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# Diamond Drilling Intersects Very High Grade Gold at the Kalpini South Prospect

Pioneer Resources Limited ("**Company**" or "**Pioneer**") (ASX: PIO) is pleased to update shareholders following the completion of a short diamond core drilling program at the Kalpini South Gold Prospect, one of a number of gold targets at the Company's 100% held Acra Gold Project, located 60km northeast of Kalgoorlie, WA.

Two existing RC pre-collars were extended by diamond core drilling, and these intersected a geological structure bearing very high grade gold in fresh rock at a depth of approximately 120m vertically below surface.

There are many examples of large, narrow, high grade gold lode systems throughout the Eastern Goldfields, including the very successful Andy Well Mine (Doray Minerals Limited ASX: DRM), the Daisy Milano Mine (Silver Lake Resources Limited (ASX: SLR) and the Wattle Dam Mine (Ramelius Resources Limited ASX: RMS) where quartz lodes carry gold grades in excess of 10 g/t Au were mined.

Significant assays from Pioneer's drilling were:

KSDD001 0.2m at 116 g/t Au from 131m; and

KSDD002 1.2m at 20.8 g/t Au from 145.71m, which included 0.2m at 84 g/t Au.

Diamond drill core provides a continuous cylinder of rock that can be used for very precise geochemical sampling and geotechnical measurements of geological structures. This helps to better understand the mineralising event and the orientation of the gold lode.

The high grade gold lode had previously been intersected in RC drilling programs with narrow high grade gold zones reported. The new results confirm and extend mineralisation to depth. (Refer to Figure 1), and indicates that the mineralised structure is likely to continue to even greater depths.

Previous high grade gold lode intersections in fresh rock from Kalpini South RC drilling included:

KSRC004 1m at 9.63 g/t Au from 101m within 5m at 3.29 g/t Au from 100m KSRC007 2m at 9.29 g/t Au from 102m within 31m at 1.78 g/t Au from 94m to 1.78 g/t Au from 129m

KSRC010 1m at 14.3 g/t Au from 129m KSRC018 1m at 10.7g/t Au from 98m

### **OUTLOOK FOR THE KALPINI SOUTH PROSPECT**

A program of 9 reverse circulation (RC) percussion holes is planned to infill a pattern of earlier supergene gold intersections within weathered rock, at a more shallow depths above, the high grade gold lode. The previously released intersections that are being further tested for extent by this work are listed below.

KSRC004 10m at 6.38g/t Au from 62m KSRC004 8m at 1.45g/t Au from 85m KSRC005 9m at 5.31g/t Au from 36m KSRC010 8m at 1.41g/t Au from 85m KSRC021 6m at 1.89g/t Au from 85m

The Company holds a POW approval for this drilling program.

In addition, diamond drilling to intersect the high grade gold lode at progressively greater depths will be undertaken.

#### **OUTLOOK FOR THE ACRA PROJECT**

The Acra Gold Project is one of the Company's three key exploration assets. The other two are the Fairwater Nickel Project in the Albany Fraser Orogen; and the Blair Dome Nickel Project between Kalgoorlie and Kambalda. All are within Western Australia.

Kalpini South is one of a number of gold targets the Company has identified within the Acra Project where RC and diamond drilling has already confirmed the presence of significant gold mineralisation, including other examples of high grade lode gold. Prospects include the Jubilee Gift, Jubilee East, Acra and Carmelia South Prospects, which all occur within a 20km long, north-west trending, structural corridor.

The Company's soil geochemistry database for the Acra Project includes over 20,000 gold analyses, largely collected by previous nickel explorers. In addition, approximately 110 reconnaissance drill holes (again generally drilled for nickel) returned assays of at least 1g/t gold. The majority these mineralised drill intercepts are within an 8km section of the overall structural corridor, between the Acra and Jubilee Gift Prospects (shown on Figure 2) highlighting the high prospectivity of this part of the Project.

Other targets are evident outside the Acra to Jubilee Gift Zone. Priority is given to locations where soil geochemistry coincides with targets identified on the Company's structural geology map as likely to be prospective for gold - the Kalpini South Prospect falls into this category.

Often infill soil sampling is required to provide sufficient detail to generate drill targets for gold, and during 2015 the Company has taken approximately 3,000 samples at the Jubilee Gift, Matrix and Kalpini South Prospects. Most recently **the Kalpini Knight Prospect, located 120m south of Kalpini South Deposit**, has been identified.

