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Miners Rights Number: 5564000

EL 25594 “Palmer River”

Annual Technical Report
to the
Northern Territory Department of Primary Industry, Fisheries and Mines

for the period

22nd August 2007 to 23rd August 2008

by

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August 2008

MAP REFERENCE:
HENBURY 250K – SG5301

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Summary

The Palmer River Project (EL25594) consists of one granted exploration licence covering 1,426 km^2 located about 120 km south of Alice Springs.

The project area is 100% owned by Atom Energy Ltd.

Exploration activities were dominated by the acquisition of HyMap airborne hyperspectral scanner imagery processed by HyVista Corporation between 18th March – 9th April, 2008.

Three "Classes of imagery have been produced;
1. Standard colour composites and Minimum Noise Fraction (MNF) images to be used for phot-interpretation to delineate geological units and structural features.

2. The decorrelation stretch colour composite is derived from selected SWIR (Short Wave InfraRed) bands and produces an image that maps the overall distribution of Al-OH, Fe-OH, Mg-OH (and carbonate if present) bearing minerals within the area but not specific mineral species.

3. Specific species mineralogical information is extracted by applying end-member unmixing processing to the reflectance image mosaic.

1.0 Introduction

1.1 Project Description

The Palmer River project covers and area of 1,426 km2 of sparsely explored land with the potential to host both uranium and base metal deposits.
Previous exploration indicates that there has been minor soil sampling, whole rock geochemistry and stream sediment sampling undertaken in the tenement. The location of the various sampling points are primarily in the south eastern corner of the licence.

A list of company reports on file require review to compliment to commencement of field work.

Atom Energy Ltd will undertake a comprehensive review of all previous data to evaluate the region for the uranium and base metal potential.

1.2 Location and Access

Palmer River is located some 50 km in from the Stuart Highway with the turnoff at the Earnest Giles Road, a distance of 120 km south of Alice Springs. The area is served by numerous tracks branching off the main north-south Stuart Highway from Alice Springs.
The Indigenous Settlement at Arkanta Well No.5 is in the central part of the lease on the old stock route and is run by an ex member of the Central Lands Council (CLC), Mr. Bruce Breadon.
The lease is on the Henbury 250k – SG5301.
Figure 1. Gives an indication of the tenement locality, cadastre and topographic features.

