

ASX ANNOUNCEMENT

9 FEBRUARY 2022

Additional Metallurgical Test-work Confirms Exceptional Gold Recoveries at Butchers Creek

Key Highlights

- Continued test-work demonstrates straightforward non-refractory metallurgical ore characteristics, with a likely processing route incorporating a simple industry standard CIL cyanide leach plant
- Whole of ore leaching achieved a gold dissolution of 95-96% after only 24 hours leach time
- Physical characteristics indicate a soft to medium hardness which is readily amenable to conventional comminution (crushing) equipment
- Akin to Composite #1, the results from Composite #2 confirm a simplified flowsheet requiring either a potential low-cost treatment facility or ore which is also amenable to toll treatment

Meteoric Resources NL (ASX: MEI) (“**Meteoric**” or “**the Company**”) is pleased to announce the final results for metallurgical test work completed on Composite #2 (**Tranche 2**) from the sulphide zones at the Butchers Creek Gold Deposit, located at the Company’s wholly owned Palm Springs Project in Western Australia.

As with Tranche 1 (see ASX Announcement 13th December 2021), Tranche 2 was designed as a series of sighter tests to gauge the complexity required to recover gold using standard sulphide ore screening techniques.

Samples of half core from Butchers Creek holes BCRD484 (**Composite #1**) and BCRD486 (**Composite #2**) were sent to ALS laboratories in Perth where the two composites, one from each hole, were formulated.

Managing Director, Dr Andrew Tunks said “The metallurgical test results from Composite #2 again produced outstanding results that confirm a low cost, simple “whole of ore” flowsheet using Cyanide in leach (CIL) is suitable for Butchers Creek gold-rich ore. These results will be fed into the current scoping study which is due for release to the market in the current Quarter.”

Metallurgical Test Program

Each composite was formulated at ALS Laboratories in Perth from half HQ core sent from site, with all test work carried out under the supervision of Trinol Pty Ltd in Perth.

Prior to compositing, half-core samples were set aside to measure the physical characteristics - UCS, Crushing Index (CWi) and Ball Milling Index (BBMi).

Head samples were examined by XRD to gauge the extent of sulphide minerals present, then subjected to the following standard test regime:

- Grind Establishment.
- Gravity followed by direct cyanide leach.
- Gravity recovery followed by flotation, ultra fine grinding to 10 microns of the concentrate and leaching of the tailings.
- Whole of ore leaching

The full metallurgical testing flowsheet is included below in Appendix 1.

Composites

Composite #1 was made from Hole BCRD484 (Table 1).

Table 1. Composite # 1 details

Sample ID	Sample Description	Composite ID	As Received	Composite	Assay
			Weight (kg)	Gold g/t	Sulphur %
BCRD484	Half Core	Palm Springs BCRD484 Fresh Composite #1	48.3	1.42	1.44

Composite #2 was made from Hole BCRD 486 (Table 2).

Table 2. Composite # 2 details

Sample ID	Sample Description	Composite ID	As Received	Composite	Assay
			Weight (kg)	Gold g/t	Sulphur %
BCRD486	Half Core, Surface Moisture	Palm Springs BCRD486 Fresh Composite #2	42.5	1.94	1.46

Mineralogy

The XRD analyses for Composite #1, shown below, confirmed moderately sulphidic ore containing just over 1% combined sulphides, but which also contained calcite and carbonate-rich minerals, ~4% by mass. Such carbonate-rich ores will assist with moderating any potential acid forming properties of the tailings and reduce lime consumption in the process (as reported ASX Announcement 13th December 2021).

Table 3. XRD Mineralogy

Ore Mineral Assembly	Composite #1 - Mass %
Pyrrhotite	1
Pyrite and/or hematite	< 1
Clay minerals	< 1
Chlorite	16
Muscovite	1
Plagioclase	38
K-feldspar	24
Quartz	16
Calcite	2
Siderite type carbonate	2

Physical Properties

The measured physical properties indicate a weak to moderately hard ore which would not pose issues in terms of the design or selection of conventional crushing and grinding equipment.

Table 4. Physical Properties

Property	Unit	Value		Comment
		Comp. #1	Comp. #2	
UCS	MPa	14.9 ~ 30	12.2 ~56.7	Weak to moderately hard
CWi	kWh/t	Ave. 6.0	Ave. 6.2	Low
BBMi	kWh/t	Ave.17.0	Ave. 17.3	Moderately hard

Leaching Tests

Composite #1 (updated)

Recoveries including a gravity component have been revised in this announcement, as the laboratory found a technical issue with the analysis of gravity concentrates following the first series of tests (as reported ASX Announcement 13th December 2021). This has now been corrected and resulted in lower gravity recoveries (Table 5). The “whole of ore” result was not affected.

