EL 5061 – 5062

DEAF ADDER PROJECT

1998 WORK PROGRAM

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SUMMARY

The exploration activities outlined herein are scheduled to commence with camp set-up in early August 1998 and will continue until early October 1998.

A campsite and single access track will be established within the project area subject to approval from the Northern Land Council (NLC).

The proposed program is largely a low impact data collection exercise involving airborne photography and geophysics, helicopter assisted rock-chip, diamond indicator and stream sampling, grid preparation, ground geophysical surveys, geological mapping and prospecting.

Approximately 2000m to 3000m of diamond drilling are proposed to test the thickness of the Kombolgie Sandstone in the vicinity of radioactivity delineated at Area A (Figure 2). This will be accomplished by a heli-portable drill rig (Boart Longyear LF70 or equivalent). Extreme care will be exercised to minimise/eliminate potential contamination at the surface due to drilling. All drill holes will be sealed with cement from top to bottom once the drilling is completed.

Variations to the above exploration program, which may occur as a consequence to ongoing assessment of field data, will be routinely presented to the NLC for their consideration.

Total expenditures, both off-site and on-site, for the program are estimated to be $750,000 to complete the program as planned.

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1. INTRODUCTION

The two permits, EL's 5061 and 5062, subject to the proposed exploration activities, cover a total of some 2,379km^2 near the South West margin of Arnhem Land, approximately 150km north-east of Katherine (Figure 1).

The exploration activities planned for 1998 are designed to follow-up and complement work initiated during 1997. A small exploration program was conducted during 1997 consisting initially of regional helicopter based outcrop sampling, airborne geophysics and prospecting. Follow-up work consisted of airborne anomaly ground truthing, detailed mapping, sampling and radiometric surveys on a detailed grid. The total number of days of camp operation was 24 days during the initial and follow-up phases.

Routine sampling and prospecting during the 1997 exploration program led to the discovery of significant radioactivity within the Kombolgie Sandstone formation at Area A (Figure 2). After preliminary evaluation of an airborne survey flown during August 1997, two additional areas of radioactivity were defined (Area B and Area C as shown on Figure 2). Geochemical analysis of samples collected from Area A and Area B, contain significant gold as well as elevated uranium.

Emphasis for the 1998 work proposal will be to evaluate Area A by diamond drilling and to complete detailed mapping, ground geophysics, prospecting and sampling on both Areas A and B. Continued evaluation of Area C will be completed consisting of sampling, detailed mapping and prospecting. In addition, air-photography, detailed airborne geophysics, regional sandstone sampling, diamond indicator and geochemical sampling will be undertaken.

Total expenditures, both off-site and on-site, for the program are estimated to be $750,000 to complete the program as planned.

2. EXPLORATION OBJECTIVES

Cameco Australia's prime objective is to determine if particular surface anomalies reflect sub-surface mineralisation. To achieve this objective, data related to surface samples is systematically collected and combined with airborne geophysical data, and then compared to geological environments in both Australia and overseas.

Uranium is the main commodity sought by the company, however the project area will be also evaluated for gold and diamond potential, in line with company exploration strategy in other parts of the world.

3. 1998 EXPLORATION PROGRAM

Table 1 shows a summary of the proposed exploration activities and timing while Table 2 lists contractors being considered.

131°00'
133°00'
Melville Island
Bathurst Island
Van Diemen Gulf
12°00'
Beagle Gulf
DARWIN
DJUKBINJI NATIONAL PARK
LITCHFIELD PARK
Reynolds River
Margaret River
Mc Kinlay River
Mary River
Wildman River
West Alligator River
South Alligator River
JABILUKA
Jabiru
RANGER
KAKADU NATIONAL PARK
KOONGARRA
Coopers Creek
King River
NABARLEK
Oenpelli
East Alligator River
Goomadeer River
Gumadir River
Liverpool River
ARNHEM LAND
EL 5061
EL 5062
Mainoru
CORONATION HILL
13°00'
14°00'
Daly River
Fish River
Fergusson River
Cullen River
Pine Creek
Edith River
NITMILUK NATIONAL PARK
Manyallaluk
Barunga
Beswick
Katherine
Katherine River
Waterhouse River
King River
Roper River
15°00'
N
0
80km
LEGEND
National Park
Aboriginal Reserve
132°00'
133°00'

