable classifications
	Whether the result appropriately reflects the Competent Person's view of the deposit.	The results accurately reflect the competent persons view of the deposit
	The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).	None
Audits or reviews	The results of any audits or reviews of Ore Reserve estimates.	There have been no external reviews of this Ore reserve estimate
Discussion of relative accuracy/ confidence	Where appropriate a statement of the relative accuracy and confidence level in the Ore Reserve estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the reserve within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors which could affect the relative accuracy and confidence of the estimate.	Confidence in the model and Ore Reserve Estimate is considered high based on current mine and reconciliation performance
	The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.	Estimates are global but will be reasonable accurate on a local scale.
	Accuracy and confidence discussions should extend to specific discussions of any applied Modifying Factors that may have a material impact on Ore Reserve viability, or for which there are remaining areas of uncertainty at the current study stage.	Other than dilution and recovery factors, no additional factors have been applied to the 2015 MY estimation.
	It is recognised that this may not be possible or appropriate in all circumstances. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.	Reconciliation results from past mining at Paulsens has been considered and factored into the reserve assumptions where appropriate.

JORC CODE, 2012 EDITION – TABLE 1 REPORT: HERMES – AS AT 30 JUNE 2015

Section 1 Sampling Techniques and Data

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

Criteria	JORC Code explanation	Commentary
Sampling techniques	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.	This deposit is sampled by diamond and RC Drilling. Northern Star Resources (NST) diamond core sample intervals are defined by the geologist to honour geological boundaries. NST RC drilling sampled to 1m composites. Pre NST diamond core is assumed to be sample to industry standards and to honour geological boundaries Pre NST RC initially sampled to either 4m comps with any samples reporting > 0.1gpt were re-split and re-assayed as 1m composites or as 1m composites.
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	NST diamond core is aligned and measured by tape, comparing back to down hole core blocks consistent with industry practice RC drilling completed by previous operators, assumed to be to industry standard at the time.
	Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.	Diamond drilling completed to industry standard using varying sample lengths (0.3 to 1.1m) based on geological intervals, which are then crushed and pulverised to produce a ~200g pulp sub sample to use in the assay process. NST diamond core samples are fire assayed (50g charge). Fine grained free gold is encountered occasionally Pre NST- Alchemy/Troy RC sampling assumed to be industry standard at that time. NST RC sampling using mounted static cone splitter used for dry samples to yield a primary sample of approximately 4kg
Drilling techniques	Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).	Surface RC drilling, 462 holes (~5.25" face sampling bit). Surface drill core, 32 holes (HQ2/HQ3). NST core was orientated using the Reflex Ez – Ori Pre NST orientated assumed to be to industry standard at the time
Drill sample recovery	Method of recording and assessing core and chip sample recoveries and results assessed.	RC – Approximate recoveries are sometimes recorded as percentage ranges based on a visual weight estimate of the sample. DD – Recoveries are recorded as a percentage calculated from measured core versus drilled intervals. Overall recoveries are good.
	Measures taken to maximise sample recovery and ensure representative nature of the samples.	RC and diamond drilling by previous operators to industry standard at that time.
	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.	There has been no work completed on the relationship between recovery and grade.
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.	NST RC chips and surface core logged by company geologists to industry standard. All relevant items such as interval, lithologies, structure, texture. Grains size, alterations, oxidation mineralisation, quartz percentages and sulphide types and percentages are recorded in the geological logs. RC and Diamond logging completed by previous operators to industry standard
	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.	Logging is Qualitative, all core photographed, and visual estimates are made of sulphide, quartz alteration percentages.
	The total length and percentage of the relevant intersections logged.	100% of the drill core and RC drilling chips were logged.
Sub-sampling techniques and	If core, whether cut or sawn and whether quarter, half or all core taken.	Core sample intervals are generally between 0.3-1.1m in length, though honouring lithological boundaries to intervals less than 1m as deemed appropriate.

Criteria	JORC Code explanation	Commentary
sample preparation		NST - HQ3 core is half core sampled cut with Almonté diamond core saw. The right half is sampled, to sample intervals defined by the Logging Geologist along geological boundaries. The left half of core is archived. All samples are oven-dried overnight (105^{0}C), jaw crushed to pass 3.15mm The total sample is pulverised in an LM5 to 90% passing 75µm and bagged. The analytical sample is further reduced to a 50gm charge weight using a spatula, and the pulp packet is stored awaiting collection by NST.
	If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.	NST employed a rig mounted static cone splitter used for dry samples to yield a primary sample of approximately 4kg . Off-split retained. NST field duplicate samples are taken at an incidence of 1 in 30 samples. Pre NST RC initially sampled to 4m comps, any samples reporting > 0.1gpt were re-split and re-assayed as 1m composites and is assumed to be industry standard.
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	There was no data available on Pre NST sample preparation practices. It is assumed to be industry standard along with NST processes which are Industry standard.
	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	NST Industry standard QAQC procedures and previous owners are assumed as Industry standard.
	Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate / second-half sampling.	The field QAQC protocols include; duplicate samples at a rate of 1 in 30, coarse blanks inserted at a rate of 1 in 30, commercial standards submitted at a rate of 1 in 20. Pre NST - Industry standard QAQC procedures are assumed to have been employed.
	Whether sample sizes are appropriate to the grain size of the material being sampled.	Sample sizes are considered appropriate.
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.	DD - Core is half cut. Repeat analysis of pulp samples (for all sample types – diamond, RC) occurs at an incidence of 1 in 35 samples. Total gold is determined by fire assay using the lead collection technique (50 gram sample charge weight) and AAS finish. Various multi-element suites are analysed using a four acid digest with an ICP-OES finish. Pre NST assay techniques were assumed to be industry standard
	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.	Not applicable to this report.
	Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie. lack of bias) and precision have been established.	The laboratory QAQC protocols include: repeat of pulps at a rate of 3%, sizing at a rate of 1 per batch. The labs internal QAQC is loaded into NST database. Both the accuracy component (CRM's) and the precision component (duplicates and repeats) are deemed acceptable. Although no formal heterogeneity study has been carried out or nomograph plotted, informal analysis suggests that the sampling protocol currently in use is appropriate to the mineralisation encountered and should provide representative results. No check assaying at an umpire laboratory has been performed. Industry standard QAQC procedures are assumed to have been employed by Pre NST operators
Verification of sampling and assaying	The verification of significant intersections by either independent or alternative company personnel.	Significant intersections are verified by NST senior staff as required.
	The use of twinned holes.	There are no purpose drilled twin holes employed by NST or previous owners
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	NST data thoroughly vetted by database administrators. Data is stored in Acquire database has several inbuilt validations. Pre NST data is accepted relevant practice of the time.
	Discuss any adjustment to assay data.	No adjustments are made to any assay data.

Criteria	JORC Code explanation	Commentary
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 in Mineral Resource estimation.	NST collar positions were surveyed using DGPS. Pre NST collar position assumed to be of industry standard Topographic control uses local DGPS pickups.
	Specification of the grid system used.	MGA 94_50
	Quality and adequacy of topographic control.	Topographic control is based on the collar surveys.
Data spacing and distribution	Data spacing for reporting of Exploration Results.	Exploration results are based on the Drill traces as attached.
	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.	Data spacing is approximately 20m by 20m.
	Whether sample compositing has been applied.	Drill core is sampled to geology; sample compositing is not applied until the estimation stage. NST RC samples were composited to 1m. Pre NST RC samples either initially taken as 4m composites and re-assayed by 1 m samples if assays >0.1gpt or directly composited to1m.
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.	Intercept angles are predominantly moderate to high angle (50° to 80°) to the interpreted mineralisation resulting in unbiased sampling.
	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.	Unknown, assumed to not be material.
Sample security	The measures taken to ensure sample security.	Chain of custody is managed by NST. Samples are stored on site and are delivered to assay laboratory in Perth by Contracted Transport Company. Consignment notes in place to track the samples. Pre NST operator sample security assumed to be adequate.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	There have not been improved reviews of sampling techniques on NST drilling phases.

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 interests, historical sites, wilderness or national park and environmental settings.	M52/685 is wholly owned by Northern Star Resources (NST) and in good standing. Heritage surveys have been conducted and the area was cleared for drilling. Relationship with the traditional owners is well informed and adequate.
	The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.	M52/685 is valid currently to 2030.
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	Pre NST data relevant to this resource was collected by Alchemy, Troy and Barrick (16 Diamond and 340 RC holes). All previous work is accepted to industry standard at that time.
Geology	Deposit type, geological setting and style of mineralisation.	Mineralisation at this deposit is considered to be mesothermal quartz reefs +/ pyrite, arsenopyrite within a quartz biotite sericite schist host rock near an amphibolite contact in the southwest portion of the Marymia Inlier.
Drill hole	A summary of all information material to the understanding of the exploration results	Exploration results not reported at this time.

Criteria	JORC Code explanation	Commentary
Information	including a tabulation of the following information for all Material drill holes: o easting and northing of the drill hole collar o elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar o dip and azimuth of the hole o down hole length and interception depth o hole length.	
	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.	Exploration results not reported at this time.
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.	Exploration results not reported at this time.
	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.	Exploration results not reported at this time.
	The assumptions used for any reporting of metal equivalent values should be clearly stated.	No metal equivalents are reported
Relationship between mineralisation widths and intercept lengths	These relationships are particularly important in the reporting of Exploration Results.	Exploration results not reported at this time.
	If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.	Geometry of the mineralisation to drill hole intercepts is at a high angle, often nearing perpendicular.
	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').	Exploration results not reported at this time.
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.	See plan view of drill traces for Hermes and surrounding areas.
Balanced reporting	Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	Exploration results not reported at this time
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.	Other Exploration results not considered material
Further work	The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).	Follow up drilling to infill and extend is proposed but currently on hold.
	Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	See attached plan view

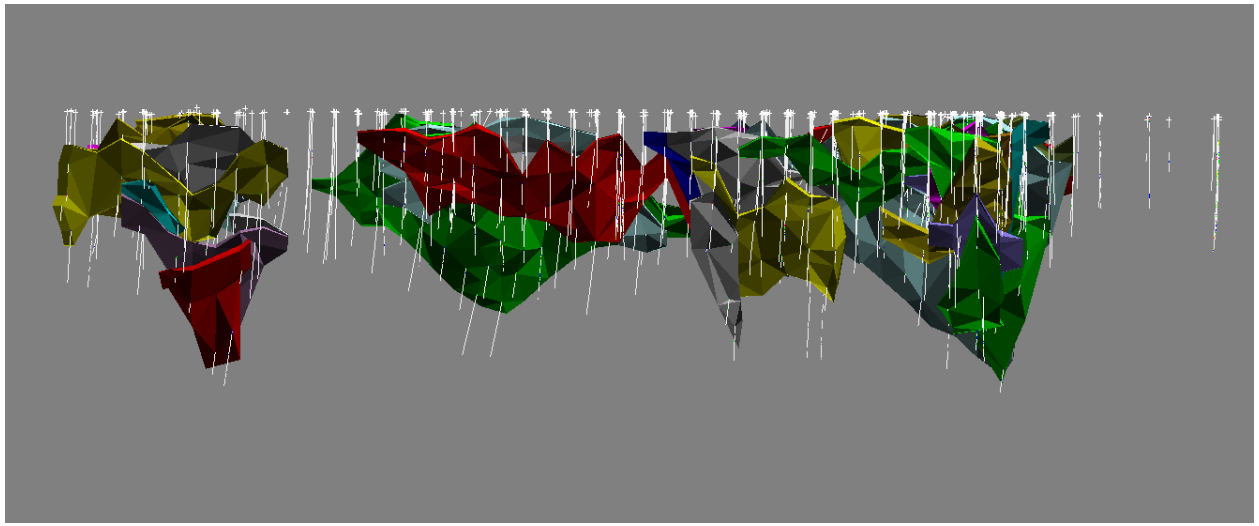
Section 3 Estimation and Reporting of Mineral Resources

(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

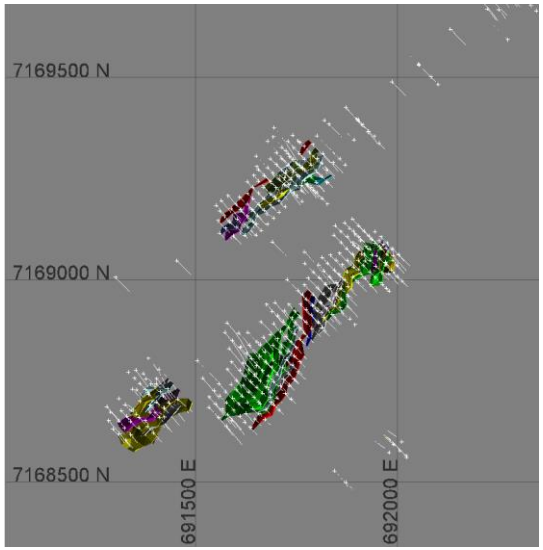
Criteria	JORC Code explanation	Commentary
Database integrity	Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.	Sampling and logging data is entered directly into the logging package Acquire. Constrained look-up lists, depth and some interval validation are inbuilt and ensure that the data collected is correct at source. Raw assay files were directly imported into Acquire, with internal validations and QAQC protocols used to check integrity. Pre Northern Star Resources Limited (NST) data assumed correct but no validation has been undertaken. For all data the drilling looked reliable visually and no overlapping intervals were noted.
	Data validation procedures used.	NST data validated by internal protocols within Acquire and by database administrators. Pre NST data has not been validated but is assumed to be correct. Four holes were excluded due to unrepresentative intercept angle.
Site visits	Comment on any site visits undertaken by the Competent Person and the outcome of those visits.	Site visits have been undertaken before and during drilling program by the competent person.
	If no site visits have been undertaken indicate why this is the case.	Site visited.
Geological interpretation	Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.	The interpretation of the deposit was carried out using a systematic approach to ensure continuity of the geology by the supervising and logging geologists. Sectional interpretations were digitized in Vulcan software and triangulated to form three dimensional solids. Confidence in the geological interpretation is moderate. Weathering zones and bedrock sub surfaces were also created.
	Nature of the data used and of any assumptions made.	All available valid data was used including drill data, mapping previous interpretations. NST drilled 128 of the 490 holes. Where pre-NST drill data was used it is assumed to be correct.
	The effect, if any, of alternative interpretations on Mineral Resource estimation.	There are currently no different interpretations.
	The use of geology in guiding and controlling Mineral Resource estimation.	Geology is used to constrain the quartz veins within the quartz biotite sericite schist host.
	The factors affecting continuity both of grade and geology.	Grade continuity is related to quartz vein extent, within quartz biotite sericite schist host.
Dimensions	The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.	Maximum Strike length = 600m with zones 40 to 350m long Maximum Width = 80m with zones 1 to 8m thick Maximum Depth = from surface to ~200m below surface
Estimation and modelling techniques	The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.	Ordinary Kriging was used to estimate this resource using Vulcan 9.1 software. Domains are snapped to drilling, and composited to 1m downhole. Small composites were distributed to adjacent intervals. Five statistical domains were used to reflect the different orientations of mineralisation.
	The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.	A resource was estimated in 2012. This resource reported all material greater than 0gpt, overstating the in istu resource at the time.
	The assumptions made regarding recovery of by-products.	No assumptions of by product recovery are made.
	Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).	No deleterious elements estimated in the model
	In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.	Block size is 5m x 10m x 5m. Subcelled down to 1.25m x 2.5m x 1.25m to best fit estimation domains. Average drill hole spacing is ~ 20m

