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# **Exploration Update**

#### **Geophysical Surveys Define Exciting New Targets at the Paupong Project**

## **Highlights**

- An Airborne Magnetic and Radiometric survey has been completed over the Paupong Project with data interpretation to be completed by end February
- 3D modelling of the dipole-dipole IP survey has been completed at Telegraph Hill
- Probable sulphide mineralisation zone was identified at Telegraph Hill above a buried magnetic intrusive body
- Kidman prospect survey is now extended to cover 2.5 square kilometres
- IP line extensions to known mineralisation at Tom's Vein were identified in the Kidman prospect survey, with possible splays and parallel structures defined
- Dipole-dipole IP survey is underway to extend previous survey area coverage at Don's Hill prospect
- Dipole-dipole IP surveys are planned for the Castle and Quarry prospect areas

Alt Resources (ASX: ARS) is pleased to advise that exploration is continuing at its flagship Paupong Project in southern NSW. The Company is targeting porphyry-style and associated vein-hosted Au, Ag and Cu mineralisation. Diamond drill testing of current targets commenced on 8<sup>th</sup> February, supported by ongoing geological mapping, soil and stream sediment sampling plus a detailed aeromagnetic/radiometric survey and ground Induced Polarization (IP) surveys to develop additional drill targets. The Project area is shown in Figure 1.



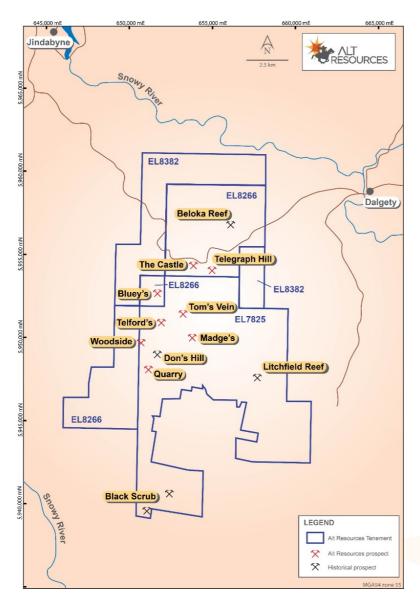


Figure 1. Paupong Project area with prospect locations

#### **Regional Magnetic and Radiometric Survey**

A 4,700 line km high resolution aerial Magnetic and Radiometric survey has been completed over the Paupong Project area. The survey was conducted by Thomson Aviation and flown at 60 metres above ground on a 50 metre line spacing. The survey was completed 2<sup>nd</sup> February, 2016 and the dataset is currently with Steve Collins of Arctan Services for inversion, interpretation and 3D modelling. The Company considers the new magnetic dataset will provide greater resolution for structure and basement geology than the previously flown magnetic survey undertaken by the NSW government in 2010.



The area covered by the survey is shown in Figure 2. The survey includes some regions outside of the tenement area which contain key structural elements, to gain a more complete picture. The survey was flown by the Company to better define the regional structural architecture and to enable more detailed modelling of sub-surface intrusive bodies. The Company holds the view that these deeper intrusive targets are possible source rocks for the mineralisation found in the project area.