NORTHERN TERRITORY
AUSTRALIA

Cameco

DEAF ADDER
LOCATION MAP
EL'S 5061, 5062

Compiled By: J. Thevissen	Dwg No.:
Drafted By: C.S.D.S.	Fig 1.
Scale: 1 : 2,000,000	
N.T.S.: Datum:	
Disposition(s):	

290000 mE
300000 mE
310000 mE
320000 mE
330000 mE
340000 mE
8550000 mN
8540000 mN
8530000 mN
8520000 mN
8510000 mN
8500000 mN
8490000 mN
8480000 mN
8470000 mN
Area "B"
Area "A"
Area "C"
EL5061
EL5062
Mann River Campsite (1998)
Snowdrop Campsite (1997)

LEGEND

1997 Sample Locations

Sample Sites

1998 Work Areas

Proposed New Track
Existing Track
proposed Airborne Geophysics
Withdrawn Areas

Geology

Kombolgie sandstone

CAMECO AUSTRALIA PTY LTD

Deaf Adder Project

Figure 2: Location of Proposed 1998 Work Areas & 1997 Sample Sites

Date: 12/3/1998
Author: GD
Office: Darwin, NT
Drawing: DA97 series
Scale: 1:350000
Projection: AMG Zone 53 (AGD 66)

0 2.5 5 10
kilometres

Table 1: Location and Scheduling of Activities

Activity	June	July	August	September	Approximate Location	
					Easting	Northing
Air Photography	✓				Areas A & B	
Airborne Geophysics	✓	✓			Areas A & B	
Road Building		✓			Manyallaluk to Mann R.	
Camp Mob-Demob			✓	✓	335000mE	8526000mN
Grid preparation			✓		Areas A & B	
Ground Geophysics			✓	✓	Area A	
Diamond Drilling			✓	✓	318000mE	8530000mN
Geological mapping			✓	✓	Areas A & B	
Rock-Chip sampling			✓	✓	Entire Kombolgie Area	
Diamond Sampling			✓	✓	Entire Project Area	
Stream Sampling				✓	Areas A & B	

Table 2: Listing of Contractor Requirements

Activity	Equipment	Time Period	Personnel	Potential Contractors
Air Photography	Fixed-wing aircraft c/w camera equipment	1 day	2 technicians; 1 pilot	Kevron; Aire Search;
Airborne Geophysics	Helicopter c/w geophysical instrumentation	5-7 days	2 technicians; 1 geophysicist; 1 pilot	Geoterrex;
Helicopter	Jet Ranger 206 for duration of program; with 206L (Long Ranger) while drilling	60 days	1 pilot; 1 engineer	Rotor Services;
Road Building	Grader; Front end loader; Truck & Ute	10-15 days	3 equipment operators; 1 supervisor	Tenders to be let
Ground Geophysics Gravity Survey	Gravity Instrument c/w GPS levelling equipment	25-30 days	2 technicians	Tenders to be let
Diamond Drilling	Heli-Portable Longyear LF-70 drill capable of drilling 500m of NQ core	20-40 days	2 drillers 2 assistants	Gaden Drilling; Pontil Drilling;

3.1 Aerial Photography

Colour aerial photography will be acquired at 1:40,000 scale, and will be used for base map compilation and plotting of geological and sampling data. This acquisition will involve several aircraft passes over Areas A & B at an average height of 4,000m above the land surface.

This photography would be acquired during a one-day period, probably in June 1998, dependant on contractor availability.