Pioneer is progressively evaluating its targets in a sequence reflecting the priority attributed each target. Ongoing work programs include:

- Defining RC and diamond core drilling targets along the Acra to Jubilee Gift Zone. The next phase of drilling is scheduled for late 2015 or early 2016;
- Aircore drilling at the Kalpini Knight and Iron
- Drilling for shallow supergene gold, and deeper beneath the recent high grade lode at the Kalpini South Prospect;
- Detailed soil geochemistry programs at Kalpini West, Mayday North, Iron King, Jubilee West and other structural targets;
- As soil programs are completed, additional RC drilling programs will follow up where warranted; and
- Aircore drilling over new geochemical targets, and in areas where alluvial channels preclude the use of soil geochemistry.

Managing Director

**Pioneer Resources Limited** 

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For further information please contact:

David Crook

Managing Director

Pioneer Resources Limited

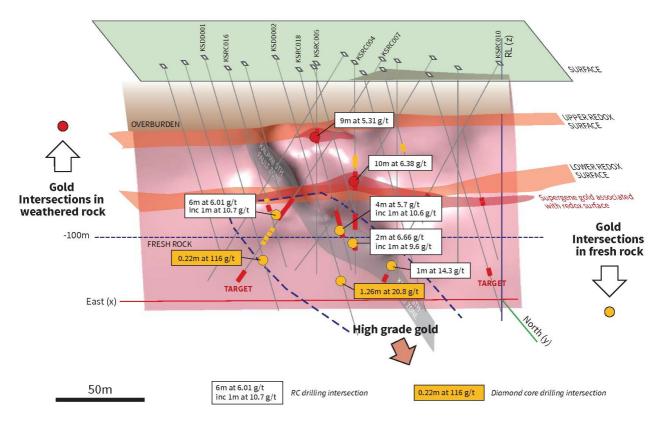
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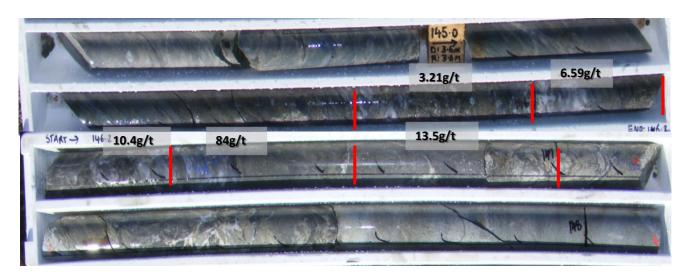


**Figure 1:** An oblique section showing an interpretation of the Kalpini South Gold Lode. Diamond core drill holes will test for primary mineralisation in fresh rock, while RC drilling will test for supergene gold that has been deposited at redox surfaces.

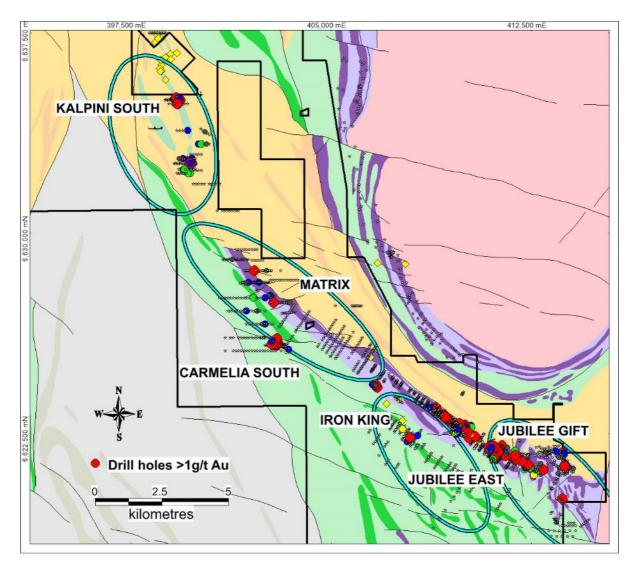
When considering the gold intercepts please see Note 1 below.



Photograph 1: Core from KSDD001 showing the interval that assayed 0.2m at 116 g/t Au from 131m



Photograph 2: Core from KSDD002 showing the interval that assayed 1.2m at 20.8 g/t Au from 145.71m



**Figure 2:** Solid Interpretive Geological and Structural Map (Isles 2015), showing the location of drill holes that intersected significant gold mineralisation. Many of the anomalous holes are from reconnaissance drilling and have not had follow-up, deeper forms of drill testing. This map highlights the opportunity that attracted Pioneer to the Acra Gold Project.