Criteria	JORC Code explanation	Commentary
		Five search ellipse (3 for Trapper (50x40x20, 55x50x20, 45x35x25), 1 for Hawkeye (50x45x20) and 1 for Trapper West 55x25x20)) were used over three passes. Minimum of 16 samples to estimate per block.
	Any assumptions behind modelling of selective mining units.	No assumptions made
	Any assumptions about correlation between variables.	No assumptions made
	Description of how the geological interpretation was used to control the resource estimates.	Mineralisation wireframes are created within the geological shapes based on drill core logs, mapping and grade. Low grades can form part of an ore wireframe
	Discussion of basis for using or not using grade cutting or capping.	Composites were cut to 30gpt (Trapper and Trapper West), and 20gpt (Hawkeye) based on log distribution.
	The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.	Block grades were compared visually to drilling data. Validation is also through swath plots comparing composites to block model grades, along nothings, comparing Ordinary Kriging to Inverse distance to Nearest Neighbour estimations. All compared favourable.
Moisture	Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	Tonnages are estimated with natural moisture. Moisture content within the ore is expected to vary through the oxide to Fresh. Minimal voids reported within all rock types. Water table at approximately 30m below surface
Cut-off parameters	The basis of the adopted cut-off grade(s) or quality parameters applied.	Reporting cut off = 1.0gpt based on natural statistical cut-off Modeling lower grade cut off = 0.5gpt nominally, not more than 3m of internal dilution and requires minimum 2 holes
Mining factors or assumptions	Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.	It is assumed Hermes will initially be mined by open cut mining methods, and quick evaluations support the economics. Below the economic pit depth, grades are high enough to potentially be mined by underground methods. Assume nearby Plutonic mill is available for processing.
Metallurgical factors or assumptions	The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.	Four metallurgical diamond holes (PQ3) and 10 RC holes were drilled as a part of the NST metallurgical program. Initial leaching results suggest Hermes mineralisation is amenable to extraction by the Plutonic mill.
Environmental factors or assumptions	Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.	No environmental, permitting, legal, taxation, socio-economic, marketing or other relevant issues are known, that may affect the estimate. Currently there is no permit to mine.
Bulk density	Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.	Bulk density used was based on 198 samples from 3 diamond holes. Measurements were taken using the immersion method and related back to dominant rock code. This validated previously reported Bulk Density measurement
	The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.	Bulk density of the host rock and mineralisation is well covered and validates previous bulk density work. Fourteen samples were used to determine an average bulk density of oxide, 8 for transitional host rock, and 176 in fresh material
	Discuss assumptions for bulk density estimates used in the evaluation process of the	Individual bulk densities are applied to geological units.

Criteria	JORC Code explanation	Commentary
	different materials.	
Classification	The basis for the classification of the Mineral Resources into varying confidence categories.	Classification is based on drill spacing, passes used and Kriging efficiency variable to delineate inferred and indicated resource. There is no Measured category.
	Whether appropriate account has been taken of all relevant factors (ie. relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).	Confidence in the relative tonnage and grade is moderate to high, NST data input reliable, interpretation continuity to be confirmed by infill drilling Pre NST data assumed to be reliable.
	Whether the result appropriately reflects the Competent Person's view of the deposit.	The result appropriately reflects the Competent Person(s)' view of the deposit
Audits or reviews	The results of any audits or reviews of Mineral Resource estimates.	This particular resource has not been externally reviewed or audited
Discussion of relative accuracy/ confidence	Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.	This mineral resource estimate is considered as robust and representative. The application of geostatistical methods has helped to increase the confidence of the model and quantify the relative accuracy of the resource on a global scale. It relies on historical data being of similar standard as recent infill drilling. The relevant tonnages and grade are variable on a local scale.
	The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.	This resource report relates to the Hermes Gold Project where it is likely to have local variability. The global assessment is more of a reflection of the average tonnes and grade estimate.
	These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.	No Production has been conducted in or around this resource.



Long section - facing west, Hermes drilling



Plan View – Hermes drillhole collars

JORC Code, 2012 Edition – Table 1 Report: Jundee: Open Pits– As at 30 June 2015

Section 1 Sampling Techniques and Data

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

Criteria	JORC Code explanation	Commentary
Sampling techniques	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.	Jundee Open pits are sampled by both diamond drilling (DD) and Reverse Circulation (RC) drilling completed by both NSR and previous operators. The majority of RC drilling and sampling was undertaken by previous operators with only a small volume(<1% of total RC) completed by NSR at this stage DD: Sampled sections are generally NQ2. Core sample intervals are defined by the geologist to honour geological boundaries ranging from 0.3 to 1.2m in length. RC: Rig-mounted static cone splitter used, with sample falling though a riffle splitter or inverted cone splitter, splitting the sample in 88/9/3 ratio. 9% Off-split retained for 1m composites and 3% Off-split retained for 4m composites. 1m composites (9% split) was sent for further analysis if any 4m composite values returned a gold value > 0.1ppm or intervals containing alteration/mineralisation failed to return a significant 4m composite assay result. RC and DD sampling by previous operators are assumed to be industry standard at that time often using 1m samples after initial 4m composites. It is unknown what grade threshold triggers the 1m re-samples. The greater majority (>90%) of samples used for Resource estimates are RC with the exception of the Cook Deposit (62%)
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	Core is aligned and measured by tape, comparing back to down hole core blocks consistent with industry practice. RC metre intervals are delineated with spray paint on the pullback chains to determine meters drilled per rod. Sample reject per meter sampled is left on the sample pad to indicate meters drilled for the hole. RC and surface core drilling completed by previous operators (pre-2002) to industry standard at that time.
	Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.	Diamond drilling was completed to industry standard using varying sample lengths (0.3 to 1.2m) based on geological intervals, which are then crushed and pulverised to produce a ~200g pulp sub sample to use in the assay process. Diamond core samples was fire assayed (50g charge) and SFA for Vis AU. Visible gold is occasionally encountered in core. RC sampling to industry standard at the time of drilling where ~4kg samples were pulverised to produce a ~200g pulp sample to utilise in the assay process. RC samples were fire assayed (50g charge)
Drilling techniques	Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc.) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc.).	RC – Reverse circulation drilling was carried out using a face sampling hammer and a 130mm diameter bit Previous operators surface diamond drilling carried out by using both HQ2 or HQ3 or PQ2 (triple tube) and NQ2 (standard tube) techniques. Sampled sections are generally NQ2. Core is routinely orientated using the ORI-shot device.
Drill sample recovery	Method of recording and assessing core and chip sample recoveries and results assessed.	RC – Approximate recoveries are sometimes recorded as percentage ranges based on a visual and weight estimate of the sample. DD – Recoveries are recorded as a percentage calculated from measured core verses drilled intervals.
	Measures taken to maximise sample recovery and ensure representative nature of the samples.	Diamond drilling practice results in high core recovery due to the competent nature of the ground. RC and diamond drilling by previous operators (pre-2002) are to industry standard at that time.
	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.	There is no known relationship between sample recovery and grade, diamond drill sample recovery is very high.
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	Core and chip samples have been logged by qualified Geologist to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies

Criteria	JORC Code explanation	Commentary
	metallurgical studies.	Percussion holes logging were carried out on a metre by metre basis and at the time of drilling. Surface core and RC logging completed by previous operators (pre-2002) assumed to be to industry standard.
	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.	Logging is Qualitative and Quantitative and all core is photographed wet (some older core is pre-digital, photos not all reviewed). Visual estimates of sulphide, quartz and alteration as percentages
	The total length and percentage of the relevant intersections logged.	100% of the drill core is logged. 100% of RC drilling is logged.
Sub-sampling techniques and sample preparation	If core, whether cut or sawn and whether quarter, half or all core taken.	DD – Core is half cut with an Almonté diamond core saw. Sample intervals are defined by a qualified geologist to honour geological boundaries. The left half is archived All mineralised zones are sampled, plus associated visibly barren material in contact with mineralised zones Core is sampled on the width of the geological/mineralised structure in recognized ore zones. The minimum sample length is 0.3m while the maximum is 1.2m. Total weight of each sample generally does not exceed 5kg For pre-Northern Star Resources (NSR) best practice is assumed.
	If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.	RC – Cyclone mounted 3 tier riffle splitter or inverted cone splitter Pre NSR RC sub sampling assumed to be at industry standard at that time.
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	DD: Following drying at 100°C to constant mass, all samples below approximately 4kg are totally pulverised in LM5's to nominally 90% passing a 75µm screen. The very few samples generated above 4kg are crushed to <6mm and riffle split first prior to pulverisation. For RC samples, all drying at 100°C to constant mass, all samples below approximately 3kg are totally pulverised in LM5's to nominally 85% passing a 75µm screen. Samples generated above 4kg are crushed to <6mm and cone split to nominal mass prior to pulverisation. In 2012, Francois-Bongarcon (Agoratek International) conducted a heterogeneity studies, audit of site laboratory, and audit of plant samplers. Confirmed that the sampling protocol currently in use are appropriate to the mineralisation encountered and should provide representative results. For RC samples, No formal heterogeneity study has been carried out or nomographed. An informal analysis suggests that the sampling protocol currently in use are appropriate to the mineralisation encountered and should provide representative results For pre- NSR samples, best practice is assumed.
	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	Repeat analysis of pulp samples (for all sample types – diamond, RC) occurs at an incidence of 1 in 20 samples. RC drilling by previous operators to industry standard at that time
	Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate / second-half sampling.	Field duplicates, ie other half of cut core, have not been routinely assayed. RC drilling by previous operators assumed to be to industry standard at that time.
	Whether sample sizes are appropriate to the grain size of the material being sampled.	Sample sizes are considered appropriate. No formal nomograph study has been conducted on the RC primary sub sample split. Industry standard practice supports splitting of primary sub samples at particle sizes of <6mm and 80p75µm.
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.	For all drill core and RC samples, gold concentration was determined by fire assay using the lead collection technique with a 50 gram sample charge weight. An AAS finish was used to be considered as total gold Various multi-element suites are analysed using a four acid digest with an AT/OES finish. RC drilling by previous operators (pre 2002) to industry standard at the time.
	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.	Not applicable to this report.
	Nature of quality control procedures adopted (eg standards, blanks, duplicates,	The QAQC protocols used include the following for all drill samples:

Criteria	JORC Code explanation	Commentary
	external laboratory checks) and whether acceptable levels of accuracy (ie. lack of bias) and precision have been established.	▪ The field QAQC protocols used include the following for all drill samples: - Commercially prepared certified reference materials (CRM) are inserted at an incidence of 1 in 30 samples. The CRM used is not identifiable to the laboratory, -QAQC data is assessed on import to the database and reported monthly, quarterly and yearly. ▪ The laboratory QAQC protocols used include the following for all drill samples: - Repeat analysis of pulp samples occurs at an incidence of 1 in 20 samples, - Screen tests (percentage of pulverised sample passing a 75µm mesh) are undertaken on 1 in 40 samples, - The laboratories' own standards are loaded into the database, - The laboratory reports its own QAQC data on a monthly basis. - In addition to the above, about 3% of diamond drill samples are sent to a check laboratory. Samples for check -assay are selected automatically from holes, based on the following criteria: grade above 1gpt or logged as a mineralised zone or is followed by feldspar flush or blank. ▪ Failed standards are generally followed up by re-assaying a second 50g pulp sample of all samples in the fire above 0.1ppm by the same method at the primary laboratory. Both the accuracy component (CRM's and third party checks) and the precision component (duplicates and repeats) of the QAQC protocols are thought to demonstrate acceptable levels of accuracy and precision. QAQC protocols for Surface RC and diamond drilling by some previous operators (pre-2002) is assumed to be industry standard.
Verification of sampling and assaying	The verification of significant intersections by either independent or alternative company personnel.	Significant intersections not verified
	The use of twinned holes.	There are no purpose drilled twinned holes
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	Primary Data imported into SQL database using semi-automated or automated data entry Hard copies of NSR and previous operators core assays and surveys are stored at site Visual checks are part of daily use of the data in Vulcan. Data from previous operators thoroughly vetted and imported to SQL database
	Discuss any adjustment to assay data.	The first gold assay is almost always utilised for any resource estimation. Exceptions occur when evidence from re-assaying and/or check-assaying dictates. A systematic procedure utilizing several re-assays and/or check assays is in place to determine when the final assay is changed from the first gold assay. Some minor adjustments have been made to overlapping 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 in Mineral Resource estimation.	Collar positions are recorded using conventional survey methods based on Leica TS15 3" total stations and Trimble R10 GNSS instruments. The location of each station is referenced to state-wide network of Standard Survey Marks (SSM) established and coordinated by the Department of Land Administration (W.A Government). Where regional drill hole positions are distant from the SSM network the world wide Global Navigational Satellite System (GNSS) network is used. Positional checks are carried out using a combination of existing known positions (usually based on prominent landmarks) and grid referenced information such as ortholinear rectified photogrammetry based on the Australian Map Grid 1984 (AMG84_51). Collar coordinates are recorded in AMG84 or Local Jundee Grid (JUNL2) dependant on the location and orientation of ore-bodies. Cross checks were made on the survey control points and data in June 2005. Collar information is stored in both local coordinates and AMG84 coordinate in the drilling database. In-mine drill-hole collars are normally accurate to 10 cm. Surface Collar RLs have been validated utilizing an airborne elevation survey by Arvista in February 2015. Multi shot cameras and gyro units were used for down-hole survey. Previous drilling has been set-out and picked up in both national and local grids using a combination of GPS

Criteria	JORC Code explanation	Commentary
		and Survey instruments, and are assumed to be to industry standards
	Specification of the grid system used.	Collar coordinates are recorded in AMG84 Zone 51 (AMG GN) and Local Jundee Grid (JUNL2) dependant on the location and orientation of ore-bodies. The difference between Jundee mine grid (GN) and magnetic north (MN) as at 31 December 2011 is 39° 35' 00" and the difference between magnetic north (MN) and true north (TN) is 1° 34' 30". The difference between true north (TN) and AMG84 Zone 51 (AMG GN) is 1° 02' 47". The difference between true north and GDA is zero.
	Quality and adequacy of topographic control.	Topographic control is from Digital Elevation Contours (DEM) 2010, 1m contour data and site surveyed pit pickups.
Data spacing and distribution	Data spacing for reporting of Exploration Results.	All Reserves are based on a maximum drill hole spacing of 40m x 40m and all Resources are based on a maximum of 80m x 80m.
	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.	Reserves are generally based on 20m x 20m drilling up to a maximum of 40m x 40m. Resources are generally based on 40m x 40m drilling up to a maximum of 80m x 80m. The data spacing and distribution is sufficient to establish geological and/or grade continuity appropriate for the Mineral Resource and classifications to be applied.
	Whether sample compositing has been applied.	Core is sampled to geology; sample compositing is not applied until the estimation stage. RC samples initially taken as 4m composites to be replaced by 1 m samples if any 4m composite values returned a gold value > 0.1ppm or intervals containing alteration/mineralisation failed to return a significant 4m composite assay result. No RC samples greater than 1m were used in estimation.
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 orientation of sampling is generally perpendicular to the main mineralisation trends. The orientation achieves unbiased sampling of all possible mineralisation and the extent to which this is known.
	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 drill orientation to mineralised structures biases the number of samples per drill hole. It is not thought to make a material difference in the resource estimation. As the opportunity arises, better angled holes are infill drilled.
Sample security	The measures taken to ensure sample security.	All samples are selected, cut and bagged in tied numbered calico bags, grouped in larger tied plastic bags, and placed in large sample cages with a sample submission sheet. The cages are either sent to the site laboratory or are transported via freight truck to Perth, with consignment note and receipted by external and independent laboratory All sample submissions are documented and all assays are returned via email and hard copy. Sample pulp splits from the site lab are stored at the Jundee mine site and those from the Newburn Lab in Perth are stored at the Newburn Lab. RC Samples processed at Min Analytical and Bureau Veristas have had the bulk residue discarded and pulp packets sent to Jundee mine site for long term storage. Pre NSR operator sample security assumed to be similar and adequate.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	Historical audits of all Jundee data were carried out by previous operators. In 2012, Francois-Bongarcon (Agoratek International) conducted a heterogeneity studies, audit of site laboratory, and audit of plant samplers. Both audits found the sampling techniques and data to be adequate. All recent NSR sample data has been extensively QAQC reviewed both internally and externally. Pre NSR data audits found to be minimal in regards to QAQC though in line with industry standards of the time

