



2023

EL10176, EL23700 & EL24371

# EXPLORATION OPERATIONS MINING MANAGEMENT PLAN AND PUBLIC REPORT WEST ARNHEM JOINT VENTURE

	Author	Reviewed by	Approved by
Date	2 February 2023	4 February 2023	4 February 2023
Date (Amended)			
Name	Daniel Greene	Brendan Bradley	Brendan Bradley
Signature			

I Brendan Bradley, Managing Director declare that to the best of my knowledge the information contained in this mining management plan is true and correct and commit to undertake the works detailed in this plan in accordance with all the relevant Local, Northern Territory and Commonwealth Government legislation

Signature: 

Date: 7<sup>th</sup> February 2023

Authorisation: 0731-01 (2023)

## Sustainable Development Policy

DevEx Resource Limited is committed to ensuring the highest standards are met and will manage the social, health, safety, environmental and economic issues associated with all activities relating to our business. We aim to become a significant successful explorer and developer who understands that this can only be achieved by creating sustainable value for all stakeholders.

Specifically, we strive towards and are implementing systems to:

- Promote the company philosophy that the health, safety and welfare of all employees are paramount to the long term performance and growth of this company;
- Identify, assess and mitigate the hazards and risks identified with our activities, in accordance with DevEx's risk management strategy;
- Respect the traditions, customs, culture, dignity and rights of Indigenous communities;
- Consult with Indigenous communities regarding DevEx activities that could affect the cultural, social and economic well-being of these communities;
- Maintain ethical business practices that meet all legal standards as a minimum and have best practice as our target;
- Provide a workplace where everyone is treated fairly and is free from workplace harassment;
- Preserve the future land use of all our sites through biodiversity management and the rehabilitation of all land disturbed in its exploration and development activities in consultation with government agencies, Indigenous communities, land holders and pastoral lease owners;
- Manage and minimise all waste streams through responsible design and by encouraging re-use and recycling;
- Develop partnerships that enhance the social and economic development of local communities;
- Operate in a transparent manner and develop open relationships with all stakeholders; and
- Regularly review all management systems and performance.



Brendan Bradley  
Managing Director

June 2022

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## Amendments

As per Section 41(3) of the *Mining Management Act*, an MMP reviewed and amended under Section 41(1)(a) is to clearly identify amendments made. These changes must be outlined in a table, including relevant page numbers, as per the example below.

Section	Amendment
Section 1 – Operator Details	Change of Key Contacts and Organization Chart (pp 2-3)
Section 1.2. - Workforce	Updated to reflect 2023 workforce structure (pp 4)
Section 2. - Identified Stakeholders and Consultation	Meeting dates updated (pp 5) NLC removed from list and referenced in text (pp 4) ARRAC removed from list of forums and reference in underlying text replaced by ARRTC (pp 5)
Section 3.1 – Previous Activities and Current Status	References to previous exploration from 2016 – 2021 removed entirely Update on 2022 Exploration Programme (pp 11-18)
Section 3.2. - Proposed Activities	Proposed activities for 2023 exploration and rehabilitation updated (pp 19-23) Updated pad size to 30x25m (pp 24) Updated with most recent TO meeting (pp 25) Exploration schedule updated to reflect 2023 in Table 10 (pp 25-26)
Section 4.1. - Climate	Annual rainfall graph updated (pp 28)
Section 4.4. – Flora and Fauna	Likelihood assessment date updated (pp 29) Summary of conclusions of likelihood assessment updated (pp 30)
Section 4.6. - Historical and Aboriginal Heritage Sites	Updated with discussion on 2022 meeting (pp 31)
Section 5.4.3. – Weed Management	Reference to chemical spraying of roads changed from during exploration activities to following exploration activities as per criterion 6 in Table 6 of 2022 Audit Findings (pp 39)
Section 5.4.7. – Ground Water Management	Change made to reflect constant supervision of rigs only required for RC drilling, as per criterion 17 in Table 6 of 2022 Audit Findings (pp 41) Removed reference to lining of sumps (pp 42)
Section 5.5. – Environmental Review, Inspections and Monitoring	Updated to include discussion on 2022 Annual Environmental Audit (pp 46)
Section 5.6.1. – Objectives and Targets	Updated Environmental and Safety Performance Indicators in Table 13 (pp 48)
Section 6.4 – Costing of Closure Activities	Update of Security Calculation (pp 53)
Appendix 1 – Drillhole Rehabilitation Register	Holes in the West Arnhem Drillhole Rehabilitation Register that are duplicated under the Nabarlek MMP (Authorisation #0435-01) have been struck removed.

	Photo entries updated for holes drilled in preceding years. Table updated to include 2022 drilling.
Appendix 4 – 2023 Security Calculation Form	Updated spreadsheet to account for drillhole rehabilitation forecasted.
Appendix 7 – Drilling Procedures	Edited DEVEX-DRL-SWP - Pre Drilling to include pre-clearance visual weed inspection as per criterion 5 in Table 6 of 2022 Audit Findings

## 1. Operator Details

This Mining Management Plan (MMP) has been prepared by DevEx Resources Limited for activities at its West Arnhem Joint Venture (West Arnhem) Project which comprises EL10176, EL23700 and EL24371. The nominated operator of the project is DevEx Resources Limited (DevEx).

Since 2008, DevEx has been actively exploring in West Arnhem Land on the Nabarlek Mineral Lease and in Joint Venture with Cameco Australia Pty Ltd who held the previous MMP Authorisation 0309-01 over these exploration licences. Late in 2012, DevEx finalised an agreement to acquire Cameco Australia Pty Ltd's remaining 60% interest in the tenements that previously comprised the West Arnhem Joint Venture (Table 3). This acquisition gave DevEx the opportunity to secure 100% ownership and full exploration management of a contiguous land holding in the heart of the Alligator Rivers Uranium Field. In 2017 DevEx Resources acquired full ownership of the Project and has become the Manager and Operator.

Key DevEx personnel for the Nabarlek/West Arnhem operations in the Perth office are listed in Table 1.

Table 1: Contact Details for Key Perth Staff

DevEx Personnel	Phone	Mobile	Email
Managing Director (Brendan Bradley)			
Exploration Manager (Daniel Greene)			
Senior Geologist (Lieth de Selincourt)			
Level 3, 1292 Hay Street West Perth, Western Australia 6005 Phone: 08 6186 9490 Fax: 08 6186 9495			

Field personnel are employed on a contract basis at the beginning of each dry season.

Site contact details for the Nabarlek Base Camp where field personnel will be based during the field season are provided in Table 2.

Table 2: Contact Details for Key On-Site Staff

	Phone
Nabarlek Satellite Phone	



## 1.1. Organisational Structure

The organisational chart for DevEx is shown in Figure 1.

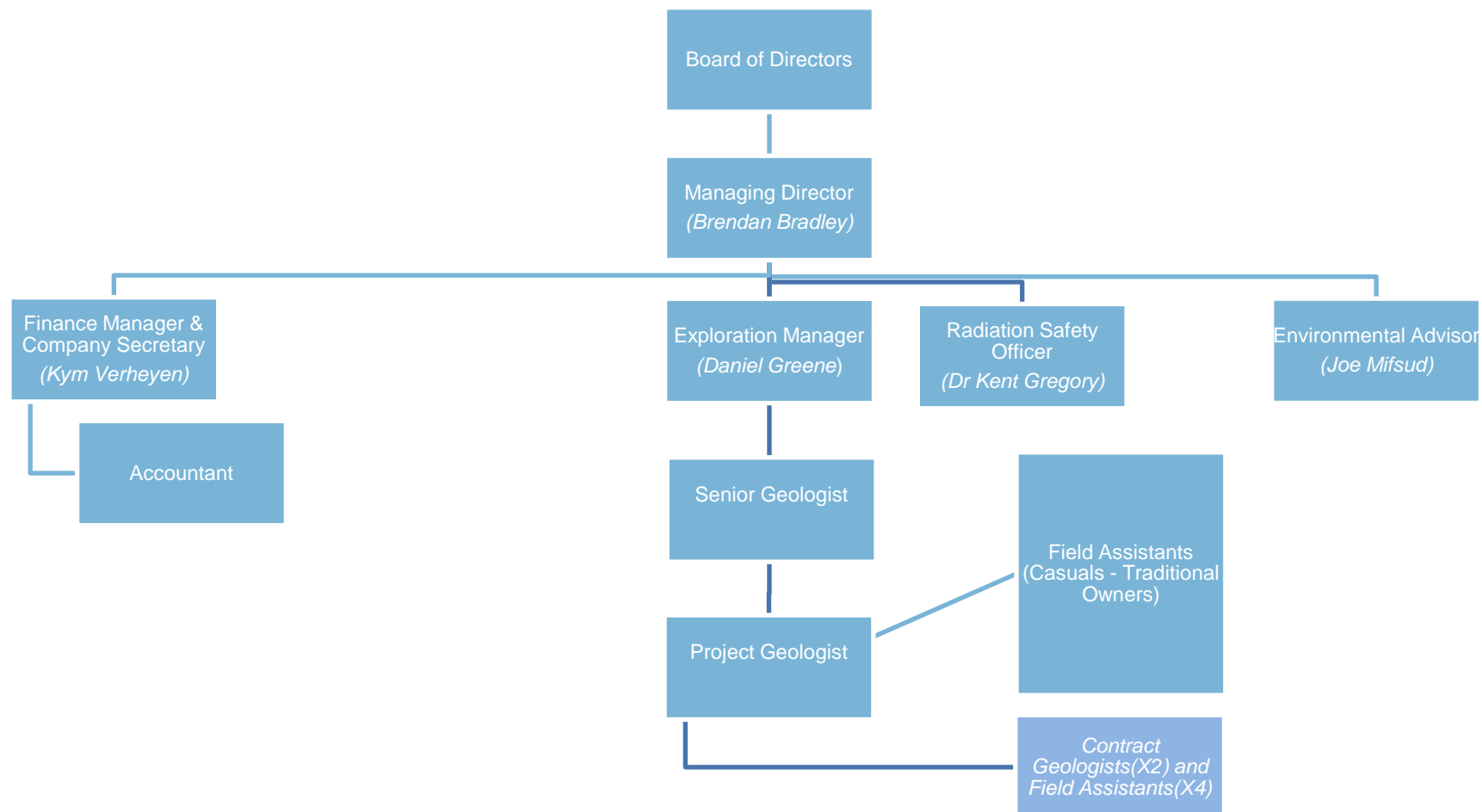


Figure 1: DevEx Resources Limited Organisational Chart December 2023

## 1.2. Workforce

The workforce comprises approximately 12 people at the same time on site. Dry season exploration personnel include DevEx staff and contract exploration personnel, including the Program Manager, Site Geologist, two geophysical contractors, two geochemical sampling contractors one earthmoving contractor, two to four Traditional Owners (TOs) and five drilling contractors.

In addition to the on-site personnel listed above there will be other personnel that will visit the camp periodically such as DevEx Perth-based geology and environmental staff.

During the wet season the workforce at Nabarlek Camp will be smaller with a maximum of six people. Personnel will include two DevEx field assistants with the remainder being contract tree planters, weed sprayers and a supervisor.

DevEx employ and train local Traditional Owners to assist with its exploration activities within its West Arnhem tenements. In 2022, Traditional Owner employment totalled 75 days (excluding Cultural Monitoring).

## 2. Identified Stakeholders and Consultation

Current identified stakeholders include:

- Traditional Owners;
- Northern Land Council;
- Department of Primary Industry and Resources (DPIR);
- NT WorkSafe;
- Department of Environment and Energy – Supervising Scientist Branch (SSB);
- Demed Aboriginal Corporation Adjumarllarl Rangers (DEMED);
- Njanjma Aboriginal Rangers
- Department of Land Resources Management (Bushfires NT);
- Weed Management Branch Department of Environment and Natural Resources;
- Arnhem Land Fire Abatement (ALFA);
- Warddeken Land Management; and
- DevEx Resources Limited.

The primary non-government stakeholders for the Nabarlek region are the Northern Land Council (NLC) and the Aboriginal Traditional Owners (TOs). DevEx undertakes exploration in accordance with an Exploration Agreement with the NLC and TOs.