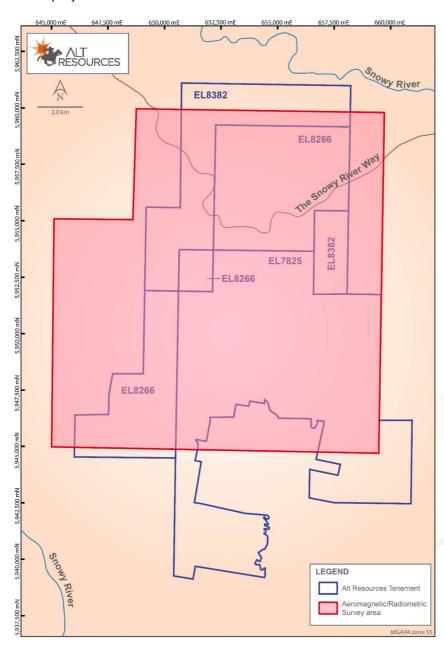


Figure 2. Area covered by magnetic and radiometric airborne survey



#### **Dipole-Dipole IP Surveys**

Detailed dipole-dipole IP surveys have been completed over a number of prospective areas at the Paupong Project. The IP surveys give an excellent 3D understanding of chargeability and resistivity in the subsurface. Known quartz-sulphide veins show significant paired chargeability and low resistivity responses. As such dipole-dipole IP is considered an excellent exploration tool for mineralisation within the sandstone unit (see Figures 3 and 4). This is the dominant lithology that has been tested by the Company to date. At Tom's Vein, the 2015 drilling program showed that chargeability and resistivity anomalies correspond closely and have good predictability with Au+Cu-bearing quartz-sulphide veins.

### **Telegraph Hill**

The Telegraph Hill prospect shows an extensive zone of vein-supported brecciation (Figure 3) with a broad quartz vein stockwork zone immediately to the north. The breccia zone appears to be circular at surface, and may represent a breccia pipe structure.

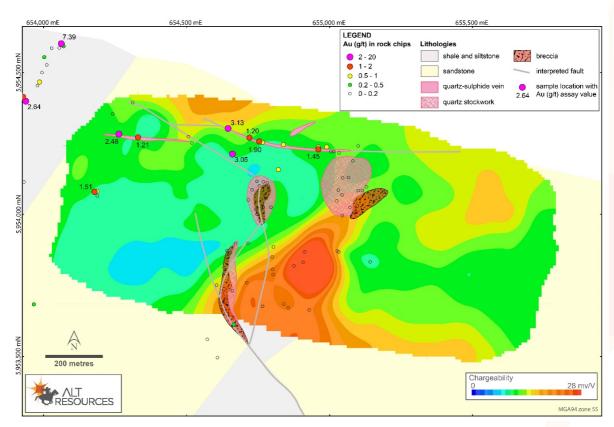


Figure 3. Dipole-Dipole IP survey at Telegraph Hill. A horizontal slice at approximately 50m below surface (800m RL) is shown, overlain by mapped mineralisation at surface and rock chips with Au (g/t).



Assay results from rock chips sampled over the breccia and stockwork zones suggest that significant leaching is highly likely at surface. In contrast, an extensive, narrow (~1m wide) quartz vein intersecting the north-west margin of the stockwork zone shows up to 3 g/t Au, 0.13 % Cu and 2.1 % Pb and 128 g/t Ag in rock chips (Figure 3).

A six line dipole-dipole IP survey was conducted over the Telegraph Hill area. The data was inverted and modelled in 3D by Steve Collins of Arctan Services. The resulting model reveals a zone of strong IP chargeability that appears to overlie a deeply buried magnetic intrusive body. This zone is likely to be associated with broad sulphide mineralisation. In the areas surrounding this IP high are linear resistivity highs that are prospective for vein-hosted mineralisation, as observed at surface.

Also shown on Figure 3 are elevated rock chip values for Au (up to 7.4 g/t) to the west of Telegraph Hill. This area is known as The Castle (see location on Figure 1), and will be subject to further mapping, soil sampling and a dipole-dipole IP survey.

#### Kidman Prospect (including Tom's Vein and Telford's)

The Kidman Prospect (which includes Tom's Vein and Telford's) is located in the centre of the project area (Figure 1). Smaller surveys were originally conducted separately over Tom's Vein and Telford's, but these have now been joined and re-named the Kidman Prospect. Tom's Vein and Telford's appear to be linked along a major structure (Figure 4).

Extensions to the existing dipole-dipole IP surveys were completed in the Kidman Prospect area, extending the Tom's Vein survey to the east and west (Figure 4). The extended survey now comprises a total of 15 lines or 230 hectares of coverage. The survey was undertaken as single 2D lines by the Company and the data was then inverted and modelled in 3D by Steve Collins of Arctan Services. The aim of the survey was to define extensions of the mineralised vein system within the host sandstones, and the possible location of the vein system within the adjacent graphitic shale.



