

Adelaide Resources Limited ABN: 75 061 503 375

#### **Corporate details:**

ASX Code: ADN Cash: \$0.713 million Issued Capital: 304,545,685 ordinary shares 37,222,104 listed options (ADNO) 750,000 performance rights

#### Directors:

Colin G Jackson Non-executive Chairman

Chris Drown Managing Director

Nick Harding Executive Director and Company Secretary

Jonathan Buckley Non-executive Director

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#### Fact:

The first recorded discovery of epithermal style gold in the Drummond Basin was at Mt Coolan in 1913. The Scott Lode at Pajingo was discovered in 1984.



# ASX announcement

29 September 2015

# Drummond epithermal gold project

(100% owned), Queensland

### Bunyip – a new epithermal gold target.

### Summary

- On-ground prospecting, rock chip sampling and FPXRF soil geochemistry has defined a new epithermal gold target, named Bunyip, on the Drummond tenements in Queensland.
- Quartz veins at Bunyip displaying typical epithermal textures extend for over 800 metres of strike and reach widths in excess of five metres.
- Rock chip samples record anomalous levels of gold with individual assays including 5.16g/t, 0.23g/t, 0.23g/t and 0.12g/t gold. Epithermal pathfinder metals are enriched with arsenic to 330ppm and molybdenum to 70ppm.
- First pass FPXRF soil geochemistry over Bunyip has defined large, high magnitude arsenic and molybdenum anomalies.
- A number of siliceous sinters have been located in the sediments that lie stratigraphically above the veins, and may record the palaeo land surface during the epithermal event.
- Reconstruction of the palaeo land surface, the presence of shallow level pathfinder metals like arsenic, and the vein textures are consistent with the main gold zone target at Bunyip remaining preserved at depth.
- Further detailed surface exploration to ready Bunyip for drill testing will now be undertaken.

Chris Drown Managing Director

Direct enquiries to Chris Drown. Ph (08) 8271 0600 or 0427 770 653.

### Introduction

Adelaide Resources holds two tenements that cover 270 square kilometres of ground in the Drummond Basin in Queensland (Figure 1). The Drummond Basin is prospective for high grade epithermal gold deposits exemplified by the Pajingo Field which, to date, has produced over 3 million ounces of gold.

The Company is currently completing its first drilling on the tenements, with a diamond drilling programme underway at the South West Limey Dam prospect.

Additionally, the exploration team has been completing low cost surface exploration with the goal of defining a pipeline of additional gold prospects for future exploratory drill testing.

Surface exploration on EPM 25660, a second Drummond tenement that was granted on 26 May 2015, has delineated a new prospect named Bunyip.

### **Past exploration**

Historical exploration completed by a previous explorer on the area now held by EPM 25660 included stream sediment sampling and surface rock chip sampling.

This work located quartz veins which returned anomalous gold and arsenic in rock chip samples. No follow-up exploration is recorded, possibly due to the fact that the veins were located about 150 metres outside the previous explorer's exploration permit boundary.

### **Recent exploration**

The Company's exploration team relocated the quartz veins at Bunyip with the goal of determining if they are of the target epithermal style, and to collect further data to assess if they represent a target warranting drilling.

Work completed by the Company has included prospecting and geological mapping, rock chip sampling and assaying, and completion of FPXRF soil geochemistry to define pathfinder metal anomalies.

### Prospect geology and rock chip results

Figure 2 presents a summary plan of the Bunyip area. The main quartz veins strike north-south to northwest-southeast. The veins are extensive, persisting for over 800 metres along strike. Vein widths vary and in places exceed five metres.

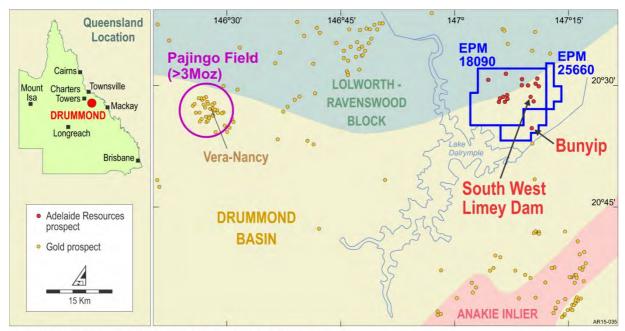


Figure 1: Drummond Epithermal Gold Project location plan.