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 interests, historical sites, wilderness or national park and environmental settings.	The Jundee project consists of tenements comprising 62 mining leases and 1 general purpose lease, covering a total area of approximately 57,422.2 Ha. All are registered in the name of Northern Star Resources Limited. The project also includes 23 miscellaneous licences, 3 groundwater licenses, a pipeline license, and the Jundee Pastoral Lease. These cover the bore fields, roads, airstrip, and gas pipeline. There are numerous access agreements in place including access rights over part of Mark Creasy's mining lease 53/193 which lies contiguous to and beneath the general purpose lease on which the Jundee gold mine processing plant is located. There are no heritage issues with the current operation. The majority of the Jundee leases are granted Mining Leases prior to 1994 (pre Mabo) and as such Native Title negotiations are not required. During 2004, two agreements where struck between Ngaanyatjarra Council (now Central Desert native Title Services (CDNTS)) and NYO, these agreements being the Wiluna Land Access Agreement 2004 and the Wiluna Claim Heritage Agreement 2004.
	The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.	All leases and licences to operate are granted and in the order for between 3 and 20 years.
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	Data relevant to this resource was predominantly NYO (Newmont Yandal Operations), who operated the mine since 2002-June 2014. Prior to 2002, data gathered by others is as follows: The Jundee/Nimary Deposits were discovered in the late 1980's/early 1990's after LAG and soil sampling by Mark Creasy (Jundee) and Hunter Resources (Nimary) identified large surface gold anomalies. The deposits were drilled out over the following years by Eagle Mining (which took over Hunter Resources), and Great Central Mines (which formed a joint venture with Creasy and later purchased his share). Open pit operations commenced in mid-1995, with the first gold poured in December 1995. Great Central Mines assumed full control of the field with its successful takeover of Eagle Mining in mid-1997. Great Central Mines was later taken over by Normandy in mid-2000, which in turn was taken over by Newmont in early-2002. All previous work is accepted and assumed to industry standard at that time.
Geology	Deposit type, geological setting and style of mineralisation.	Jundee is an Archean lode-gold mineralised deposit that is part of the Northern Yandal Greenstone belt. Gold mineralisation is controlled by a brittle fracture-system, is commonly fracture-centred, and is predominantly hosted in dolerite and basalt. Mineralisation can be disseminated or vein style host.
Drill hole Information	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: o easting and northing of the drill hole collar o elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar o dip and azimuth of the hole o down hole length and interception depth o hole length.	Too many holes to practically summarise all drill information used. (See diagram).
	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.	Exclusion of the drill information will not detract from the understanding of the report. Holes are close spaced and tightly constrained to an active mine area.
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.	Exploration results not being released at this time.
	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	Exploration results not being released at this time.

Criteria	JORC Code explanation	Commentary
	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.	No metal equivalents are reported
Relationship between mineralisation widths and intercept lengths	These relationships are particularly important in the reporting of Exploration Results.	Exploration results not being released at this time.
	If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.	Due to complex mineralisation geometry and varying intercept angles the true thickness is manually estimated on a hole by hole basis
	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').	Exploration results not being released at this time.
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.	Plan view and long section view of Jundee showing drill collars is attached.
Balanced reporting	Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	Exploration results not being released at this time.
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.	Exploration results not being released at this time.
Further work	The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).	Not applicable.
	Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	Exploration results not being released at this time.

Section 3 Estimation and Reporting of Mineral Resources

(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

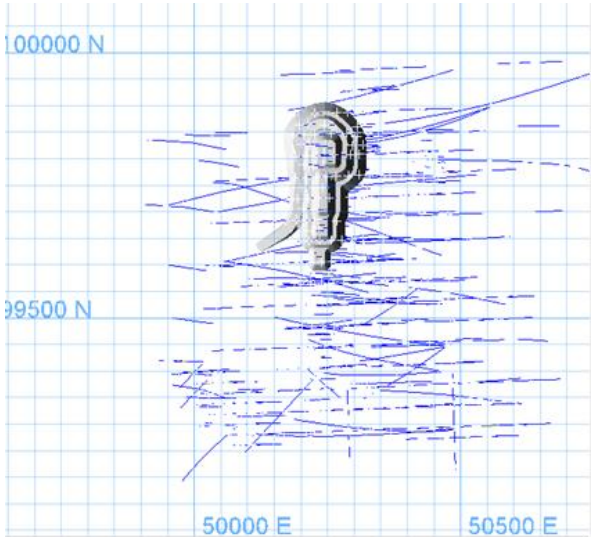
Criteria	JORC Code explanation	Commentary
Database integrity	Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.	NSR (Northern star Resources) sampling and logging data is digitally entered into a tablet then transferred to an SQL based database. There are checks in place to avoid duplicate holes and sample numbers. Where possible, raw data is loaded directly to the database from lab, logging and survey derived files. Pre NSR data considered correct.
	Data validation procedures used.	Pre NSR and pre NYO data has been partially validated by internal database administrators.
Site visits	Comment on any site visits undertaken by the Competent Person and the outcome of those visits.	The competent person for this resource report has worked on site for extensive periods between 2005 and 2010.
	If no site visits have been undertaken indicate why this is the case.	Site visits have been undertaken.
Geological interpretation	Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.	The interpretation of the deposit was carried out using a systematic approach to ensure continuity of the geology and estimated mineral resource using Vulcan and Leapfrog software. The confidence in the geological interpretation is relatively high, though a certain degree of uncertainly always remains due to the structurally complex and nuggetty nature of the ore body on a local scale. The confidence is supported by all

Criteria	JORC Code explanation	Commentary
		the information and 18 years of open pit and underground operations.
	Nature of the data used and of any assumptions made.	All available geological data was used in the interpretation including mapping, drilling, oxidation surfaces, and underground style high grade ore zone interpretations.
	The effect, if any, of alternative interpretations on Mineral Resource estimation.	No alternative interpretations have been completed or put forward.
	The use of geology in guiding and controlling Mineral Resource estimation.	Drill core logging and pit mapping used to create 3D constrained wireframes.
	The factors affecting continuity both of grade and geology.	Continuity of the grade varies significantly, though the lodes with the greatest continuity are generally sub-parallel to the dolerite and basalt packages in which they are hosted. Splays or link lodes coming off of this main trend tend to have a shorter continuity.
Dimensions	The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.	Mineralised zones are variable, with true width ranging from 0.3m up to 5m. They are extensive along strike and down dip, up to 1400m and 500m, respectively, but are often highly discontinuous, and generally have a tabular geometry. Depth = surface to ~2123mRl (lowest extent of Open pit Resources: Cook Resource)
Estimation and modelling techniques.	The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.	Domains are set by grouping lodes as dictated by their structural setting, geological mineralisation and statistical characteristics. The raw data is subdivided into domains based on geological controls and further analysed for correlation and similarity using statistics. The purpose of this analysis is to determine further domaining of the data for variographic purposes (by combining groups of lodes). Open Pit Resource estimation utilises 1m straight composite data for all RC composites, coupled with seam composite generation from hangingwall to footwall) for the majority of DD composites. Detailed exploratory data analysis is carried out on each deposit, using Snowden Supervisor software. The majority of the Resource is estimated using ordinary kriging (OK). A minor proportion of the Resource is estimated using inverse distance squared (ID2). The estimation type used is dictated by the dataset size of the domain. Vulcan and Leapfrog software was used for data compilation, domain wireframing, calculating and coding composite values, estimating and reporting. In addition, a portion of the Cook resource was modelled using indicator shells and estimated with nominal 1m downhole composites. Maximum distance of extrapolation from data points was statistically determined and varies by domain. Blockmodel volumes were compared to wireframe volumes to validate sub-blocking Where OK or ID2 estimates were used, treatment of extreme high grades were dealt with by using a cap grade strategy.
	The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.	Both Historical estimates and mapping/production is comparable with new estimate.
	The assumptions made regarding recovery of by-products.	No assumptions are made and only gold is defined for estimation.
	Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).	No deleterious elements estimated in the model
	In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.	All Open pit Resource models use a 1m straight composite generation based on RC sample length where the parent block sizes are 10 m in strike, 3m in RL, and 3m across strike direction. Sub-block sizes are 1m in strike, 1m in RL, and 1m across strike direction Reserves are generally based on 20m x 20m drilling up to a maximum of 40m x 40m. Resources are generally based on 40m x 40m drilling up to a maximum of 80m x 80m.
	Any assumptions behind modelling of selective mining units.	At least a 1.5m minimum mining width for Open pit environment is assumed.
	Any assumptions about correlation between variables.	There is no correlation between variables.

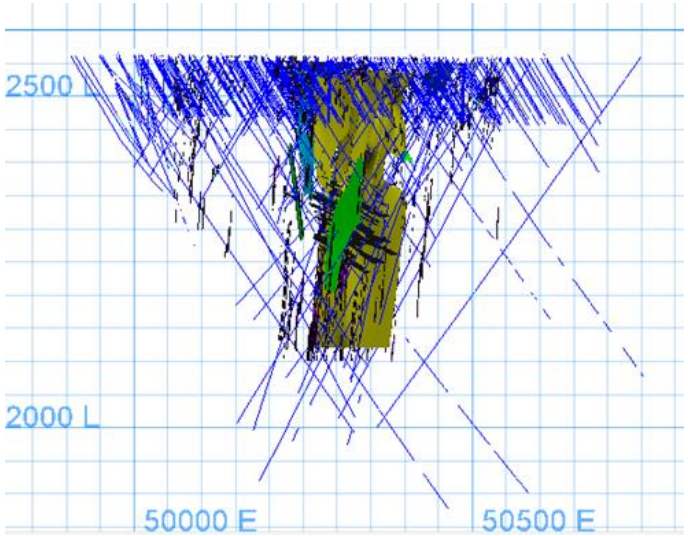
Criteria	JORC Code explanation	Commentary
	Description of how the geological interpretation was used to control the resource estimates.	"Mineralised" wireframes are created within the geological shapes based on drill core logs, mapping and grade. Low grades can form part of an ore wireframe. Estimations are constrained by the interpretations.
	Discussion of basis for using or not using grade cutting or capping.	Top Cuts were determined by statistical techniques and vary by domain
	The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.	The Mineral Resource estimate was validated using processes that are based on a combination of visual, graphical and reconciliation style validations summarised as: - Visual validation of the lode and lithology coding of both the composite data and the block model. - Comparison of lode wireframe volumes to block model volumes - Visual validation of Mineral Resource estimate against composite data in plan, section, and in 3D. - Sensitivity to top-cut values: a variety of top-cuts are estimated and compared to themselves and to the un-cut nearest neighbour estimate at a variety of cut-offs. - Comparison of nearest neighbour, inverse distance squared, and ordinary kriged estimates to the final estimate (generally OK &ID). These comparisons are conducted through visual validation and trend analysis along Northing, Easting, and RL slices. - Comparison with previous Mineral Resource estimates. Global, level and lode tonnages and grades, at various elemental cut-offs were compared, and, given the changes in support data, were considered to be consistent; - Comparison of Mineral Resource estimate versus grade control models. - Statistical comparison of composites versus all estimates in block model: trend analysis plots for each domain are produced by Northing / Easting / RL. The Mineral Resource estimate generally shows a reasonably reflection of the composites where there are high numbers of composites used in the estimate. When the numbers of samples reduce the accuracy of the estimation suffers and a more significant deviation is noted between the Mineral Resource estimate and associated composite data. These deviations are taken into account when assigning a resource classification.
Moisture	Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	Tonnages are estimated on a dry basis. Moisture content within the ore is expected to be low.
Cut-off parameters	The basis of the adopted cut-off grade(s) or quality parameters applied.	Jundee undertook preliminary design analysis to assess reasonable prospects for economic extraction for declaration of Mineral Resources, using actual costs from the mining operations. These costs are based on a twelve month average of actual site costs.
Mining factors or assumptions	Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.	Jundee undertook preliminary design analysis to assess reasonable prospects for economic extraction for declaration of Mineral Resources, using actual costs from the mining operations. and minimum mining widths of 2.5 m
Metallurgical factors or assumptions	The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.	Assumed that material will be trucked and processed in the Jundee Mill. Recovery factors vary for the various mining areas and are based on lab testing and on-going operational experience. No Metallurgical assumptions have been built or applied to the resource model
Environmental factors or assumptions	Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well	Jundee currently possesses all necessary government permits, licenses and statutory approvals in order to be compliant with all legal and regulatory requirements.

Criteria	JORC Code explanation	Commentary
	advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.	
Bulk density	Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.	RC Bulk density values used were based on analysis of grab samples obtained during excavation of open cut mines. Calculated averages were applied to density boundaries for each model. Diamond drilling bulk density values used were based on an updated study of the average lithological densities across the mine site completed in 2013. This study consisted of a detailed statistical analysis of 72,634 measurements that have been recorded from all underground deposits. These values are also in agreement with over 10 years of production data.
	The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc.), moisture and differences between rock and alteration zones within the deposit.	Bulk density measurements for core samples are taken daily using the water displacement technique. One bulk density measurement is taken for each lithology in every hole every day. An attempt is made to collect a bulk density measurement from every mineralised zone and each lithology represented in drill hole core. A total of 72,634 bulk density measurements have been taken. Historical bulk density measurements for RC Samples were taken using the water displacement technique. All oxide/transitional samples were coated in wax before analysis whilst fresh rock samples were analysed as per Diamond drill hole samples
	Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.	Individual bulk densities are applied in accordance with specific lithologies, mineralisation, and weathering states.
Classification	The basis for the classification of the Mineral Resources into varying confidence categories.	Measured resources are defined from grade control models based on geological mapping, diamond and RC drillholes which are imported into Vulcan and modelled in 3D. Indicated resources are defined by drilling which is generally 25m x 25m and may range up to 40m x 40m maximum. Lodes classified as Indicated are supported by a minimum of 5 RC and Diamond drill holes. Inferred resources are defined on a nominal 40m x 40m drilling pattern and may range up to 80m x 80m. Resources based on less than 40m x 40m spaced drilling, but which have a low level of confidence in the geological interpretation may also be classified as inferred.
	Whether appropriate account has been taken of all relevant factors (ie. relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).	Input and geological data is assumed accurate backed up by previous successful mining history at the site on this mineralisation.
	Whether the result appropriately reflects the Competent Person's view of the deposit.	This mineral resource estimate is considered representative with comments noted in the discussion below.
Audits or reviews	The results of any audits or reviews of Mineral Resource estimates.	The Mineral resource estimates, methodology and systems have been subject to four internal audits by previous operators (NYO) and senior technical personnel over the last 10 years.
Discussion of relative accuracy/ confidence	Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.	This mineral resource estimate is considered as robust and representative of the Jundee mineralisation with local estimates considered variable in nature. The application of geostatistical methods has supported to increase the confidence of the model and quantify the relative accuracy of the resource on a global scale and against actual production reconciliation
	The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.	This resource report relates to the Jundee deposit and is likely to have local variability. The global assessment is a better reflection of the average tonnes and grade estimate, further supported and reconciled against actual mine production.
	These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.	Comparison with previous Mineral Resource estimates and production data was undertaken. Global, level and lode tonnages and grades, at various elemental cut-offs were compared, and, given the changes in support data, were considered to be consistent.

