

NORTHERN STAR MAKES SIGNIFICANT DISCOVERY WITH HITS OF UP TO 5,328GPT

ASX ANNOUNCEMENT 2 December 2014

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 Carpane
Company Secretary

Issued Capital

Shares 592.3 million

Options 4.2 million

Current Share Price A\$1.09

Market Capitalisation

A\$645 million

Cash and Cash Equivalents

30 Sep 2014 - \$101.5 million

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- ▶ High-grade discovery at the White Feather project, adjacent to Kanowna Belle Gold Mine near Kalgoorlie.
- ▶ High grade drill intercepts from White Feather include:
 - 1m @ 5,328gpt from 234m down-hole
 - 1m @ 60.3gpt from 158m down-hole
 - 3m @ 8.0 gpt from 77m down-hole
 - including 1m @ 20.2 gpt from 78m down-hole
 - 1m @ 11.6gpt from 229m down-hole
- ▶ Intersections made below historic workings which produced 250,000oz at an average grade of 16gpt.
- ▶ Historical drilling from previous owners returned very high-grade intercepts including:
 - 2m @ 113gpt from 238m down-hole
 - 0.8m @ 95.1gpt from 104m down-hole
 - 1m @ 2 25gpt from 118m down-hole
- ▶ Further drilling has intersected the veining with visible gold, further assays pending.

Northern Star Resources Limited (ASX: NST) is pleased to advise that it has made a significant gold discovery adjacent to its Kanowna Belle Gold Mine on the outskirts of Kalgoorlie.

The White Feather discovery is characterised by spectacular grades of more than 5,300gpt from a vertical depth of 200m (see figure 1).

The original White Feather deposit was discovered in the late 1800s and led to the development of the Kanowna Township at the turn of the century.

Production from White Feather stopped in 1920, with historical production from the Kanowna White Feather line of reef estimated at 250,000oz of gold at an average grade of 16gpt. The veins were typically narrow (<1m wide) and are characterised by coarse gold (see figure 2).

The discovery was made during a drilling program designed to test for possible extensions of the high-grade mineralisation below the old workings.

Drilling to date indicates that the White Feather mineralisation consists of three veins dipping moderately to the east.

Drilling at White Feather is ongoing as part of a strategy to grow the total mineral inventory around Kanowna Belle.

Northern Star's Managing Director Bill Beament said the White Feather discovery confirms the Company's view that substantial amounts of gold remain to be found in Western Australia.

"Northern Star's business model is based on the belief that there is an extensive amount of gold to be found in and around existing operations in WA, but much of this will be at depth.

"This is why we have established a \$50 million exploration budget over the coming 12 months, with more than 20 drilling rigs in operation around Western Australia.

Assay results from the recent drilling campaign and those from historical drilling are listed in the attached tables.