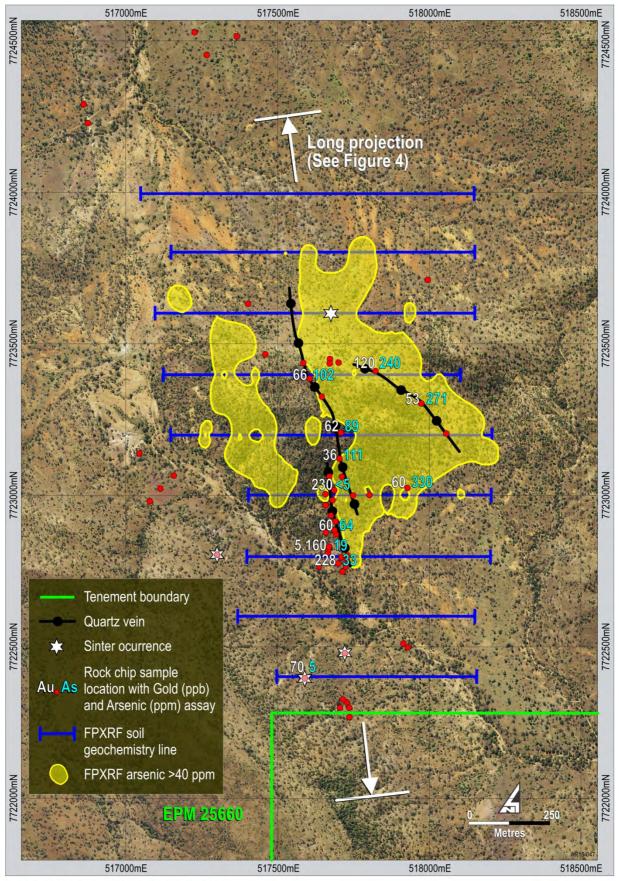


Figure 2: Bunyip Prospect summary plan.



Plate 1: Large blocky quartz vein outcrop at Bunyip viewed from the air.

The dimension of the veins is evident from the air (Plate 1). Textures observed in the veins include bladed textures (Figure 2a), chalcedonic silica (Figure 2b), and colloform banding (Plate 2c).

The veins are hosted by a sequence of volcanoclastic sediments that dip gently to the southwest. To the east of the main north-south veins, the host sediments have been partially altered to ferruginous clay, likely sulphidic prior to weathering.

A small body of brecciated rhyolite occurs along part of the main vein, and appears to have intruded along one of the principal epithermal fissure structures.

Beds of siliceous sinter have been located generally to the southwest of the vein outcrops. Sinters form as surface deposits around volcanic hot springs in epithermal systems, and their occurrence indicates the palaeo land surface during the epithermal event.

A suite of 27 rock chip samples have been collected from the veins and their host rocks and assayed for gold and a range of other elements.



Plate 2a: Bladed silica likely replacing earlier carbonate. Sample assays 10ppb gold, 60ppm arsenic and <1ppm molybdenum. Photo approx. 15cm wide.



Plate 2b: Very fine grained chalcedonic or agate silica. Sample assays 60ppb gold, 64ppm arsenic and 70ppm molybdenum. Photo approx. 15cm wide.



Plate 2c: Colloform banded textures. Pink bands are possibly adularia. Sample assays 230ppb gold, <5ppm arsenic and <1ppm molybdenum. Photo approx. 15cm wide.

The locations of the recent rock chip samples, together with historical samples collected by the previous explorer, are shown on Figure 2. Assays confirm that the Bunyip veins contain anomalous gold. An historical sample recorded 5.16g/t gold, and is supported by other anomalous samples, including recently collected samples, that range up to 0.23g/t gold.

Arsenic and molybdenum, both epithermal pathfinder metals, are also present at anomalous levels. Arsenic ranges up to 330ppm, and molybdenum to 70ppm.

### FPXRF soil geochemistry survey

A first pass Field Portable X-Ray Fluorescence (FPXRF) soil geochemical survey has been completed to map pathfinder metal anomalism at Bunyip. Readings were made at 25 metre intervals along nine, east-west oriented lines spaced 200 metres apart, with the line locations shown on Figure 2.

The survey has delineated significant soil geochemical anomalies in both arsenic and molybdenum. Contour maps of the soil anomalies are shown in Figure 3.

The size and magnitude of the arsenic anomaly at Bunyip is comparable to the arsenic anomaly that defines the southern part of the South West Limey Dam prospect, while the Bunyip molybdenum anomalism exceeds that observed at South West Limey Dam.

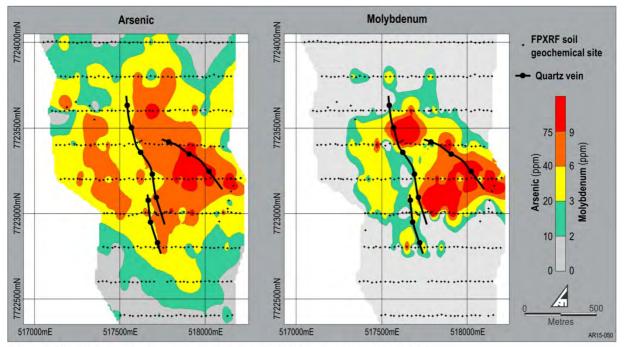


Figure 3: Bunyip prospect FPXRF arsenic and molybdenum soil geochemistry.

