

Quarterly Activities Report

Period Ending 31 December 2008

Overview

Atom Energy Limited (ASX: AXY, 'Atom Energy') advanced exploration on its Gaylad Creek project near Alice Springs and conducted further evaluation of the Cleo's uranium resource in the Pine Creek area during the quarter.

Corporate and management changes were implemented following the Annual General Meeting of Shareholders in November which included re-structuring of the Board and relocation of operational and administration functions from Alice Springs to Perth.

Highlights include:

Exploration

- Diamond drilling at Cleo's Uranium Project (EL24549) to the south east of Darwin in the Northern Territory to test depth extensions to the uranium mineralisation at the Twin resource area confirmed depth continuity of the prospective sedimentary units but failed to intersect significant mineralisation.
- Ground geophysical surveys conducted at Gaylad Creek (EL25249), east of Alice Springs to define mafic-ultramafic targets potentially hosting Cu and Ni mineralisation.
- Initial exploration in Utah confirms trace uranium mineralisation in prospective formations at shallow depths.

Corporate

- A restructuring of the board and management of the Company was initiated following the Annual General Meeting in November at which Thomas Cahill retired and Robert Cleaver was not re-elected to the Board. Subsequent resignations of the Chairman, Tony McGill, non-executive director John Bengier and non-executive director, Kjeld Thygessen necessitated the appointment of new directors. The new directors appointed were Chairman, Mr David Steinepreis executive director Mr Bruce Lane and non-executive director Mr Warren Staude.
- The Company also decided to close the Alice Springs office and move all operational and administrative functions to Perth in an effort to reduce costs in light of a review of all projects and expected diminished field exploration activity.

Atom Energy is a uranium exploration company with a portfolio of exploration projects in the Northern Territory of Australia and interests in projects in the Four Corner district in south east Utah, USA.

The Company holds in excess of 10,000km² of wholly owned tenement in the Northern Territory and interests in 218 mineral lode claims in Utah.

The Company's Cleo's Uranium Project located 175km southeast of Darwin within the highly prospective Pine Creek Geosyncline hosts an Inferred JORC compliant resources in the Twin and Dam areas containing 430 tonnes (960,000 lbs) of U₃O₈.

The Company's early stage projects in the Alice Springs and Tennant Creek areas of the Northern Territory cover extensive poorly explored areas with potential for palaeochannel and sediment hosted uranium mineralisation.

Atom, through its wholly owned subsidiary, Mustang Energy Ltd, holds interests in three prospective areas in Utah, USA which host known uranium mineralisation.

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Northern Territory Projects

CLEO'S URANIUM PROJECT

The Cleo's Uranium Project is located 175 kilometres southeast of Darwin and covers 452km² within the prospective Pine Creek Geosyncline. Situated between Kakadu and the Rum Jungle uranium field the project hosts known uranium mineralisation in the **Twin and Dam deposits** which were discovered in the mid 1980's by Total Mining Australia Pty Ltd (Total Mining).

In early 2008, Atom's resource consultants, Coffey Mining Ltd estimated an Inferred Resource at a 100ppm U₃O₈ cut off which has been classified in accordance with the JORC Code of **1,409,000 tonnes grading 304ppm U₃O₈** containing 430 tonnes (960,000 lbs) of U₃O₈.

The resource estimate is limited to a vertical depth of approximately 60m and remains open at depth and on strike.

Previous exploration activity at Cleo's, including extensive drilling during the 1980s by Total Mining demonstrated that mineralisation extends to vertical depths in excess of 120m indicating significant potential to expand the resource with further deeper infill and extension drilling.

Atom completed one diamond drill hole during the September quarter to test the depth continuity of high grade mineralisation at the Twin resource area. TWDDH001 was drilled to a depth of 236m inclined at 75° to the west to test depth continuity of narrow zones of mineralisation. The hole demonstrated continuity of prospective sedimentary units at depth however no significant uranium mineralisation was encountered.

The Company is reviewing further exploration opportunities on this tenement to identify high grade mineralised zones within the existing low grade uranium resource.

NATIVE GAP PROJECT

The Native Gap Project (EL24287) is located 120 kilometres north of Alice Springs and covers an area of 1,582km² over the eastern end of the Ngalia Basin.

On 13th November 2007 Atom announced that the Company had entered into an agreement in principle with NuPower Resources Limited (ASX: NUP) to establish a farm-in and joint venture to advance the exploration of the Native Gap Project. NuPower has conducted airborne electromagnetic surveys over its adjoining Yalyirambi EL project north-west of Native Gap which identified potential palaeo-drainage systems which are prospective for uranium.