Cook Resource

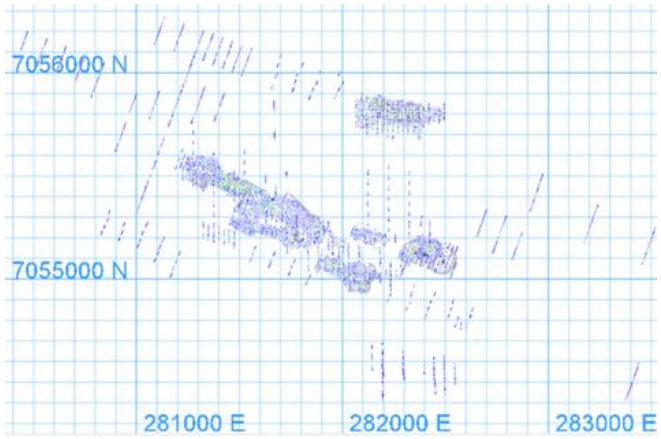


Plan view: Cook Resource drill collars

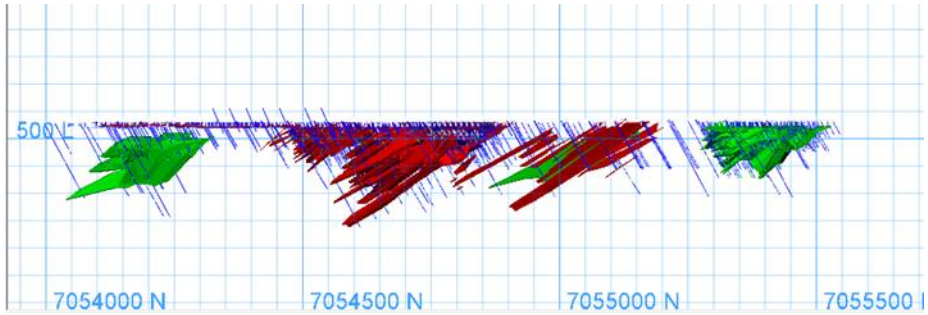


Long Section – Cook resoruce drillhole traces and mineralised domains

Vause Resource

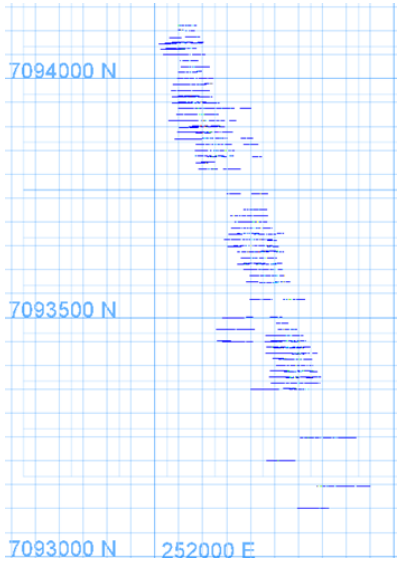


Plan view: Vause mine area Drill hole collars

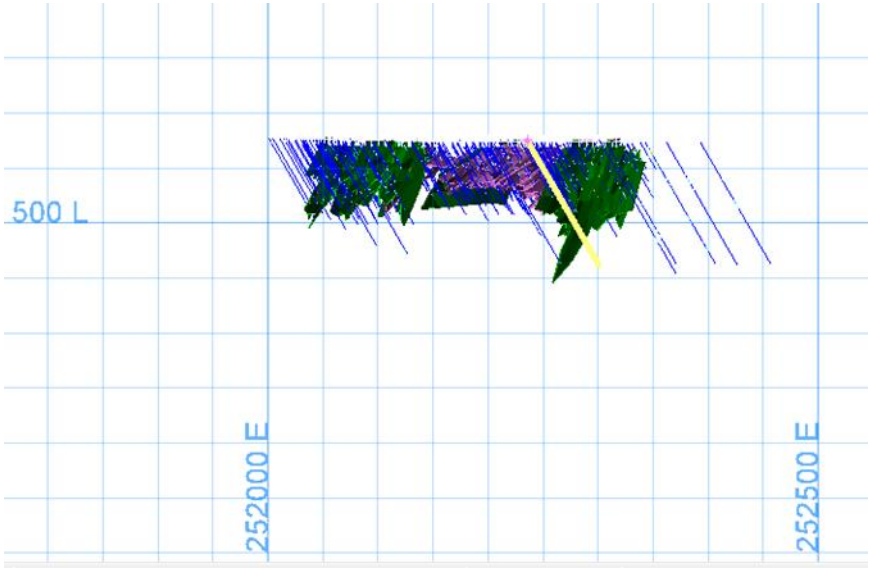


Long Section – Vause mine area drillhole traces and mineralised domains

Desert Dragon Resource

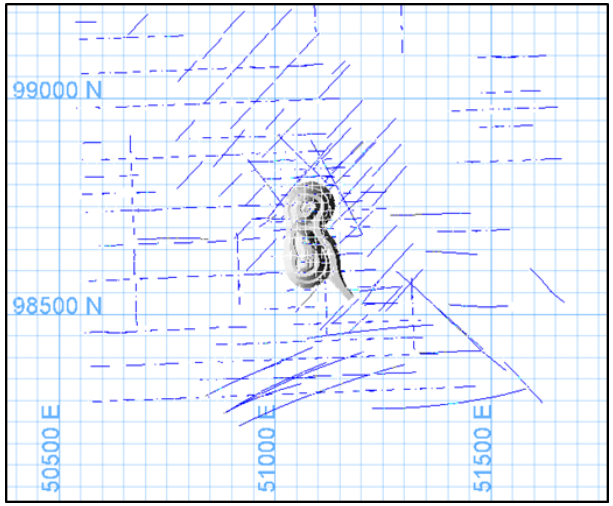


Plan view: Desert Dragon mine area Drill hole collars

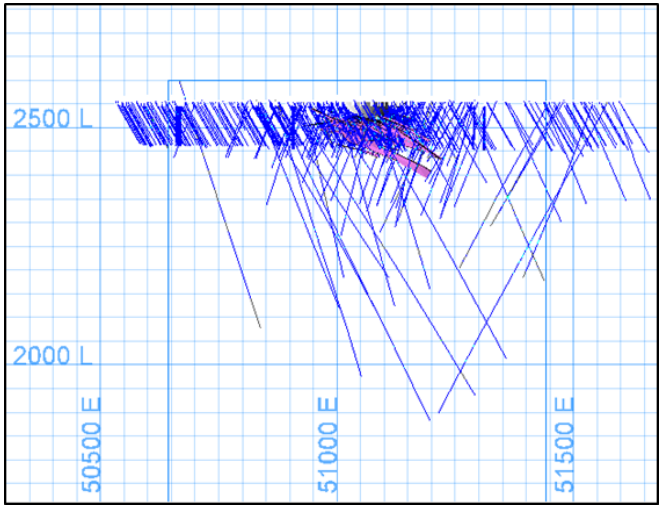


Long Section – Desert Dragon mine area drillhole traces and mineralised domains

Menzies Resource



Plan view: Menzies mine area Drill hole collars



Long Section – Menzies mine area drillhole traces and mineralised domains

JORC Code, 2012 Edition – Table 1 Report: Area 7 - 1 August 2015

Section 1 Sampling Techniques and Data

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

Criteria	JORC Code explanation	Commentary
Sampling techniques	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.	Sampling was undertaken using Reverse circulation drilling rig (RC). RC cuttings were collected over intervals of 1m and 5 m.
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	
	Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.	5 m composite samples were submitted to the Bureau Veritas Minerals laboratory in Canningvale for preparation by drying and pulverisation of a 3 kg subsample to produce a pulp with more than 80% passing a size <75µm. 40 g of the resulting pulp was subject to aqua-regia digest and gold determination by ICP-MS. Where the 5 m samples returned assays grading better than 0.2gpt Au, the corresponding 1 m samples were submitted to Minanalytical Laboratory Services in Canningvale for drying and pulverisation of a 3 kg subsample to produce a pulp with more than 80% passing a size <75µm. A 50 g charge was combined with a lead flux, and dissolved in a furnace. The prill was totally digested by HCl and HNO3 acids before atomic absorption spectroscopy (AAS) determination for gold concentration. High-grade assays returned for one hole drilled at the Cannibal prospect were followed up by screen-fire assaying of sample pulp. This returned similar results for undersize and oversize fractions, and these were comparable to those of the original standard fire assay.
Drilling techniques	Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).	Surface RC drilling using a face-sampling hammer bit ranging in diameter from 141 to 146 mm.
Drill sample recovery	Method of recording and assessing core and chip sample recoveries and results assessed.	Approximate recoveries are recorded as percentage ranges based on a visual estimate of the sample size.
	Measures taken to maximise sample recovery and ensure representative nature of the samples.	Face-sampling hammer bit used, and water-spray injection used to minimise dust loss.
	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.	There has been no work completed on the relationship between recovery and grade.
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.	RC chips logged by company geologists to an industry standard. All relevant items such as interval, lithologies, structure, texture, grain size, alteration, oxidation, mineralisation, and veining are recorded in the geological logs.
	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.	Logging is semi-quantitative, based on visual estimates.
	The total length and percentage of the relevant intersections logged.	100% of the drill chips were logged.
Sub-sampling techniques and sample preparation	If core, whether cut or sawn and whether quarter, half or all core taken.	No core
	If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.	Rig-mounted static cone splitter with separate chutes used to generate 5 m-composite samples and 1 m samples from dry sample return. Sample weights varied between 4 and 6 kg.
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	50 to 75% of field sample subject to pulverisation.
	Quality control procedures adopted for all sub-sampling stages to maximise	Pulp size characteristics routinely checked in the laboratory, as per industry standard.

Criteria	JORC Code explanation	Commentary
	representivity of samples.	
	Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate / second-half sampling.	Field duplicates submitted for fire assay after receipt of original 1m sample assays
	Whether sample sizes are appropriate to the grain size of the material being sampled.	Sample sizes are considered appropriate.
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.	1 m sample analyses by conducted by fire assay, which generally fuses the entire 50 gm charge and AAS reports total gold content.
	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.	Not applicable to this report.
	Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie. lack of bias) and precision have been established.	Reference standards included in 5m and 1 m field sample batches submitted to assay laboratories, with no obvious problems with accuracy and precision noted. No blank sample submissions or cross-laboratory checks have been conducted, due to the exploratory nature of the drilling conducted.
Verification of sampling and assaying	The verification of significant intersections by either independent or alternative company personnel.	Significant intersections are verified by NSR senior staff as required.
	The use of twinned holes.	Not required due to early stage of drilling.
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	Data thoroughly vetted by geologists and database administrators. Data is stored in Datashed database has several inbuilt validations.
	Discuss any adjustment to assay data.	No adjustments are made to any assay 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 in Mineral Resource estimation.	Collar positions were surveyed using DGPS.
	Specification of the grid system used.	GDA 1994 datum
	Quality and adequacy of topographic control.	Topographic control is based on known survey control points.
Data spacing and distribution	Data spacing for reporting of Exploration Results.	RC drilling conducted on 40 m centres along lines spaced at intervals of 100 m
	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.	Data spacing is not adequate for the resource estimation.
	Whether sample compositing has been applied.	Not applicable
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.	Intercept angles are at moderate angles (50° to 70°) to the mineralisation, resulting in the true width of mineralisation ranging from 75 to 90% of reported drill width.
	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.	Unknown, assumed to not be material.
Sample security	The measures taken to ensure sample security.	Chain of custody is managed by NSR. Samples are stored on site and are delivered to assay laboratory in Perth by Contracted Transport Company. Consignment notes in place to track the samples. Whilst in storage they are kept in a locked yard.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	There have not been reviews of sampling techniques or data handling.

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 interests, historical sites, wilderness or national park and environmental settings.	M53/198 is wholly owned by Northern Star Resources (NSR) and is in good standing. Heritage surveys have been conducted and the area was cleared for drilling. Relationship with the traditional owners is well informed and adequate.
	The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.	M53/198 is valid currently to 2033. The access road L53/136 is valid until 2025
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	Extensive exploratory drilling was conducted within M53/198 by the previous owners of the tenement, and this data was reviewed and in part used to plan the drilling programs reported herein.
Geology	Deposit type, geological setting and style of mineralisation.	Gold mineralisation is typical of an Archaean greenstone-belt setting. It is associated with quartz vein arrays and surrounding wall-rock alteration haloes, near subvertical faults cutting units of basalt and dolerite.
Drill hole Information	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: o easting and northing of the drill hole collar o elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar o dip and azimuth of the hole o down hole length and interception depth o hole length.	Tabulation of all holes drilled in the recent RC drilling programs is included in the appendix.
	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.	No holes excluded
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.	Reported results are not top cut, and are downhole length weighted averages, minimum grade at start and end of intersections is 1gpt, internal dilution can be 0.0gpt but no more than 2m in downhole length.
	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.	See tabulation of results in appendix, where a high-grade subinterval is reported.
	The assumptions used for any reporting of metal equivalent values should be clearly stated.	No metal equivalents are reported.
Relationship between mineralisation widths and intercept lengths	These relationships are particularly important in the reporting of Exploration Results.	Intercepts are reported as down-hole widths.
	If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.	Intercept angles are at moderate angles (50° to 70°) to the mineralisation, resulting in the true width of mineralisation ranging from 75 to 90% of reported drill width.
	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').	Intercepts are reported as down-hole widths.
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.	See plan view of drill pattern location.
Balanced reporting	Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be	All results are reported in the appendix.

