



**CASSINI**  
RESOURCES LIMITED

ABN: 50 149 789 337

## ASX Announcement & Media Release

21 September 2012

Gold focused exploration  
company

Excellent project locations

- historical gold mining districts
- highly prospective

Focused strategy

- Targeting large-scale gold deposits
- Nevada Projects provide potential for near term exploration success
- Excellent in-country support

JV partner with excellent  
discovery track record

Active in new project  
generation

### Capital Structure\*

Shares on Issue 34,550,001  
Shares Trading 20,749,999  
Market Cap \$3.45M\*

\*As at 19/9/2012

Unlisted Options 8,000,000  
(20 cents, 30 June 2015)

### Directors

**Mike Young**

Non Exec Chairman

**Richard Bevan**

Managing Director

**David Johnson**

Executive Director - Exploration

**Greg Miles**

Non Exec Director

**Phil Warren**

Non Exec Director

**Steven Wood**

## Exploration and Company Update

Australian gold exploration company, Cassini Resources Limited (ASX: CZI) (“Cassini” or “the Company”), announces the results of the recent exploration activity undertaken on its Nevada (USA) projects and provides an update on the strategy going forwards.

- Encouraging soil and rock sampling results from Leonid Project progress Carlin-style model. Further geochemical surveys will define priority drill targets.
- Initial trenching and drilling program imminent to test known mineralised zones at Goldstar Project.
- Pasco Canyon Project drilling results.

## Update on Exploration Activity

### Leonid Project (Elko and Eureka County)

- Carlin-style prospect located at the southern end of the prolific Carlin Trend. Set in similar stratigraphy to the Rain (+6Moz) and Railroad (2Moz) deposits.
- Cassini is verifying the geological model and identifying priority drill targets.
- An additional 80 claims staked by Cassini along the prospective structure have extended the strike length by 3.7km to 11km.
- Recent sampling program confirmed anomalous concentrations of pathfinder elements commonly found in Carlin-style mineralised systems.
- RC drill program likely to commence, late calendar 2012.

### In Detail

Results have recently been received from a preliminary soil and rock sampling program conducted at the Leonid Project during July 2012.

The sampling program targeted narrow north-trending fault structures with abundant *jasperoid silicification* and *brecciation*, which are indicators of hydrothermal fluid circulation. These mineralising fluids may intersect favourable structures and therefore possibly host gold mineralisation at depth which is consistent with the geological model Cassini is using to target drilling.

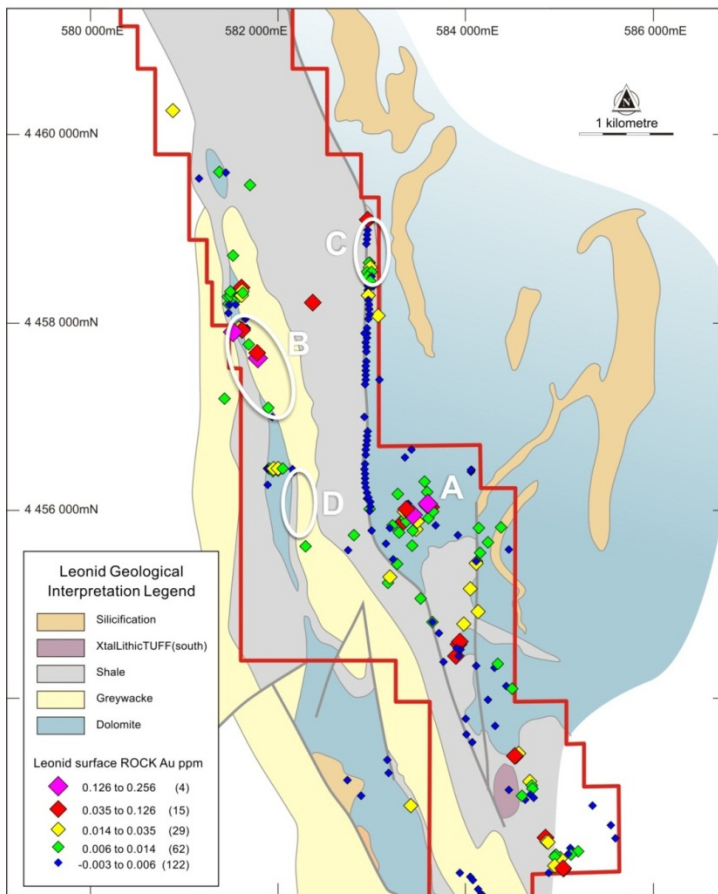


The sampling procedure involved collecting soil and/or rock samples on the surface trace, footwall and hanging wall of the silicified structures. The narrow linear focus of the soil and rock sampling survey was designed to detect anomalies indicative of potential mineralising fluids at depth along these structures.