Prior to undertaking exploration works each year, Work Area Clearance meetings are held with TOs and representatives of the NLC. At these meetings TOs are presented with the proposed exploration program and their permission is sought for DevEx to proceed. The meeting provides a forum for TOs to ask questions and voice any concerns. Any identified No-Go zones or heritage zones previously mapped or referenced during these meetings are noted and proposed activities are designed to deliberately avoid these areas.

A meeting to discuss the work programme for the West Arnhem and Nabarlek Project was held on the 24<sup>th</sup> of November 2022 and permission was given for DevEx to proceed with the 2023 field programmes described within this Mine Management Plan.

DevEx participates in a number of forums to ensure consultation with stakeholders, which include:

- Mine Site Technical Committee (MTC) meetings; and
- Alligator Rivers Region Technical Committee (ARRTC).

Participation in ARRTC also ensures that other stakeholders are updated on activities being conducted within the Project. These stakeholders include:

- NT Environment Protection Authority (NT EPA);
- Department of Lands Resource Management (DLRM);
- West Arnhem Shire Council;
- NT Environment Centre;
- Australian Government - Department of Resources, Energy and Tourism;
- Australian Radiation Protection and Nuclear Safety Agency;
- Parks Australia North;
- Gundjeihmi Aboriginal Corporation;
- NT Department of Health (DoH);
- Other mining companies in the area; and
- Miscellaneous other members of the public with interest.

DevEx liaises with the Njanjma Rangers, Demed and ALFA about field activities and timing of weed control and bush fire management. In recent years, DevEx has engaged the Njanjma Rangers, Demed, and other traditional owners to carry out cool burns of the Nabarlek and West Arnhem Projects on exit tracks and within the areas planned for drilling and geophysics. This was carried out in advance of more regional bush fire management programmes. This reduced the risk of field staff in the Nabarlek and West Arnhem region being exposed to wildfire.

### 3. Project Details

DevEx has been active in the Nabarlek Region since 2007 when the West Arnhem Joint Venture Agreement (West Arnhem) was signed with Cameco Australia Pty Ltd.

To participate in the Joint Venture, DevEx agreed to sole-fund exploration expenditure for a number of years (through DevEx's wholly-owned subsidiary GE Resources Pty Ltd) to earn a 40% stake in three granted exploration licences (EL10176, EL23700 and EL24371).

Late in 2012, DevEx finalised an agreement to acquire Cameco Australia Pty Ltd's remaining 60% interest in the tenements that previously comprised the West Arnhem Joint Venture (Table 3). This acquisition gave DevEx the opportunity to secure 100% ownership and full exploration management of a contiguous land holding in the heart of the Alligator Rivers Uranium Field. In 2017 DevEx Resources acquired full ownership of the Project and has become the Manager and Operator.

Table 3: West Arnhem Tenement Status

Tenement	Holder	Status	Area (km <sup>2</sup> )	Grant Date	Expiry Date
EL10176	GE Resources Pty Ltd	Granted	354.8	1/9/2004	31/8/2024
EL23700	GE Resources Pty Ltd	Granted	43.6	31/5/2005	30/5/2023
EL24371	GE Resources Pty Ltd	Granted	28.9	1/9/2004	31/8/2024

The West Arnhem Project is located in the western portion of the Arnhem Land Aboriginal reserve, 28km east of the Gunbalanya (Oenpelli) aboriginal community and approximately 300km east of Darwin in the Northern Territory. The exploration licences immediately surround the Nabarlek Mineral Lease (see Figure 2).

Access to the West Arnhem Project area from Darwin is via the Arnhem Highway to Jabiru, northeast to Oenpelli then east via the unsealed and seasonal Oenpelli – Maningrida road from Cahill's Crossing at the East Alligator River to the 'Three Ways' intersection to the Coburg Peninsula. From there, access is via the old Nabarlek Mine access road onto the Mineral Lease. Access within the surrounding tenements is good. In general, most of the country is flat lying and can be readily accessed by four-wheel drive during the dry season. Exceptions are the heavily dissected sandstone escarpments that are best traversed by foot and accessed by helicopter.

The 2023 work program will be operated out of the Nabarlek ML Camp which accommodates dry and wet season operations. It is located adjacent to the Nabarlek airstrip for both convenience and safety considerations.

During 2013 all hired camp infrastructure items were demobilised to reduce the ongoing holding costs of maintaining the Nabarlek Camp. The two accommodation blocks, kitchen, ablutions/laundry block and self-bunded storage tank were demobilised. The large camp generator was replaced by a more appropriate smaller unit. The transportable office block remains, as does the storage containers and dangerous goods container which are located adjacent to the camp office.

Due to the short dry season exploration program, the camp generator and light vehicles will be serviced by drummed fuel stored in the self-bunded dangerous goods container. A hydrocarbon spill kit will be located adjacent to this area. Drilling companies will source fuel from Darwin or Jabiru utilising a truck mounted fuel tank.

A temporary ablutions block has been hired and connected to the established septic system (tank and soakage trench) which was installed by licenced plumbers when the original ablution block was established in 2008.

There is an existing water bore in the camp environs that has suitable water quality, water depth, and location and provides sufficient volumes of water. Drinking water is supplied via the camp bore, after it passes through an water filter.

The small volumes of ground water required for drilling and camp operations are not of a level that requires further licensing. Measurement of the standing water level (SWL) in the camp bore commenced in the 2012 dry season. The measurements, although irregular, do indicate that there were no draw-down effects on groundwater levels from on-site activities. Measurement of the standing water level in the camp bore will continue to be undertaken during the 2023 dry season with the recommencement of the exploration program.



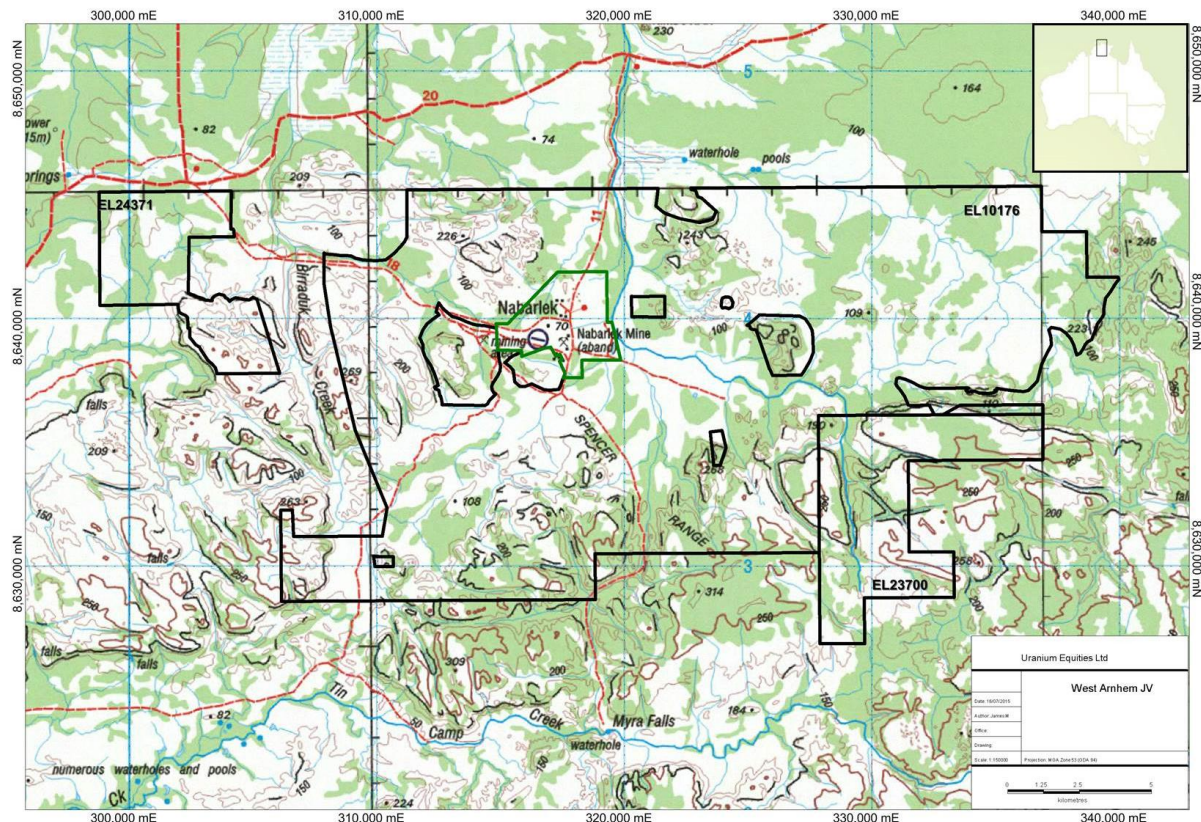


Figure 2: Location of West Arnhem Project (ELs 10176, 23700 & 24371)

## 3.1 Previous Activities and Current Status

### 3.1.1. Historical Exploration

The area covered by the West Arnhem licences was held by Queensland Mines Pty Ltd (QMPL) between 1969 – 1998 as EL2508. During this period due to political issues and uranium prices, exploration was only active for a small part of this time.

Exploration work by QMPL consisted of airborne radiometric and magnetic surveys, regional stream sediment geochemistry, regional geochemical soil sampling, regolith geochemistry, ground total count radiometric surveys, reconnaissance exploration and geological mapping.

From 1998 – 2003 a Joint Venture agreement between AFMEX, Cameco Australia and SAE Australia explored the region after acquiring the exploration licence from QMPL. Exploration Retention Licences (ERL) were lodged over those portions of EL2508 that were considered the most prospective and the remainder was allowed to expire. On 20 May 1999, the joint venture partnership was granted ERL's 150 – 152.

Exploration during this period consisted predominantly of drilling programs testing a number of targets before the licences were relinquished in 2003.

In 2004, Cameco Australia lodged an application for EL10176, covering the former EL2508 and ERL's 150 – 152.

Exploration work conducted by Cameco in the Nabarlek Region since 2004 has had a strong geophysical emphasis, consisting of numerous airborne geophysical surveys, minor ground-based geophysical surveys and drilling programs.

Cameco's work focused on following up previously identified anomalies from past explorers and attempted to generate new prospects from the geophysical datasets. Most of this recent work

focused on the traditional unconformity model with very little work done on targeting deeper structurally controlled basement-hosted or dolerite-hosted mineralisation.

DevEx has operated in the region with a different exploration emphasis with an exploration model based on the strong structural control on mineralisation. DevEx's exploration program consisting of structural targeting, geochemical sampling using aircore and follow-up reverse circulation drilling has discovered new areas of significant upside potential on both the Mineral Lease and the surrounding West Arnhem licences.

Drilling conducted during the 2014 to 2015 field season is summarised below.

Table 4: Drilling summary for 2014-2015

Mining Interests (i.e. titles)	EL10176	EL23700	EL24371
Number of holes drilled	23	Nil	Nil
Maximum depth of holes	216m	Nil	Nil
Number of drill pads cleared (Length: x Width: m)	23 (20m x 20m)	Nil	Nil
Number of sumps cleared (Length: x Width: x Depth: m)	40 (within area of drill pads cleared)	Nil	Nil
Length of line / track cleared (Kilometres: x Width: m)	~3km x 5m	Nil	Nil
Number of costeans excavated (Length: x Width: x Depth: m)	0	Nil	Nil
Total bulk sample pits excavated (Length: x Width: x Depth: m)	0	Nil	Nil
Camp area/s cleared	0 (existing camp at historic Nabarlek mine site)	Nil	Nil
Total area disturbed (hectares)	0.92 (Drill pads) 1.20 (tracks)	Nil	Nil
Drill holes capped / plugged	23	Nil	Nil
Total area rehabilitated (hectares)	2.12	Nil	Nil

Drilling conducted during the 2015 to 2016 field season is summarised below.

Table 5: Drilling summary for 2015-2016

Mining Interests (i.e. titles)	EL10176	EL23700	EL24371
Number of holes drilled	6	Nil	Nil
Maximum depth of holes	250m	Nil	Nil
Number of drill pads cleared (Length: x Width: m)	5 (20m x 20m) (Note: 2 holes were drilled from the same pad)	Nil	Nil
Number of sumps cleared (Length: x Width: x Depth: m)	0	Nil	Nil
Length of line / track cleared (Kilometres: x Width: m)	0.5km x 5m	Nil	Nil
Number of costeans excavated (Length: x Width: x Depth: m)	0	Nil	Nil
Total bulk sample pits excavated (Length: x Width: Depth: m)	0	Nil	Nil
Camp area/s cleared	0 (existing camp at historic Nabarlek mine site)	Nil	Nil
Total area disturbed (hectares)	0.2 (Drill pads) 0.25 (tracks)	Nil	Nil
Drill holes capped/plugged	6	Nil	Nil
Total area rehabilitated (hectares)	0.45	Nil	Nil

No drilling was completed from 2016 to 2018, with work focused on project reviews, field reconnaissance, geophysics and the delineation of new targets. This resulted in a drill program being completed during the 2019 field season with details summarised below.