Criteria	JORC Code explanation	Commentary
	practiced to avoid misleading reporting of Exploration Results.	
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.	Previous exploration drill holes are located outside the limits of the drilling programs reported herein, apart from several vertical RAB drill holes within the El Pistolero drill pattern that gave indications of mineralisation within the area.
Further work	The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).	Follow up drilling to infill and extend is proposed.
	Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	Ongoing

JORC Code, 2012 Edition – Table 1 Report: Plutonic Gold Mine, Caribbean, Pacific and Indian infill drilling – As at 30 June 2015

Section 1 Sampling Techniques and Data

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

Criteria	JORC Code explanation	Commentary
Sampling techniques	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.	Over its history this deposit has been sampled using numerous techniques by NSR (Northern Star Resources Limited) and previous operators. This is assumed to be to industry standard at that time. Currently diamond drilling and face sampled sections have sample intervals defined by the geologist to honour geological boundaries ranging from 0.3 to 1m in length. Sampling of NQ2 and LTK60 is half core. BQ and LTK48 is sampled as full core. Face chip sampling is completed perpendicular to the lode orientation in the face.
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	Core is aligned to orientation markers and measured by tape, comparing back to down hole core blocks consistent with industry practice. All other sampling by previous operators is assumed to be to industry standard at that time.
	Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.	Diamond drilling completed to industry standard using varying sample lengths (0.3 to 1m) based on geological intervals, which are then crushed and pulverised to produce a ~250g pulp sub sample for use in the assay process. NSR (Northern Star Resources Limited) diamond core samples are fire assayed at ALS and the Plutonic Fire Assay Lab (PFAL) facility on site (40g charge). Visible gold is occasionally encountered in core. Underground face chip samples follow the same process. All other sampling by previous operators assumed to be to industry standard at that time.
Drilling techniques	Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).	Over its history this deposit has been drilled and sampled using numerous techniques by NSR (Northern Star Resources Limited) and previous operators. This is assumed to be to industry standard at that time. Underground diamond drilling carried out by using BQ, NQ2, LTK48 and LTK 60. Core is orientated using the Reflex ACT device.
Drill sample recovery	Method of recording and assessing core and chip sample recoveries and results assessed.	Chip sample recoveries not very relevant in this instance. No RC drilling has taken place for years at Plutonic and impact on the resource would be minimal. DD recovery is not noted specifically, though core is locked in and meter marked carefully. Discrepancies to core blocks are brought up with the drill contractor. Occasionally core loss blocks are inserted. Overall drill core recovery is very good.
	Measures taken to maximise sample recovery and ensure representative nature of the samples.	NSR diamond drilling practice results in high recovery due to the competent nature of the ground. RC and diamond drilling by previous operators assumed to be to industry standard at that time.
	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.	There is no known relationship between sample recovery and grade; diamond drill sample recovery is very high.
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.	Core and chip samples have been logged by qualified Geologists to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies. Surface core and RC logging completed by previous operators assumed to be to industry standard at that time.
	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.	Logging is Qualitative and Quantitative and all core is photographed. Visual estimates of sulphide (percentage) and alteration (intensity scale) are recorded. A significant archive is found on site containing previous drilling, sampling and core photography where available.

Criteria	JORC Code explanation	Commentary
		Previous logging assumed to be to industry standard at that time.
	The total length and percentage of the relevant intersections logged.	100% of NSR drill core is logged. Faces are mapped and sampled when access permits.
Sub-sampling techniques and sample preparation	If core, whether cut or sawn and whether quarter, half or all core taken.	If the core was BQ or LTK48 it was sampled as full core and dispatched to the laboratory for analysis. If the core was NQ2 or LTK60, it was cut in half with an Almonté diamond core saw; the top half of the core was sent to the laboratory for analysis and the other half was placed back in the core tray, transferred onto pallets, and moved to the core yard library. All other core sampling by previous operators assumed to be to industry standard at that time.
	If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.	Non-core drilling by previous operators assumed to be to industry standard at that time.
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	Following drying at 110°C Samples are crushed and split down to <1kg, 80% < 3.15mm using Essa Jaw crusher and 50:50 riffle splitter or Boyd rotary crusher and 50:50 rotary splitter at the labs discretion. Primary samples ~500g pulverised to 90% passing 75µm in LM2. Use scoop to subset to ~200g, use scoop to subset to 40g for fire assay. An informal analysis suggests that the sampling protocol currently in use are appropriate to the mineralisation encountered and should provide representative results.
	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	Crusher duplicates taken at 1:45 (Plutonic lab)/1:50 (ALS) for core and 1:20 for face chips Pulp duplicates taken at 1:45 (Plutonic lab)/1:26 (ALS) for core and 1:20 for face chips
	Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate / second-half sampling.	Field duplicates, i.e. other half of cut core, have not been routinely assayed.
	Whether sample sizes are appropriate to the grain size of the material being sampled.	Sample sizes are considered appropriate.
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.	For all NSR drill core and face samples, gold concentration is determined by fire assay using the lead collection technique with a 40g sample charge weight. An AAS (Plutonic lab) or ICP (ALS) finish is used, and is considered to be total gold. All other laboratory procedures exercised by previous operators assumed to be to industry standard at that time and not reviewed for this resource.
	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.	Not applicable to this report.
	Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie. lack of bias) and precision have been established.	QAQC protocols and performance for Underground data ▪ The field QAQC protocols used include the following for all drill samples: - Coarse blanks are inserted at an incidence of 1 in 40 samples, after visible gold, and after suspected high grade samples. - Commercially prepared certified reference materials (CRM) are inserted at an incidence of 1 in 20 samples. The CRM used is not identifiable to the laboratory. - NSR's QAQC data is assessed on import to the database and reported monthly and quarterly. ▪ The laboratory QAQC protocols used include the following for all drill and face samples: - Crusher duplicates taken at 1:45 (Plutonic lab)/1:50 (ALS) for core and 1:20 for face chips, - Pulp duplicates taken at 1:45 (Plutonic lab)/1:26 (ALS) for core and 1:20 for face chips, - Sizing checks are performed at all stages of prep (80% passing < 3.15mm for coarse crush, 90% passing 75µm for pulps) are undertaken on 1 in 40 samples, - The laboratories own standards are loaded to the AcQuire database,

Criteria	JORC Code explanation	Commentary
		- The laboratory reports its own QAQC data on a monthly basis. ▪ In addition to the above, about 5% of samples are sent to an umpire laboratory. ▪ Failed standards are followed up by re-assaying a second 40g pulp sample of all samples in the fire if failing low, and samples above 0.5ppm if failing high. This is completed by the same method at the primary laboratory. Both the accuracy component (CRM's and umpire checks) and the precision component (duplicates and repeats) of the QAQC protocols are thought to demonstrate acceptable levels of accuracy and precision. QAQC protocols for Surface RC and diamond drilling by previous operators (Barrick) thoroughly documented and of high standard.
Verification of sampling and assaying	The verification of significant intersections by either independent or alternative company personnel.	Significant intersections verified by alternative company personnel.
	The use of twinned holes.	There are no recent purpose twinned holes.
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	Drill and face logging is completed electronically onto laptops. Database protocols and rules are applied upon data entry. Visual validation and check logging of face and drill data. Drill data is stored in an acQuire database, face data in an acQuire and Fusion databases (previously Mine Mapper). All maintained on site by NSR company Assistant Database Administrator. All face and drill data within site databases are regularly validated using both internal database systems and external validation tools. Pre-NSR data has been maintained by NSR company Assistant Database Administrators. Validation of Pre NSR data is completed periodically.
	Discuss any adjustment to assay data.	Conversion of lab non-numeric code to numeric for estimation.
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 in Mineral Resource estimation.	UG hole collar locations picked up regularly by site surveyors Multi shot cameras are used for down-hole survey Development faces are spatially located using MineMapper and Vulcan 3D software Underground development picked up as required in a working mine. Stopes voids are generally all surveyed by CMS (where practical and safe to do so). In 2010, an independent gyro check survey of the underground workings showed very good correlation.
	Specification of the grid system used.	Drilling collared underground is drilled on the localised (POL) Grid. Rotated 3° west from AMG. The elevation datum used for underground has 1,000m added in order to eliminate the possibility of negative RLs at a later stage of mining. Two point conversion from AMG to POL Point 1 AMG N7197660.681, E745533.6, 510RL POL N10850.28, E 4122.20, 1510RL Point 2 AMG N7198362.518 E746350.229, 510RL POL N11594.561 E4899.96, 1510RL
	Quality and adequacy of topographic control.	Local topography and pits surveyed by mine site survey department. Accuracy would be to within 10cm and is continually updated in light of pit backfill and infrastructure modifications.
Data spacing and distribution	Data spacing for reporting of Exploration Results.	Infill and extension drill results reported for Caribbean, Indian, and Pacific prospects. Spacing varies from 40m to 10m.
	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.	Face samples in combination with drilling determine measured material. This allows for interpretation and data spacing based on underground exposure and development cut length. Average drill spacing is approximately 20m by 20m or better for the main areas of the resource, allowing indicated classification. Spacing increases up to 160m by 80m on the peripheral areas which falls into inferred

Criteria	JORC Code explanation	Commentary
		classification. The data spacing and distribution is sufficient to establish geological and/or grade continuity appropriate for the Mineral Resource and classifications to be applied, with known likelihood of local variability.
	Whether sample compositing has been applied.	The drill core is logged and divided into sample intervals that have a minimum sample length of 0.3m and a maximum sample length of 1.0m. Intervals should honour geological boundaries such as faults and lithological contacts. Most nominal sample lengths were at 1m intervals; sample compositing is not applied until the estimation stage. No recent RC drilling undertaken. Compositing of the data to 1m was used in the estimate.
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.	Targets drilled perpendicular where possible. However, orientation to lode may be compromised by access to suitable drill platforms. Drillholes are extended to Mine Mafic boundary where required and practicable. Face sampling is orientated perpendicular to lode orientation. The orientation achieves unbiased sampling of all possible mineralisation and the extent to which this is known.
	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 drill orientation to mineralised structures biases the number of samples per drill hole. It is not thought to make a material difference in the resource estimation. As the opportunity arises better angled holes are infill drilled.
Sample security	The measures taken to ensure sample security.	All cut drill core is kept in an unfenced core farm adjacent to the core cutting and processing shed. This is not regarded as a security risk due to the remote location of the mine with no community development near the mine. All core is photographed and records kept electronically. Geologists' are responsible for marking the sample intervals and placement of Blanks and Standards within the sampling stream for both faces and core. The Project Geologist and Senior Geologist complete quality control checks on the face data daily. Field Staff are primarily responsible for the collection of samples from the face as chips, as well as the cutting and sampling of core. Also generating the sample numbers for core submission, creating a sample submission sheet for core and faces, randomly selecting and recording the standards to be sent to the laboratory and the transportation of the samples to the laboratory. Once a hole has been sampled, the sample calculation and check geology documents are handed to the Assistant Database Administrator who converts the digital copy of the sample calculation to a .csv file which is then imported into the acQuire database. Upon receiving the digital file for the assay data, the DBAs import the file into the master acQuire database. This data is not accessible for assessment until it has been validated as complete and correct by the QAQC Geologist and DBA. Face data is received in the same format but is entered into the acQuire or Fusion Database instead. Pulp rejects from assayed samples are kept in wooden boxes on top of the waste dump. These are visited frequently as samples are taken for research and other purposes. Drill logs are kept in hard copy and electronically and are available for checking and due-diligence.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	Previous review by Roscoe Postle Associates concluded the sample preparation, analysis, and security are adequate for Mineral Resource estimation.

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 interests, historical sites, wilderness or national park and environmental settings.	All mining leases (M52/0148, M52/0149, M52/0150, M52/0170, M52/0171, M52/0222, M52/0223, M52/0263, M52/0264, M52/0289, M52/0295, M52/0296, M52/0300, M52/0301, M52/0308, M52/0309, M52/0591, M52/0592) are in good standing and still officially held by Barrick. Barrick have submitted tenement title transfers for the Plutonic Project, which are currently awaiting assessment at the Office of State Revenue, Western Australia. There are no heritage issues with the current operation.
	The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.	Mining leases M52/0148, M52/0149, M52/0150, M52/0170, M52/0171, M52/0222, M52/0223, M52/0263, M52/0264, M52/0289, M52/0295, M52/0296, M52/0300, M52/0301, M52/0308, M52/0309, M52/0591, M52/0592 granted for the next 3 – 20 years.
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	Gold mineralisation was discovered in 1987 by Great Central Mines, with numerous companies exploring and mining prior to Northern Star Resources Limited. All previous work is accepted and assumed to industry standard at that time. Full history of exploration, development and mining documented in technical report.
Geology	Deposit type, geological setting and style of mineralisation.	The gold deposits at Plutonic are hosted by an Archaean greenstone sequence and occur mainly as a multiple lode systems with variable dip (horizontal to vertical) hosted almost exclusively by a mafic amphibolite sequence that are referred to as the 'Mine Mafics'. Mineralisation regularly occurs as shallowly dipping, layer parallel lodes, although steep lodes and minor quartz-vein hosted deposits also occur. Mineralisation at Plutonic is characterized by a series of moderately-dipping to very flat-lying, stacked replacement-style lodes, individually up to 5m wide, that are hosted within ductile shear zones, oriented slightly oblique to stratigraphy. Gold bearing laterite deposits occur near surface in association with several of the oxide and primary deposits.
Drill hole Information	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: o easting and northing of the drill hole collar o elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar o dip and azimuth of the hole o down hole length and interception depth o hole length.	Summary drill information for Caribbean, Indian and Pacific prospects is attached to this report.
	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.	All holes for these areas, drilled since last resource release are included.
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.	Length weighted averages are used, uncut grades are reported
	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.	Short high assays are length weighted and aggregated to relevant down hole length
	The assumptions used for any reporting of metal equivalent values should be clearly stated.	No metal equivalents are reported.
Relationship	These relationships are particularly important in the reporting of Exploration Results.	

Criteria	JORC Code explanation	Commentary
between mineralisation widths and intercept lengths	If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.	Due to complex mineralisation geometry and varying intercept angles the true thickness is manually estimated on a hole by hole basis.
	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').	Both true width and downhole lengths are 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.	No significant discovery as only a resource and reserve update for active mining areas. All relevant diagrams contained within available technical documentation.
Balanced reporting	Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	All results for the period and area are 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.	Not applicable
Further work	The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).	Underground grade control and extensional drilling programs are underway, and will continue in line with mine development and production requirements.
	Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	Part of main technical documentation

Section 3 Estimation and Reporting of Mineral Resources

(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

Criteria	JORC Code explanation	Commentary
Database integrity	Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.	Drill and face logging is completed electronically onto laptops. Database protocols and rules are applied upon data entry. Drillhole logging undergoes check logging on an ad hoc basis. Pre NSR data considered correct, has been maintained by NSR company Assistant Database Administrators. Validation of Pre NSR data is completed periodically.
	Data validation procedures used.	All face and drill data within site databases are regularly validated using both internal database systems and external validation tools. Visual validation and check logging of face and drill data.
Site visits	Comment on any site visits undertaken by the Competent Person and the outcome of those visits.	Competent Person based on site.
	If no site visits have been undertaken indicate why this is the case.	Competent Person based on site.
Geological interpretation	Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.	The interpretation of the deposit was carried out using a systematic approach to ensure continuity of the geology and estimated mineral resource using Vulcan software. The confidence in the geological interpretation is high with all the information and over 20 years of open pit and underground operation used in the generation of the models.
	Nature of the data used and of any assumptions made.	All available geological data was used in the interpretation, including drilling and mapping.