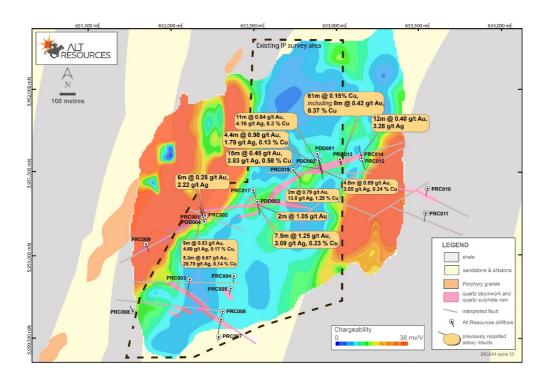


Figure 4. Extended IP chargeability model at 100m below surface (820m RL) over mapped geology. The extent of the original IP survey is shown by the dashed black line. Drill hole locations are also shown for the Tom's Vein and Telford's areas

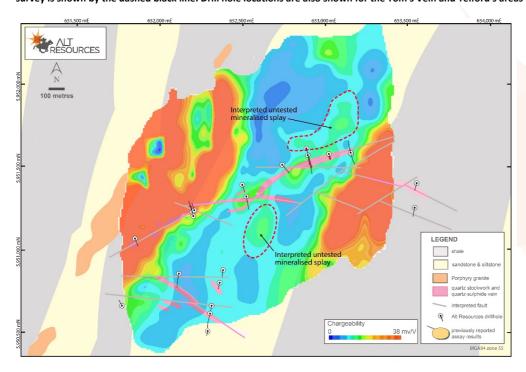
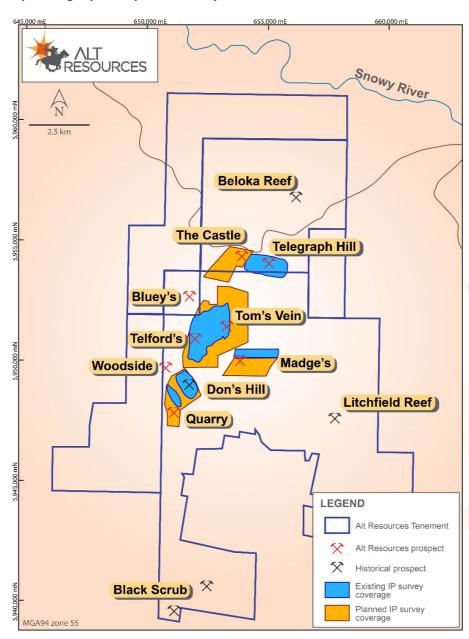


Figure 5. IP chargeability model at 820m RL (as in Figure 4) over mapped geology, with new areas of potentially mineralised structures outlined by the dashed red line



Modelling of the chargeability data from the extended survey supports the geological interpretation from the 2015 drilling program. The extended survey also demonstrates the potential strike length of the system as well as a number of possible splays and parallel structures which have not yet been drill tested (Figure 5).

## **Upcoming Dipole-Dipole IP surveys**



 $\label{location} \textbf{Figure 6. Location of existing and planned dipole-dipole IP surveys at the Paupong Project. }$ 



To continue the advancement of greenfields prospects through to drill-ready targets, the Company is committed to ongoing exploration throughout the Project area. In particular, detailed dipole-dipole IP surveys will be carried out in areas identified as prospective through rock chip sampling, soil sampling and mapping. These include The Castle, a north and south extension to the Kidman survey as well as extensions to the Don's Hill survey to include The Quarry. Figure 6 shows the location of these surveys. As the Company owns its own IP equipment, this proven exploration method is both cheap and efficient to perform in the Paupong area.

The Company will provide the interpretation of the Magnetic and Radiometric datasets once completed by Arctan Services.