Table 6: Drilling summary for 2018-2019

Mining Interests (i.e. titles)	EL10176	EL23700	EL24371
Number of holes drilled	8	Nil	Nil
Maximum depth of holes	549.5	Nil	Nil
Number of drill pads cleared	6 (20x20m)	Nil	Nil

(Length: x Width: m)	(Note: 2 pads had 2 holes on each)		
Number of sumps cleared (Length: x Width: x Depth: m)	7 (6x3x1.5m)	Nil	Nil
Length of line / track cleared (Kilometres: x Width: m)	850m x 3m	Nil	Nil
Number of costeans excavated (Length: x Width: x Depth: m)	0	Nil	Nil
Total bulk sample pits excavated (Length: x Width: Depth: m)	0	Nil	Nil
Camp area/s cleared	0 (existing camp at historic Nabarlek mine site)	Nil	Nil
Total area disturbed (hectares)	0.2676	Nil	Nil
Drill holes capped/plugged	8	Nil	Nil
Total area rehabilitated (hectares)	0.0126	Nil	Nil

Coordinates of previous drilling exploration are included in the Drillhole Rehabilitation Register (Appendix 1). The track created for holes at the U40 South prospect have not yet been rehabilitated due to the possibility of the tracks being required for future work.

### 3.1.2 2022 Exploration Programme

Exploration during 2022 consisted of a total of 57 holes for 8,613.9m, comprising 23 DD holes for 4,690.9m, and 34 RC holes for 3,923 m. The breakdown of drilling per prospect is as follows:

- Nabarlek South Area 22 holes for 3,668m
- Overload 8 holes for 1,523.7m
- U40 2 holes for 244m
- U42 15 holes for 1,458m
- U40 South 8 holes for 1,320m
- Zeus 1 hole for 200m

In addition to the drilling, DevEx conducted a detailed project review for the purposes of identifying and prioritising drill targets, completed detailed field mapping, and conducted a number of generative geochemical surface sampling programs.

An airborne magnetic and radiometric survey tested the western half of EL10176 and the entirety of EL24371. Results from this survey have highlighted new uranium drill targets at several prospects including the Cowboy, GC11, Little Radon, Big Radon, SMLB and Airport targets. A potassium anomaly was also identified at the K Eye Prospect.



Results from the 2022 exploration program have been highly encouraging. Results to date are as follows:

At Nabarlek South, the results of Hole 1 (22NBDD01) confirmed the up-plunge position of uranium mineralization previously identified in historical drilling. Hole 3 (22NBDD03) was designed to step out approximately 100m down-plunge from the historic hole NARD6017 and encountered anomalous uranium, indicating the continuity of the uranium-bearing fault zone, albeit off-plunge from the main mineralization shoot. Hole 2 (22NBDD02) intersected mineralization 25 meters down-plunge from previous uranium intercepts in fresh rock, extending the known zones of high-grade uranium. This uranium mineralization is within a broader chlorite-haematite-leucoxene alteration zone.

- Assay results received for the early part of the 2022 drill campaign at the Nabarlek Uranium Project in the Northern Territory of Australia confirm the presence of significant uranium (U<sub>3</sub>O<sub>8</sub>) intercepts at Nabarlek South, including:
  - 10.1m @ 1.10%\* U<sub>3</sub>O<sub>8</sub> from 124.1m in 22NBDD02 (Hole 2), including:
    - 3.3m @ 2.63%\* U<sub>3</sub>O<sub>8</sub>, including:
      - 0.3m @ 8.8%\* U<sub>3</sub>O<sub>8</sub> and 0.6m @ 5.6% U<sub>3</sub>O<sub>8</sub>
    - Within the above interval (\*), a 0.15m sample has assayed higher than the maximum detection limit of ALS Laboratories (11.8% U<sub>3</sub>O<sub>8</sub>) and is being sent to Australia's Nuclear Science and Technology Organisation (ANSTO) for further analysis.
  - High-grade uranium mineralization at Nabarlek South is hosted in numerous fractures in the host dolerite, forming a broader envelope of lower-grade mineralization. This includes:
    - 61.8m @ 0.08% U<sub>3</sub>O<sub>8</sub> (800ppm U<sub>3</sub>O<sub>8</sub>) from 65.3m in 22NBDD01 (Hole 1), including:
      - 0.2m @ 1.76% U<sub>3</sub>O<sub>8</sub>; 0.3m @ 0.71% U<sub>3</sub>O<sub>8</sub>
      - 0.2m @ 1.07% U<sub>3</sub>O<sub>8</sub> and 0.6m @ 0.60% U<sub>3</sub>O<sub>8</sub>

At **U42**, broad-spaced reconnaissance RC drilling testing for uranium mineralisation, both within a fault-controlled dolerite and also in the underlying Cahill Formation, has intersected an interval of significant uranium mineralisation. RC hole 22NBRC14 (Hole RC14) was designed to test the north-west continuity of uranium mineralisation in the overlying dolerite. Importantly, the hole was drilled through the dolerite into underlying basement rocks and encountered a 2m zone of uranium mineralisation within an altered meta sediment (Cahill Formation).

Preliminary in-hole gamma probe measurements (EZ-Gamma) from within the RC rods estimate:

22NBRC14 (RC14) **1.9m @ 0.44% eU<sub>3</sub>O<sub>8</sub> from 186.7m**, including:  
**0.6m @ 1.03% eU<sub>3</sub>O<sub>8</sub>**

The intercept is reported as down-hole as the orientation is currently unknown. Although laboratory analysis is required, the spot pXRF readings support the presence of uranium mineralisation in the one metre sample interval.

These preliminary results are encouraging, considering the extremely wide spacing of the RC drilling surrounding Hole RC14.

The 2022 exploration program yielded promising results, identifying follow up drill targets for drilling in the 2023 field season.

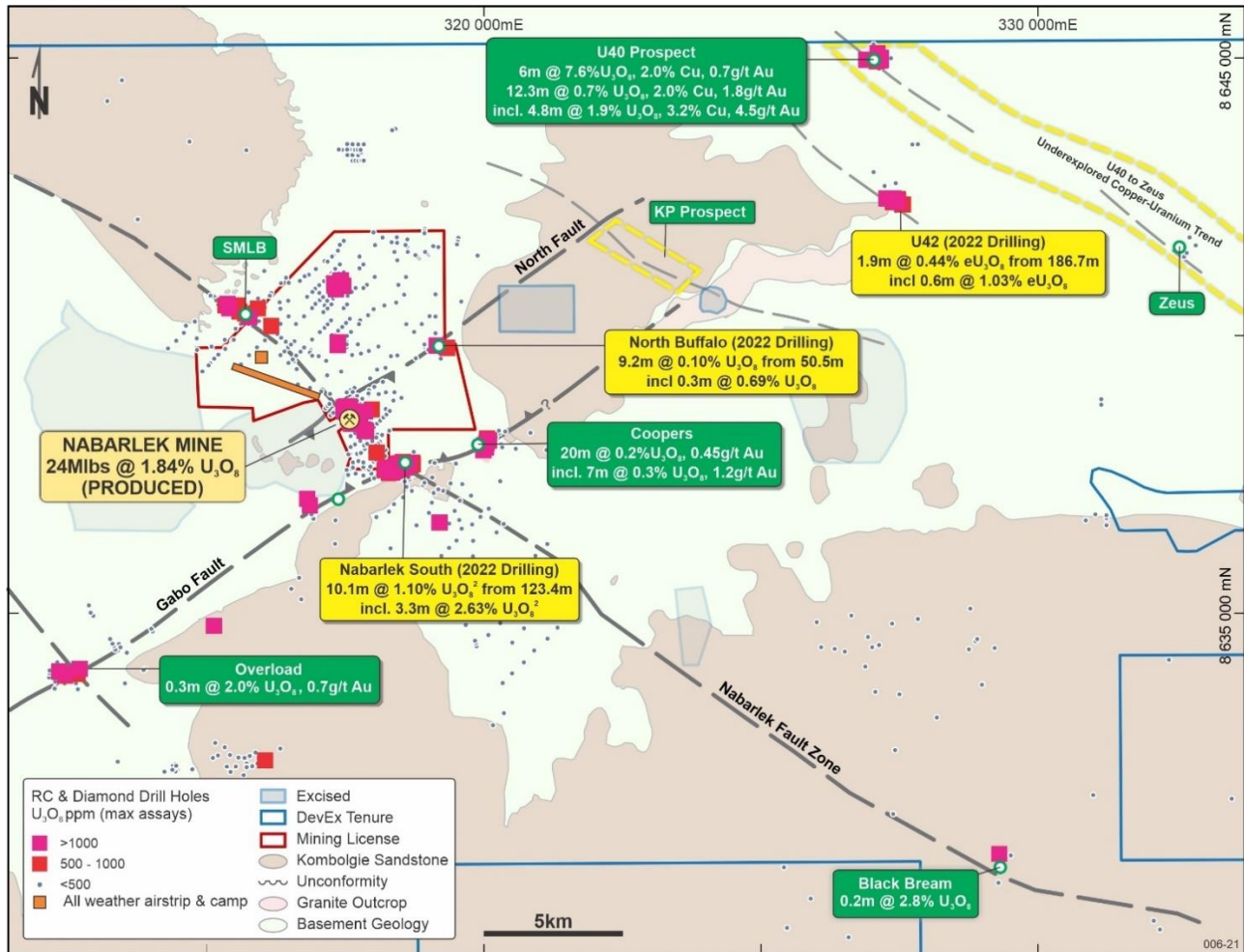


Figure 3: Nabarlek Uranium Prospects-Exploration conducted during 2022

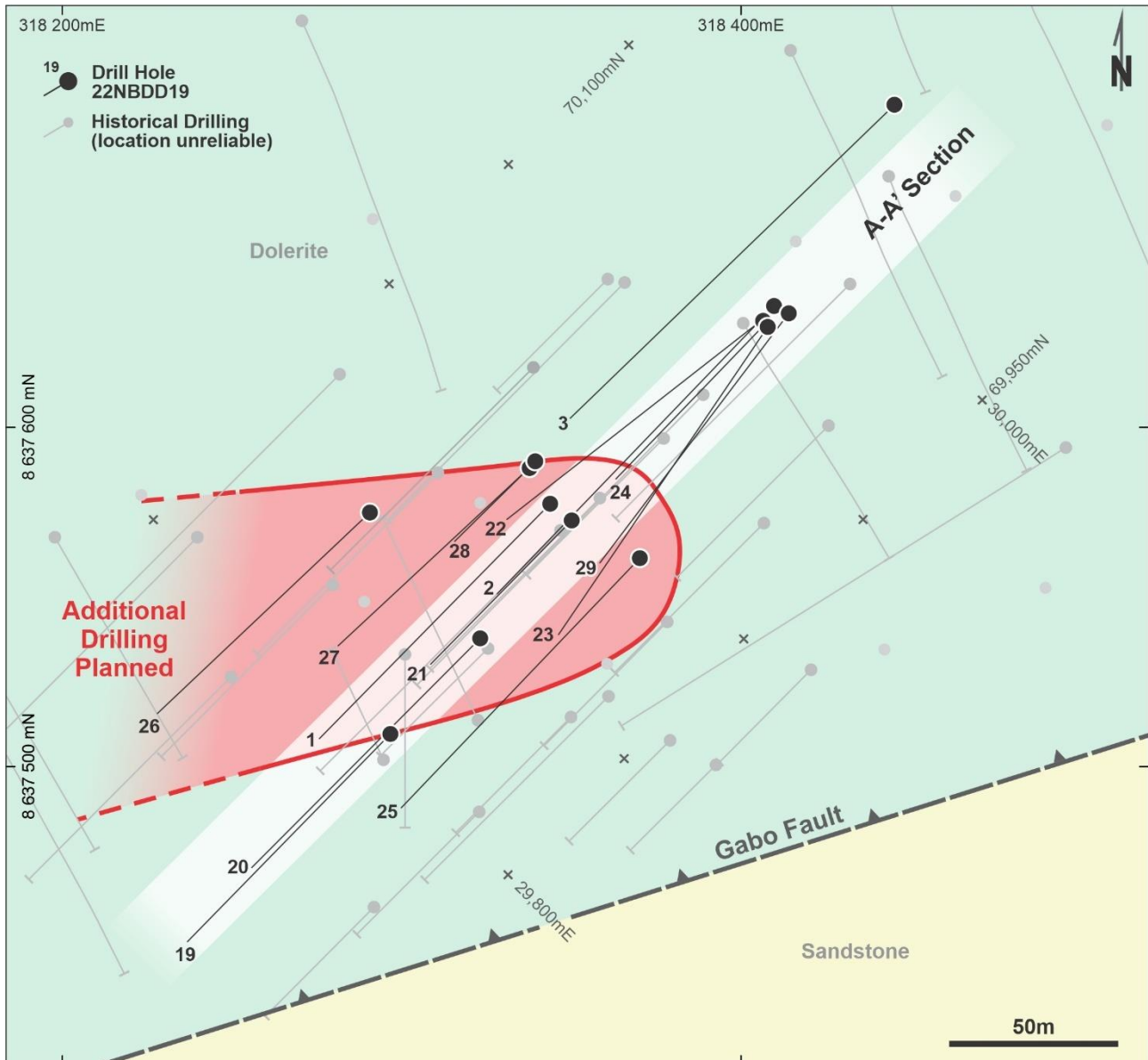


Figure 4: Nabarlek South Drill Hole Plan and Geological Interpretation.