Table 5. Leach Test Data Composite #1

Test Detail Composite #1	Grind	Gold Assay	g/t		Au Extraction	
			Head	Gravity	24 hr cyanide	48 hr cyanide
Gravity/Direct Cyanide leach	75	1.22/1.58/1.59/1.29	1.42	12.2%	90.7%	92.3%
Gravity/Flotation/ UFG Conc./Direct Cyanide leach	75	1.22/1.58/1.59/1.29	1.42	12.7%	96.1%	96.2%
Whole of ore leach	75	1.22/1.58/1.59/1.29	1.42	0	96.4%	94.7%

Composite #2:

Table 6. Leach Test Data Composite #2

Test Detail Composite #2	Grind P80 µm	Gold Assay	g/t		Au Extraction	
		Individual	Head	Gravity	24 hr cyanide	48 hr cyanide
Gravity/Direct Cyanide leach	75	1.81/1.77/2.54/1.64	1.94	48.7%	96.8%	97.2%
Gravity/Flotation/ UFG Conc./Direct Cyanide leach	75	1.81/1.77/2.54/1.64	1.94	48.2%	96.4%	97.4%
Whole of ore leach	75	1.81/1.77/2.54/1.64	1.94	0	95.1%	96.5%

Note: All leach tests were done at a conventional grind size of p80 = 75 microns.

Gravity gold recovery was determined in a mini-Knelson Concentrator and the results of 48% gravity recoverable gold were obtained for Composite #2. However, the overall gold recoveries at 24 hours leach time, even in conjunction with flotation, were only marginally improved from 95% to 96%. As such, as detailed in results reported in December, the extra capital and operating cost of gravity and flotation may not be justifiable. This will be subject to further close examination as development of Palm Springs continues.

The “Whole of Ore” leach tests produced the highly encouraging recovery of 95-96% gold after a leach time of only 24 hours. Further test work will be undertaken to see if these recoveries can be improved with extra cyanide residence time as suggested by Composite #2 results.

The most important outcome from the all the test work is the high leach recovery of gold achieved on straight “Whole of Ore” leaching, which indicates the gold is well liberated and not locked up or influenced by the presence of moderate amounts of sulphides.

Further Work

The next phase of evaluation will be to use these results as a basis for a Scoping Study based on a fit for purpose CIL plant and associated mining and infrastructure at Butchers Creek.

This release has been authorised by the Board of Meteoric Resources NL.

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Competent Person Statement

The information in this announcement that relates to exploration results is based on information reviewed, collated and fairly represented by Mr Peter Sheehan who is a Member of the Australasian Institute of Mining and Metallurgy and a consultant to Meteoric Resources NL. Mr Sheehan has sufficient experience relevant to the style of mineralisation and type of deposit under consideration, and to the activity which has been undertaken, to qualify as a Competent Person as defined in the 2012 Edition of the Joint Ore Reserves Committee (JORC) Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Sheehan consents to the inclusion in this report of the matters based on this information in the form and context in which it appears.

The information in this release that relates to metallurgy and metallurgical test work has been reviewed by Mr Noel O'Brien, FAusIMM, MBA, B. Met Eng. Mr O'Brien is not an employee of the Company but is employed as a contract consultant. Mr O'Brien is a Fellow of the Australasian Institute of Mining and Metallurgy, he has sufficient experience with the style of processing response and type of deposit under consideration, and to the activities undertaken, to qualify as a competent person as defined in the 2012 edition of the “Australasian Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves” (The JORC Code). Mr O'Brien consents to the inclusion in this report of the contained technical information in the form and context as it appears.

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APPENDIX 1.