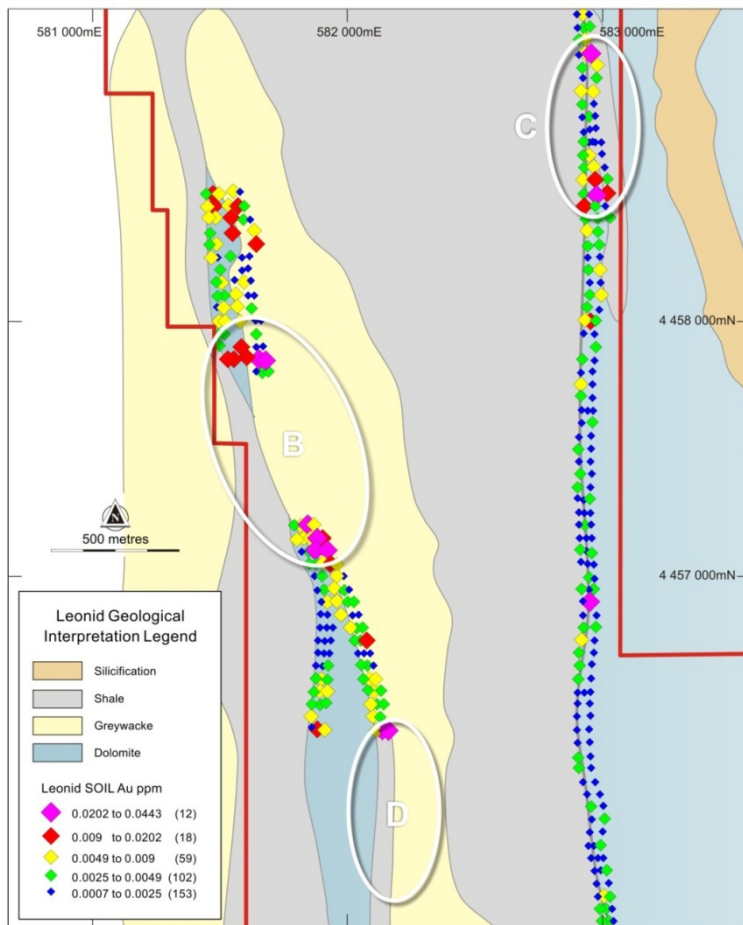
The results of the sampling are encouraging. Several zones (areas 'A' – 'D' in Figures 1&2) with multiple anomalous pathfinder elements occur along the targeted structures. Especially interesting elements include anomalous arsenic, antimony and thallium, locally occurring with gold (Figure 1).

These elements commonly occur in Carlin-style mineralised systems. Silver and zinc anomalies also occur along the sampled structures.

A detailed grid soil sampling program is being planned to further define pathfinder element geochemistry of each individual area indicated by the preliminary survey, which will assist in defining targets for maiden a drill program, potentially scheduled for late calendar 2012.



**Figure 1: Leonid Project Au rock chip assay data over interpreted geology.**



**Figure 2: Leonid Project Au soil assay data over interpreted geology.**

Areas marked B and D will be sampled in the next phase of surface geochemical work.

### Goldstar Project (Pershing County)

- High grade gold (19g/t) already identified at surface.
- Numerous high grade veins historically mined with no modern day drilling.
- Strategy is to define extent of known mineralisation.
- Limited trenching and RC drilling program will test extent of mineralisation at known targets scheduled for late September 2012.
- If results are supportive, test deeper targets under existing workings.


#### In Detail

Geological mapping and sampling was undertaken to identify new targets within the Goldstar Project. This will be followed by further trenching to develop these prior to drilling.

A small program of reverse circulation drilling and trenching is planned to commence at Goldstar Project in late September 2012 to test targets down-dip and along strike from the historic Morning Star workings.

### Pasco Canyon Project (Nye County)

- Targeting high grade veins (>4g/t).
- Identified as initial project to be drilled by Cassini due to access and permitting.

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- Drilling intended to test a simple model.
  - Drilling results reviewed and decision made that it does not warrant further exploration.
  - Cassini will formally relinquish JV in near future.
  - Reduces expenditure commitment by \$650k over next 3 years.
  - Funds to be redeployed to other targeted drill programs.

### In Detail

Two HQ diameter diamond drill holes DDPC0001 (446.5 m TD) and DDPC0002 (379.8 m TD) were drilled to test down-dip extensions of outcropping veins and breccia containing anomalous but low-level gold (up to 43 ppb) and pathfinder elements.