### Interpretation of results

The sinter beds and the sediments which host the Bunyip veins have been weakly folded and now dip shallowly to the southwest at about 25 degrees.

Assuming that the host sediments were originally deposited as flat lying units, and that the sinters mark the palaeo land surface during the epithermal vein forming event, it is possible to estimate the position of the palaeo land surface and of the hot springs above the fissures where the veins were forming, and hence determine how much of the vein system has been stripped by erosion.

This has been attempted for a profile along the veins, with the profile location shown on Figure 2. The long projection is shown in Figure 4 which also shows the present day land surface and the position of the sinter and the vein outcrops.

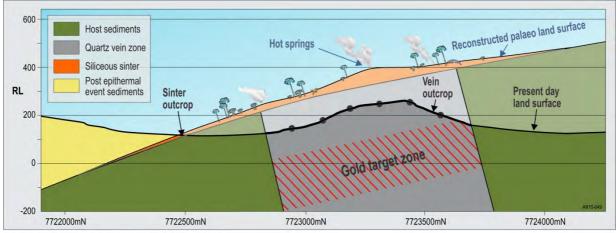


Figure 4: Bunyip prospect long projection.

The reconstruction suggests that only approximately the top 100-150 metres of the vein system has been eroded over most of its extent.

Figure 5 shows a general model of an epithermal system. At Bunyip, the shallow interpreted vein system erosion depth, the high arsenic pathfinder metal soil geochemistry, and the high level textures observed in the quartz veins are all consistent with the target gold zone remaining preserved at depth (Figure 4).

#### Future programme

Further low-cost surface exploration, including infill FPXRF soil geochemistry, geological mapping and additional rock chip sampling, is now planned to provide greater detail leading to the design of an exploration drill programme at Bunyip.

The Company will also seek the various authorisations, including an aboriginal work area clearance, which are required before drilling can be undertaken.

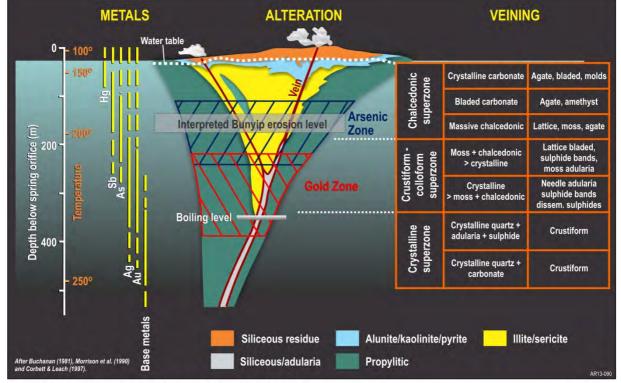


Figure 5: Geological model of an epithermal gold system.

#### Competent Person Statement and JORC 2012 notes

The information in this report that relates to Exploration Targets, Exploration Results, Mineral Resources or Ore Reserves is based on information compiled by Chris Drown, a Competent Person, who is a Member of The Australasian Institute of Mining and Metallurgy. Mr Drown is employed by Drown Geological Services Pty Ltd and consults to the Company on a full time basis. Mr Drown has sufficient experience that is 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'. Mr Drown consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

# 1 JORC CODE, 2012 EDITION – TABLE 1

## 1.1 Section 1 Sampling Techniques and Data

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

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 hand held 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>	<ul> <li>Rock chip samples were collected on an opportunistic basis from outcropping veins displaying epithermal textures and from the vein host rocks.</li> <li>By their nature rock chip samples are not considered to be samples of high representivity.</li> <li>Innov-X FPXRF (Olympus) analyser used to obtain surficial <i>in situ</i> soil analysis.</li> <li>No sample preparation of the soils was completed for <i>in situ</i> analysis.</li> <li>Instrument calibration completed on on-going basis during survey using standardisation discs.</li> </ul>
Drilling Techniques	• Drill type (air 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 orientated and if so, by what method, etc).	• No drilling results are included in the report.
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 sample.</li> <li>Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of coarse/fine material.</li> </ul>	• No drilling results are included in the report.
Logging	• Whether core and chip samples have been	• No drilling results are included