Figure 1. Metallurgical Test Program Flowsheet – Butchers Creek Comminution Test Work

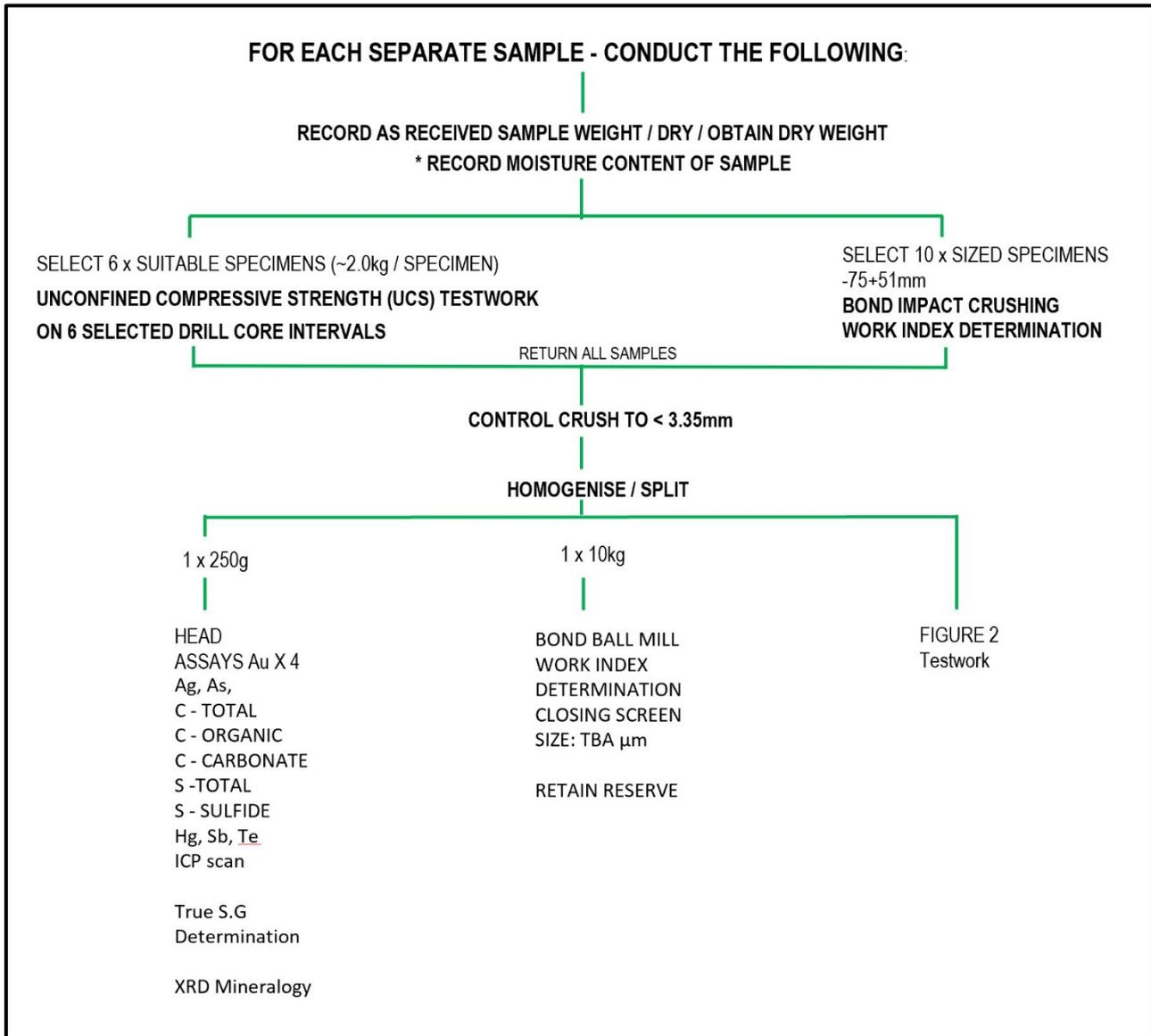
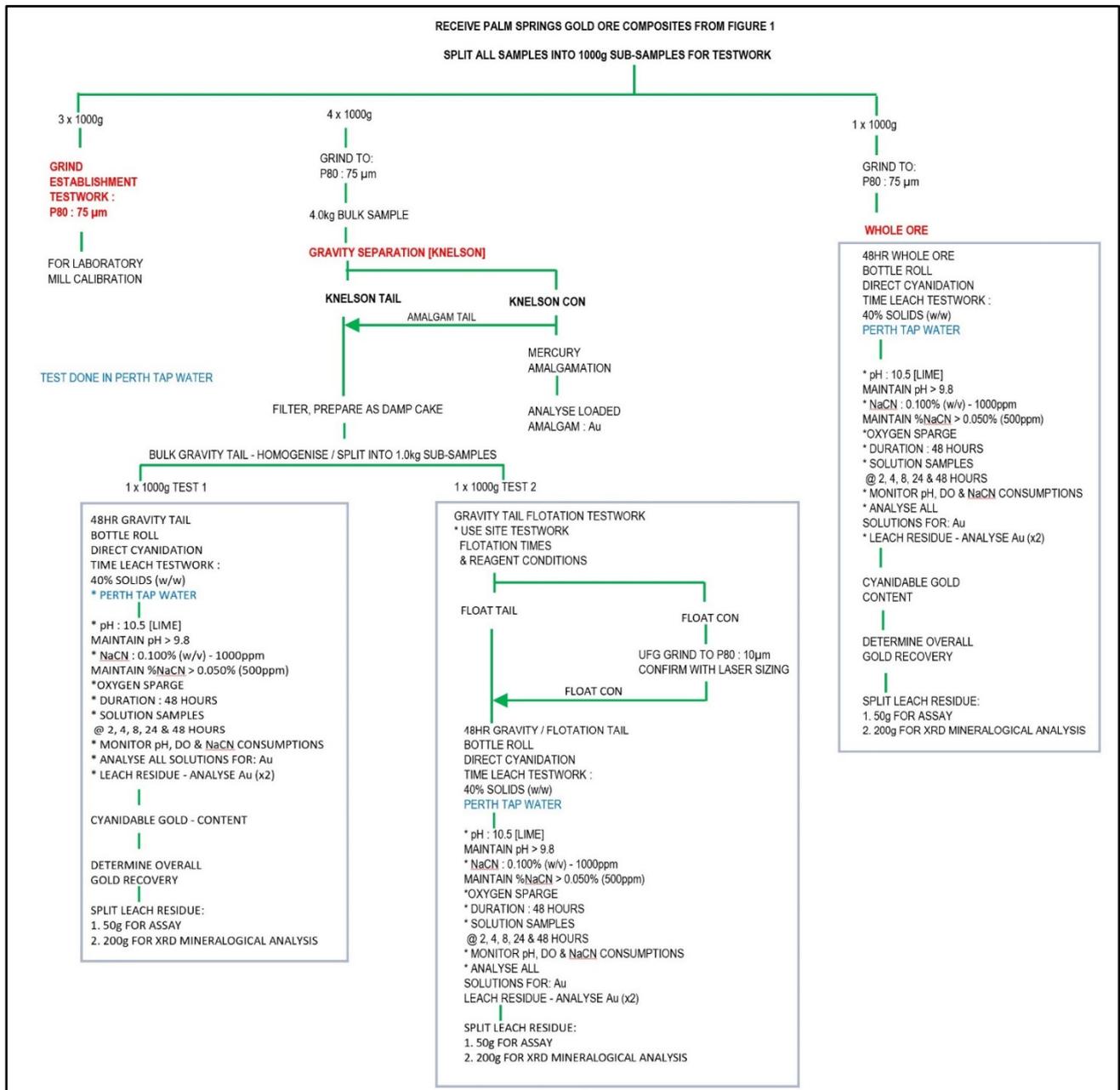