Criteria	JORC Code explanation	Commentary
	The effect, if any, of alternative interpretations on Mineral Resource estimation.	No alternative interpretations have been completed or put forward outside those at drive and stope scale that will impact the global resource.
	The use of geology in guiding and controlling Mineral Resource estimation.	Drill core logging and mapping used to determine domaining and influence search orientations and distances.
	The factors affecting continuity both of grade and geology.	Mineralisation regularly occurs as shallowly dipping, layer parallel lodes, although steep lodes and minor quartz-vein hosted deposits also occur. Due to the discontinuity of mineralisation due to geological features/structures, actual measured lengths of individual lodes have been used to establish continuity. This is preference to variography which demonstrated potential search distances well beyond know lode extents.
Dimensions	The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.	Main Mining Area Strike length = 4,150m (north - south) Width = 3,000m (east - west) Depth = surface to 325mRl (~1,200m below surface) Plutonic East Strike length = 3,000m Width = 1,500m (North-south) Depth = surface to 733mRl (~750m below surface)
Estimation and modelling techniques.	The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.	Drillhole and face sample compositing was completed against geological boundaries to 1m. Reflecting sample size. Top cut values are selected using a lognormal probability plot. Other factors considered when selecting the top cut values are: the lithology, coefficient of variation after top cutting, impact on average grade, sample locations and metal lost. Once a suitable top cut is determined it is applied to the assays prior to compositing. In addition to the capping of high grade assays prior to compositing, some Plutonic block models use a high yield exclusion/threshold technique to avoid the impact of high grade values having a disproportionate effect on blocks beyond a reasonable distance. Composites greater than the selected threshold values are restricted to a smaller search ellipse. This technique is only used in the Measured estimation run. Inverse distance interpolation method was used for all estimation passes utilizing tetra surfaces for each domain, or oriented searches where not suitable. No models were completed using ordinary kriging or variography. This is because the known geological conditions do not match the search distances derived from the variograms. Classification is determined based on data type and density. Measured material is restricted to immediately around drive locations. Known geological conditions then used to determine indicated search distances, with the final inferred search double the indicated search. *Estimation and modeling techniques unique to Timor, Pacific and Caspian estimations;* • 1m composite capped high grades based on lithology. • Indicator estimation run to define mineralisation triangulations. Inverse distance interpolation method used to estimate grade within triangulations with search orientations defined per domain. • Classification defined by which pass a block is estimated. Maptek Vulcan software is used to conduct all modelling and estimation.
	The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.	Updates are compared to previous estimates with variances validated against data, interpretation, estimation changes and mining depletion.
	The assumptions made regarding recovery of by-products.	No assumptions are made and only gold is defined for estimation.
	Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).	No deleterious elements estimated in the model

Criteria	JORC Code explanation	Commentary
	In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.	The parent block size is 10m (Y) x 10m (X) x 10m (Z), with sub-block to 1m x 1m x 1m Timor, Pacific and Caspian estimation parent block size is 6m (Y) x 6m (X) x 6m (Z), with 1m x 1m x 1m within mineralised zones, all sub-block to 0.5m x 0.5m x 0.5m Average drill spacing is 20m x 20m or better for the main areas of the resource, up to 160m by 80m on the peripheral areas. Measured search parameters horizontally are restricted to 4m to allow at least two face samples to influence the grade estimation of a block. For each particular sub-domain within the resource area, the average centre line to centre line between ore development drives was estimated. Half of this average distance is then selected as the lode dip search length. Z search distance across strike is limited by interpreted lode geometry. Indicated search parameters are determined by measuring the length of the individual lodes from hard copy plans of backs mapping or mapping completed digitally using visualisation software. The cumulative value at the 80th percentile was determined and half this length was used as the Indicated search length for the major and semi-major axes. Z search distance remains the same. Inferred search is set at double the indicated search distance. Z search distance remains the same. Timor, Pacific and Caspian classification defined by which pass a block is estimated.
	Any assumptions behind modelling of selective mining units.	A 1.5m minimum mining width for underground environment is assumed.
	Any assumptions about correlation between variables.	No assumptions are made about correlation between variables for estimation.
	Description of how the geological interpretation was used to control the resource estimates.	Estimations are constrained by Mine Mafic and Dolerite interpretations. Search orientations closely related to Mine Mafic orientation. Fault surfaces used as domain boundaries as required. Use of lithology during grade capping and as indicators for estimation of Timor, Pacific and Caspian areas, to create mineralised wireframes.
	Discussion of basis for using or not using grade cutting or capping.	Top cuts are applied to constrain the influence of outlier grades during grade estimation, and are determined by statistical techniques and vary by domain. Top cuts are derived by examining the gold values at the upper end of the distribution on a lognormal probability plot. Other factors considered when selecting the top cut values are: the lithology, coefficient of variation after top cutting, impact on average grade, sample locations and metal lost.
	The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.	Block grades are assessed against previous models and drill hole and face data visually, by using swath plots and grade tonnage curves. Comparisons are made within mining shapes to localised grade control models. Given the localised geological complexity, high spatial variability and significant amount of material mined outside of reserve (>50% of ounces), reconciliation of ounces to declared ore mined can be of limited value.
Moisture	Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	Tonnages are estimated on a dry basis. Underground moisture content within the ore is expected to be low.
Cut-off parameters	The basis of the adopted cut-off grade(s) or quality parameters applied.	Reporting cut-off varies for each resource area. This is derived using calculation based on mining, process and G&A costs, recovery, metal price and selling costs. Full calculations are documented in the site cut-off grade report.
Mining factors or assumptions	Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.	The resource has been created on the basis of the currently employed underground mining methods.
Metallurgical factors or	The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual	The metallurgical conditions and characteristics of the Plutonic Underground mineralisation are generally known. No Metallurgical assumptions have been built into the resource model.

Criteria	JORC Code explanation	Commentary
assumptions	economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.	
Environmental factors or assumptions	Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.	The Plutonic Underground operation is a going concern and as such the previous practice have shown to be effective and practical.
Bulk density	Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.	Bulk density is determined from drillcore using a weight in air/weight in water method. Samples are taken from every 5th hole. Currently there is a database of 3,836 bulk density measurements which have been taken from mineralised and unmineralised intervals, with an ongoing sampling program in place.
	The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.	Samples of between 0.5 and 2.0kg are weighed in air and weighed in water. The following equation is used to derive bulk density Bulk Density = $Wd / (Wd - Ww)$
	Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.	For the purposes of estimating Mineral Resources a global bulk density of 2.9 t/m^3 was applied to all models, with the exception of Plutonic East and Area 4, which uses 2.8 t/m^3.
Classification	The basis for the classification of the Mineral Resources into varying confidence categories.	Resources are classified to reflect the confidence in the grade estimation and geology. This confidence is a reflection of the search strategy and the number of composites used to estimate grade, coupled with an examination of the geological continuity of the deposit and other factors including database integrity, geological interpretation, and estimation techniques. Classification approach is currently under review to consider number of drillholes/faces used and mean distance to samples.
	Whether appropriate account has been taken of all relevant factors (ie. relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).	Input and geological data is assumed accurate backed up by previous successful mining operations
	Whether the result appropriately reflects the Competent Person's view of the deposit.	This mineral resource estimate is considered globally representative of the Plutonic Underground deposit. It is acknowledged that localised variability is likely. Resource reported at a gold price of A$1,600 per ounce as per NSR corporate guidance. Resource reporting utilises Vulcan Stope Optimiser, creating individual stopes shapes above the applicable resource zone cut-off grade using a standard X:5m x Y:5m stope dimension with a variable Z dimension (5-20m). *Note: To provide better correlation to block size, Plutonic East stope dimensions were increased to 8x8x2*. All resource material is reported from within each shape, excluding depletion and sterilisation. This process allows for the reporting of material closer to that which has a reasonable prospect of economic extraction. As a continuation of the stope optimizer process improvement from 2013, Plutonic Gold Mine is now utilising a depletion factor for reporting resources. It was identified through a recent engineering study that resource reported utilising the stope optimiser method may be overstating material within the vicinity of stoping and development. The most accurate, but time consuming approach to remove this material is a visual assessment of each stope optimiser shape by an engineer to determine its mining potential. This has previously taken approximately 2 months. To expedite this process, this previous work complete by Barrick Mining Services Engineering has been used as a basis for creating depletion factors for remaining resource based on the percentage of MY2013 resource removed. *Example*: Baltic Resource area Review isolated the impact of removing ounces associated with mining. Categories such as 'isolated' and 'inaccessible' remain due to their potential if the gold price were to rise further.

<table>
<tr><th>Criteria</th><th>JORC Code explanation</th><th>Commentary</th></tr>
<tr><td></td><td></td><td>The percentage of ounces removed due to 'mining' and 'pillars' was used to generate the factor and then applied by determining remaining resource when compared against current reporting methods.

Baltic Resource Area
<table><tr><th>Category</th><th>Ounces</th></tr><tr><td>Initial Resource</td><td>190,427</td></tr><tr><td>Mined Resource</td><td>-74,540</td></tr><tr><td>Below Site wide RCOG</td><td>0</td></tr><tr><td>Pillars</td><td>-2,839</td></tr><tr><td>Isolated</td><td>-25,091</td></tr><tr><td>Inaccessible</td><td>-21,727</td></tr><tr><td>Reserve - MY2013</td><td>-2,483</td></tr><tr><td>Uneconomic - MY2013</td><td>-1,481</td></tr><tr><td>Unmineable - MY2013</td><td>-461</td></tr><tr><td>Remaining High potential Resource</td><td>61,955</td></tr><tr><td>Initial Resource</td><td>190,427</td></tr><tr><td>Mined Resource</td><td>-74,540</td></tr><tr><td>Pillars</td><td>-2,839</td></tr><tr><td>Remaining High potential Resource</td><td>113,048</td></tr><tr><td>Remaining</td><td>59%</td></tr><tr><td>Removed (DEPLETION FACTOR)</td><td>41%</td></tr></table>
This process is being revisited as part of an updated review of all mining areas, with Zone 124: Spur - Area 134 the initial focus prior to MY2015 resource reporting.</td></tr>
<tr><td>Audits or reviews</td><td>The results of any audits or reviews of Mineral Resource estimates.</td><td>The Mineral resource has been subjected to reviews by Northern Star Resources' senior technical personnel.

Audit of the process and validation of Mineral Resource estimates was undertaken by independent consultants from Roscoe Postle Associates. Concluding the Mineral Resource was estimated in a manner consistent with industry practices and meets the requirements of NI 43-101.

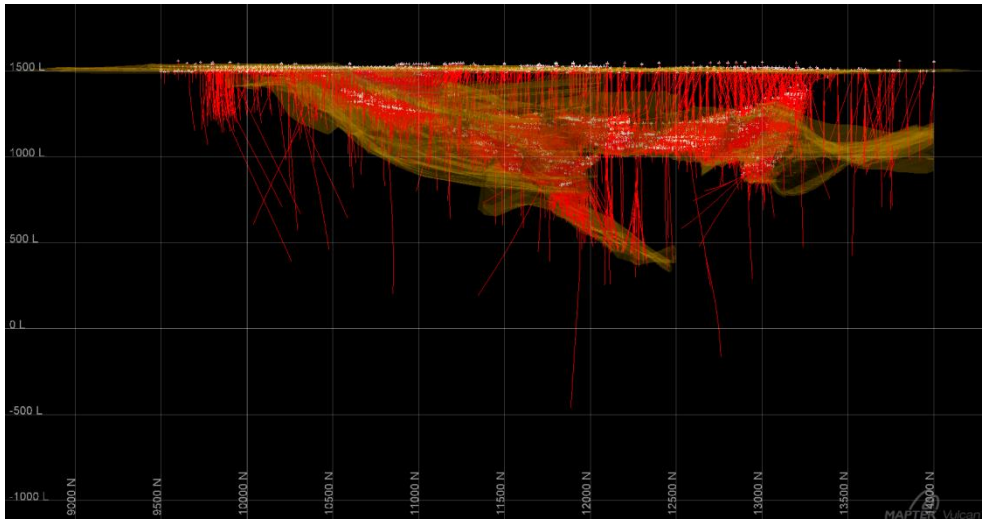
During April 2015 a review of the mineral resource process was undertaken by Optiro. This review put forward several key recommendations to improve the estimation process,
- Implement the use of octant searches to reduce the impact of the clustered channel data.
- Implement the categorical indicator estimation of mineralised blocks within all Resource estimates in order to domain the mineralisation.
- Increase the size of the parent blocks to 2.5m x 2.5m x 2.5m in all estimations & estimate at the parent block scale.
- Review and update estimation parameters applied to all estimations.
- Classification approach to be reviewed and updated to consider number of drillholes/faces used and mean distance to samples.

All review recommendations are currently undergoing testing to determine appropriateness and impact on the Plutonic Resource.</td></tr>
<tr><td rowspan="2">Discussion of relative accuracy/ confidence</td><td>Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.</td><td>This mineral resource estimate is considered globally representative of the Plutonic Underground deposit. It is acknowledged that localised variability is likely.

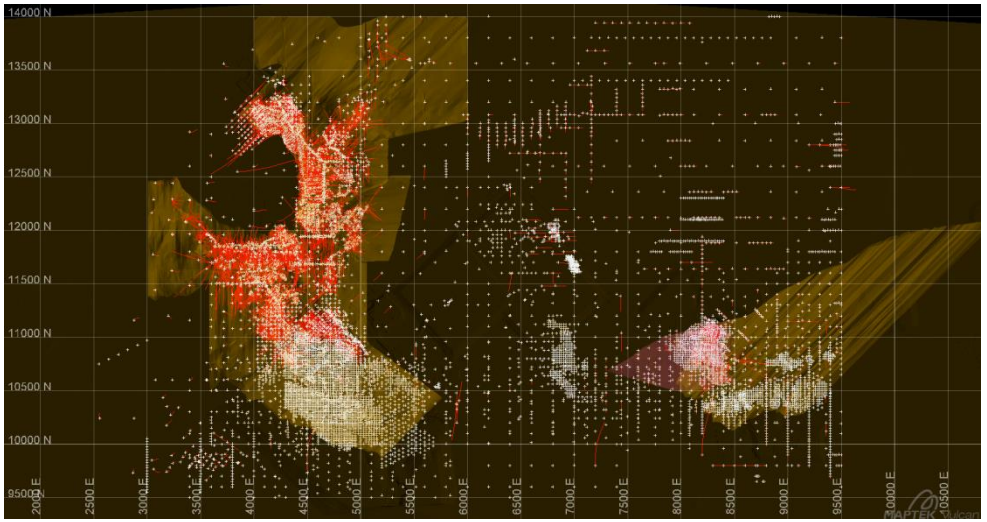
As mining progresses throughout all resource areas domains, search orientations and tetra surfaces are updated to reflect new knowledge. Block estimates are compared to input data, both visually and statistically.

Reporting techniques utilising stope optimiser tools to more closely represent material with a reasonable prospect of economic extraction increases confidence in the resource tonnes, grade and ounces reported.</td></tr>
<tr><td>The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and</td><td>This resource report relates to all resource areas within the Plutonic Underground mining operations and is likely to have local variability. The global assessment is more of a reflection of the average tonnes and grade</td></tr>
</table>

Criteria	JORC Code explanation	Commentary
	economic evaluation. Documentation should include assumptions made and the procedures used.	estimate.
	These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.	Given the localised geological complexity, high spatial variability and significant amount of material mined outside of reserve (>50% of ounces), reconciliation of ounces to declared ore mined can be of limited value. However, globally the estimates are considered to be an accurate representation of resource ounces. Resource models are used as a primary source of mine extension targets.