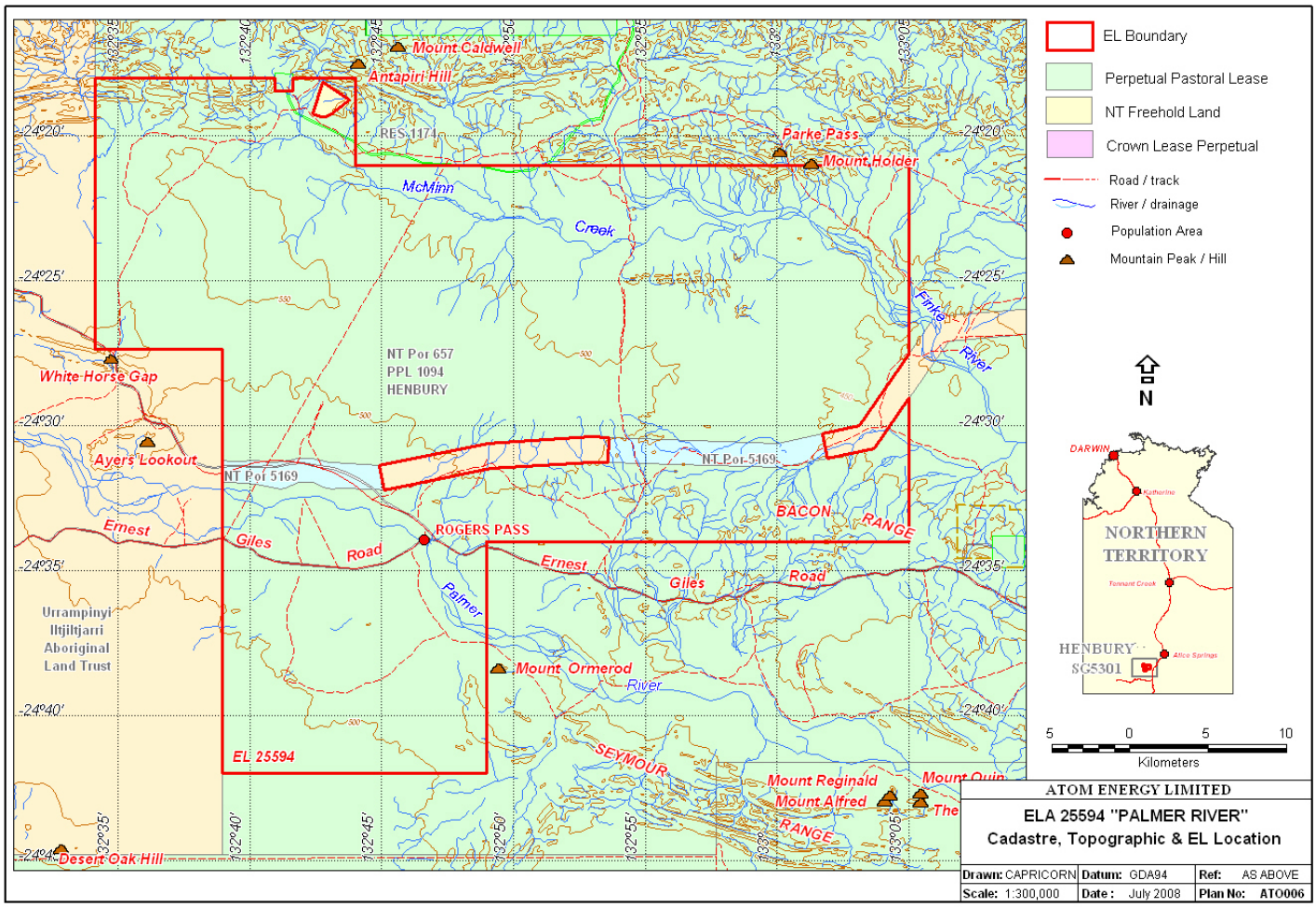

Figure 1. Palmer River EL25594 location

2.0 Tenement Status

EL25594 was granted on 23rd October 2007 for a period of 6 years. The tenement covers an area of 1,458 square kilometres and is held 100% by Atom Energy Ltd.

3.0 Regional Geology

The Amadeus basin in the southern portion of the Northern Territory of Australia covers approximately 170,000 km2 in area. It is at the heart of a series of intracratonic basins on the Australian continent that share their origins in the break up of the supercontinent Rodinia at about 1Ma. Regionally, due to strong stratigraphic ties with each other, the Officer, Ngalia and Georgina Basin are collectively referred to as the Centralian Superbasin.

The Amadeus Basin sediments range in age from late Proterozoic (>800 Ma) to late to middle Devonian (approx. 350 Ma). Lithologies within the basin include dolostones, limestones, quartzites, shales, diamictites and siliclastics.

The Amadeus basin succession begins with sheet-like, tidally influenced deposits of the Heavitree Quartzite. A subsequent increase in accommodation space led to the deposition of thick, shallow marine anoxic rocks of the Bitter Springs Formation.

A basin-wide hiatus at the top of the Bitter Springs Formation coincided with the first of nine tectonic events in the basin. During the Areyonga Movement sedimentary sub-basins and a central ridge were formed. This hiatus was followed by deposition of a succession of glacial and interglacial deposits including equivalents of the southern Australian Sturtian (Areyonga Formation) and Marinoan (Olympic Formation) glaciation. The Proterozoic age was brought to close with the deposition of the marine-influenced clastics and carbonates of the Pertatataka, Winnall and Julie Formations.

Movement associated with the Petermann Ranges Orogeny (520-580 Ma) rearranged basin palaeography and further localised sedimentation, introducing foreland basin-style deposition to the southwest and extensive fluvial tongues of Arumbera Sandstone to the north and east. While clastics continued to be deposited in the south and west, the overlying Cambrian succession of the Chandler and Giles Creek formations in the north and east is dominated by marine and marginal marine deposits of dolomite and evaporitic mudstone that incorporated organic-rich facies.