Bill Beament

BILL BEAMENT
Managing Director
Northern Star Resources Limited

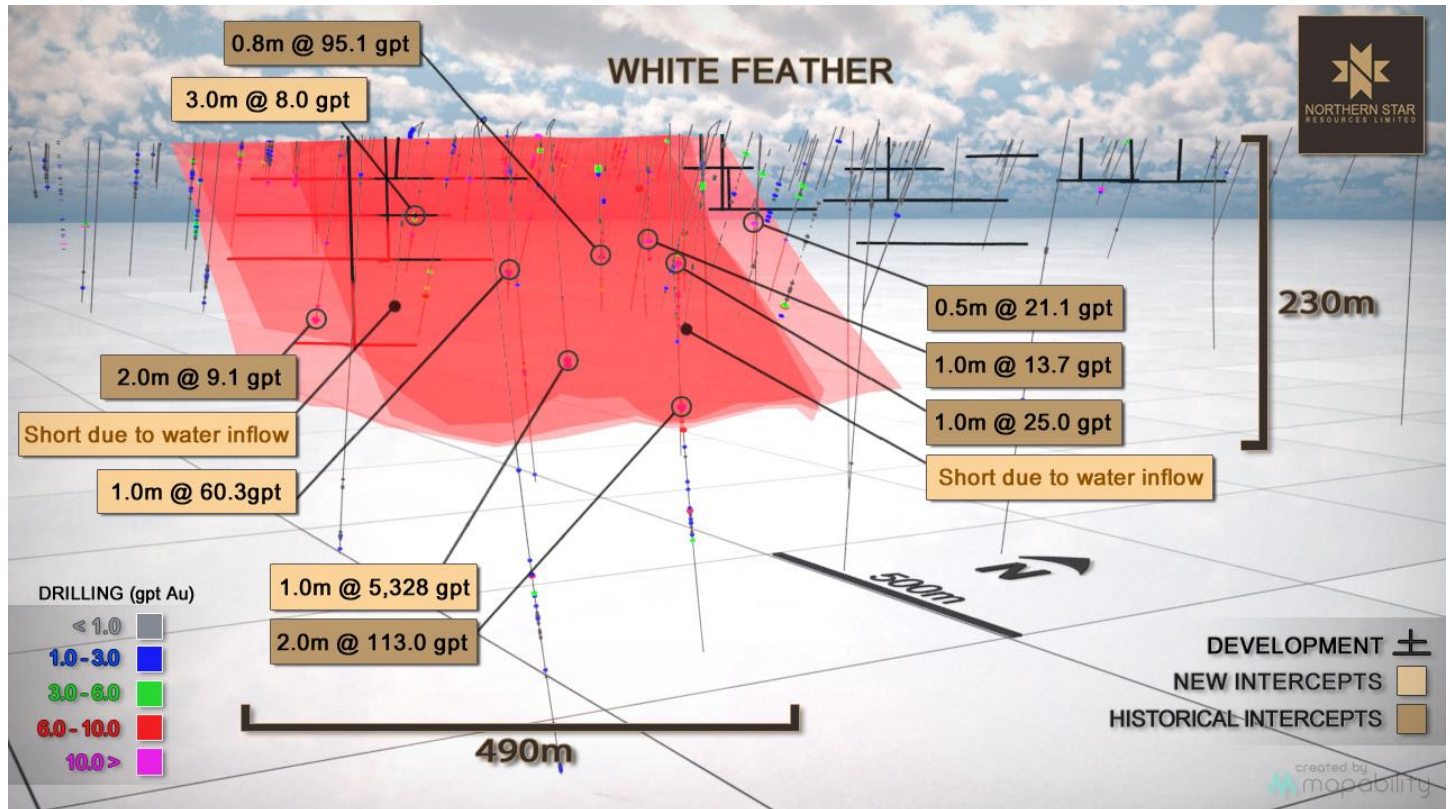


Figure 1 – White Feather Long Section showing new high-grade and unmined drill intersections