3.2 Airborne Geophysical Survey

Detailed airborne geophysical surveys will be completed over Areas A & B using a Dighem survey system. This entails a helicopter borne system, flying at a constant terrain clearance of 60m along lines 100m apart. Electromagnetic, magnetic and radiometric parameters will be measured from sensors mounted within and on "birds" towed externally. The surveys are outlined on Figure 2. The total area of coverage will be 96km^2 and 83km^2 for Areas A & B, respectively. The duration of the airborne survey will be approximately one week. The surveys will be completed in the latter part of June.

The data acquired from this survey will be processed to generate geophysical maps, which outline variations in the radioelement content of the ground surface, and the electromagnetic and magnetic character of subsurface rock formations. These results, which will be available from contractors by July, will be instrumental in further ground assessment in August.

3.3 Diamond Drill Program

Approximately 2000 to 3000m of diamond drilling are proposed to test the thickness of the Kombolgie Sandstone in the vicinity of the radioactivity delineated at Area A. A minimum of two vertical holes up to 500m in length will be drilled to intersect rocks beneath the sandstone. The thickness of the Kombolgie Sandstone in the area of drilling will dictate the number of holes that can be completed to basement. Several shallow (<100m) angle holes will be drilled on fences to test the structural controls of the radioactivity. The general location of the drill holes is shown on Figure 2 and listed on Table 1.

A heli-portable drill rig (LF70 or equivalent) will accomplish the drilling. Extreme care will be exercised to contain drill cutting and fluids at the surface. All drill holes will be sealed with cement from top to bottom once the drilling is completed.

All drill holes will be radiometrically logged using a digital radiometric down hole logging system. The system is a lightweight portable unit transportable by helicopter.

3.4 Grid Preparation

Two areas will be gridded. The grid at Areas A & B will extend over the anomalous regions outlined in Figure 2. The line density will vary from 100m spacing to 200m. The grids will be based on AMG co-ordinates and positioning will be completed using an Omnistar Global Positioning System. Some grid work is proposed for Area C.

Gridding is considered a low impact program as star pickets will be used for 100m stations and biodegradable paint and flagging will be used to denote all other stations (50m and 25m).

The main function of the grid is for control with the detailed geological and structural mapping. High resolution digital aerial photography may eliminate the need for grid work over parts of the designated areas.

3.5 Geological Mapping

Detailed geological mapping and structural interpretation will be completed on grids in Areas A, B & C. This work will be completed using the grid and detailed air-photography for control. The objective of the mapping will be to determine the controls for the anomalous radioactivity. It is conceivable that the radioactivity could be due to surficial enrichment or structurally controlled enrichment due to unconformity processes at depth.

3.6 Ground Geophysics

Ground geophysical surveys will be completed over portions of the grids. All methods are stand-alone instruments with non-destructive requirements. Ground surveys will consist of gravity surveys in the Areas A & B region. A contractor will complete this work. It will involve measurements of the gravitational fields on stations 50m to 100m apart on lines up to 500m separation.

Other surveys, including radiometric and magnetic, may be completed over selected portions of the grids.

3.7 Rock-Chip Sampling

Systematic rock-chip sampling is proposed to continue work initiated in 1997. The objective is to systematically cover the project area with one sample every $2km^2$ of sandstone covered area. This will be achieved using helicopter support to access the sample site and to retrieve a "brick" sized sample of sandstone. Samples will generally be collected by using a rock hammer and chisel. If necessary, however, to collect an undisturbed sample, a portable rock-saw will be used. The samples will be described in detail, measured in the camp with a reflectance spectrometer (PIMA) to identify clay signatures and sent to ChemNorth in Darwin for multi-element analysis.

The objective of this work is to identify the background levels of the various trace elements and clays within the Kombolgie Sandstone and to delineate anomalous geochemical trends.