Relatively restricted clastic deposits in the Ordovician of the Amadeus Basin include the marginal marine Pacoota Sandstone, shallow marine Horn Valley Siltstone, and tidally influenced Stairway Sandstone. The Horn Valley Siltstone is the source rock for the most important petroleum system in the basin.

The Alice Springs Orogeny (320Ma) is represented in the east and across the northern margin of the Amadeus Basin by pronounced foreland basin-style sedimentary deposits including fluvial and lacustrine lithofacies of the Pertnjara Group.

The top of the Pertnjara Group is marked by Brewer Conglomerate which hosts uranium mineralisation in the Udandita Sandstone member. The Amadeus Basin hosts commercial petroleum fields at Mereenie and Palm Valley and has significant potential for further discoveries. The basin also contains gold, evaporites and sandstone-type uranium deposits, and a number of small base metal occurrences.

The Amadeus basin is overlain by the Musgrave Block in the south, and is overlain by the Perdika basin in the south east.

The Musgrave Block is an extensive Mesoproterozoic basement inlier in central Australia in South Australia, Western Australia and the Northern Territory.

The Perdika Basin succession is an intracratonic basin with potential for oil and gas. It is relatively unexplored for most other commodities. It is comprised essentially of Late Carboniferous and early Permian fluvio-glacial, lacustrine and coal swamp deposits.

4.0 Local Geology

The Proterozoic Bitter Springs Formation and the Areyonga Formation are unconformably overlain by younger successions of sandstones, siltstones, shales, limestones and conglomerates. The Bitter Springs Formation comprises dolomites and limestones, sandstones and siltstones with minor volcanics, while the Areyonga Formation comprises conglomerates, conglomeritic siltstones and sandstones with minor dolomites and red cherts.

The overlying fossiliferous sandstones and siltstones belong to the Cambrian Larapinta Group. The group is distinguished from the overlying Devonian Mereenie sandstones by the presence of dolomite units within the Larapinta Group. The Mereenie Sandstone marks the transition to the Hermannsburg Sandstone and occurs in outcrop in the extreme north west of the tenement only. The Brewer Conglomerate and associated Udandita Sandstone, host to the Angela and Pamela uranium deposits, is not present within the tenement area.

Tertiary conglomerates, silcretes and calcareous sandstone occur in the south west while Quaternary sands cover the western half of the tenement area.

5.0 Exploration Activities

5.1 Water Bore Sampling

After analysis of available data for borehole locations using governmental websites and historical geological maps a site visit of the tenement was conducted on the 12th and 18th of May in order to conduct a first round of sampling to check for Uranium anomalies within the groundwater. A total of 14 bores were sampled. Locations are presented in Table 1.

The preferred sampling technique was to collect water directly from the borehole whilst the pumps were running. On occasions pumps had to be started in order to gain fresh water samples, however; when unable to start motors or no motor was present a sample was taken from the tanks nearby or directly from the borehole using dipping techniques.
Samples were placed in a cool box and sent to the laboratory for analysis via overnight first class delivery. Sample assays include K, U, Na, Mg, Fe, Cu, Pb, Zn, Au, Ag, CO_3, PO4, S and Cl.

Assay data for Water Bore samples is presented in Table 2.

Sample Name	*Eastings*	*Northings*	*Sample Type*	*Duplicate Taken*
PR1	E132°42.974′	S24°32.218′	Running Bore	No
PR2	E132°58′	S24°26.6′	Tank	No
Kenny Tank	E132° 43.280'	S24° 34.909'	Tank	No
Number 5	E132° 48.950'	S24° 31.301'	Tank	No
Woodietakara	E132° 51.668'	S24° 40.161'	Tank	No
Bloodwood PR	E132° 42.799'	S24° 29.107'	Tank	No
Ownwood	E133° 00.856'	S24° 40.236'	Tank	No
Himelick Bore	E132° 57.449'	S24° 38.647'	Tank	No
Number 7	E132° 58.534'	S24° 26.605'	Tank	No
Follow 8	E132° 41.940'	S24° 19.077'	Tank	No
Follow 9	E132° 36.379'	S24° 19.258'	Tank	No
Follow 10	E132° 47.615'	S24° 20.214'	Tank	No
Follow 11	E132° 54.270'	S24° 25.046'	Running Bore	No
Pinewood	E132° 47.454'	S24° 37.517'	Tank	No