Note 1. For further information about drill intersections noted on Figure 1 and in Table 1, refer to the Company's announcements dated 16 April 2014, 22 October 2014, 26 June 2015 and Quarterly Activities Report ending 31 December 2013, 31 January 2014.

The Company it is not aware of any new information or data that materially affects the information included in this announcement.

#### **Competent Person**

The information in this report that relates to Exploration Results is based on information supplied to and compiled by Mr David Crook. Mr Crook is a full time employee of Pioneer Resources Limited and a member of The Australasian Institute of Mining and Metallurgy (member 105893) and the Australian Institute of Geoscientists (member 6034). Mr Crook has sufficient experience which is relevant to the styles of mineralisation and types of deposit under consideration and to the activities undertaken to qualify as a Competent Person as defined in the 2004 and 2012 Editions of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Crook consents to the inclusion in the report of the matters based on their information in the form and context in which it appears.

#### **Caution Regarding Forward Looking Information**

This document may contain forward looking statements concerning the projects owned by the Company. Statements concerning mining reserves and resources may also be deemed to be forward looking statements in that they involve estimates based on specific assumptions.

Forward-looking statements are not statements of historical fact and actual events and results may differ materially from those described in the forward looking statements as a result of a variety of risks, uncertainties and other factors. Forward-looking statements are inherently subject to business, economic, competitive, political and social uncertainties and contingencies. Many factors could cause the Company's actual results to differ materially from those expressed or implied in any forward-looking information provided by the Company, or on behalf of, the Company. Such factors include, among other things, risks relating to additional funding requirements, metal prices, exploration, development and operating risks, competition, production risks, regulatory restrictions, including environmental regulation and liability and potential title disputes.

Forward looking statements in this document are based on the Company's beliefs, opinions and estimates of the Company as of the dates the forward looking statements are made, and no obligation is assumed to update forward looking statements if these beliefs, opinions and estimates should change or to reflect other future developments.

There can be no assurance that the Company's plans for development of its mineral properties will proceed as currently expected. There can also be no assurance that the Company will be able to confirm the presence of additional mineral deposits, that any mineralisation will prove to be economic or that a mine will successfully be developed on any of the Company's mineral properties. Circumstances or management's estimates or opinions could change. The reader is cautioned not to place undue reliance on forward-looking statements.

### Glossary

"Aircore" is a blade drilling technique which returns relatively uncontaminated samples through a central annulus inside the drill pipes. It is used to test the regolith (near surface unconsolidated and weathered rock) as an alternative to RAB drilling when conditions are wet, sandy or holes need to go deeper than by RAB.

"Diamond Drilling" or "Core Drilling" uses a diamond-set drill bit to produce a cylindrical core of rock.

"g/t" means grams per tonne (used for precious metals) and is equivalent to ppm.

"ppm" means 1 part per million by weight.

"RAB" means rotary air blast, a cost-effective drilling technique used to test the regolith (near surface unconsolidated and weathered rock) for plumes of trace-level gold that may have dispersed from a nearby primary source of gold. In this type of work gold values above 0.2g/t are considered anomalous and above 1g/t, very anomalous.

"RC" means reverse circulation, a drilling technique that is used to return uncontaminated pulverised rock samples through a central tube inside the drill pipes. RC samples can be used in industry-standard Mineral Resource estimates.

"Regolith" means the layer of loose, heterogeneous material covering solid rock. It includes dust, soil, broken rock, and other related materials. In Western Australia it most commonly refers to the almost ubiquitous layer of weathered and decomposed rock overlying fresh rock.

Elements: "Au" means gold, "Cu" copper, "Ni" nickel, "Ag" silver, "Pb" lead, "Zn" zinc, "Pt" platinum, "Pd" palladium.

"N", "S", "E", or "W" refer to the compass orientations north, south, east or west respectively.

"pXRF" means portable x-ray fluorescence. Pioneer owns an Olympus portable XRF analyser which is an analytical tool providing semi-quantitative analyses for a range of elements 'in the field'.