Figure 2. Metallurgical Test Program Flowsheet – Butchers Creek Extraction Test Work



Appendix 2 - JORC Code, 2012 Edition Table 1

Section 1 Sampling Techniques and Data

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

Criteria	Commentary
<i>Sampling techniques</i>	<ul style="list-style-type: none"> • REVERSE CIRCULATION (RC) drilling was used to obtain 1 m samples from which 3-5 kg was split out, then sent to the laboratories to be pulverised to produce a 50 g charge for fire assay. • DIAMOND CORE (DD) drilling was used to obtain 1 m samples from which 3-5 kg was cut, then sent to the laboratories to be pulverised to produce a 50 g charge for fire assay.
<i>Drilling techniques</i>	<ul style="list-style-type: none"> • RC drilling was carried out using a McCulloch DR950 with 3.5' rods and a 5.7/8' face sampling hammer. • DD drilling was completed using a McCulloch DR950 drilling rig which produced HQ3 diameter core. • The core was oriented using the TruCore UPIX tool and structural measurements were collected in zones of mineralisation and/or zones of interest.
<i>Drill sample recovery</i>	<ul style="list-style-type: none"> • Core loss is systematically measured and recorded by the Field Technician when the core is received from the rig. Additionally, it is often recorded by the Geologist in the Comments section of the summary logging sheets. Core recovery was excellent with >98% recoveries in fresh rock. • The condition of RC drill chips are recorded in the Comments section of the sample sheets if there was 'wet sample' or 'no sample' return. Two (2) holes experienced excessive water and were abandoned (at >300m depth). Only the last 2-3 metres returned 'wet' samples. • The utilisation of a high capacity RC drill rig (listed above) ensures recoveries are maximized in the deep RC drilling. • No relationship (positive or negative) was observed between recovery and gold grade. There is no reason to believe any sample bias has been introduced as a result of the recovered sample fraction.
<i>Logging</i>	<ul style="list-style-type: none"> • RC drill holes were geologically logged on 1m intervals and in sufficient detail to support descriptions of rock types and mineralisation presented in the Announcement above. • DD drill holes were logged based on lithology/alteration boundaries and in sufficient detail to support descriptions of rock types and mineralisation presented in the Announcement above. • Logging is qualitative in nature recording: oxidation, texture, rock type, structure type and alpha angles, alteration type and intensity, sulphide type and percentages. • All DD and RC drill holes were logged in their entirety for the 2020 drilling program.
<i>Sub-sampling techniques and sample preparation</i>	<ul style="list-style-type: none"> • DD Core for sampling was systematically sawed in half (using a cut line as a reference) and Half Core was generally submitted to the laboratory for analysis. The same side of the cut line was submitted for analysis to maximise representivity. Where Duplicate samples were required, the half core was sawed in half again and quarter core for the relevant interval was submitted to the laboratory for analysis. • RC chips were split by individual metre at the drill rig into 3-5kg sub samples using a cone splitter. • Both sampling methods are considered appropriate for Au determination given the sample size and are supported by Standard Industry practices.

Criteria	Commentary
<i>Quality of assay data and laboratory tests</i>	<ul style="list-style-type: none"> • Analysis was carried out by Australian Laboratory Services (Perth, WA), an accredited Laboratory, namely. Au determination was by Fire Assay (50g charge). • No additional methods or tools for sampling are considered in the text. • Quality control samples were inserted every 20 samples with a mixture of standards, blanks and duplicates. For RC a duplicate sample was taken from the cone splitter. For DD where quarter core was sampled, quarter core was submitted as a duplicate sample. Where half core was sampled, quarter core was submitted as a duplicate sample. Where whole core was sampled, no duplicate samples were submitted.
<i>Verification of sampling and assaying</i>	<ul style="list-style-type: none"> • Significant intersections in the above announcement were cross checked by site geologists by revisiting the individual chip trays or diamond drill core and making a visual comparison of observed alteration with reported gold grades, and/or against recorded drill hole logs. • Significant intersections in historic drill holes in the area of the existing pit were supported by grade control drilling. The author is encouraged by reported recovered mill reconciled grades of 2.09g/t Au versus a stated resource grade of 2.10g/t Au. While this is not definitive it does lend weight to accurate drilling grades. • Several historic RC holes (BCRC*) were twinned by historic diamond holes (BCD*). For several holes both grade and intersection width varied significantly. This will be followed up in subsequent work. • MEI completed several twin drill holes of historic drill holes in the 2020 drilling program with results and geostatistics to be reported upon when complete (upon receipt of all outstanding assays). • Drill hole information was recorded on a combination of paper logs and excel spreadsheets in the field, then transferred into an access database at the completion of the program. Data checks are run by Project manager subsequent to loading the data looking for incomplete or incorrect intervals in the database. • Assay data has not been adjusted.
<i>Location of data points</i>	<ul style="list-style-type: none"> • Drill hole collars have been picked up with a handheld GPS and recorded using MGA94 datum. • MNG Survey based in Kununurra provided survey control for the drill program and all 2020 drill hole collars will be picked up using a DGPS using MGA. • Current topographic control (20m contours) plus collar pickups are considered adequate as a basis for the design and reporting of exploration drilling.
<i>Data spacing and distribution</i>	<ul style="list-style-type: none"> • Drill spacing over the historical resource at Butchers Creek is generally 40m between collars, drilled on sections 20m apart. • Drill spacing for 2021 program is up to 80m between collars, drilled on sections 40m-50m apart. • The drill spacing is considered sufficient to support exploration results. • No compositing has been applied to exploration results.
<i>Orientation of data in relation to geological structure</i>	<ul style="list-style-type: none"> • Mapping of the pit floor and walls during open cut mining by PMA identified a complex vein system. The structural orientation of mineralized vein system at Mt Bradley is poorly understood. All MEI's 2021 DD holes were orientated with structural and lithological data recorded in the logging to better understand any veining. • The drill orientation for all holes at Mt Bradley is dominantly at right angles to the strike of the stratigraphy but not necessarily the vein array. The majority of holes at Butchers Creek are angled with an easterly drill azimuth, which is optimal to test both steep and shallow west dipping mineralisation. Several vertical holes are shown on section.
<i>Sample security</i>	<ul style="list-style-type: none"> • All sampling of MEI's 2021 drilling program was supervised and carried out by experienced geologist and technician. Both RC and DD samples were bagged in calico