Table 1. Palmer River Water Bore sample locations

					HCO3	Cl	PO4_P	DF	Ag_F	Au_F	Ca_F	Cu_F	Fe_F	K_F	Mg_F	Na_F	Pb_F	S_F	U_F	Zn_F
				UNITS	mg/L	mg/L	mg/L		µg/L	µg/L	mg/L	µg/L	µg/L	mg/L	mg/L	mg/L	µg/L	mg/L	µg/L	µg/L
				SCHEME	ALK1	FIAS_4	FIAS_4	W100M	W100M	W100M	W100I	W100M	W100M	W100I	W100I	W100I	W100M	W100I	W100M	W100M
			Co-Ord																	
Date:	Sample Name	Sample Number	Eastings	Southing																
12/05/2008	PR1	PRWB00001	132°42.974’	24°32.218’S	239	326	0.025	10	<0.5	<0.1	87.9	0.65	<200	34.3	70.1	217	0.1	110	6.03	6
12/05/2008	PR2	PRWB00002	132°58’	24°26.6’S	214	1390	0.01	10	<0.5	<0.1	231	4.64	240	45.2	101	835	1.75	280	0.05	49.2
19/05/2008	Kenny Tank	PRWB00003	132° 43.280'	24° 34.909'	237	342	0.025	10	<0.5	<0.1	89	1.69	<200	34.5	69.5	217	<0.1	115	5.99	8.6
19/05/2008	Pinewood	PRWB00004	132° 47.454'	24° 37.517'	241	456	0.015	10	<0.5	<0.1	125	1.61	<200	37.8	71.9	251	<0.1	114	6.48	60.8
19/05/2008	Number 5	PRWB00005	132° 48.950'	24° 31.301'	168	502	0.015	10	<0.5	<0.1	158	1.53	<200	27.8	50.1	183	<0.1	42	7.34	122
19/05/2008	Woodietakara	PRWB00006	132° 51.668'	24° 40.161’	255	412	0.03	10	<0.5	<0.1	142	4.64	<200	34.4	71.2	218	<0.1	107	8.06	65.3
19/05/2008	Bloodwood PR	PRWB00007	132° 42.799'	24° 29.107'	183	830	0.035	10	<0.5	<0.1	162	4.06	<200	72.5	136	408	<0.1	251	5.37	28.2
19/05/2008	Ownwood	PRWB00008	133° 00.856'	24° 40.236'	251	756	0.03	10	<0.5	<0.1	138	3.11	<200	28.2	121	371	<0.1	169	12	44.8
19/05/2008	Himelick Bore	PRWB00009	132° 57.449'	24° 38.647'	340	258	0.03	10	<0.5	<0.1	36.3	2.21	<200	57.9	72.9	232	<0.1	101	15.4	8.4
19/05/2008	Number 7	PRWB00010	132° 58.534'	24° 26.605'	245	1690	0.005	10	<0.5	<0.1	284	6.79	<200	51.6	111	935	<0.1	328	<0.001	69.3
19/05/2008	Follow 8	PRWB00011	132° 41.940'	24° 19.077'	351	160	0.015	10	<0.5	<0.1	87.6	2.21	<200	14.8	55.5	92.5	<0.1	33.4	7.15	70.9
19/05/2008	Follow 9	PRWB00012	132° 36.379'	24° 19.258'	248	956	0.015	10	<0.5	<0.1	260	2.25	<200	41.7	217	405	<0.1	336	3.08	57.4
19/05/2008	Follow 10	PRWB00013	132° 47.615'	24° 20.214'	290	561	0.015	10	<0.5	<0.1	110	2.89	<200	46.6	96.8	385	<0.1	189	6.38	97.8
19/05/2008	Follow 11	PRWB00014	132° 54.270’	24° 25.046'	253	909	0.01	10	<0.5	<0.1	135	3.29	<200	51.8	84.5	544	<0.1	181	<0.001	22.9

Table 2. Water Bore Assay Data

5.2 HyVista data

HyVista Corporation was contracted by Atom Energy to acquire and process HyMap airborne hyperspectral scanner imagery from the Palmer River tenement. The data acquisition occurred between 18th March – 9th April, 2008.