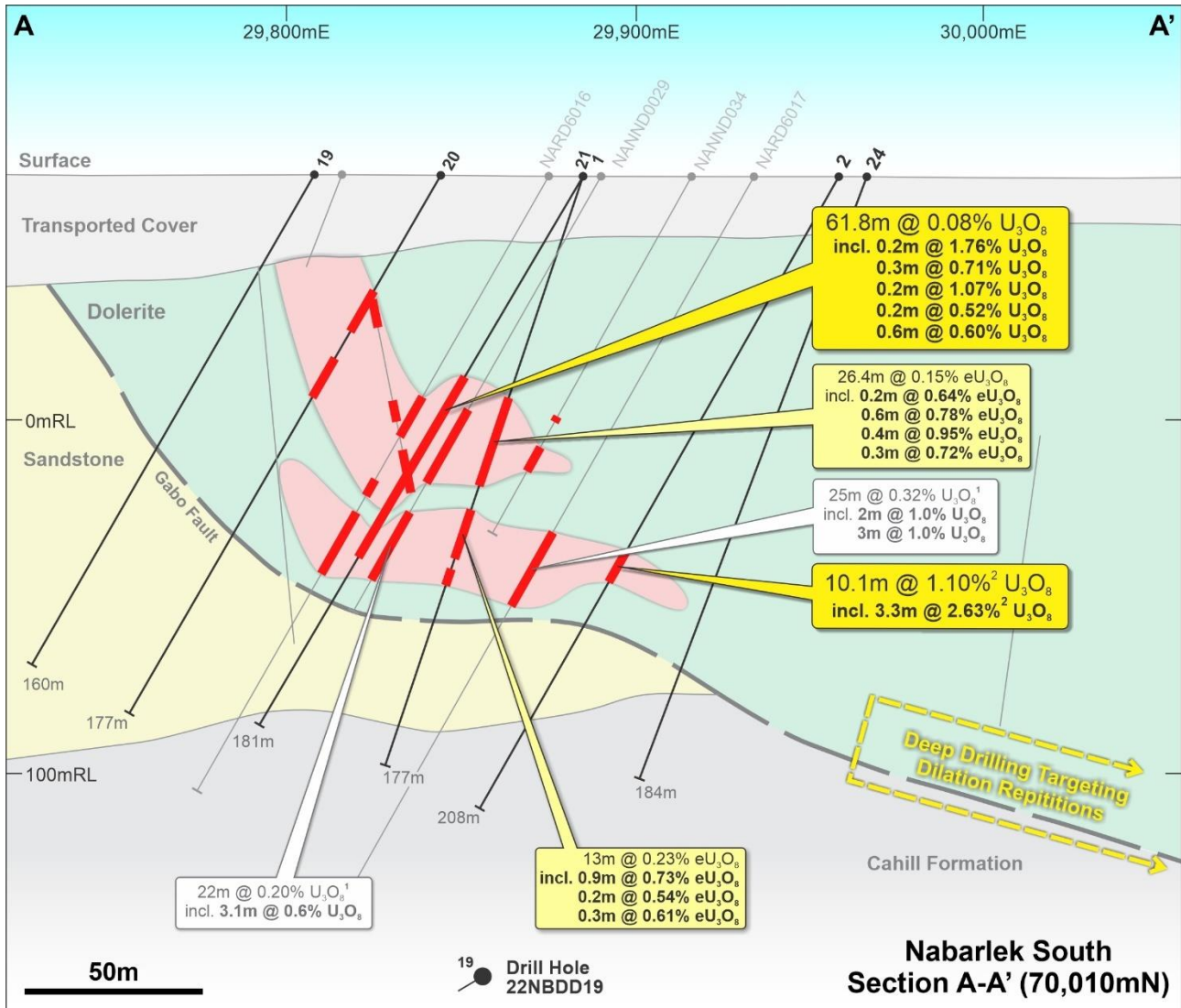


Figure 5: Nabarlek South Cross Section.



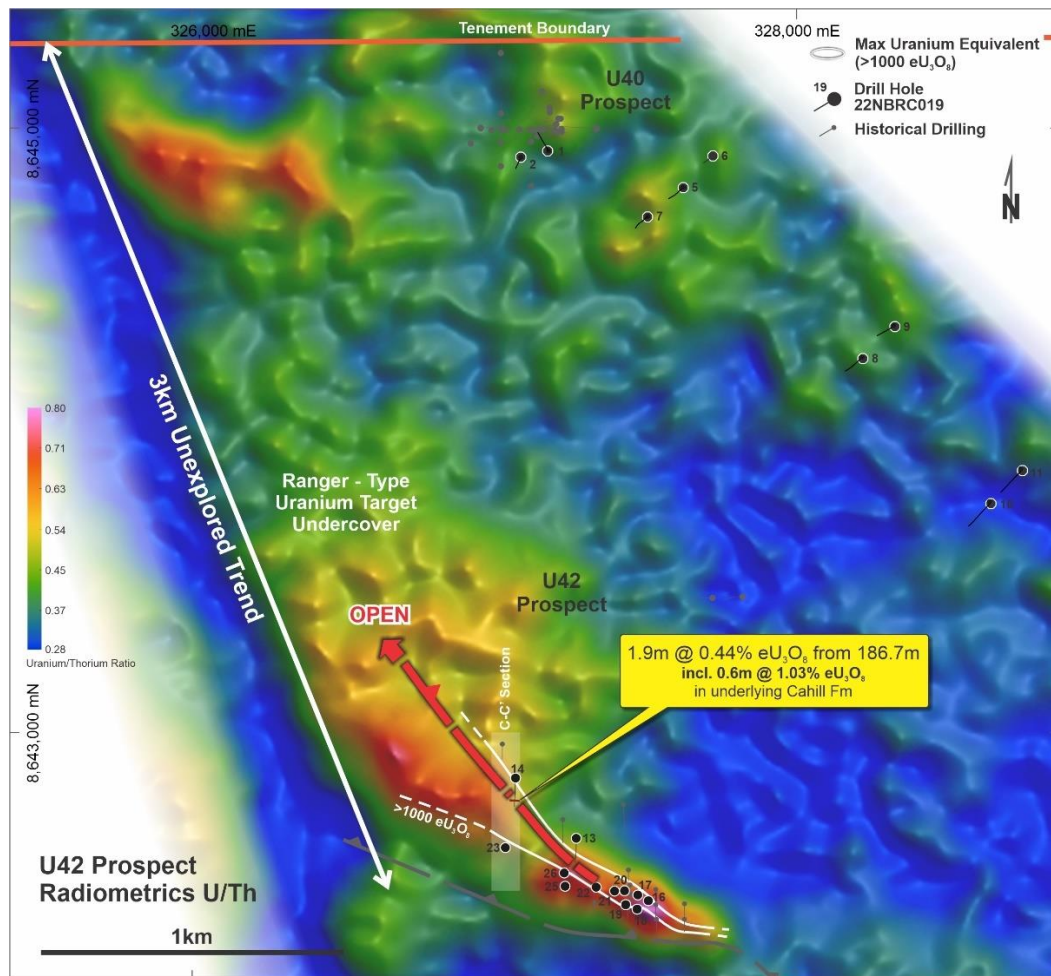


Figure 6: U42 Prospect, 2022 Drilling over Airborne Radiometric image for Uranium/Thorium at U42.

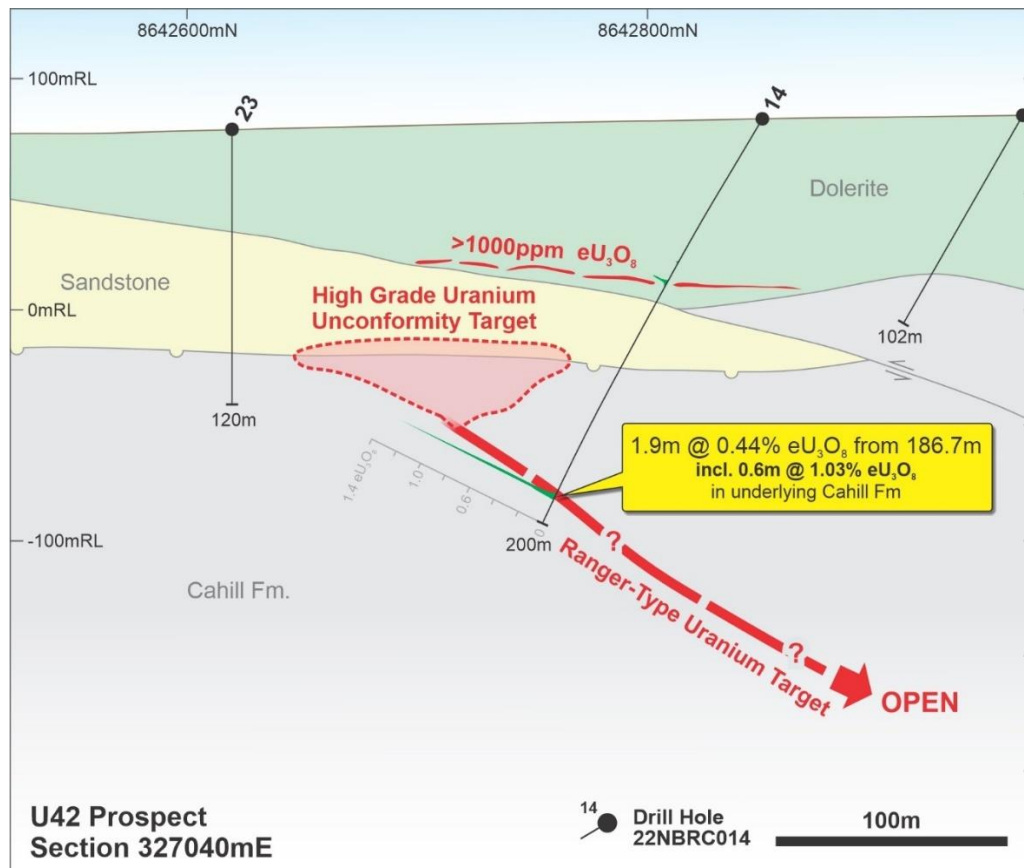


Figure 7: Cross section of U42, showing uranium mineralisation in RC14

### 3.2. Proposed Activities

Planned exploration for the 2023 year is expected to increase in activity following a successful 2022 field campaign.

The 2023 program will build on the success of the 2022 drilling programs, and continue to delineate and define existing targets, as well as test new targets.

In addition to drilling, DevEx aims to conduct a number of generative exploration activities in order to advance a number of early stage and conceptual exploration targets. This will include geophysical surveying and mapping within the West Arnhem tenement packages.