Grid-based collection of smaller samples will be completed on the gridded regions within Areas A & B. These samples will be analysed using the same methods as the regional "brick" samples. The objective of this type of sampling is to delineate anomalous trends associated with the zones of radioactivity.

3.8 Diamond Indicator Sampling

The entire region of both Exploration Licences will be sampled at a density of one sample per $10km^2$. This work will be completed by deploying sampling crews to individual sites using helicopter. At each site a 10kg sample will be dry sieved from the loose gravels. A geochemical sample will routinely be taken at each site. The samples will be processed and analysed for diamond indicator minerals.

3.9 Stream Sediment Sampling

An orientation sampling program of 25 to 30 stream sediment samples will be completed in the vicinity of Areas A & B. At all sites, a heavy media fraction will be sieved and an overbank geochemical sample taken. In addition BLEG (3-4kg) samples will be collected for gold assay. These samples will be sent to ChemNorth for multi-element analysis.

4. EXPLORATION CAMP AND INFRASTRUCTURE

4.1 Camp Location and Access

The proposed location of the exploration base camp is indicated on Figure 2. This site is within EL 5061 and lies adjacent to a waterhole near the headwaters of the Mann River and approximately 5km outside a designated "no-go" area.

The camp will be established for approximately two months (August and September 1998). A helicopter will be on site at all times to assist with drilling operations and moving personnel to work areas.

It will be necessary to upgrade a pre-existing track, which extends some 120km northward from the Manyallaluk community, and then grade a new track approximately 35km across the drainage divide between Snowdrop Creek and the Mann River. It will be necessary to use a front-end loader and grader for clearing some sections of this new track and also for levelling some of the campsite and clearing of a fire break.

Approval of this access track and campsite will be subject to a field inspection by the NLC and relevant Traditional Owners in late April 1998. It is planned that work required for this access will proceed in early - mid July 1998.

4.2 Personnel

Between 15 - 20 people will be based in the field camp at various times during the 1998 exploration program with short-term maximum of up to 25 people when senior company personnel visit the project area.

4.3 Infrastructure

The camp will consist of two demountable buildings, an ablution block, air-conditioned office and kitchen caravans with up to 12 sleeping tents. Electric power generation will be by a 20kVA diesel powered unit and a small diesel driven pump will be used to obtain water from the Mann River. Permission will be sought to establish waste water and sewerage disposal systems.

Four-wheel-drive passenger vehicles will be used for moving personnel between Darwin - Katherine - Camp and for provisions obtained from Katherine. A 7 tonne truck will also be required for delivering of fuel drums and camp equipment and for decommissioning of the field camp at the end of the season.

5. ENVIRONMENTAL IMPACT

5.1 Use of Natural Resources

For the relatively small camp proposed, water will be initially sourced from the Mann River at an estimated rate of 2000 litres / day. Should exploration results prove encouraging, the camp would be upgraded and a temporary water bore, requiring access for a drilling rig, would be required.

Timber requirements would be minimal, probably a few tonnes of fallen, dead timber for the duration of the 1998 field program; to be used for camp fires and an occasional barbeque.

Several cubic metres of sand and gravel will be required for tent pads and to form bunding at the fuel storage area.

5.2 Impact of Camp and Access Track

Re-opening of the existing track from Manyallaluk to the Snowdrop Creek will require repairing by grading and filling the effects of erosion during the wet including the removal of new growth. Some gravel borrow material will be needed to sheet creek crossings. Clearing of approximately 35km of new access will inevitably require removal of more mature species, however, this will be kept to a minimum.

It may even be necessary to carry out selective burning of spear grass around the campsite and adjacent to the firebreak, as a safety precaution early in the field season. A garbage disposal pit will be dug in a suitable area.

Traffic levels along the access track will be minimal, largely restricted to regular re-supply trips to Katherine and occasional trips to service camp/vehicle maintenance requirements. Visitors to the project will use the access track from time to time, although helicopter will be used where possible.