Long Section – Plutonic Underground with drillhole traces and mineralised domains. Surface grade contol holes shown, but not used for estimation



Plan View – Plutonic Underground with drillhole traces and mineralised domains. Surface grade contol holes shown, but not used for estimation

Section 4 Estimation and Reporting of Ore Reserves

(Criteria listed in section 1, and where relevant in sections 2 and 3, also apply to this section.)

Criteria	JORC Code explanation	Commentary
Mineral Resource estimate for conversion to Ore Reserves	Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve.	Reported ore reserve is based on updated or depleted resource models for all areas of Plutonic Underground.
	Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.	Mineral resources are reported inclusive of ore reserves.
Site visits	Comment on any site visits undertaken by the Competent Person and the outcome of those visits.	Competent Person is based on site
	If no site visits have been undertaken indicate why this is the case.	Competent Person is based on site
Study status	The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.	Mineral resource and ore reserve update
	The Code requires that a study to at least Pre-Feasibility Study level has been	Currently an operating mine, and all resource / reserve work has been conducted on ore zones either within or

Criteria	JORC Code explanation	Commentary
	undertaken to convert Mineral Resources to Ore Reserves. Such studies will have been carried out and will have determined a mine plan that is technically achievable and economically viable, and that material Modifying Factors have been considered.	adjacent to current mine workings (i.e. they are not subject to any further feasibility type study level).
Cut-off parameters	The basis of the cut-off grade(s) or quality parameters applied.	Cut-off grades vary for each resource zone. This is derived using calculation based on historical mining, processing and G&A costs, and incorporates future projections of any major consumable cost increases, metallurgical recovery, metal price and selling costs. Full calculations are documented in the 2015 MY cut-off grade report. Cut-off grades range from 2.99gpt to 3.98gpt
Mining factors or assumptions	The method and assumptions used as reported in the Pre-Feasibility or Feasibility Study to convert the Mineral Resource to an Ore Reserve (i.e. either by application of appropriate factors by optimisation or by preliminary or detailed design).	Reserves are identified, individually designed and then evaluated using economic parameters as derived from the latest cut-off grade revision. No new or untested techniques were incorporated.
	The choice, nature and appropriateness of the selected mining method(s) and other mining parameters including associated design issues such as pre-strip, access, etc.	Based on mining techniques and methodologies currently in use at the operation.
	The assumptions made regarding geotechnical parameters (e.g. pit slopes, stope sizes, etc), grade control and pre-production drilling.	Plutonic has built up a large knowledge base of geotechnical characteristics and observations, which have led to the establishment of the existing mining practises. These practises are mirrored in the creation of the reserve blocks.
	The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate).	The main assumption made revolves around there being no significant deviation from current mining techniques and methodologies. Three general mining methods have been applied: 1. Longhole retreat – this is the predominant method used. Stope dimensions vary with the specific block being mined, but generally range from 4-22m in height, with widths varying from 2-15m. 2. Jumbo stripping – used where ore zones are shallow dipping and limited in extent to the length of a jumbo steel (3.5m) 3. Airleg mining – used for high grade, narrow lenses and occasionally as exploration ventures where the local geology is not well-defined. Mining height ranges from 1.8-3.0m.
	The mining dilution factors used.	All Reserves planned as Longhole retreat and Jumbo stripping have a mining dilution factor of 15% which is the average dilution since 2013. All Reserves planned as Airleg mining have been given a 5% dilution factor.
	The mining recovery factors used.	All Reserves planned as Longhole retreat have a mining recovery factor of 91% which is the average recovery since 2013. All Reserves planned as Jumbo stripping and Airleg mining have a 95% recovery factor.
	Any minimum mining widths used.	Minimum mining width of 1.8m is applied to all Reserves.
	The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.	Only stoping blocks with less than 30% Inferred Resource is classified as a Reserve. Total percentage of Inferred Resource ounces in Reserves = 7.9%
	The infrastructure requirements of the selected mining methods.	All key infrastructure required is currently in place within the underground mine. This includes access declines, ventilation shafts and associated primary fans, service provision (air, water, and power), fuel bays, crib room, workshops, and offices.
Metallurgical factors or assumptions	The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.	The metallurgical process is currently in place and the associated historical metal recoveries have been applied to the different ore types. The current process has been in place since 1990, and is deemed as appropriate for the mineralisation.
	Whether the metallurgical process is well-tested technology or novel in nature.	Well tested for surface and underground ore (in use since 1990).
	The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.	Plutonic has been in operation since August 1990. The metallurgical response of the various ore zones is therefore based on historical operating data and specific metallurgical test work undertaken for selected resource zones. This is the case for all zones reported in the mineral reserve. The zones are geographical in nature and are defined by their mineralogy. The recoveries used to estimate gold recovery by zone are:

Criteria	JORC Code explanation	Commentary
		• Indian (NW Lodes) - 81.9% • Caspian (NW Lodes) - 81.9% • Baltic (Zone 19) - 94.0% • Caribbean (Zone 61) – 70.8% • Spur & Coral (Zone 124) – 88.8% • Cortez (Zone 124) – 88.8% • Timor (Zone 124N) – 93.5% • Pacific (Zone 124N) – 79.3% • Plutonic East – 84.3%
	Any assumptions or allowances made for deleterious elements.	Catered for in the recovery information for each zone. The presence of graphitic shale and high arsenopyrite material has an influence over the plant recovery performance.
	The existence of any bulk sample or pilot scale test work and the degree to which such samples are considered representative of the orebody as a whole.	All reserve material is within previously mined and milled Plutonic ore zones and has associated historical performance characteristics as well as specific metallurgical test work undertaken for selected resource zones.
	For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications?	Not applicable, gold only.
Environmental	The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterisation and the consideration of potential sites, status of design options considered and, where applicable, the status of approvals for process residue storage and waste dumps should be reported.	Plutonic operates under Department of Environment and Conservation (DEC) Licence L6868/1989/11 in accordance with the Environmental Protection Act WA 1986. Plutonic holds one groundwater licence; GWL 151450(6). The 2012 annual groundwater well licence production report indicates that the aquifers can support the current rate of extraction. Plutonic's mine closure plan has been developed in accordance with the DMP and EPA Guidelines for Preparing Mine Closure Plans June, 2011. The 2012 closure plan was submitted to the DMP and was approved on 5th September 2012.The mine closure plan details studies such as waste rock characterisation that are to be completed before closure of the site.
Infrastructure	The existence of appropriate infrastructure: availability of land for plant development, power, water, transportation (particularly for bulk commodities), labour, accommodation; or the ease with which the infrastructure can be provided, or accessed.	All required infrastructure is in place.
Costs	The derivation of, or assumptions made, regarding projected capital costs in the study.	Capital costs used were based on the existing site Life of Mine projection, and due to the existing short mine life only incorporate sustaining capital components. Refer to the 2015 MY cut-off grade report.
	The methodology used to estimate operating costs.	Historical operating costs for the previous 12 month period were used as a baseline. The revised costs were then compared to both historical and Life of Mine estimated costs to confirm their materiality. Refer to the 2015 MY cut-off grade report.
	Allowances made for the content of deleterious elements.	Nil allowance, none expected.
	The derivation of assumptions made of metal or commodity price(s), for the principal minerals and co- products.	Single commodity pricing for gold only, using a long-term gold price of A$1,400 per ounce as per NSR corporate guidance
	The source of exchange rates used in the study.	NSR report in Australian dollars. Therefore, no exchange rate is used or required
	Derivation of transportation charges.	All transportation charges are based on historical Plutonic operation costs. This cost component has been used to determine the cut-off grades. Refer to the 2015 MY cut-off grade report
	The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.	Processing and refining costs are based on historical Plutonic processing data. These cost components have been used to determine the cut-off grades. Refer to the 2015 MY cut-off grade report.
	The allowances made for royalties payable, both Government and private.	WA State Government royalty of 2.5%. This cost component has been used to determine the cut-off grades. Refer

Criteria	JORC Code explanation	Commentary
		to the 2015 MY cut-off grade report.
Revenue factors	The derivation of, or assumptions made regarding revenue factors including head grade, metal or commodity price(s) exchange rates, transportation and treatment charges, penalties, net smelter returns, etc.	Single commodity pricing for gold only, using a long-term gold price of A$1,400 per ounce 2.5% WA State Government royalty.
	The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.	NSR internal resource and reserve guidelines 2015. These are documented in emails and memos.
Market assessment	The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future.	Most of the gold is sold direct at market prices. There is also a minor hedging agreement in place and its influence on the company's revenue is minimal.
	A customer and competitor analysis along with the identification of likely market windows for the product.	N/A
	Price and volume forecasts and the basis for these forecasts.	N/A
	For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.	N/A
Economic	The inputs to the economic analysis to produce the net present value (NPV) in the study, the source and confidence of these economic inputs including estimated inflation, discount rate, etc.	All costs assumptions are made based on historical performance from the mine and processing plant. The economic forecast is seen as representative of the current market condition.
	NPV ranges and sensitivity to variations in the significant assumptions and inputs.	Sensitivities were conducted on metal price fluctuations of A$1,400 ± $200 per ounce and this is detailed in the 2014 MY cut-off grade report. Due to the current short life, the project is not seen as highlight sensitive to cost inputs.
Social	The status of agreements with key stakeholders and matters leading to social licence to operate.	Agreements are in place and are current with all key stakeholders including traditional land owner claimants
Other	To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves:	None
	Any identified material naturally occurring risks.	None
	The status of material legal agreements and marketing arrangements.	None
	The status of governmental agreements and approvals critical to the viability of the project, such as mineral tenement status, and government and statutory approvals. There must be reasonable grounds to expect that all necessary Government approvals will be received within the timeframes anticipated in the Pre-Feasibility or Feasibility study. Highlight and discuss the materiality of any unresolved matter that is dependent on a third party on which extraction of the reserve is contingent.	As a current operation, all government approvals are in place. No impediments are seen in any of these agreements for the continuation of mining activities.
Classification	The basis for the classification of the Ore Reserves into varying confidence categories.	All ore reserves include Proven and Probable classifications of which the Proven contains only measured resource and the Probable includes indicated and a limited amount of inferred resource. The Reserve shapes have been generated using practical mining constraints and this sometimes necessitates the inclusion of Inferred Resource. Inferred Resource contributes 7.9% of total reserves ounces.
	Whether the result appropriately reflects the Competent Person's view of the deposit.	The results appropriately reflect the Competent Persons view of the deposit
	The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).	No Measured Mineral Resource contributes to Probable Ore Reserves.
Audits or reviews	The results of any audits or reviews of Ore Reserve estimates.	The Ore Reserves reporting processes has been subjected to an internal review by Northern Star Resources' senior

Criteria	JORC Code explanation	Commentary
		technical personnel in June 2015. No official reports or procedures have been generated at this stage.
Discussion of relative accuracy/ confidence	Where appropriate a statement of the relative accuracy and confidence level in the Ore Reserve estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the reserve within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors which could affect the relative accuracy and confidence of the estimate.	Historically, mine reconciliation reporting has shown that, when comparing the ore reserve estimation for a given period, to the actual material mined over that period, there is a poor correlation. This is attributed to the complex nature of the ore zones, and the additional information that is gathered between mineral reserve estimation and the final grade control modelling. The impact of this is that a significant portion of material is mined "outside" of reserves – historically greater than 50%. This implies that the reserves statements have underestimated the material that will be available for mining in a given period. In terms of the accuracy of the stated reserves, while a wide variation is experienced on a localised basis, when viewed on a global scale, the variation returns to acceptable levels.
	The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.	Reserves designed using global resource models: 809,007t @ 5.82gpt = 151,403 ounces There are no reserves generated from grade control models or advance planning.
	Accuracy and confidence discussions should extend to specific discussions of any applied Modifying Factors that may have a material impact on Ore Reserve viability, or for which there are remaining areas of uncertainty at the current study stage.	Other than dilution and recovery factors, no additional factors have been applied to the 2015 MY estimation.
	It is recognised that this may not be possible or appropriate in all circumstances. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.	Historically, mine to mill reconciliation shows that approximately 50% of the ounces mined were outside reserve. As such, the in-mine Declared Ore Mined compared to Ore Reserve reconciliation has limited value.

JORC Code, 2012 Edition – Table 1 Report: Belvedere 30 June 2015

Section 1 Sampling Techniques and Data

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

Criteria	JORC Code explanation	Commentary
Sampling techniques	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.	This deposit is sampled by diamond drilling and RC Drilling. Diamond core sample intervals are defined by the geologist to honour geological boundaries. RC initially sampled to 4m comps, any samples reporting > 0.1gpt were re-split and re-assayed as 1m composites.
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	Core is aligned and measured by tape, comparing back to down hole core blocks consistent with industry practice RC drilling completed by previous operators, assumed to be to industry standard at the time (1998). Northern Star Resources(NSR) sample to Industry Standard
	Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.	Diamond drilling completed to industry standard using varying sample lengths (0.3 to 1.2m) based on geological intervals, which are then crushed and pulverised to produce a ~200g pulp sub sample to use in the assay process. NSR and Intrepid Mines Ltd diamond core samples are fire assayed (50g charge). Fine grained free gold is encountered occasionally Pre NSR,Taipan Resources NL (TRNL) RC sampling assumed to be industry standard at that time. NSR RC sampling using mounted static cone splitter used for dry samples to yield a primary sample of approximately 4kg
Drilling techniques	Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).	Surface RC drilling, 73 holes (~5.25" face sampling bit). Surface drill core, 8 holes (NQ2) The surface core was orientated using the ORI-shot device
Drill sample recovery	Method of recording and assessing core and chip sample recoveries and results assessed.	RC – Approximate recoveries are sometimes recorded as percentage ranges based on a visual weight estimate of the sample. DD – Recoveries are recorded as a percentage calculated from measured core versus drilled intervals. Overall recoveries are good.
	Measures taken to maximise sample recovery and ensure representative nature of the samples.	RC and diamond drilling by previous operators to industry standard at that time.
	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.	There has been no work completed on the relationship between recovery and grade.
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.	NSR RC chips and surface core logged by company geologists to a industry standard. All relevant items such as interval, lithologies, structure, texture. Grains size, alterations, oxidation mineralisation, quartz percentages and sulphide types and percentages are recorded in the geological logs. RC logging completed by previous operators to industry standard
	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.	Logging is qualitative, all core photographed, and visual estimates are made of sulphide, quartz alteration percentages.
	The total length and percentage of the relevant intersections logged.	100% of the drill core and RC drilling chips were logged.
Sub-sampling techniques and sample preparation	If core, whether cut or sawn and whether quarter, half or all core taken.	Core sample intervals are generally to 0.3-1.2m in length, though honouring lithological boundaries to intervals less than 1m as deemed appropriate. NQ2 core is half core sampled cut with Almonté diamond core saw. The right half is sampled, to sample intervals defined by the Logging Geologist along geological boundaries. The left half of core is archived.