A new proposed program was presented and approved at a TO meeting on the 24<sup>th</sup> November 2022.. The proposed work at West T and Black Bream was requested to be postponed for 2023. All other works have been approved with some areas requiring the presence of cultural monitors as outline in Table 9. The approved program for the 3 exploration licences is represented by the Prospects listed in Table 9

Figure 9 highlights the locations of planned exploration activities for the 2023 field season as laid out in Table 9.

The program outlined in Table 9 is contingent on DevEx and its staff and contractors having timely access to the project, within the field (dry) season window.

Table 4: 2023 Proposed exploration by prospect

Prospect	Tenement	Work Proposal	Activity	Target / Rationale
<b>Airborne Survey</b>	EL10176 EL23700	Airborne Magnetic and Radiometric Survey (Eastern)		DevEx plans to continue with and its airborne magnetic and radiometric survey on the eastern half of EL10176 and EL23700
<b>K Eye</b>	EL10176	Surface Geochemical Sampling Drilling <sup>2</sup> Tracks	100 samples  10 drill holes 2.2km	Radiometric anomaly (Potassium) seen in 2022 airborne survey requires investigation with surface geochemistry to determine potential for rare earths. Follow up drilling if positive results are identified in surface geochemistry.
<b>Overload</b>	EL10176	Surface Geophysics Surface Geochemistry Drilling Tracks	2 weeks of geophysics 400 Samples 30 Holes 11km	Several historical uranium prospects which were drilled in the 1990's show promising signs of uranium mineralization. DevEx plans to continue with surface geochemistry and ground geophysics to clarify the full length of these targets.  Ongoing drilling of targets is planned for the 2023 year.
<b>Airstrip and SMLB</b>	EL10176	Surface Geochemistry and Surface Geophysics Drilling (RC and Diamond) Tracks	50 Samples  20 Holes  1km	Several historical uranium prospects were drilled between 2009 to 2015 show promising signs of uranium mineralization. DevEx plans to continue with surface geochemistry and ground geophysics to clarify the full length of these targets.  The recent 2022 Airborne geophysical survey has highlighted broader targets in this area which require further drilling along two north east trends at Airstrip and SMLB in 2023.
<b>Nabarlek</b>	EL10176	Surface Geochemistry and Ground Geophysics. Drilling Tracks	300 Samples  35 Holes 6km	The Nabarlek area combines a series of exploration targets that includes the Nabarlek South and North Buffalo Prospects.  Ground geophysics and trial surface geochemistry is being planned to test the dolerite within the Nabarlek region to determine its overall shape and depth.  Drilling is planned to follow up on positive results received from the 2022 drill campaign.



<b>Cowboy</b>	EL10176	Drilling Tracks	10 Holes 2km	Historical drilling, and surface geochemistry has defined several drill targets within the Cowboy anomaly.  Drilling is planned to follow up on these results.
<b>GC11</b>	EL10176	Surface Geochemistry Drilling Tracks	30 Samples 10 Holes 1.5km	The recent 2022 airborne geophysical survey has identified a significant uranium anomaly in the GC 11 area. This anomaly requires surface investigation and sampling.  Drilling into this anomaly is planned for the 2023 dry season.
<b>Big Radon</b>	EL10176	Drilling Tracks	8 Holes 1.5km	Drilling is planned to target a extensive Radon anomaly located north of the sand stone escarpment.  Drilling is reconnaissance in nature and 8 holes should be an adequate first pass test to determine whether there is any uranium mineralization beneath the radon anomaly.
<b>Little Radon</b>	EL10176	Surface Geochemistry Drilling Tracks	100 Samples 8 Holes 5km	Surface Geochemistry and Drilling is planned to target a uranium anomaly identified in the 2022 Airborne geophysical survey.  Previous drilling in the area missed the main anomaly  Drilling is reconnaissance in nature and 8 holes should be an adequate first pass test to determine whether there is any uranium mineralization beneath the anomaly.
<b>Old Camp</b>	EL10176	Drilling Tracks	15 Holes 2km	Drilling is planned to follow up on uranium mineralization intersected in historical drilling.
<b>KP</b>	EL10176	Drilling	1 Hole	Plans to drill KP Prospect were postponed due to the wet season an drill rig performance.  Drilling is now planned for the 2023 Period.
<b>U42</b>	EL10176	Surface Geophysics and Surface Geochemistry Drilling Tracks	100 Samples 30 Holes 8km	Drilling during the 2022 campaign has intersected significant uranium mineralization at U42 Prospect.

				<p>Trial ground geophysics and Surface Geochemistry is planned to test for anomalies beneath the dolerite.</p> <p>There is a broader soil anomaly that extends to the north and the Company has plans to carry out significant drilling in the area during the 2023 dry season.</p>
<b>U40</b>	EL10176	Surface Geophysics and Surface Geochemistry Drilling	40 Samples 8 Holes	Continuation of 2022 drill program at U40 Prospect
<b>Zeus</b>	EL10176	Drilling	100 Samples 8 Holes	<p>An RC hole at Zeus was completed in September and encountered drilling difficulties. The programmed was abandoned until a different drill rig can be sourced to test the area.</p> <p>A broad radon anomaly requires further drilling. Historical drilling encountered anomalous gold, copper and uranium mineralization.</p>
<b>Far East</b>	EL10176	Surface Geochemistry Drilling	40 samples 4 Holes	<p>A historical radon anomaly has seen shallow RAB/AC drilling of the target that is considered to be ineffective.</p> <p>Planned exploration activities during the 2022 period have been put on hold due to drill rig availability. The Company is planning to carry out further work here during the 2023 period.</p>

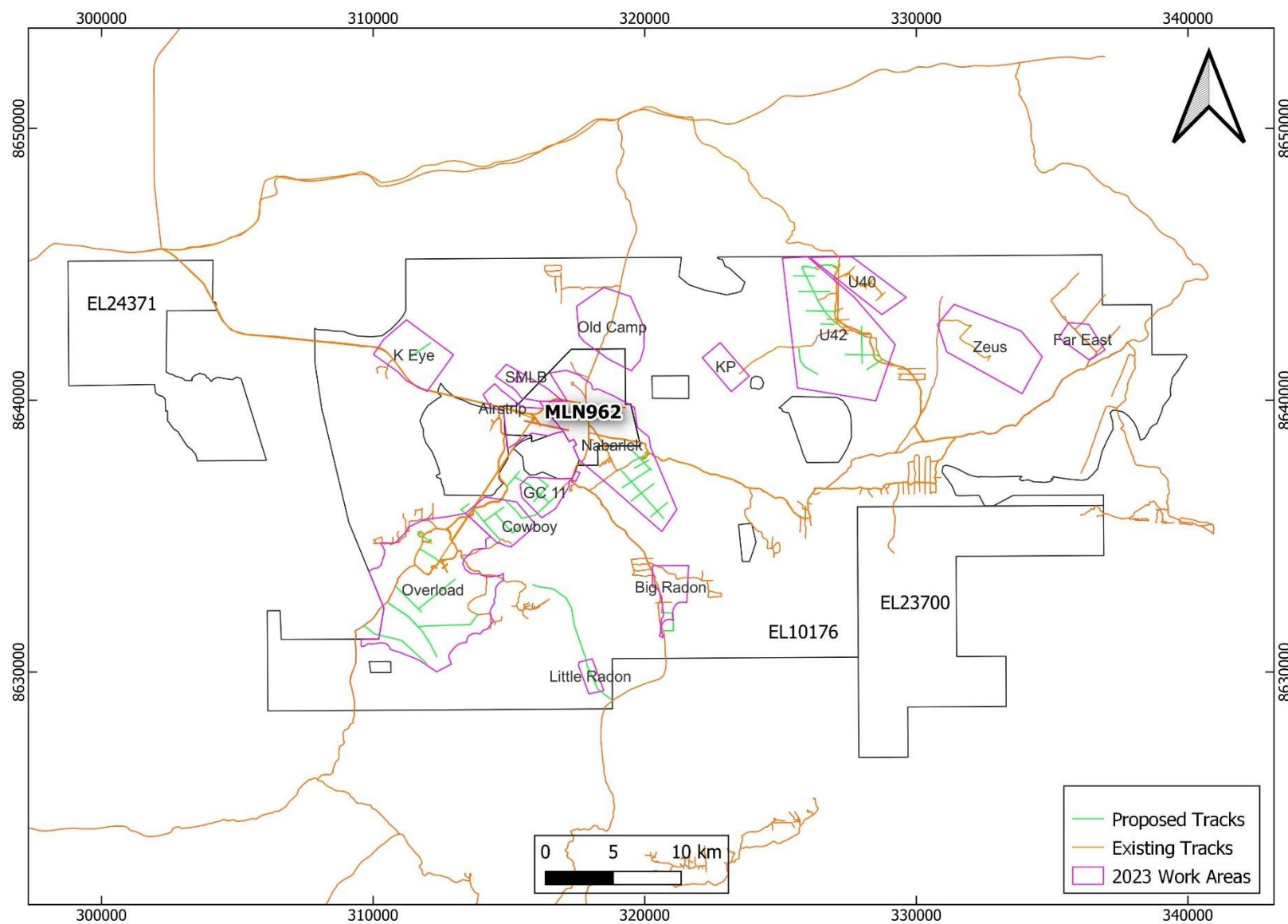


Figure 8: Proposed exploration areas

### **3.2.1. Workforce**

Geophysical survey contractors will typically comprise 3 to 4 staff to carry out the various surveys, all using light vehicles. This survey crew should be able to complete the work with minimal disturbance. Access will be along permanent tracks and tracks established from previous drilling. The survey crew will provide their own camping facilities. The crews will be based at DevEx's Nabarlek camp.

Drilling contractors for the various drilling programs will typically comprise 3 to 5 staff depending on whether the programme is RAB / aircore, reverse circulation or diamond drilling. The drilling contractor will provide their own camping and accommodation whilst on site. As much as possible, the drilling personnel will be camped at the main Nabarlek camp area. However, for U40, U40 south, prospects the drilling personnel will be camped at location 327270E / 8642700N (GDA94z53) – a site away from creeks, that has been used by previous explorers. Domestic, and other waste associated with the operations of the Camp will be removed and disposed of as per this MMPs Waste Management plan (discussed in the sections below).

The Company also plans to hire casual Traditional Owners to assist with track preparation and drill activities.

### **3.2.2. Airborne and Ground Geophysical Surveys**

Following on from the 2022 airborne geophysical surveys, DevEx plans to continue with its airborne magnetic and radiometric data collection along the eastern half of EL10176 and EL23700.

DevEx plans to continue ground based geophysical surveys at Overload, Airstrip and SMLB, Nabarlek South and North Buffalo, U42, U40 with the aim of clarifying the extent of Uranium mineralisation found in previous exploration campaigns.

### **3.2.3. RAB, AC, RC and Diamond Drilling**

Previously mapped No-Go zones will be avoided during hole preparations. The Company plans to hire traditional owners to assist with track and site preparation.

RAB and aircore drill sites require minimal preparation with the machines operating on tracks as wide as the rig itself.

RC and diamond drill sites will require some preparation to allow access for the rig and support vehicles. Drilling pads are typically 30m x 25m or less and are located and designed individually to accommodate for minimal disturbance of vegetation. Each RC drill site will have a single sump, while diamond drill sites will have two sumps that will be excavated to contain any groundwater that might be brought to the surface during drilling operations.

The drill rig will be accompanied by support vehicles carrying drill rods and water for the drilling operations. A 4WD tray-back utility or similar will transport the drill crew and geological staff from the campsite to the drill rig.

Water for the purpose of exploration activities will be required for RC/Diamond holes and dust suppression. The company plans to source water for drilling operations via several methods as outlined in section 3.2.8.

### **3.2.4. Access Tracks**

Existing tracks will be utilised wherever possible, a loader will be utilised to refurbish existing access tracks as required by the exploration programs outlined in Table 9. The access tracks will only be

refurbished to the same width as the existing tracks (no greater than 3 metres) to allow safe passage of 4WD vehicles and drill rigs as required.

Any new new tracks that need to be established will only be done once TO's have approved them. Care will be taken to minimise clearing any large tree's, with the practice of raised blade clearing being employed to minimise the time required for tracks to naturally revegetate.

### 3.2.5. Traditional Owner Involvement and Communication for 2023 Work Programme

A work programme meeting was held on the 24<sup>th</sup> of November 2022 whereby the Company presented the initial 2023 drilling and exploration activity work programme as outlined in Section 3.2.