## APPENDIX 1

Table 1: Collar Information

Hole ID	Grid	East	North	Survey	Precollar	Dip	Azimuth	EO Hole
		(m)	(m)					
KSDD001	MGA94_51	399,313	6,635,051	GPS	101	-60	90	166
KSDD002	MGA94_51	399,272	6,635,074	GPS	113	-60	90	174

Table 2: Gold Assays

Hole ID	From (m)	To (m)	Туре	Interval (m)	Grade (g/t)
KSDD001	131	131.22	HCORE	0.22	116.50
KSDD002	145.71	145.95	HCORE	0.24	3.21
KSDD002	145.95	146.15	HCORE	0.20	6.59
KSDD002	146.15	146.5	HCORE	0.35	10.37
KSDD002	146.5	146.7	HCORE	0.20	84.10
KSDD002	146.7	146.97	HCORE	0.27	13.46

#### **APPENDIX 2**

# JORC Code, 2012 Edition – Table 1 report

## **Section 1 - Sampling Techniques and Data**

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

## Acra Project, Kalpini South Prospect.

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul> <li>Nature and quality of sampling (eg cut Faces, 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).</li> <li>These examples should not be taken as limiting the broad meaning of sampling.</li> </ul>	2 diamond drill holes drilled from RC pre-collars.
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.	Diamond core is an accurate sample subject to good recovery. Recovery as a percentage of the expected return was noted
	<ul> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>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.</li> </ul>	<ul> <li>Diamond core was geologically logged and sampled according to geological features. The minimum sample length was 0.2m.</li> <li>Core was NQ2</li> <li>Core was orientated and cut along the orientation line. Half core of the prescribed interval was sampled.</li> <li>Core was pulverised and pulped.</li> <li>A 50g subsample was assayed by fire assay.</li> </ul>
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 Core Drilling.     NQ2 standard tube
Drill sample recovery	Method of recording and assessing core and chip sample recoveries and results assessed.	The geologist records occasions when sample quality is poor, or sample return is low, or the sample is wet or compromised in another fashion.
	Measures taken to maximise sample recovery and ensure representative nature of the samples.	<ul> <li>Sample recovery is generally very good for core drilling</li> <li>Poor sample recovery is mostly due to broken ground conditions. The recovery can be influenced by the experience and knowledge of the operator.</li> </ul>

Criteria	JORC Code explanation	Commentary		
	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.	Because the sample recoveries are assumed to be high, any possible relationship between sample recovery and grade has not been investigated.		
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.	Lthological logs exist for these holes in a database. Fields captured include lithology, mineralogy, sulphide abundance and type, alteration, texture, recovery, weathering and colour.		
	Whether logging is qualitative or quantitative in nature. Core (or costean, Face, etc) photography.	<ul> <li>Logging is reasonably quantitative, based on core measurements.</li> <li>Qualitative litho-geochemistry based on pXRF analyses is used to confirm rock types.</li> <li>Core is in the Company core farm</li> </ul>		
	The total length and percentage of the relevant intersections logged.	The entire length of the drill holes were logged.		
Sub-sampling techniques and sample preparation	<ul> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> </ul>	Core: sawn along orientation line. Half core submitted for assay.		
	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	Core: sawn along orientation line. Half core submitted for assay.		
	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.	<ul> <li>Standard Reference Material is included at a rate of 1 per 25 samples.</li> <li>Duplicate field samples are not routinely collected at this stage of the project.         Laboratory quality control samples are also monitored.     </li> <li>No core duplicates submitted.</li> </ul>		
	Whether sample sizes are appropriate to the grain size of the material being sampled.	Studies by Pioneer have shown that a 50g fire assay produces repeatable results.		
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.	The sample preparation and assay method used is considered to be standard industry practice and is appropriate for the type of deposit. The fire assay technique is a near total assay.		
	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.	Pioneer owns an Olympus Delta handheld XRF instrument which it used to assist with rock-type classification only.		