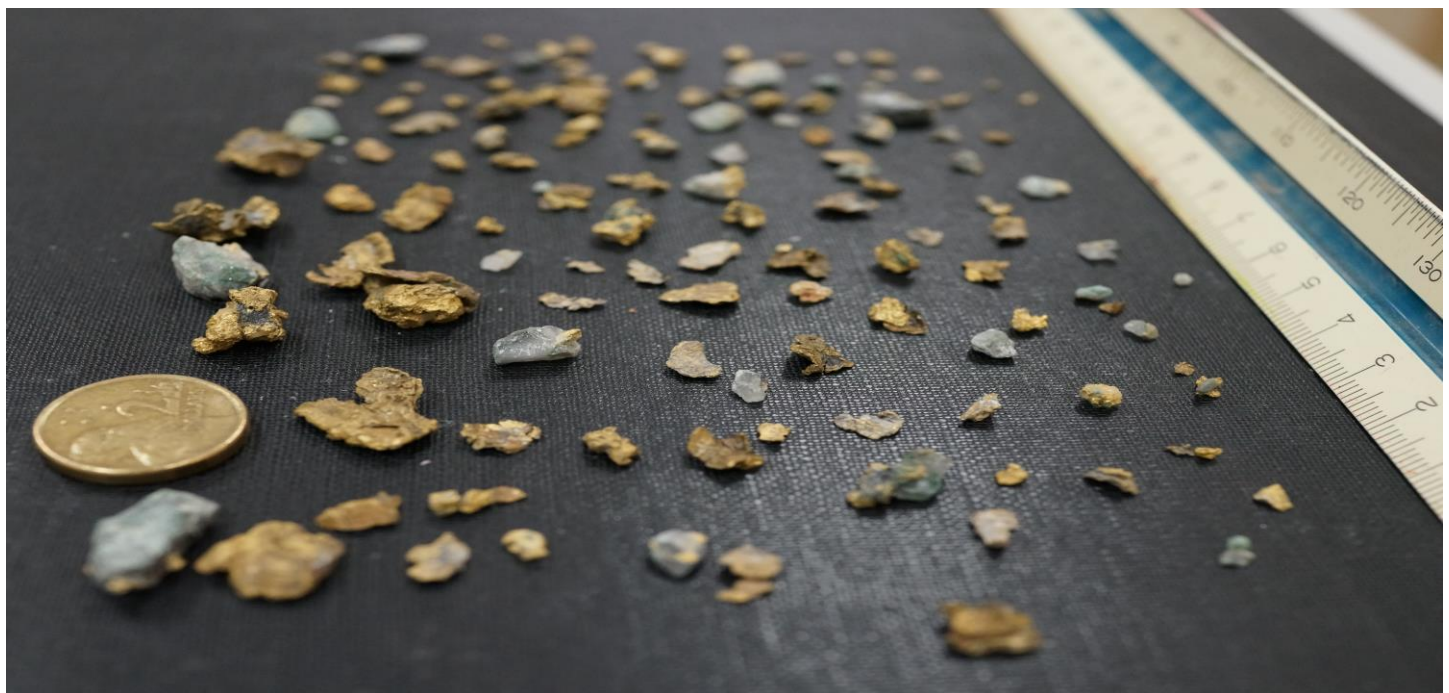


Figure 2 – White Feather with visible gold panned from the RC hole that recorded the +5,300gpt intercept

Competent Persons Statements

The information in this announcement that relates to mineral resource estimations, exploration results, data quality, geological interpretations and potential for eventual economic extraction, is based on information compiled by Darren Cooke, Member of the Australian Institute of Geoscientists, who is a full-time employee of Northern Star Resources Limited. Mr Cooke 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 White Feather Prospect. 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.

Forward Looking Statements

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WHITE FEATHER 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)
WFRC14052	367309	6614210	379	-65	290	120.0	77.0	80.0	3.0	8.0	3.0
						Including	78.0	79.0	1.0	20.2	1.0
WFRC14053	367388	6614205	372	-60	295	186.0	158.0	159.0	1.0	60.3	1.0
WFRC14054	367400	6614124	370	-60	280	174.0	28.0	36.0	8.0	1.5	7.0
WFRC14055	367480	6614188	369	-60	310	240.0	234.0	235.0	1.0	5,328.4	0.9
WFRC14055	367480	6614188	369	-60	310	240.0	229.0	230.0	1.0	11.6	1.0
WFRC14056	367480	6614188	369	-60	290	197.0	72.0	76.0	4.0	5.8	4.0

WHITE FEATHER - SELECTED HISTORIC, UNMINED SIGNIFICANT INTERSECTIONS

WFC64	367309	6614098	373	-60	270	170.0	165.0	167.0	2.0	9.1	1.5
WFD016	367437	6614318	375	-60	299	327.0	118.0	119.0	1.0	25.0	0.8
WFD022	367567	6614238	375	-60	300	515.9	238.0	240.0	2.0	113.0	1.5
WFRCD003	367396	6614311	373	-65	300	108.9	88.1	89.1	1.0	13.7	0.8
WFRCD005	367437	6614391	375	-62	294	117.0	77.6	78.1	0.5	21.1	0.3
WFRCD007	367368	6614290	374	-65	290	114.0	104.2	105.0	0.8	95.1	0.6