### 3.2.6. Exploration Schedule

Table 10 details the proposed exploration schedule for 2023 (subject to COVID-19 travel restrictions and contractor and equipment availability).

Table 10: Exploration schedule for 2023

Class	Duration	Timing	Quantity	Location	Status
Camp setup	2 weeks	April-May 2023	2 DevEx personnel to occupy the existing camp at Nabarlek	Nabarlek Camp	Planning
Surface geophysics	4 Weeks	June 2023	2 Geophysical crew	Airstrip & SMLB (EL10176 & MLN962) Overload, U40 & U42 (EL10176)	Planning
Airborne Geophysics	1 Week	March 2023	2 Geophysical crew	EL10176 EL23700	Planning
Track, pad and sump clearing for RC / DD	3 Weeks	April-May 2023	38km & 197 pads 1-2 TO's	See Figure 9	Planning
RC/DD drilling	30 weeks	April-November 2023	197 holes for 30,000m 2 DevEx Drilling crew, plus 2-4 TO's	K-Eye, Overload, Airstrip, Nabarlek, Cowboy, GC11,Big Radon,Little Radon,Old Camp,KP,U42, U40 Zeus, East, (EL10176) SMLB, Nabarlek (MLN962)	Planning

Drill pad and access track remediation	2 Weeks	October-November 2023	Remediation of drill sites including back filling of sumps and removal of rubbish.  Where drilling is unsuccessful, close of access tracks	K-Eye, Overload, Nabarlek, Airstrip, GC11, Big Cowboy, Radon, Little Radon, Old Camp, KP, U42, U40 Zeus, East, (EL10176) SMLB, Nabarlek (MLN962)	Remediation works planned once results are received and final sampling complete
Camp closure	5 days	November 2023	2 DevEx personnel to close the camp at Nabarlek for the Wet Season	Nabarlek Camp	

### **3.2.7. Surface Water as an alternative source for Reverse Circulation and Diamond Drilling**

Water for the purpose of exploration activities will be required for RC/Diamond holes. At present it is estimated that 1,000L will be required for every RC drill hole with diamond drill holes requiring around 10,000 to 15,000 litres meaning some 35,000L (RC only drilling) to 200,000L (mixed RC / DD drilling) will be required for dust suppression and combined RC and diamond drilling.

The company plans to source water for drilling operations via several methods:

- a) Surface Water Extraction Licence Number 8211003, granted on 15<sup>th</sup> June 2020 to Queensland Mines Pty Ltd – a wholly owned subsidiary of DevEx Resources, allows for the extraction of surface water for the West Arnhem Region (NT Portion 1646) from several locations along Cooper's Creek. Secondly, the licence also recognises that the Nabarlek Camp water bore can be also utilised for exploration activities. Volumes of water required for exploration activities within the West Arnhem tenements will fall well below the current water allocations and extraction rates. This water will be extracted from either of these locations and transported to drill holes using a water truck.
- b) In the event of drilling encountering groundwater within the exploration holes, this water can also be recycled into the sumps for use in both the RC and Diamond phases of drilling.
- c) In the event that surface water can be sourced from areas closer to the drilling operations, the Company may also apply for a second Surface Water Extraction Licence or alternatively amend the current Surface Water Extraction Licence #8211003 if appropriate to do so.

Where the Company is utilising its Surface Water Extraction Licence the Company plans to Draw down a maximum of 20% of the ponded water after which it will move to different water ponds should additional draw down be required.

## **4. Current Project Site Conditions**

### **4.1. Climate**

The West Arnhem project is located in the tropical region of the Northern Territory. This tropical environment is characterised by two distinctive seasons, the 'wet' and the 'dry'. From October/November through to March/April, high rainfall and humidity brought on by monsoonal weather patterns are distinctive of the wet season. The majority of the annual rainfall experienced in the region falls within these months (Figure 10). Cyclones and ex-cyclones can also be experienced within this time frame bringing high winds and increased rainfall.

The average rainfall at Jabiru Airport (Bureau of Meteorology Station Number: 014198), is shown in Figure 10. This recording station has been used as it is the closest recording station to the Nabarlek Mine with a full set of records. Nabarlek does not have its own weather station.

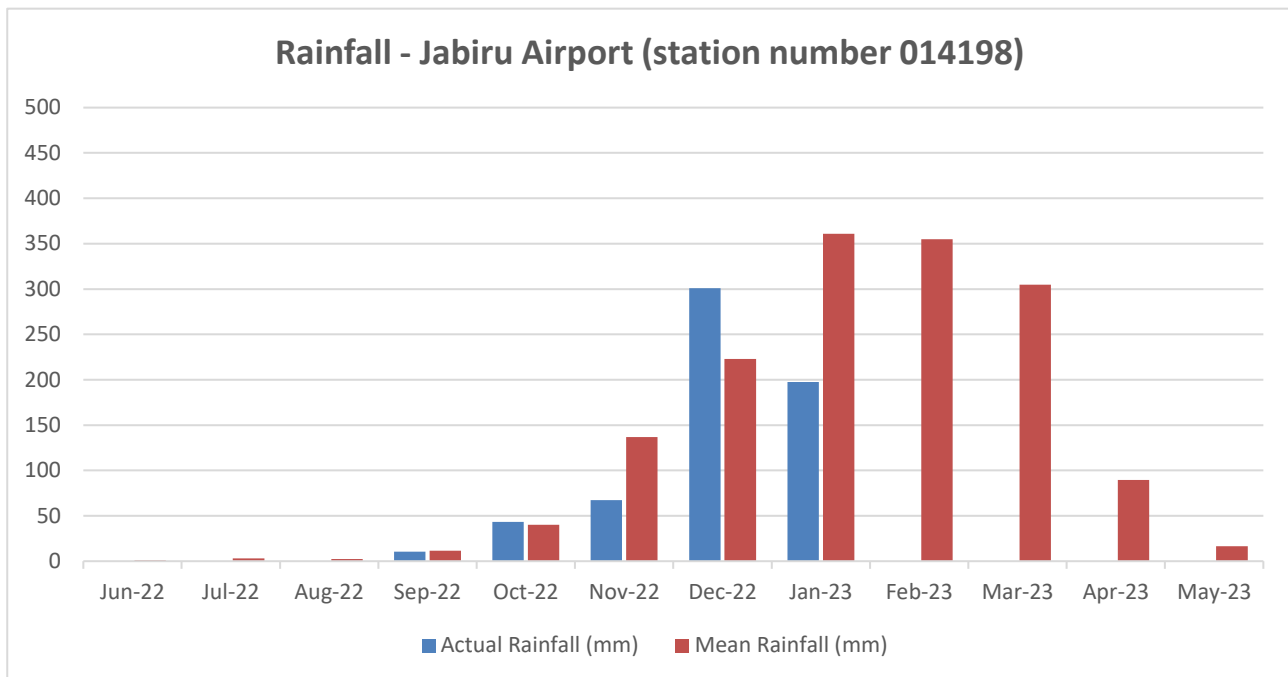


Figure 9: Average rainfall for 2022

## 4.2. Land Area Type and Geology

The West Arnhem tenements are located within a small embayment in the northern edge of the Arnhem Land Plateau and comprises a gently sloping terrain of red-yellow coloured lateritic soils and sands, residual gravel pavements of vein quartz and calcrete concretions. Vegetation consists of tall open eucalypt forest and woodland plains with ground cover consisting of annual grasses. There is good vehicular access throughout the region due to the pre-existing mine infrastructure.

Rocky outcrop is poor within the area and most of what is known of the geology has been derived from previous drill programs and mapping in the old open pit area. The oldest rocks are a sequence of Early-Proterozoic metamorphosed sediments (semi-pelites) and amphibolites termed the Myra Falls Metamorphic; this unit hosts the Nabarlek Deposit.

The Myra Falls Metamorphics are faulted against the Nabarlek Granite which has been intersected in two holes beneath the Nabarlek Deposit. This granite also outcrops a few kilometres to the northeast within EL10176.

Middle Proterozoic shallow dipping Kombolgie Sandstone unconformably overlies the sequences described above and outcrops to the immediate north, west and south of the old mine site. Drilling has shown that up to 150m of sandstone can occur beneath the ground surface in areas covered by lateritic soils and sands.

Two major structural zones traverse across the Project area that potentially control mineralisation in the region. The Nabarlek Shear Zone controls the mineralisation at Nabarlek and the Quarry Fault Zone located 10km the east, form sub-parallel NNW–SSE trending structures through the Project.

## 4.3. Hydrology

The major watercourses in the project area are the Cooper Creek and the Birraduk Creek which both flow to the northwest. There are two smaller creeks, Kadjirrikarmada and Buffalo, which run into Cooper Creek. In addition there are several smaller drainages.



Stream flows are variable throughout the region, reaching peak discharge levels during the wet season months of February and March. Many of these drainages have pools until late in the field season. The first wet season floods flush the creek and billabong systems of stagnant and naturally eutrophic waters that build up during the dry season.

The only known users of the surface water resources that originate or pass through the West Arnhem Project area are the local Aboriginal people. Their usage is entirely related to cultural and recreational activities such as swimming and fishing in flowing creeks/rivers in the region. There is no evidence that flowing water is likely to be contaminated.

#### 4.4. Flora and Fauna

The Company commissioned a likelihood assessment of rare and endangered flora and fauna by COOE Pty Ltd in January 2023. The document, which considers the risk of the likelihood of work impacting on a threatened species is integrated into the Company's drilling procedures documentation - Appendix 7. The procedures are set out in a tabulated manner allowing field staff to use it as a checklist to meet the Company's environmental standards.

A number of internet databases including the Environmental Protection and Biodiversity Conservation (EPBC), Protected Matters Search Tool and the Northern Territory Natural Resource Management (NT NRM) Infonet have been utilised to assess the presence of potentially endangered species. The EPBC search tool identified seven threatened species that may occur within the area. These are:

- Red Goshawk – *Erythrorhynchus radiatus*;
- Gouldian Finch – *Erythrura gouldiae*;
- Partridge Pigeon (eastern) – *Geophaps smithii smithii*;
- Brush-tailed Rabbit-rat – *Conilurus penicillatus*;
- Northern Quoll – *Dasyurus hallucatus*;
- Arnhem Rock-rat – *Zyomys maini*; and
- Freshwater Sawfish – *Pristis microdon*.

The NT NRM Infonet database also identified threatened species that possibly inhabit the area. These include:

- Freshwater Sawfish – *Pristis microdon*;
- Arnhemland Egernia – *Egernia obiti*;
- Mertens' Water Monitor – *Varanus mertensi*;
- Yellow-spotted Monitor – *Varanus panoptes*;
- Emu – *Dromaius novaehollandiae*;
- Partridge Pigeon (eastern) – *Geophaps smithii smithii*;
- Red Goshawk – *Erythrorhynchus radiatus*;
- Australian Bustard – *Ardeotis australis*;
- Masked Owl – *Tyto novaehollandiae*;
- White-throated Grasswren – *Amytornis woodwardi*;
- Yellow Chat – *Epthianura crocea tunneyi*;
- Crested Shrike-tit – *Falcunculus frontatus whitei*;
- Gouldian Finch – *Erythrura gouldiae*;
- Northern Quoll – *Dasyurus hallucatus*;

- Northern Brush-tailed Phascogale – *Phascogale pirata*;
- Arnhem Leaf-nosed Bat – *Hipposideros inornata*; and
- Arnhem Rock-rat – *Zyzomys maini*.

The main vegetation is eucalypt woodland forest dominated by *Eucalyptus tetradonta*, *Eucalyptus Miniata*, *Corymbia bleeseri*, *Erythrophleum chlorostachys* and *Livistona humilis*, and other species common to these woodlands (Brock, 1997 and Clark et al., 1987). Lower areas tend to be dominated by *Melaleuca* spp. including *Melaleuca viridiflora* and *Melaleuca leucadendra*.

The Northern Territory Natural Resource Management (NT NRM) Infonet have been utilised to assess the presence of pest and potential pest animals that may occur within the area, including:

- Cane Toad – *Chaunus marinus*;
- Asian House Gecko – *Hemidactylus frenatus*;
- King Quail – *Excalfactoria chinensis*;
- Eurasian Tree Sparrow – *Passer montanus*;
- House Mouse – *Mus musculus*;
- Black Rat – *Rattus*;
- Dingo / Wild Dog – *Canis lupus*;
- Cat – *Felis catus*;
- Horse – *Equus caballus*;
- Pig – *Sus scrofa*;
- Swamp Buffalo – *Bubalus bubalis*;
- Cattle – *Bos indicus* / *Bos Taurus*; and
- Goat – *Capra hircus*.