Criteria	JORC Code explanation	Commentary		
	<ul> <li>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.</li> </ul>	Standards and laboratory checks have been assessed. The standards show results within acceptable limits of accuracy, with good precision in most cases. Internal laboratory checks indicate very high levels of precision.		
Verification of sampling and assaying	<ul> <li>The verification of significant intersections by either independent or alternative company personnel.</li> <li>The use of twinned holes.</li> </ul>	• NA.		
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	<ul> <li>Pioneer has a digital SQL drilling database where information is stored.</li> <li>The Company uses a range of consultants to load and validate data, and appraise quality control samples.</li> </ul>		
	Discuss any adjustment to assay data.	Pioneer has not adjusted any assay data.		
Location of data points	<ul> <li>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.</li> </ul>	<ul> <li>Collar surveys were completed using a hand-held GPS with an accuracy of +-5 metres.</li> <li>The Company will engage a certified surveyor to survey the collar positions to an accuracy of =- 150mm in due course.</li> </ul>		
	Specification of the grid system used.	MGA94 (Zone 51)		
	Quality and adequacy of topographic control.	• NA		
Data spacing and distribution	Data spacing for reporting of Exploration Results.	Drill holes were nominally on a 40x25m grid.		
	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.	• NA		
	Whether sample compositing has been applied.	No compositing during sampling.		
Orientation of data in relation to geological structure	<ul> <li>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>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.</li> </ul>	<ul> <li>The strike of the mineralisation is estimated at 300°. Accordingly, the drilling direction of 210° is considered optimal.</li> <li>Intercept widths are apparent due to the steep dip of the mineralised structure, intersected by a drill dip of approximately -60°. Actual widths are likely to be less than that stated.</li> </ul>		
Sample security	The measures taken to ensure sample security.	Pioneer uses standard industry practices when collecting, transporting and storing samples for analysis.		

Criteria	JORC Code explanation	Commentary
		Drilling pulps are retained by Pioneer off site.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	<ul> <li>Sampling techniques for assays have not been specifically audited but follow common practice in the Western Australian gold industry.</li> <li>The assay data and quality control samples are periodically audited by an independent consultant.</li> </ul>

## **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	<ul> <li>The Kalpini South drilling reported herein is entirely within E27/438 which is a granted Exploration Licence.</li> <li>The tenement is located approximately 60km NE of Kalgoorlie WA.</li> <li>Pioneer Resources Limited is the registrable holder of the tenement and holds a 100% unencumbered interest in all minerals within the tenement.</li> </ul>
	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.	At the time of this Statement E27/436 is in Good Standing. To the best of the Company's knowledge, other than industry standard permits to operate there are no impediments to Pioneer's operations within the tenement.
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	• No
Geology	Deposit type, geological setting and style of mineralisation.	<ul> <li>The Kalpini South mineralisation, while identification is at a very early stage, is likely to be a typical Eastern Goldfields-style shear hosted gold deposit.</li> <li>The mineralisation is hosted within a felsic volcani-clastic rock adjacent to a mafic (dolerite) body.</li> <li>Gold occurs within a zone that is sheared, has quartz veining and deposits of iron (arsenic) sulphides. This zone strikes at approximately 300° and dips steeply towards NW.</li> </ul>
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, including 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	Refer to Appendix 1 of this announcement.

Criteria	JORC Code explanation	Commentary
	<ul> <li>and azimuth of the hole, down hole length and interception depth plus hole length.</li> <li>If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.</li> <li>In reporting Exploration Results, weighting averaging techniques, maximum and/or</li> </ul>	Intercepts noted are from 1m sample intervals.
Data aggregation methods	minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.  • Where aggregate intercepts incorporate short lengths of high grade results and	With a 0.5g/t (lower) cutoff, a minimum of 3 adjacent samples grading above 0.5g/t used for the length weighted average. Runs of up to 3m of contiguous internal dilution is permitted for wider intercepts.
	<ul> <li>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.</li> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	<ul> <li>Intercepts noted with a 1.0g/t (lower) cutoff comprise all samples grading above 1.0g/t. Runs of up to 3m of contiguous internal dilution is permitted for wider intercepts.</li> <li>No metal equivalent values have been used.</li> </ul>
Relationship between mineralisation widths and intercept lengths	<ul> <li>These relationships are particularly important in the reporting of Exploration Results.</li> <li>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> <li>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').</li> </ul>	Downhole lengths are reported in Appendix 1 and are most often not an indication of true width.
Diagrams	<ul> <li>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.</li> </ul>	Refer to maps in this report.
Balanced reporting	<ul> <li>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.</li> </ul>	Comprehensive reporting of drill details has been provided in Appendix 1 and Appendix 2 of this announcement.
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.	All meaningful and material exploration data has been reported.
Further work	<ul> <li>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	<ul> <li>Having ascertained the strike and dip of a mineralised structure at Kalpini South Prospect the next phase of drilling will be conducted .using a more appropriate drill hole azimuth, being approximately 210°.</li> <li>Fences of drill holes, on a nominal 40x20m grid are planned.</li> </ul>