#### **COMPETENT PERSON'S STATEMENT**

Information in this report that relates to Exploration Activities is based on information compiled by Dr H. Degeling, a Competent Person and a Member of the Australian Institute of Mining and Metallurgy (AusIMM). Dr Degeling is employed by the Company as Exploration Manager and holds securities in the Company. Dr Degeling has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken 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 (JORC Code, 2012). Dr Degeling consents to inclusion of the information in this document in the form and context in which it appears.



# JORC Code, 2012 Edition – Table 1 report template

# Section 1 Sampling Techniques and Data

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul> <li>Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>In cases where 'industry standard' work 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>	carried out by Alt Resources Ltd on its Paupong Joint Venture in Southern NSW  Results reported in this release are from Induced Polarisation (IP) geophysical surveys conducted over the Telegraph Hill and Kidman prospects within the Paupong Project in NSW. The IP survey was conducted by Alt Resources staff using equipment owned by the JV partner GFM Exploration. The oversight of the survey and auditing of data was performed by Thomas Klein, an experienced geophysicist who is employed by Alt Resources.  The geophysical survey type is Induced Polarisation (IP) and the layout of the survey (termed the "array type") is termed Dipole-Dipole with a 50m receiver dipole size and 50m transmitter dipole size. The transmitter dipole was moved at 50m intervals, achieving a 50m station spacing.  Lines were oriented north-south for the Kidman survey, and on an angle of 100 degrees (from grid north) for the Telegraph Hill survey. In each case, the



		sections below
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).	Not applicable
Drill sample recovery	<ul> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>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.</li> </ul>	Not applicable
Logging	<ul> <li>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.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	Not applicable
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> <li>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li> <li>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.</li> <li>Whether sample sizes are</li> </ul>	Not applicable



	appropriate to the grain size of the	
assay data and laboratory tests	<ul> <li>appropriate to the grain size of the material being sampled.</li> <li>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> <li>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.</li> <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>	<ul> <li>The Induced Polarisation (IP) survey method is commonly used to determine the location of disseminated sulphides. An external current is applied and charge separation can occur on sulphide grain boundaries. When the transmitter is turned off the charges decay away. The degree to which this current forms and the nature of its decay once the primary current is switched off, can be measured. Rock masses containing disseminated sulphide minerals, including pyrite, chalcopyrite, arsenopyrite and galena, become more readily charged than barren ground. The geophysical method used by Alt Resources is entirely appropriate to the style of mineralisation being sought.</li> <li>Diamond drill samples will be shipped to ALS Brisbane for sample preparation and assay</li> <li>No samples have yet been collected during the current drilling program.</li> </ul>
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> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>	All data was reviewed Steve Collins at ArcTan Services following survey completion and initial data QC by the Alt Resources geophysicist.
Location of data points	<ul> <li>Accuracy and quality of surveys used to locate drill holes (collar and downhole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</li> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	<ul> <li>Transmitter and receiver electrode positions are located by hand held GPS to an accuracy of around 3m.</li> <li>Rock chip sample locations are surveyed by hand held GPS to an accuracy of around 3m.</li> <li>Coordinates are MGA Zone 55 (GDA94)</li> <li>Elevation for transmitter and receiver electrode positions for the IP surveys are sourced from the Shuttle Radar Topography Mission (SRTM)</li> <li>Elevation for rock chip sample locations is from a digital terrain map (DTM) derived from a high resolution aeromagnetic and</li> </ul>