Database searches through the Department of Natural Resources, Environment and the Arts (NRETA) and the Protected Matters Search Engine (Australian Department of the Environment and Water Resources) have been used to provide a full species list of flora and fauna and identify rare and endangered species in the area. The full report is provided in Appendix 2.

The likelihood assessment was undertaken to review the potential impacts on flora and fauna within the areas proposed for exploration activities during the 2023 Program, as listed in Table 9 and presented in Figure 9. The areas have been specifically designed to avoid mapped significant vegetation and sandstone escarpments visible from aerial imagery. Areas were assessed via pre-clearance survey to confirm the presence or absence of environmental values including threatened species habitat and disturbance plans have been amended accordingly.

This assessment has concluded that (1) further investigation is required to better understand the risk to threatened species posed by exploration activities in the southern portion of Big Radon and Little Radon; and (2) proposed activities elsewhere on the lease do not pose a significant risk to threatened flora and fauna providing vegetation avoidance and impact mitigation measures are followed, as detailed in section 5.4.1.

## 4.5. Current Land Use

Current use of the land surrounding the site includes hunting, gathering and cultural use by the Traditional Owners. Access by non-traditional owners is limited almost exclusively to government officers and company employees and is controlled by a permit system.

## 5. Environmental Management System

DevEx understands that responsible environmental management is essential to sustainable business success and is committed to environmental best practice. This commitment is documented in the company's *Sustainable Development Policy* given at the start of this document. Careful environmental planning and implementation of appropriate management measures will help minimise the potential environmental impacts and will enhance successful rehabilitation of disturbed areas.

DevEx's Environmental Management System (EMS) for all exploration activities are provided in this section. This EMS has been structured to comply with the requirements of the international EMS standard ISO 14001.

DevEx will comply with the recommendations outlined in the 2022 Annual Environmental Audit of the Nabarlek mineral lease and West Arnhem Joint Venture Document.

### 5.1. Environmental Policy and Responsibilities

DevEx's commitment to the environment is defined in its *Environment Policy*, which is shown on the next page.

## Environment Policy


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DevEx Resources is committed to continuous improvement in our business operations to protect the environment, in accordance with the requirements of the law, our clients, and expectations of the general community.

DevEx Resources understands that responsible environmental management is essential to sustainable business success and is committed to a high standard of environmental management throughout its operations.

To achieve this DevEx will:

- Comply with all environmental laws and regulations as a minimum, with best practice environmental management our target;
- Ensure appropriate training for all employees and contractors to enable them to fulfil their environmental responsibilities;
- Communicate with relevant government agencies and communities on environmental issues and develop open relationships;
- Establish programs to control and manage environmental risks;
- Implement strategies to minimise and manage hazards; and
- Establish measurable environmental objectives to monitor and continuously improve our environmental performance.



Brendan Bradley  
Managing Director

## 5.2. Statutory and Non-Statutory Requirements

### 5.2.1. Statutory Requirements

The following dot points list all relevant legislation, codes and other statutory obligations related to the Project area. In certain circumstances, specifics of how it relates to the operation are also provided. DevEx will comply with all permits and conditions pertaining to the Project area.

- *Aboriginal Land Rights (NT) Act (Commonwealth);*  
Permission to explore over Aboriginal Freehold land is gained via Exploration Agreements with the relevant Traditional owners under ALRA. The Joint Venture partners have an exploration agreement with the Northern Land Council (NLC). The project area lies within the Arnhem Land Aboriginal Reserve. All personnel entering the project area will be required to obtain the appropriate Northern Land Council (NLC) permit.
- *Mining Management Act (NT) and Regulations;*  
Operational aspects of the West Arnhem Project will be regulated under the MMA through the annual submission of an MMP, and via the conditions of Authorisation. This MMP is being prepared and submitted as required under this Act. In addition this Act requires the calculation of financial security based on the actual cost of rehabilitation, (see Appendix 4).
- *Mineral Titles Act (NT) and Regulations;*  
Exploration operations will be conducted on the lease subject to the conditions of the *Mineral Titles Act*.
- *Environmental Protection (Alligator Rivers Region) Act 1978;*
- *Radiation Safety and Control Act (NT) and Regulations;*  
Mining operations are specifically excluded from the RSCA, however DevEx endeavours to comply with the requirements of the Act wherever possible in the interests of good practice.
- *Radioactive Ores and Concentrates (Packaging and Transport) Act (NT);*  
Under the ROCA, radioactive material may require a licence from NT Worksafe for transport off the Project area. Licences for sample transport will be sought as required.
- *Atomic Energy Act (Commonwealth);*
- *Bushfires Act (NT);*
- *Environmental Assessment Act (NT);*
- *Environmental Offences and Penalties Act (NT);*
- *Environment Protection and Biodiversity Conservation Act (Commonwealth);*
- *Heritage Conservation Act (NT);*
- *Native Title Act (NT);*
- *Northern Territory Aboriginal Sacred Sites Act (NT);*
- *Public Health Act (Commonwealth);*
- *Soil Conservation and Land Utilisation Act (Commonwealth);*
- *Territory Parks and Wildlife Conservation Act (NT) and By-Laws;*
- *Waste Management and Pollution Control Act (NT);*
- *Water Act (NT);*
- *Weeds Management Act (NT);*

- *Workplace Health and Safety Act (NT)*;
- Radiation Protection Series G-1 (ARPANSA, Commonwealth);
- Radiation Protection Series G-2 (ARPANSA, Commonwealth);
- Radiation Protection Series C-1 (ARPANSA, Commonwealth);
- *Code of Practice on the Safe Transport of Radioactive Materials (ARPANSA, Commonwealth)*;

DevEx have prepared a Radiation and Radioactive Waste Management Plan for all their exploration activities. This plan and its associated procedures ensure compliance with both these codes of practice.

### **5.2.2. Non-Statutory Requirements**

DevEx have entered into agreements with Traditional Owners of the land encompassing the West Arnhem Project. All persons working in Aboriginal Freehold land will obtain a permit from the NLC prior to entry.

## **5.3. Induction and Training**

Each staff member and contractor will be trained with the *West Arnhem Exploration Induction* before they are allowed to commence work on site. As standards and practices change, staff will be made aware and trained in new practices.

The *West Arnhem Exploration Induction* outlines environmental & cultural issues relevant to exploration activities and items of particular importance covered by the induction include:

- Cultural awareness;
- Weed Management;
- Vegetation and Land Clearance;
- Waste Management;
- Hydrocarbon/Hazardous Materials and Radiation Management; and
- Fire Management

Records will be kept of all staff and contractors that undertake the induction. It is expected that any person entering site to work will undertake this induction.

## **5.4. Identification of Environmental Aspects and Impacts**

The key environmental aspects considered to be important in the assessment of environmental impacts for the West Arnhem exploration activities are outlined in Table 11. Environmental impacts were identified from the results of environmental audits, workplace inspections, risk assessment and from a working knowledge of day-to-day operational activities.

The risk rating was assigned by conducting a small group session and assessing the magnitude or severity of environmental impacts using the DevEx Risk Matrix (Table 12) for each environmental aspect and assigning a score. Mitigating factors were taken into consideration to assign a Mitigated Risk Rating.

Table 11: West Arnhem Environmental Aspects and Impacts Register for Exploration Activities

Environmental Aspect	Environmental Impact	Risk Rating	Management Measures (Refer to listed section below)	Mitigated Risk Rating
Clearing of drill pads, drill sumps and access tracks	Damage to or loss of native vegetation	6	5.4.1	9
	Disturbance of threatened/listed species	13	5.4.2	17
	Loss of faunal habitat	13	5.4.2	17
	Loss or damage to aboriginal heritage sites	8	5.4.4	12
	Dust emissions disturbing vegetation and/or fauna	10	5.4.5	15
	Change in shape, location and profiles of water courses	9	5.4.8	13
	Erosion and increased turbidity in local drainage lines	14	5.4.8	18
Construction of drill sumps	Damage to or loss of native vegetation	13	5.4.1	21
	Disturbance of threatened/listed species	13	5.4.2	21
	Loss of faunal habitat	13	5.4.2	21
	Loss/damage to aboriginal sites	12	5.4.4	16
Access to drill targets by drill rigs and associated equipment/vehicles	Damage to or loss of native vegetation	10	5.4.1	14
	Disturbance or loss of fauna from contact with vehicles	14	5.4.2	18
	Spread of weeds	5	5.4.3	13
	Damage to aboriginal heritage sites (e.g. significant aboriginal paintings) from vehicular dust emissions	2	5.4.4	11
	Dust emissions disturbing vegetation and/or fauna	10	5.4.5	15
Drill rigs operating in the field	Disturbance to fauna including becoming trapped in unplugged drillholes or sumps	9	5.4.2	18
	Dust emissions disturbing vegetation &/or fauna &/or surface water	9	5.4.5	18
	Noise emissions disturbing fauna	14	5.4.5	19

Environmental Aspect	Environmental Impact	Risk Rating	Management Measures (Refer to listed section below)	Mitigated Risk Rating
	Draw down of groundwater	21	5.4.7	21
	Groundwater coming to surface	10	5.4.7	15
	Cross contamination of groundwater aquifers	18	5.4.7	21
	Disturbance to fauna including becoming trapped in unplugged drillholes or sumps	9	5.4.2	18
	Dust emissions disturbing vegetation &/or fauna &/or surface water	9	5.4.5	18
	Noise emissions disturbing fauna	14	5.4.5	19
	Draw down of groundwater	21	5.4.7	21
	Groundwater coming to surface	10	5.4.7	15
	Cross contamination of groundwater aquifers	18	5.4.7	21
	Contamination of surface water or groundwater from hydrocarbon or hazardous material spillages	12	5.4.7, 5.4.9.4, 5.4.8,	21
	Spread of domestic or industrial waste	14	5.4.9.1, 5.4.9.2, 5.4.9.3	22
	Contamination of soil from hydrocarbon or hazardous material spillages	5	5.4.9.2, 5.4.9.4	14
	Contamination of surface water or groundwater from spillages of liquids containing radioactive materials intersected during drilling	14	5.4.9.3	22
	Contamination of soil from radioactive dust and/or spilt radioactive drill cuttings	14	5.4.9.3	22
	Hydrocarbon spill or leak resulting in contamination of soil	8	5.4.9.4	18
Fuel storage	Hydrocarbon spill or leak resulting in contamination of surface water or groundwater	12	5.4.7, 5.4.9.4	21
	Fire as a result of incorrect usage, storage and transport	8	5.4.9.4	12



Environmental Aspect	Environmental Impact	Risk Rating	Management Measures (Refer to listed section below)	Mitigated Risk Rating
	Hydrocarbon spill or leak resulting in contamination of soil, surface water or groundwater	8	5.4.7, 5.4.9.4	17
Hazardous Waste Management	Spread of domestic and or industrial waste	14	5.4.9.1, 5.4.9.2	22
Domestic Waste	Domestic waste attracting fauna and feral animals	10	5.4.9.1	19

Table 12: DevEx Risk Matrix Used to Determine the Risk Rating and Mitigated Risk Rating

Consequence						
		Catastrophic	Major	Serious	Medium	Minor
Safety		Permanent damage or fatality	Long Term Injury with severe irreversible damage	Lost Time Injury	Medical treatment	First Aid
Environment		Permanent damage and ecosystem never recovers	Impairment of ecosystem function & leaving major residual damage that requires long term recovery (many years)	Serious Harm and requiring long term recovery from impact (typically years)	Material Harm and recovery from impact typically a month	Minor effects and reversible (typically within a week)
Cultural Heritage		Irreparable damage to site or item of high cultural significance	Irreparable damage to site or item of moderate cultural significance	Repairable damage to site or item of moderate cultural significance	Irreparable damage to site or item of low cultural significance	Repairable damage to site or item of low cultural significance
Property Damage		>\$10M	\$1M – 10M	\$100k – 1M	<\$100k	Minor
Likelihood	Hazard occurring:					
Almost Certain	Weekly	1	3	6	10	15
Likely	1 mth – 1 yr	2	5	9	14	19
Moderate	1-10 yrs	4	8	13	18	22
Unlikely	10-100 yrs	7	12	17	21	24

Rare	100-1,000 yrs	11	16	20	23	25
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Critical Risk = 1-3, High Risk = 4-10, Moderate Risk = 11-15, Low Risk = 16 – 25

The environmental aspects and impacts detailed in Table 11 require appropriate management to ensure that the impact on the environment as a result of exploration activities on the West Arnhem tenements are minimised. The following section provides details of those management principles.