Criteria	Commentary
	<p>bags onsite, with 4 calico's bags containing samples were transferred into a poly-weave bag and then into a large bulka bag for transport via road from Halls Creek to ALS in Perth using a reputable transport company.</p> <ul style="list-style-type: none"> The security of the sampling process is considered to be appropriate by the author.
<i>Audits or reviews</i>	<ul style="list-style-type: none"> No audits or reviews have been conducted on the project.

Section 2 Reporting of Exploration Results

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

Criteria	Commentary
<i>Mineral tenement and land tenure status</i>	<ul style="list-style-type: none"> Shown in Appendix 3.
<i>Exploration done by other parties</i>	<ul style="list-style-type: none"> A Low-Level aerial Magnetic-Radiometric survey was flown over 30% of the project area in Dec 1996. Southern Geoscience completed a litho-structural analysis of the aeromagnetic and identified 16 exploration targets for gold mineralisation. Two regional stream sediment surveys were completed Geochemex (1996) and Stockdale (1997) and 440 sites sampled. PMA completed infill stream sediment sampling of 16 target areas and three high priority areas were identified. Prior to Meteoric, there hasn't been any systematic exploration or drilling of these tenements since mine closure in June 1997.
<i>Geology</i>	<ul style="list-style-type: none"> The project is located within the Halls Creek Mobile Zone and includes numerous gold occurrences, the majority of which are associated with quartz vein systems developed within anticlinal hinges and adjacent to fault zones. The Butchers Creek mine sequence is composed of Lower Proterozoic turbiditic sediments, trachyandesitic volcanics of the Olympio Formation, Butchers Ck Member and basic sills and dykes, which are tightly folded and metamorphosed to greenschist facies. Mineralisation is associated with the quartz vein arrays associated with the brittle deformation of massive trachyandesite, particularly where its highly altered, with a high sulphide occurrence. Gold mineralisation is associated with anticlinal fold hinges, which plunges at 20-30degrees to the south from the southern limit of the open cut. The folded trachyandesite is within a tightly folded overturned anticline, with the western limb dipping 70 west and eastern limb dipping 85 degrees west dipping, beside a major north trending regional shear zone.
<i>Drill hole Information</i>	<ul style="list-style-type: none"> Drill holes relating to the metallurgical test work are provided in Tables 1 & 2 of main report.
<i>Data aggregation methods</i>	<ul style="list-style-type: none"> No Data has been aggregated for this release.
<i>Relationship between mineralisation widths and intercept lengths</i>	<ul style="list-style-type: none"> No assay results reported in this release.
<i>Diagrams</i>	<ul style="list-style-type: none"> Not applicable.
<i>Balanced reporting</i>	<ul style="list-style-type: none"> All metallurgical results are presented

Criteria	Commentary
<i>Other substantive exploration data</i>	<ul style="list-style-type: none"> There is no other substantive exploration data that is meaningful and material to the current release.
<i>Further work</i>	<ul style="list-style-type: none"> Refer to the body of announcement.

Appendix 3 – Palm Springs Project Tenement Summary

Tenement	Type	MEI %	Area (Ha)
M80/106	Mining Lease	97%	38.8
M80/315	Mining Lease	97%	511.6
M80/418	Mining Lease	100%	6.8
E80/4856	Exploration Licence	100%	4200.0
E80/4874	Exploration Licence	100%	1100.0
E80/4976	Exploration Licence	100%	1780.0
E80/5059	Exploration Licence	100%	5000.0
P80/1766	Prospecting Licence	100%	120.0
P80/1768	Prospecting Licence	100%	120.0
P80/1839	Prospecting Licence	100%	5.8
P80/1854	Prospecting Licence	100%	8.0
P80/1855	Prospecting Licence	100%	44.0