	<ul> <li>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>	in the report.
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 subsampling stages to maximise representativity 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 appropriate to the grain size of the material being sampled.</li> </ul>	<ul> <li>No sample preparation was completed on the rock chips other than crushing and pulverising by the analytical laboratory, which is the standard preparation used for rock chip samples.</li> <li>A portion of each sample has been retained as a geological record and for photographic purposes.</li> <li>The sample sizes are considered appropriate for epithermal gold which is present as very fine (micron sized) grains.</li> <li>In respect the FPXRF soils, no sample preparation was completed. Tests were conducted on <i>in-situ</i> soil material.</li> <li>Duplicate analyses indicate acceptable analytical accuracy for FPXRF samples.</li> <li>Sample points were predetermined and located using a GPS with an accuracy of +/- 15 metres.</li> </ul>
Quality of assay data and laboratory tests	<ul> <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 mode, reading times, calibration factors applied and their derivation, etc.</li> <li>Nature and 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>Rock chips were assayed in a commercial lab using standard methods.</li> <li>Gold was determined by fire assay with AAS finish utilising a 30gm charge weight.</li> <li>Other metals were determined using four-acid digest with ICP-AES finish.</li> <li>Company and laboratory QA/QC samples were introduced into the rock chip assay stream.</li> <li>With respect the soil samples, XRF is a total analytical technique appropriate for arsenic as natural soil concentrations are above the lower detection limit of the instrument.</li> <li>Olympus Innov-X 4000 with reading times set at 45 seconds.</li> </ul>

		<ul> <li>QAQC data includes standards, blanks and duplicates introduced at a ratio of 1 QAQC sample for every 40 survey samples.</li> <li>No calibration factors have been applied to results reported.</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 or electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>	<ul> <li>No drilling results are included in the report.</li> <li>No assay results have been adjusted.</li> </ul>
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> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	<ul> <li>FPXRF sample location points collected using a Trimble Juno 3D GPS with autonomous accuracy of +/- 5 meters.</li> <li>Rock chip sample points were collected using a GPS with an accuracy of +/- 5 metres.</li> <li>GDA94 (Zone 55)</li> </ul>
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 classification applied.</li> <li>Whether sample compositing has been applied.</li> </ul>	<ul> <li>Soil samples were collected at a spacing of 25 metres along traverses spaced 200 metres apart. The data spacing is sufficient to define coherent soil anomalies.</li> <li>The rock chip samples were collected on an opportunistic basis. The data is not appropriate for use in estimating a Mineral Resource and is not intended for such use.</li> </ul>
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 rock chip samples were collected on an opportunistic basis and it is unknown if this results in biased or unbiased sampling.</li> <li>Soil sample lines oriented eastwest across a vein system that strikes north-south. Line and sample spacing are adequate to define sizable geochemical anomalies.</li> </ul>
Sample security	• The measures taken to ensure sample security.	• The rock chip samples were collected by the Managing Director, then packaged and delivered to the laboratory by a consultant engaged by the company.
Audits or reviews	• The results of any audits or reviews of sampling techniques and data	• Trails completed in 2013 at the South West Limey Dam prospect confirmed the FPXRF method capable of defining arsenic soil anomalies with a high degree of confidence.

# **1.2 Section 2 Reporting of Exploration Results**

(Criteria listed in the preceding section may apply to this section)

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	<ul> <li>Type, reference name/number, location and ownership including agreements of material issues with third parties such as joint ventures, overriding royalties, native titles 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 license to operate in the area.</li> </ul>	<ul> <li>The area the subject of this report falls within EPM 25660, which is 100% owned by Adelaide Exploration Pty Ltd, a wholly owned subsidiary of Adelaide Resources Limited.</li> <li>There are no third party agreements, non govt royalties, or historical sites known. Underlying land title is Pastoral leasehold. The tenement area is covered by a Native Title claim and an Exploration Agreement has been executed with the Native Title Claimants.</li> <li>EPM 25660 is in good standing.</li> </ul>
Exploration done by other parties	• Acknowledgement and appraisal of exploration by other parties.	• The general area the subject of this report has been explored in the past by ACM Minerals. The Company has reviewed past exploration data generated by these companies.
Geology	• Deposit type, geological setting and style of mineralisation.	• Deposits in the general region are considered to be of low sulphidation epithermal vein style.
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 collar</li> <li>Elevation or RL (Reduced Level – elevation above sea level in meters) of the drill 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 axis 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>	• The report does not include drilling results.
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 some detail.</li> </ul>	• The report does not include drilling results.

Relationship between mineralisati on widths and intercept lengths	<ul> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> <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>	• The report does not include drilling results.
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 maps are included as Figures 1 to 5 in the report.
Balanced Reporting	• Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	• Soil contours in Figure 3 generated from all data.
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, ground water, geotechnical and rock characteristics; potential deleterious or contaminating substances.	• Historic rock chip sample results are discussed and shown on Figure 2.
Further work	<ul> <li>The nature and scale of planned further work (eg tests of 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>	• The report advises that the company is planning to complete further follow-up ground exploration leading to drill testing at the Bunyip prospect.