HyVista Corporation produced a report describing the processing that has been applied to the Palmer River HyMap data to produce a number of image products including standard colour composites, a SWIR decorrelation colour composite, minimum noise fraction (MNF) colour composite and unmixed end member mineral maps. To produce these products the data has had a series of processes applied to it that converts the raw data into reflectance imagery which is then geometrically corrected and radiometrically levelled so that seamless mosaic images can be produced.

Three "Classes" of imagery have been produced.

1. Standard colour composites and MNF images can be used for photo-interpretation to delineate geological units and structural features. They do not provide information on the mineralogy of geological formations i.e. the same colour may map different rock types in the images.
2. The decorrelation stretch colour composite is derived from selected SWIR bands and produces an image that maps the overall distribution of AL-OH, Fe-OH, Mg-OH (and carbonate if present) bearing minerals within the area but not specific mineral species. Similarly, the Index Images which use band ratio techniques to depict a specific absorption band; also do not map individual mineral species but may indicate the presence of a mineral "class" such as those minerals typical of advanced argillic alteration (i.e. pyrophyllite, alunite and / or dickite).
3. Specific species mineralogical information is extracted by applying end-member unmixing processing to the reflectance image mosaic. This requires several procedures that are carried out separately on the Short wave Infrared bands (SWIR: 2.00 microns to 2.43 microns) and the Visible Near InfraRed bands (VNIR: 0.488 microns to 1.12 microns). Processing of the SWIR bands maps the distribution of clay minerals, mica's and carbonates and the VNIR bands the iron oxides.

The minerals alunite and kaolinite / dickite are known to be hydrothermal alteration products: observed in this survey near 8392, 5244: 290061E, 7288245S, highlight a region of potential hydrothermal alteration, this requires field follow up for validation.

The final delivery of the output image products and intermediate products to the NTGS is on an external USB2 disk drive.

6.0 Conclusion / Recommendations

There remain numerous historical reports that require critical appraisal prior to field work being undertaken. Once all preliminary investigations have been undertaken the intention is to undertake a broad reconnaissance survey of the tenement. Rock chip samples will be taken of outcrop areas and areas of notable changes / variations form surrounding locations will be examined.

Target areas of investigation will include recommended from the HyMap survey interpretation.

7.0 Exploration Expenditure

EL25594	
Geophysical Expenses	$115,344.00
Analytical Costs	$3,500.00
Field Costs	$5,000.00
Consultant Geologist	$5,000.00
Maps & Drafting	$1,000.00
Travel & Vehicle Costs	$3,080.00
Employee Costs x 2	$6,940.00
Administrative Costs	$1,305.00
TOTAL COSTS	**$141,169.00**

8.0 Proposed Exploration Work

Work during the next reporting period will involve:

- The review of previous exploration undertaken on and in the region of EL25594.
- Soil surveys will be conducted over the interpreted hydrothermally altered area in the central part of the tenement.
- Further manipulation of the HyMap survey data to compliment ground mapping results.
- Regional and local rock chip sampling and geological mapping.

Costing associated with the proposed expenditure is included in the accompanying Northern Territory Exploration Expenditure form.

NORTHERN TERRITORY EXPLORATION EXPENDITURE FOR MINERAL TENEMENT

Section 1. Tenement type, number and operation name: (One licence only per form even if combined reporting has been approved)	
Type	*Exploration Licence*
Number	*25594*
Operation Name (optional)	*Palmer River*

Section 2. Period covered by this return:			
Twelve-month period:		**If Final Report:**	
From	*22nd August 2007*	From	
To	*23rd August 2008*	To	
Covenant for the reporting period:		$**92,000.00**	

Section 3. Give title of accompanying technical report:	
Title of Technical Report	*Annual Technical Report*
Author	*Rudy K Lennartz*