Criteria	JORC Code explanation	Commentary
		All samples are oven-dried overnight (105^{0}C), jaw crushed to <10mm . The total sample is pulverised in an LM5 to 90% passing 75µm and bagged. The analytical sample is further reduced to a 50gm charge weight using a spatula, and the pulp packet is stored awaiting collection by NSR.
	If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.	NSR RC initially sampled to 4m comps, any samples reporting > 0.1gpt were re-split and re-assayed as 1m composites. Rig mounted static cone splitter used for dry samples to yield a primary sample of approximately 4kg . Off-split retained. Duplicate samples are taken at an incidence of 1 in 25 samples. Pre- NSR assumed to be industry standard
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	There was no data available on Taipan sample preparation practices. It is assumed to be industry standard along with NSR processes which are Industry standard.
	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	NSR Industry standard QAQC procedures and previous owners in the case of Taipan Resources NL are assumed as Industry standard.
	Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate / second-half sampling.	The field QAQC protocols include; duplicate samples at a rate of 1 in 25, coarse blanks inserted at a rate of 3%, commercial standards submitted at a rate of 4%. Industry standard QAQC procedures are assumed to have been employed by Taipan Resources NL.
	Whether sample sizes are appropriate to the grain size of the material being sampled.	Sample sizes are considered appropriate.
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.	DD - Core is half cut. Repeat analysis of pulp samples (for all sample types – diamond, RC, rock and soil) occurs at an incidence of 2 in 50 samples. Total gold is determined by fire assay using the lead collection technique (50 gram sample charge weight) and AAS finish. Various multi-element suites are analysed using a four acid digest with an ICP-OES finish. Taipan Resources NL assay techniques were assumed to be industry standard
	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.	Not applicable to this report.
	Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie. lack of bias) and precision have been established.	The laboratory QAQC protocols include: repeat of pulps at a rate of 3%, sizing at a rate of 1 per batch. The labs internal QAQC is loaded into NST database. In addition to the above, about 5% of samples are sent to an umpire laboratory. Failed standards trigger re-assaying a second 50g pulp sample of all samples in the fire above 0.1ppm. Both the accuracy component (CRM's and umpire checks) and the precision component (duplicates and repeats) are deemed acceptable. Although no formal heterogeneity study has been carried out or nomograph plotted, informal analysis suggests that the sampling protocol currently in use is appropriate to the mineralisation encountered and should provide representative results. Industry standard QAQC procedures are assumed to have been employed by Pre NSR operators
Verification of sampling and assaying	The verification of significant intersections by either independent or alternative company personnel.	Significant intersections are verified by NSR senior staff as required.
	The use of twinned holes.	There are no purpose drilled twin holes however holes BVRC018 and BVRC027 are 4m apart and reported 6m @ 2.6gpt and 5m @ 2.4gpt respectively.
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	NSR data thoroughly vetted by database administrators. Data is stored in GBIS database has several inbuilt validations. Taipan Resources NL holes part of the 2006 database collated and extensively verified by Maxwell Geoservices previously.
	Discuss any adjustment to assay data.	No adjustments are made to any assay data.

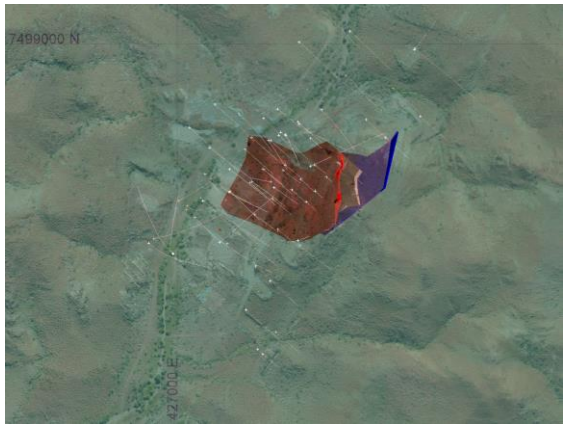
Criteria	JORC Code explanation	Commentary
Location of data points	Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.	NST collar positions were surveyed using DGPS. Taipan Resources NL collars were surveyed at the end of a drill program. Old mine workings have been picked up on surface but actual extent and depth has been estimated using 1930's survey plan. Topographic control uses Avista photo data supplemented with local DGPS pickups.
	Specification of the grid system used.	MGA 94_50
	Quality and adequacy of topographic control.	Topographic control is based on the collar surveys and Avista photogrammetric survey.
Data spacing and distribution	Data spacing for reporting of Exploration Results.	Exploration results are based on the Drill traces as attached.
	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.	Data spacing is approximately 20m by 20m. Except one area where deviating holes have left a larger gap of 20m by 40m. Data spacing is adequate for the resource estimation.
	Whether sample compositing has been applied.	Drill core is sampled to geology; sample compositing is not applied until the estimation stage. NSR RC samples initially taken as 4m composites to be replaced by 1 m samples if assays >0.1gpt were reported. Taipan RC samples treated similarly though historical details not fully reviewed
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.	Intercept angles are predominantly moderate to high angle (70° to 90°) to the interpreted mineralisation resulting in unbiased sampling.
	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.	Unknown, assumed to not be material.
Sample security	The measures taken to ensure sample security.	Chain of custody is managed by NSR. Samples are stored on site and are delivered to assay laboratory in Perth by Contracted Transport Company. Consignment notes in place to track the samples. Whilst in storage they are kept in a locked yard. Pre NSR operator sample security assumed to be adequate.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	There have not been improved reviews of sampling techniques on NSR drilling phases.

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 interests, historical sites, wilderness or national park and environmental settings.	M08/222 is wholly owned by Northern Star Resources (NSR)and in good standing. Heritage surveys have been conducted and the area was cleared for drilling. Relationship with the traditional owners is well informed and adequate.
	The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.	M08/222 is valid currently to 2021. The access road L08/15 is valid until 2020
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	Pre NSR data relevant to this resource was collected by Taipan Resources NL (TRNL)(35 RC holes in 1998). All previous work is accepted as to industry standard at that time.
Geology	Deposit type, geological setting and style of mineralisation.	Mineralisation at this deposit is considered a mesothermal quartz reef (s) associated with quartz carbonate +/ pyrite, arsenopyrite chalcopyrite and galena, on the contact of by a north south trending dolerite dyke and surrounding sediments.. A smaller domain is fault hosted and external to the dolerite host

Criteria	JORC Code explanation	Commentary
Drill hole Information	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: o easting and northing of the drill hole collar o elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar o dip and azimuth of the hole o down hole length and interception depth o hole length.	No exploration results being released this time
	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.	No exploration results being released this time
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.	No exploration results being released this time
	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.	Weighted by length when compositing for estimation
	The assumptions used for any reporting of metal equivalent values should be clearly stated.	No metal equivalents are reported
Relationship between mineralisation widths and intercept lengths	These relationships are particularly important in the reporting of Exploration Results.	No exploration results being released this time
	If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.	Geometry of the mineralisation to drill hole intercepts is at a high angle, often nearing perpendicular.
	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').	No exploration results being released this time
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.	See plan view of drill traces for Belvedere and surrounding areas.
Balanced reporting	Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	No exploration results being released this time
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.	Old Belvedere mine, extents Other Exploration results not considered material. Geotechnical holes were drilled in 2015, results from these are used in pit optimisations.
Further work	The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).	Follow up drilling to infill and extend
	Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	See attached plan view



Plan view of Belvedere with drilling and mineralisation. Belvedere Fault mineralisation in blue, this is open to the north. Other lodes constrained to the Dolerite host and are only open down dip

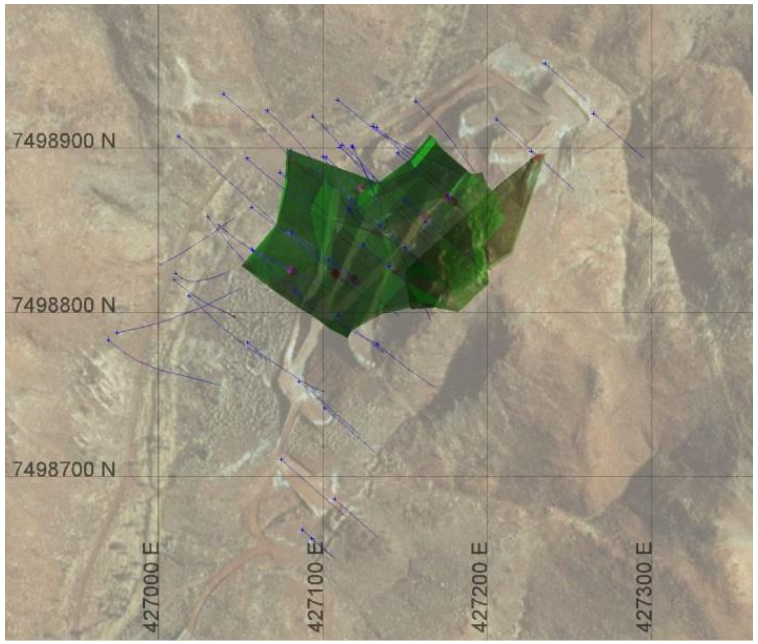
Section 3 Estimation and Reporting of Mineral Resources

(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)h

Criteria	JORC Code explanation	Commentary
Database integrity	Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.	Sampling and logging data is entered directly into the logging package OCRIS. Constrained look-up lists, depth and some interval validation are inbuilt and ensure that the data collected is correct at source. Data is imported to a GBIS relational geological database where additional validation checks are carried out, including depth checks, interval validation, out of range data and coding. Where possible, raw data is loaded directly to the database. Pre Northern Star Resources Limited(NSR) data assumed correct but no validation has been undertaken. For all data the drilling looked reliable visually and no overlapping intervals were noted.
	Data validation procedures used.	NSR data validated by database administrators by checking 2% of raw data files. Taipan Resources NL (TRNL) data has not been validated apart from resurveying the old collar positions where found. No inconsistencies were found.
Site visits	Comment on any site visits undertaken by the Competent Person and the outcome of those visits.	Site visits have been undertaken several times by the competent person
	If no site visits have been undertaken indicate why this is the case.	Site visited.
Geological interpretation	Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.	The interpretation of the deposit was carried out using a systematic approach to ensure continuity of the geology by the supervising and logging geologists. Sectional interpretations were digitized in Vulcan software and triangulated to form three dimensional solids. Confidence in the geological interpretation is moderate. Weathering zones and bedrock sub surfaces were also created.
	Nature of the data used and of any assumptions made.	All available valid data was used including drill data, mapping previous interpretations and existing 1930's mine development extents Where pre-NSR drill data was used it is assumed to be correct.

Criteria	JORC Code explanation	Commentary
	The effect, if any, of alternative interpretations on Mineral Resource estimation.	There are currently no different interpretations.
	The use of geology in guiding and controlling Mineral Resource estimation.	Geology is used to constrain the quartz veins to the dolerite host.
	The factors affecting continuity both of grade and geology.	Grade continuity is related to quartz vein extent, within the constrained dolerite dyke host.
Dimensions	The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.	Strike length = 150m Width = 80m with zones 2 to 3m thick Depth = from surface to ~160m below surface (top ~20m mined in the 1930's and wholly excluded from the resource)
Estimation and modelling techniques	The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.	ID2 was used to estimate this resource using Vulcan 9.1 software. Domains are snapped to drilling, and composited to 1m downhole, Composites of less than 0.15m length are merged with the last composite. Four domains were used to reflect the 2 styles of mineralisation.
	The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.	A resource was estimated internally in Jnee 2015.
	The assumptions made regarding recovery of by-products.	No assumptions of by product recovery are made.
	Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).	No deleterious elements estimated in the model
	In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.	Block size is 2.5m x 2.5m x 2.5m. Subcelled down to 1.25m x 1.25m x 1.25m to best fit estimation domains. Average drill hole spacing is variable ranging from <10m to 40m (average sample spacing~ 25m) Two search ellipse 70m x 25m x 9m (for Main, Hanging-wall and footwall zone) and 50m x 50m x 10m (belvedere fault zone) were used. Minimum of 4 samples to estimate, max 2 samples per octant.
	Any assumptions behind modelling of selective mining units.	No assumptions made
	Any assumptions about correlation between variables.	No assumptions made
	Description of how the geological interpretation was used to control the resource estimates.	"Ore" wireframes are created within the geological shapes based on drill core logs, mapping and grade. Low grades can form part of an ore wireframe
	Discussion of basis for using or not using grade cutting or capping.	Composites were cut to 20gpt (Main and hanging-wall), and 5gpt (Footwall and Belvedere Fault mineralisation) based on log distribution.
	The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.	Block grades were compared visually to drilling data. Validation is also through swath plots comparing composites to block model grades, along 10m eastings, 10m nothings and 5m elevation's, comparing Inverse distance to Nearest Neighbour estimations. All compared favourable but there was no reconciliation against previous mining.
Moisture	Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	Tonnages are estimated on a dry basis. Moisture content within the ore is expected to be low (~1-2 %) as it is fresh rock with minimal voids reported.
Cut-off parameters	The basis of the adopted cut-off grade(s) or quality parameters applied.	Reporting cut off = 1.0gpt based on similar gold projects in the Ashburton Goldfields. Modeling lower grade cut off = 0.3gpt nominally, not more than 2m of internal dilution and requires minimum 2 holes
Mining factors or assumptions	Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining	It is assumed Belvedere will initially be mined by open cut mining methods, and quick evaluations support the economics. Below the economic pit depth, grades are high enough to potentially be mined by underground methods

Criteria	JORC Code explanation	Commentary
	methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.	
Metallurgical factors or assumptions	The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.	Extensive metallurgical testing including comminution, leaching and adsorption, flocculation, rheology and geochemistry testwork was completed by ALS metallurgy in early 2015. Belvedere ore will be amenable to processing in the existing plant though the thickener may need to be optimised for best recovery
Environmental factors or assumptions	Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.	No environmental, permitting, legal, taxation, socio-economic, marketing or other relevant issues are known, that may affect the estimate.
Bulk density	Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.	Bulk density used was based on 756 samples from 5 diamond holes. Measurements were taken using the immersion method and related back to dominant rock code.
	The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.	Bulk density of the host rock is well covered, but of the mineralisation only lower grade intersections are represented in only 7 samples. Ten samples were used to determine an average SG of weathered rock.
	Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.	Individual bulk densities are applied to geological units.
Classification	The basis for the classification of the Mineral Resources into varying confidence categories.	Classification is based on drill spacing to delineate inferred and indicated resource. There is no Measured category.
	Whether appropriate account has been taken of all relevant factors (ie. relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).	Confidence in the relative tonnage and grade is high, NSR data input reliable, TRNL data assumed to be reliable (based on Paulsens experience).Distribution of data and continuity is moderate..
	Whether the result appropriately reflects the Competent Person's view of the deposit.	The result appropriately reflects the Competent Person(s)' view of the deposit
Audits or reviews	The results of any audits or reviews of Mineral Resource estimates.	This particular resource has not been externally reviewed or audited
Discussion of relative accuracy/ confidence	Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.	This mineral resource estimate is considered as robust and representative. The application of geostatistical methods has helped to increase the confidence of the model and quantify the relative accuracy of the resource on a global scale. It relies on historical data being of similar standard as recent infill drilling. This applies to approximately half of the holes. The relevant tonnages and grade are variable on a local scale.
	The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.	This resource report relates to the Belvedere area where it is likely to have local variability. The global assessment is more of a reflection of the average tonnes and grade estimate.
	These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.	There is no production data available



Belvedere Plan View with Drillhole traces and main mineralisation domain (Green)