The holes intersected tuffs with *argillic* and *chloritic* alteration and sparse zones of *silicification* and *chalcidonic* veining. The bladed quartz-after-calcite vein textures seen in outcrop were absent in the drill holes. Sampling of the veins and silicified tuff yielded assays up to 17 ppb Au in DDPC0001, and up to 25 ppb Au in DDPC0002.

These results were reviewed and a decision was made to cease further exploration activity on the project and focus resources on the company's remaining assets. Cassini has fulfilled its obligations under the joint venture (JV) agreement and no further expenditure is required.

### Nevada Summary

Cassini has undertaken a significant amount of exploration activity during the past three months in order to assess and progress the Nevada projects and take advantage of the favourable exploration season. The company will have met its full-year expenditure requirements under the terms of the JV with Renaissance Gold Inc. (RenGold) by the end of the September quarter.

The minimum exploration expenditure requirement under the JV agreements on the remaining projects will be in the order of US\$350,000 to be expended by February 2014.

### Company Update

- **Rationalisation of non-core projects**

Cassini has reviewed its current portfolio of projects and has commenced rationalising projects that it considers non-core to its future strategy.

In addition to the Pasco Canyon Project, the company has withdrawn exploration licence applications over the Southern tenement package at the West Musgrave in Western Australia.

This will allow the company to focus its resources on progressing key projects.

- **Identification of advanced exploration projects**

The company is actively looking to add more advanced gold exploration projects in the western USA and surrounds to its portfolio. This is being done through Cassini's current JV partner and existing relationships held by the board and management.

- **Focus on Exploration Expenditure to deliver results**

In support of the company's strategy, management is focused on exploration-only expenditure and careful management of costs to deliver maximum return on investment.

Further information:

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## Quick facts about gold in Nevada

- In 2010, Nevada produced 5.3Moz of Au; this represented 73% of US and 7% of global gold production.
- Nevada is known as “Elephant County” with seven +20Moz gold deposits
- Significant recent discoveries being made, despite 150 years of exploration. (Long Canyon, Railroad, South Carlin, Spring Valley)
- The “majors” are on the ground. Barrick & Newmont have invested +US\$6b and growing
- Exploration and mining friendly jurisdiction (+20 major gold/silver mines).
- Good local infrastructure, with high level of exploration and mining expertise and knowledge.

## About Cassini

Cassini Resources Limited (ASX: CZI) is an Australian resource exploration company that successfully listed on the ASX in January 2012 with an asset package of prospective tenements and applications in Western Australia. In May 2012, Cassini added three gold exploration projects in Nevada, USA, via Joint Venture agreements with Renaissance Gold Inc. (TSX:REN).

Cassini is a gold focussed explorer with projects in Nevada (USA) and Western Australia. The Nevada projects represent a near term opportunity for exploration success in one of the world’s pre-eminent mining jurisdictions. Nevada has a recent history of multi-million ounce discoveries despite a mining history of over 150 years.

The Western Australian projects are located in the mining district at Forrestania, and the highly regarded Musgrave region, with limited previous exploration and potentially higher reward.

Cassini aims to explore and progress its key projects, and to identify additional projects that are commercially attractive with the aim to increase shareholder value.

## Competent Persons Statement

The information in this report that relates to Exploration Results and Mineral Resources is based on information compiled by Mr David Johnson, who is an employee of the company. Mr Johnson is a Member of the Australian Institute of Geoscientists and has sufficient experience of relevance to the styles of mineralisation and the types of deposits under consideration, and to the activities undertaken, to qualify as a Competent Person as defined in the 2004 Edition of the Joint Ore Reserves Committee (JORC) Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Johnson consents to the inclusion in this report of the matters based on information in the form and context in which it appears.

Exploration results are based on standard industry practices, including sampling, assay methods, and appropriate quality assurance quality control (QAQC) measures. Core samples are taken as half NQ core or quarter HQ core and sampled to geological boundaries where appropriate. In the case of reconnaissance core, RAB, AC, RC or rock chip samples, gold assays are based on fire assay digest and Atomic Absorption Spectrometry (AAS) finish, and multi-element assays are based on a four acid digest with Inductively Coupled Plasma Mass Spectrometry (ICP-MS) finish, with mercury determined by Cold Vapour with AAS finish. For soil samples, gold assays are based on an aqua regia digest with inductively coupled plasma mass spectrometry (ICP-MS) finish. Sample preparation and analysis is undertaken at ALS Minerals laboratories in Reno and Winnemucca, Nevada.

The quality of analytical results is monitored by the use of internal laboratory procedures together with certified standards, duplicates and blanks and statistical analysis where appropriate to ensure that results are representative and within acceptable ranges of accuracy and precision. Exploration results obtained by other companies and quoted by Cassini Resources Ltd have not necessarily been obtained using the same methods or subjected to the same QAQC protocols. These results may not have been independently verified because original samples and/or data may no longer be available.