JORC Code, 2012 Edition – Table 1 Report: White Feather – As at December 2014

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 Reverse Circulation (RC) Drill Rig. All holes were drilled entirely as RC holes. Samples were taken to Genalysis Kalgoorlie for preparation by drying and pulverising the entire sample to <75µm. 300g Pulps splits were then dispatched to Genalysis Perth for 50g Fire assay charge with an AAS finish to a detection limit of 0.005ppm Au. Samples from the target interval were also submitted for 75 micron screen fire assay. 1kg of prepared sample was sieved through a 75 micron mesh. The entire coarse fraction is assayed by 50g fire assay. Two 50g charges are fired for the fine fraction and the weighted average grade is reported.
	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. 4m Composite spear samples were collected outside the target zone, with 1m samples submitted for within the target interval 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.	Samples were taken to Genalysis Kalgoorlie for preparation by drying and pulverising the entire sample to <75µm. 300g Pulps splits were then dispatched to Genalysis Perth for 50g Fire assay charge with an AAS finish to a detection limit of 0.005ppm Au. Samples from the target interval were also submitted for 75 micron screen fire assay. 1kg of prepared sample was sieved through a 75 micron mesh. The entire coarse fraction is assayed by 50g fire assay. Two 50g charges are fired for the fine fraction and the weighted average grade is reported.
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.).	5 RC drill holes were completed using a 5.5" drill bit, downsized to 5.25" at depth.
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 maximise sample recovery. Recovery issues were noted for 2013 drilling. The final 6m from WFR14055 returned wet samples with low recoveries, including the interval 234-235m which intersected the target and returned an assay of 1m @ 5328gpt. Drill holes WFR14054 and WFR14056 also had issues with wet samples, but were abandoned prior to reaching the target. DD tails are planned for these holes. The target interval in WFR14052 had lower recoveries (~80%) and a wet sample (78-79m). There were no recovery issues with WFR14053.
	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.	It is not known if a relationship exists between grade and 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 collected at 1m intervals for the entire length of the hole. Logging is completed down to 1m intervals. Where geological factors are consistent over wider intervals, larger intervals may be recorded. Details for regolith, lithology, alteration, veining and mineralisation are all recorded.
	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.	Logging is Qualitative and Quantitative. Visual estimates of sulphide, quartz and alteration as percentages
	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.	Non-core.
	If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.	4m speared composite samples are collected for areas outside the target interval. The reject material from the rig mounted cone splitter is collected in green PVC bags for each 1m interval. Each metre is speared individually with the speared material for each composite sample collected in a numbered calico bag. 1m cone split samples are collected for each 1m interval of all drill holes using a rig mounted cone splitter. Typical 1m samples are ~ 3kg in weight. These samples were submitted to the lab all intervals within the target zone and for any intervals outside the target zone that returned anomalous composite assays >0.1gpt Au.
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	Sample preparation was conducted at Intertek Kalgoorlie, commencing with sorting, checking and drying at less than 110°C to prevent sulphide breakdown. The entire crushed sample is pulverised 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. Grind checks are performed at the pulverising stage (75µm), requiring 90% of material to pass through the relevant size.
	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	Use of 1m samples from rig mounted cone splitter for any composite samples over 0.1gpt.
	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 20.
	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.



Criteria	JORC Code explanation	Commentary
	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 samples).
Verification of sampling and assaying	The verification of significant intersections by either independent or alternative company personnel.	All significant intersections a verified by another 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.
	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.
	Specification of the grid system used.	Collar coordinates are recorded in MGA94 Zone 51.
	Quality and adequacy of topographic control.	Good topographic control on drill collar locations is achieved utilising the Differential GPS and Lidar surveys.
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 45m by 45m to greater than 80m by 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.	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.
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.	Previous work has defined an array of 3 veins dipping moderate to steeply to the ESE. Only the lower most vein hosts significant mineralisation. Drilling was planned to intersect the target in an optimal orientation.
	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 in a secure yard. Once submitted to the laboratories they are stored in a secure fenced compound, and tracked through their chain of custody 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.	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 Pty 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 lode (1895 – 1907) is recorded as 38,798 Tonnes @ 17.8gpt for 22,255 oz. Production from 1907 onwards mainly by tributaries and is poorly recorded. Sporadic production may have occurred through till 1939. Recent gold exploration commenced in the 1980s. 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.



Criteria	JORC Code explanation	Commentary
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 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.	All holes in this programme are listed in the table. A selection of older unmined drill holes in the White Feather area, are presented in the significant intersection table, to show down plunge continuity.
	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. 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 0.9gpt 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.	
	If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.	The geometry of the mineralisation with respect to the drill holes is well constrained.
	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').	Holes have been planned such that downhole widths are very close to the actual true width.
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 Diagrams accompany 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.	The assays presented in this release are representative of all results received during the drill program being 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 exploration 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).	3 diamond holes have been completed to validate RC results and to potentially extend the vein. Assays are pending. Further exploration works will be considered upon receipt of the assay results for the diamond drill holes.
	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.