Section 4. Locality of operation:	
Geological Province	Amadeus Basin (Henbury SG5301)
Geographic Location	120km south-west of Alice Springs

Section 5. Work program for the next twelve months:			
Activities proposed (please mark with an "X"):		☐	Drilling and/or costeaning
☒	Literature review	☐	Airborne geophysics
☒	Geological mapping	☐	Ground geophysics
☒	Rock/soil/stream sediment sampling	☐	Other:
Estimated Cost:	$**60,000.00**		

Section 6. Summary of operations and expenditure:
Please include salaries, wages, consultant's fees, field expenses, fuel and transport, administration and overheads under the appropriate headings below. Mark the work done for the appropriate subsections with an "X" or similar, except where indicated. Complete the right-hand columns to indicate the data supplied with the Technical Report. Note overheads are not to exceed 15% of total.
Do not include the following as expenditure (if relevant, these may be discussed in Section 7): • Insurance • Transfer costs • Land Access Compensation • Company Prospectus • Title Search • Meetings with Land Councils • Rent & Department Fees • Legal costs • Payments to Traditional Owners • Bond • Advertising • Fines

Exploration Work type	Work Done (mark with an "X" or provide details)		Expenditure	Data and Format Supplied in the Technical Report	
				Digital	Hard copy
Office Studies					
Literature search	**X**		$1,305.00		
Database compilation					
Computer modelling					
Reprocessing of data					
General research					
Report preparation	**X**		$1,000.00		
Other (specify)					
	Subtotal		$2,305.00		
Airborne Exploration Surveys (state line kms)					
Aeromagnetics		kms			
Radiometrics		kms			
Electromagnetics		kms			
Gravity		kms			
Digital terrain modelling		kms			
Other (specify)		kms			
	Subtotal		$		
Remote Sensing					
Aerial photography					
LANDSAT					
SPOT					
MSS					
Other (specify)	**HyMap airborne hyperspectral imagery**		$115,344.00		
	Subtotal		$115,344.00		
Ground Exploration Surveys					
Geological Mapping					
Regional					
Reconnaissance			$15,020.00		
Prospect					
Underground					
Costean					
Ground Geophysics					
Radiometrics					
Magnetics					
Gravity					
Digital terrain modelling					
Electromagnetics					
SP/AP/EP					
IP					
AMT/CSAMT					
Resistivity					
Complex resistivity					

Exploration Work type	Work Done (mark with an "X" or provide details)	Expenditure		Data and Format Supplied in the Technical Report	
				Digital	Hard copy
Seismic reflection					
Seismic refraction					
Well logging					
Geophysical interpretation					
Petrophysics					
Other (specify)	Water Bore Sampling	$8,500.00			

Geochemical Surveying and Geochronology ***(state number of samples)***								
Drill (cuttings, core, etc.)								
Stream sediment								
Soil								
Rock chip								
Laterite								
Water								
Biogeochemistry								
Isotope								
Whole rock								
Mineral analysis								
Laboratory analysis (type)								
Petrology								
Other (specify)								
Ground Exploration Subtotal					$			
Drilling (state number of holes & metres)								
Diamond		holes		metres				
Reverse circulation (RC)		holes		metres				
Rotary air blast (RAB)		holes		metres				
Air-core		holes		metres				
Auger		holes		metres				
Other (specify)		holes		metres				
	Subtotal				$			
Other Operations								
Costeaning/Trenching								
Bulk sampling								
Mill process testing								
Ore reserve estimation								
Underground development (describe)								
Mineral processing								
Other (specify)								
	Subtotal				$			
Access and Rehabilitation								
Track maintenance								
Rehabilitation								
Monitoring								
Other (specify)								
	Subtotal				$			
TOTAL EXPENDITURE					**$141,169.00**			

Section 7. Comments on your exploration activities:

I certify that the information contained herein, is a true statement of the operations carried out and the monies expended on the above mentioned tenement during the period specified as required under the *Northern Territory Mining Act* and the Regulations thereunder.

[X] I have attached the Technical Report

1. Name:	Rudy Lennartz	2. Name:	
Position:	Exploration Manager	Position:	
Signature:		Signature:	
Date:	11/09/2008	Date:	