		radiometric survey flown over the Paupong Project by Alt Resources in January 2016. The DTM is accurate to 5% or 1.5m, whichever is greater.
Data spacing and distribution	<ul> <li>Data spacing for reporting of Exploration Results.</li> <li>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.</li> <li>Whether sample compositing has been applied.</li> </ul>	moved at 50m intervals, achieving a 50m station spacing. The survey lines for the Kidman survey are oriented north-south. The survey lines for the Telegraph Hill survey are oriented at 100° (from grid north). The survey lines in both cases are
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 kemineralised structures is considered to have introduced a sampling biase this should be assessed and reported if material.</li> </ul>	Kidman and Telegraph Hill surveys is oriented perpendicular to the key geological, structural and interpreted mineralisation trends in the area.  No bias is believed to be introduced by this sampling method.  Surface sampling of rock outcrops is biased towards harder, topographically
Sample security	The measures taken to ensure sample security.	<ul> <li>All data was reviewed and stored by the Alt Resources geophysicist in the Company's secure Jindabyne office. Data was reviewed daily for quality and accuracy.</li> <li>After collection, rock chip samples are placed in calico bags, and stored in the company's locked premises in Jindabyne, prior to shipping by commercial courier to ALS Brisbane laboratory in sealed cartons for sample preparation</li> </ul>
Audits or reviews	The results of any audits or review of sampling techniques and data.	<ul> <li>IP survey data was collected and reviewed by the Alt Resources geophysicist, and then reviewed by Steve Collins of ArcTan Services.</li> <li>No major issues with data quality have arisen during the program.</li> <li>For rock chip sampling, no external reviews of the sampling techniques and data have been undertaken</li> </ul>



# **Section 2 Reporting of Exploration Results**

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	<ul> <li>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.</li> <li>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.</li> </ul>	<ul> <li>The information in this release relates to EL7825 and EL8266, which are 30% held by GFM Exploration Pty Ltd and 70% by Alt Resources Ltd.</li> <li>Entry agreements are in place with all landowners covering land subject to exploration described in this report.</li> <li>There are no existing impediments to EL7825 or EL8266.</li> </ul>
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	<ul> <li>The gold mineralised quartz vein system covered in this release is effectively a new discovery with no previous detailed exploration. The area was previously covered by reconnaissance stream geochemical surveys by Epoch Minerals (1972) and BHP minerals (1973-4)</li> <li>The BHP survey specifically targeted porphyry copper deposits. Neither company assayed the drainage samples for gold, but both company surveys recorded base metal anomalies draining the current prospect area. The anomalies reported by both Companies were not followed up by either however workers from Epoch Minerals recommended follow up work to be undertaken in the Beloka creek area.</li> </ul>
Geology	Deposit type, geological setting and style of mineralisation.	<ul> <li>The current exploration target at Paupong comprises a newly discovered set of large multiphase gold-bearing quartz-sulphide quartz veins and vein breccias occurring within a north trending sequence of low grade metamorphosed shale, siltstone and sandstone sediments of Ordovician age. Petrographic study indicates the veins are of relatively low temperature epithermal vein character, and they clearly post-date the main structural deformations within the host sediments.</li> <li>Numerous gold bearing veins have so far</li> </ul>



		been sampled over an area of more than 8km north-south by 4 km east-west.  • Gold grades are accompanied by high levels of Arsenic and also by strongly anomalous Bi, Mo, and locally Pb, Zn and Cu. These mineral assemblages are compatible (but not diagnostically) with a magmatic source for the mineralisation, but any relationship with intrusive rocks inferred from magnetic surveys to underlie the area is yet to be established.
Drill hole Information	<ul> <li>A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:         <ul> <li>easting and northing of the drill hole collar</li> <li>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> <li>dip and azimuth of the hole</li> <li>down hole length and interception depth</li> <li>hole length.</li> </ul> </li> <li>If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.</li> </ul>	Not applicable
Data aggregation methods	<ul> <li>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.</li> <li>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.</li> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	Not applicable.



Relationship between mineralis- ation 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>	
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>	See Figures 3 to 5 of this release
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>	The processed IP data is represented in this release as horizontal sections (Figures 3 to 5)  The horizontal sections illustrate the modelled chargeability of the rock volume which they enclose. Resistivity data is routinely collected when conducting an IP survey of this type, but is not represented in this release.
Other substantive	Other exploration data, if meaningful and material, should be reported	No significant exploration data have been omitted.
exploration data	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.	
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>	As outlined in this release, additional IP surveys are planned to extend some existing surveys, and generate information in new prospective areas. These surveys will be used as a drill targeting tool for future drilling programs.