Under the terms of the agreement, NuPower would spend a minimum of \$150,000 on an airborne electromagnetic (AEM) survey, water sampling and geological mapping within 12 months of the commencement of the Agreement and may earn 70% equity in the Native Gap project by sole expenditure of \$2 million within five years after commencement.

NuPower water bore and vegetation sampling previously identified anomalously high uranium concentrations (240ppb U) in the water sample from Sheppard Bore in the centre of EL 24287 and gravity and airborne electromagnetic (AEM) surveys have recently been completed over the tenement. Interpretation of the AEM survey is yet to be completed and results correlated with the interpreted palaeochannel system delineated on adjoining tenements and the elevated uranium water sampling results on the EL24287.

GAYLAD CREEK PROJECT

The Gaylad Creek Project (EL24249) consists of one granted exploration licence covering 388km² located 140 kilometres east-southeast of Alice Springs. Gaylad Creek is a grass roots exploration property with potential to host uranium, nickel sulphide and copper-lead-zinc.

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HyVista Corporation flew HyMap hyperspectral imagery over the tenement in March 2008 to facilitate geological mapping and target delineation and a program of field mapping and rock chip sampling was conducted during the quarter to examine mafic and ultramafic intrusives with potential to host copper and nickel sulphide mineralisation.

A ground magnetic survey was completed over reversely polarised magnetic targets to define intrusive contacts. Recent exploration by other companies on adjoining tenements immediately to the north of EL24249 has found Ni-Cu mineralisation along the margins of similar intrusives which are believed to have a reverse polarised magnetic signature.

A total of 79.2 line kilometres of ground magnetics and seven lines of in-loop electromagnetics were completed over the reversely polarised targets which were originally defined from regional magnetic surveys. The ground surveys delineated two highly magnetic reversely polarised parts to the intrusion each measuring 300 x 150m but no significant conductors were detected from preliminary interpretation of the electromagnetic data.

Surface mapping over outcropping intrusives believed to be related to the reversely polarised intrusive identified areas of Cu and sulphide mineralisation to the south and supports the high prospectivity of these mafic-ultramafic bodies.

Final interpretation of all geophysical survey data is proposed to define targets for further evaluation.

OTHER NORTHERN TERRITORY PROJECTS

In addition to the Cleo's, Native Gap and Gaylad Creek tenements, Atom Energy holds nine granted exploration licences and nine licence applications covering 12,160km² predominately in the Alice Springs and Tennant Creek district of the Northern Territory. The tenements are early stage exploration properties covering prospective, but poorly explored ground offering potential for palaeochannel and sandstone hosted uranium mineralisation.

HyVista Corporation flew HyMap hyperspectral imagery over 5,000km² of these tenements in March 2008 to facilitate geological mapping and target delineation. Data processing has been completed and further data interpretation combined with ground reconnaissance, field mapping and previous exploration information is to be completed to aid target definition.

The Company will be reviewing the exploration potential on all Northern Territory projects with a view to rationalising expenditure and operational commitments to conserve and maximise the use of the Company's funds.

Utah Projects

Through the acquisition of Mustang Energy Limited in February 2008, the Company acquired interests in three uranium exploration projects in south east Utah in the United States of America.

The Mustang properties cover 16km² in 218 Federal unpatented lode mining claims in three project areas over the prospective sedimentary units which host uranium and vanadium mineralisation in the Four Corners district of the Colorado Plateau at the junction of the Utah, Arizona, Colorado and New Mexico. The area was a major American producer of vanadium and uranium in the 1940s through to the 60s.

Atom acquired direct interests in the Shootaring Mountain, Maggies and Green Dragon claim areas under staged acquisition agreements with the Utah vendors.

SHOOTARING MOUNTAIN – Atom now holds a 37.5% interest in 107 claims covering 8.1km² adjacent to Denison Mines Corporation's Tony M Mine and Copper Benches uranium deposit. The claim area is underlain by the prospective Salt Wash Member sandstones of the Morrison Formation which host the uranium mineralisation at Tony M and Copper Benches.

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MAGGIES - Atom now holds a 50% interest in the 55 Maggies claims at Bull Mountain covering 4.6km² located 5km south of Hanksville. Salt Wash member sandstones and shales containing uranium mineralisation in carbonaceous sandy clays is exposed in shallow tranches in the centre of the claim area.