5.3 Impact of Exploration

The 1998 field exploration activities, excluding diamond drilling, will result in very minimal impact. A helicopter, based at the campsite, will access all sample sites and areas of geological traversing and radiometric prospecting.

The low-level helicopter geophysical survey, scheduled for five to seven days in July 1998, will generate minimal noise over the permit area only, and will not result in any disturbance to residents in local communities. Acquisition of aerial photographs, because the helicopter is flown at a much higher altitude, will have an even lower impact.

Diamond drilling will be restricted to Area A. Access to the drill area will be accomplished by helicopter. The drill area is relatively flat and devoid of vegetation. Only minimal site preparation will be required for the set-up for the drill. An imperious membrane will be installed around the drill collar beneath the drill. All cuttings and fluids produced from the drilling will be contained on-site and either evaporated or transported to the campsite for disposal by burial.

5.4 Impact Minimisation Proposals

Cameco Australia recognises that the permit areas comprise a number of environmentally sensitive terrains, and although the 1998 program impacts on a relatively small area, the company is mindful of the careful planning required to minimise risk to the general environment as the scale of activities may escalate in subsequent years.

The company will act to minimise impact of activities in 1998 by taking the following measures:

- Variations to the approved program will be promptly reported to the NLC to enable liaison with, and consideration by the Traditional Owners;

- Storage area for drum fuel will be bunded to prevent environmental damage in the event of an accidental spillage;

- Construction and grading of the proposed access track will be supervised by company staff;

- Contractors will be made aware of Cameco Australia's requirement to minimise environmental damage;

- Waste waters generated from the camp kitchen and shower will be disposed of away from the Mann River waterhole by running PVC piping into a suitable soakage pit.

- A septic system will be constructed for human waste and will be positioned as far as practicable away from the watercourse (approximately 1000m);

- Pets and firearms will not be allowed within the permit or camp areas.

- Alcohol consumption will be restricted to that specified in the Consent Deed between Cameco Australia and the NLC).

5.5 Rehabilitation Proposals

Appropriate measures will be taken for rehabilitation of environmental disturbance caused by exploration activities. These measures will include the following:

- New access tracks will be positioned along drainage divides to minmise erosion. On completion of use of any access track all windrows will be pushed back onto the track and the track will be deep burrowed or ripped as appropriate;

- In the area of the campsite, soils will be stockpiled for future re-spreading on decommissioning of the camp. Bunds and speed humps can be constructed along the access track into the camp to prevent wet-season access and also to control run-off in susceptible areas;

- All camp and survey equipment, fuel drums and recyclable rubbish will be removed from the camp at the conclusions of each field season. All waste and

refuse pits will be back-filled and stockpiled soils replaced at the conclusion of the field program.

6. SOCIAL IMPACT

The Liaison Committee, with representatives from Cameco Australia, the NLC and Traditional Owners, is employed to provide advance notice of program changes and to address any issues of concern to local Aboriginal Communities.

In addition, the company will make efforts to minimise any undesirable impacts as follows:

- Training of company and contractor personnel in Aboriginal culture and customs, including strict observance of any restrictions in respect to sacred sites and other areas of significance;

- Suspension of exploration activities, at the request of Traditional Owners, if important ceremonies have been scheduled. Prior warning of these events can be given to the company at scheduled Liaison Committee meetings, or direct to company representatives in either Darwin office or at the field camp;

- Off-site rest and recreation breaks to be scheduled for field personnel;

- Personnel will be kept to a minimum whilst still offering the opportunity of employment and training to Aboriginal workers in the local community;

- Supply and work contracts to be offered to local communities; where practicable

- Assistance will be offered to the local Aboriginal communities in medical emergencies.

Cameco Australia Pty Ltd, through the operation of the Liaison Committee, and by keeping lines of communication open at all times, is committed to fostering a good relationship with the local Aboriginal population.