GREEN DRAGON - Atom now holds a 50% interest in 56 claims surrounding the historic Green Dragon uranium workings in the Shinarump Conglomerate. High grade uranium mineralisation exposed in the walls of the Green Dragon underground workings occurs in carbonaceous rich layers which may represent continuation of the channel mined in the Tomsich Butt mines located across the canyon to the east.

The Company was initially attracted to the United States because of the country's well established nuclear power industry and favourable regulatory environment and Atom is currently reviewing its opportunities in Utah including options to increase involvement in these projects subject to confirmation of the standing of the claims and a potential re-negotiation of the staged purchase terms.

Corporate Activity

BOARD RESTRUCTURE

As a consequence of the Annual General Meeting of Shareholders on 27th November 2008 Thomas Cahill retired and Robert Cleaver was not re-elected to the Board.

Subsequent to the AGM Tony McGill resigned as chairman, Kjeld Thygessen resigned as a non-executive director and John Bengner resigned as a non-executive director. Tony McGill has now resigned as a director and has ceased to be an executive of the company.

As a consequence of these resignations Mr David Steinepreis was appointed as chairman, Mr Bruce Lane was appointed as executive director and Mr Warren Staude was appointed as non-executive director.

The company has also appointed David Steinepreis and Rosemary Wilson as joint company secretaries.

A brief biography of the three new directors is provided below.

Mr. David Steinepreis – Non Executive Chairman B.Com CA

Mr. Steinepreis is a Chartered Accountant and former partner of an international accounting firm where he specialised in strategic corporate advice and taxation for listed companies. He entered commerce as a director, adviser and major shareholder of a number of listed companies in the gold, nickel, diamonds, oil and new mining technology sectors. Mr Steinepreis is chairman of Ascent Capital. David is a Director of Southern Pacific Petroleum NL, Croesus Mining NL and Black Fire Energy Limited all of which are listed on the ASX; North River Resources plc, Norseman Gold plc which are listed on AIM and Leopard Minerals plc. He has previously been a director of Ascent Resources plc and Uranium Resources plc, companies listed on AIM.

Mr. Warren Staude – Non executive Director BSc, MSc, MAusIMM, F Fin

Mr. Staude is a qualified geologist with over 40 years of professional experience in the mining industry, specializing in resource investment, evaluation and management. Over the last 20 years Mr Staude has been engaged mainly in institutional investment management and research. After completing a Masters degree in mineral economics he joined the AMP Society as a resource analyst and later resource portfolio manager. He then spent 3 years in stock broking, establishing Sydney office investment research departments for 2 separate firms. He then joined GIO as the senior resources portfolio manager in charge of all of GIO's resource investments. After AMP's take-over of GIO in 1999, he took a leading role in establishing a specialist international resource equity investment fund. Mr Staude is an invited

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member of the Joint Ore Reserves Committee (JORC) as the representative of the Securities Institute of Australia and the VALMIN committee as an independent appointee. Prior to joining the investment industry, Mr Staude worked on the academic staff at Macquarie University while he completed a Masters degree in Mineral Economics. Mr Staude is currently a (non-executive) director of ASX listed Central West Gold NL, Malachite Resources NL, Frontier Resources Ltd and Eagle Eye Metals Ltd. He was briefly a director of Jupiter Mines Ltd which he assisted through its IPO.

Mr. Bruce Lane – Executive Director B.Com, MBA/MSc, GAICD

Mr. Lane is currently executive director at ASX listed Stonehenge Metals Limited. Mr. Lane has been involved with Atom Energy Ltd since its inception and was instrumental in Atom's IPO. He has substantial expertise in general management, finance, strategy, acquisitions, venture capital and growth funding. He has held management positions in New Zealand, Europe and Australia for Unilever, Heinz, Bestfoods and Cerebos. He holds a Bachelor of Commerce and a SLOAN Masters from London Business School. Mr Lane has significant corporate advisory experience and has managed the IPO process for a number of companies including junior minerals explorers.

The Company also decided to close the Alice Springs office and move all operational and administrative functions to Perth to reduce costs in light of a review of all projects and expected diminished field exploration activity.

Information in this document that relates to Mineral Resources and exploration results is based on information compiled by Mr David Hamlyn of Resourserve Pty Ltd (ACN 131 161 414) which provides geological consulting services to Atom Energy Limited. Mr Hamlyn is a Member of The Australasian Institute of Mining and Metallurgy and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2004 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr Hamlyn consents to the inclusion in the document of the information in the form and context in which it appears.

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