#### 5.4.1. Vegetation Management

The principle objective for managing the disturbance to vegetation is to minimise the area of disturbance, avoid known priority flora locations and to ensure effective progressive rehabilitation. Management practices to be employed include:

- Minimising the area cleared for each access track to only that required for safe access;
- Use old and existing tracks where possible, and minimise the number of new tracks constructed;
- Avoid clearing established trees and dense stands of vegetation when constructing access tracks;
- Limiting the size of the drill pad to only that required for the safe and efficient operation of the drill rig;
- Use of blade up clearing of drill pads, where it is possible to obtain an even and safe surface without clearing and soil stripping;
- Windrow the cleared vegetation and topsoil to be used later in rehabilitation; and
- Rehabilitate the disturbed area as soon as practicable.

Topsoil management is critical to rehabilitation success. Management practices include:

- Removing and/or stripping any topsoil or vegetative material during the clearing process;
- Stockpiling topsoil material separately to any other soils. Stockpiles will be located away from work areas so that they are not mistakenly driven over;
- Topsoil stockpiles will be laid out in strips no more than 1 metre in height as close as possible to where they are to be used in future rehabilitation work; and
- Using the stockpiled topsoil during rehabilitation works.

#### 5.4.2. Fauna Management

The objective of fauna management is to minimise disturbance to native fauna from exploration activities. Fauna management will include:

- Minimising disturbance to vegetation and potential fauna habitats;
- DevEx employees to conduct walk-through checks of all proposed clearing areas to confirm that no sensitive fauna are present;
- Employing management measures to minimise impact on watercourses;
- Educating people on the importance of not killing or disturbing wildlife;
- Limiting vehicle speeds to reduce the potential for road kills;

- Construction of drill sumps with an egress of 45 degrees to allow fauna to ascend out of the sump;
- Capping of open drill holes;
- Managing refuse to prevent attraction to feral animals; and
- Culling feral animals in consultation with traditional owners. If culling of feral animals has been required, DevEx has contacted the appropriate Aboriginal Ranger Group to conduct any culling activities.

#### 5.4.3. Weed Management

Ongoing active management is required to prevent the potential spread of weeds during exploration programs. Weed management for exploration activities during the field seasons includes:

- Training of key personnel in weed awareness and control procedures;
- The requirement for wash down of heavy equipment and inspection for weed seed prior to mobilisation to site;
- Pre-planning of drill track and pad installation to avoid known weed infestation areas;
- The usage of a weed wash down station established at the edge of the airstrip apron to help reduce the spread of weeds off site as a result of vehicle traffic. All weed seed is captured in a bund and periodically treated with chemicals and/or fire;
- The requirement for all heavy vehicles to be washed down at the weed wash down station and inspected for weed seed prior to de-mobilising from site. A clearance certificate system is operated to ensure compliance with this requirement;
- The requirement for the wash down of all light vehicles each time before leaving site to travel to Jabiru, Oenpelli or Darwin. A log book is located at the weed wash down station for compliance with this requirement; and
- Chemical spraying of roads around lease and areas used for exploration activities following cessation of the work season.

In addition to the threat of weed transport into West Arnhem by animals and vehicles in transit (poachers and normal access by traditional owners) weeds and non-native grasses are common throughout MLN962 lease including pasture species in the form of Mission Grass (*Pennisetum pedicellatum*) and to a lesser extent weeds such as Para Grass (*Urochloa mutica*) and Grader Grass (*Themeda quadrivalvis*). The risk of spread of these grasses into the surrounding West Arnhem region requires close management and monitoring. Both exploration vehicles, animals and river ways are likely transport mechanisms. Gamba Grass is currently a priority eradication species in the Northern Territory and DevEx is monitoring for this weed species also.

DevEx actively engages the Weed Management Branch Department of Environment and Natural Resources for advice. In September 2017 DevEx met officers from the Weed Management Branch and DEMED Aboriginal Group on site at Nabarlek to discuss weed control measures. The outcome of this meeting and subsequent discussions included:

- i) Weed Management Branch is primarily interested in weed management along access roads, tracks and creek crossings where vehicles will potentially spread seeds further away from source.
- ii) DevEx to liaise with local Ranger Groups on weed hotspots where cool burns are required
- iii) DevEx to engage local Ranger Groups to carry out roadside weed spraying of known hotspots within the Els

- iv) DevEx to be particularly vigilant for the occurrences of Gamba Grass within the EL areas and immediately eradicate any occurrences.
- v) DevEx to liaise with Weed Management Branch on suitable chemicals to target weeds, and weed mapping techniques.

Previous weed mapping in the region is not documented for West Arnhem. DevEx plans to carry out weed mapping, and if required, the spraying of access tracks, and drill pads early in 2023. Mapping will be GPS spot mapping along access tracks and drill pads. DevEx's weed management programmes both internal and with local Ranger Groups will rely on this mapping.

A cool burn of access tracks to the U40 and U40 South region by Traditional Owners took place in early June 2019.

#### **5.4.4. Noise and Air Quality Management**

All drilling contractors and DevEx staff in close proximity to the drilling rig will wear the appropriate hearing protection and dust safety equipment.

Noise generated from drill rigs and associated vehicles may result in negligible impacts to fauna in the immediate drill area. As there are no residences or townships close to the proposed exploration operations, no noise impacts will be experienced by members of the public. As a result there is no specific management for noise proposed for the current exploration program.

The objective for dust control and management is to ensure that dust generated from exploration activities does not cause contamination of water and soil or impact on vegetation or fauna. Management measures to ensure environmental dust emissions are minimised include:

- Dust extraction equipment to suppress dust from drill rigs;
- Limiting vehicle speeds whilst driving on site; and
- Minimisation of vegetation clearing.

#### **5.4.5. Fire Management**

Uncontrolled wildfires are an annual feature of the region, particularly from mid to late dry season. The Nabarlek region has been subject to wildfires in the past with adverse effect on the native vegetation and fauna, particularly in areas of high weed infestation.

To minimise the opportunity for a fire to be accidentally lit as a result of exploration activities controlled 'cool burns' are undertaken in the late wet to early dry season. These are conducted in consultation with Traditional Owners, DEMED and Bushfires NT.

Temporary campsites will check for, and observe any, fire bans before lighting campfires. Campfire size must be kept small and manageable with a minimum of 1m radial clearing around the fire. No campfires are to be left unattended. Fire extinguishers must be readily available and located proximal to portable generators and inside all vehicles at the campsite.

Fire management measures include:

- Provision of firefighting equipment at the camp and in vehicles, including water trailers, vehicle mounted fire fighting units, fire extinguishers and fire fighting nap-sacks;
- Restrictions on where hot-work can be conducted;
- Training of employees in fire prevention and basic fire fighting;
- Fire breaks maintained around the perimeter of the site;
- Induction for all personnel in the use of the water trailer; and
- Provision of vehicle mounted fire fighting units for use during loader operations.

#### **5.4.6. Ground Water Management**

The objective for ground water management is to minimise both contamination and drawdown. DevEx believes that it is unlikely that significant aquifers will be intersected as any future drill targets will be at shallow depths.

Any groundwater that comes to the surface as a result of exploration drilling, particularly RC drilling, will be contained in sumps and left to evaporate. The sumps used to contain groundwater are not lined. The sumps may contain groundwater and any mud or rock material that is brought to the surface during drilling operations. After allowing the contained materials to dry, the sediment is buried during sump rehabilitation by backfilling with stockpiled material during the drill site rehabilitation.

Pollution caused by spillages of hydrocarbons or from radioactive material has the potential to impact groundwater. Measures that will be implemented to ensure that spillages of hydrocarbons and other hazardous materials are minimised include:

- Ensuring that there is constant supervision of RC rigs at all times;
- Provision of a spill kit at the drilling rig; and
- Ensuring that any spills are cleaned up and the contaminated area is rehabilitated.

Depth of water table will be recorded in drilling logs, together with intensity of ground water flow and depth of high flow. Any deep diamond holes with near surface high water flow which would likely cause cross contamination of deeper ground water aquifers will be grouted at depths below the upper aquifer.

#### **5.4.7. Surface Water Management**

The main objective for surface water management is to ensure that exploration activities do not lead to contaminants entering water courses and being carried off site.

Surface water management measures include:

- Ensuring all pumps and fuel/hydrocarbon containers are placed on self-bunding pallets during all drilling operations;
- Excavating two sumps for each drillhole to contain any drilling fluids and/or groundwater. If fluids cannot be contained within these sumps then drilling will be discontinued until further provision for the drilling fluids can be made;
- Ensuring spillages are cleaned up and rehabilitated;
- Reducing dust emissions from drilling rigs and vehicles; and
- Best practice drill rig pad management, including topsoil and vegetation management and construction of small bunds to divert surface runoff around disturbed areas and access tracks.

The other objective of surface water management is to minimise erosion of surface water bodies. Management techniques include:

- The minimisation of vehicle crossings over drainage lines where existing crossings do not already exist; and
- Rehabilitation of access tracks crossing drainage lines after significant/erosive flood flow.

#### **5.4.8. Waste Management**

There is a range of waste generated from exploration activities. Each waste stream has specific management techniques which are described below.

#### **5.4.8.1 Domestic Waste**

Domestic waste is produced at both the Nabarlek camp and the exploration sites within the West Arnhem area.

The types of camp wastes produced include:

- Organic debris (i.e. food scraps); and
- General refuse including scrap metal, cardboard and plastics.

The objective of waste management in the camp is to minimise the amount of waste that needs to be disposed of in land fill. DevEx have implemented a domestic waste segregation system where all waste that can be recycled is transported back to Darwin at the end of the field season and all domestic refuse is burned in a pit on site. Domestic waste generated from temporary campsites will also comply with this management plan.

Recyclable wastes include:

- Plastics;
- Cans;
- Glass; and
- Scrap Metals.

Non-recyclable wastes such as aerosols and batteries are placed in separate containers at the camp and are also taken back to Darwin at the end of the field season. An inventory system has not been implemented.

Domestic refuse such as food scraps, organic debris and burnable rubbish (paper and cardboard) is transported to the domestic refuse pit which is located at a distance from the camp to minimise the number of feral animals attracted to either location. Each time that domestic refuse is deposited in the pit it is burned. The pit has been fenced to prevent access by larger feral animals and sloped to allow egress of any trapped native animals.

#### **5.4.8.2. Exploration Waste**

The types of exploration wastes produced include:

- Inert waste such as rubble from excavations;
- Hazardous wastes such as waste oils;
- General refuse including scrap metal, cardboard and plastics; and
- Sludges, sediments and drill cuttings brought to the surface during drilling, some of which may contain small quantities of naturally occurring radioactive material. At this stage of the drilling, it is not known whether the drill cuttings/sediments/sludges contain any radioactivity and therefore this exploration waste cannot be distinguished from the radioactive waste.

The objective of waste management at the exploration sites is to minimise the potential for soil and water contamination from the various waste streams. Management includes:

- Any sludges, sediments and drill cuttings brought to the surface during drilling are contained within the drill sump, allowed to dry and buried in the sump upon completion;
- All hydrocarbons and hazardous materials are stored and handled to ensure that spillages are minimised and if they do occur are cleaned up and the area rehabilitated; and
- All domestic and hard wastes are returned each night to the camp for appropriate segregation and management.



No operational waste is generated through ground gravity surveying as this technique is carried out on foot with battery-powered instruments. Any personal waste (e.g. food scraps, disposable batteries) from the crew will be kept and disposed of appropriately as per the procedure listed in section 5.4.9.1.

#### **5.4.8.3. Radioactive Waste**

Uranium exploration activities can generate very low quantities of radioactive waste with drilling being the only activity that generates any radioactive waste materials. Possible radioactive drilling waste streams include:

##### **Solid Waste**

- Drill cuttings from mineralised zones;
- Miscellaneous waste material that has contacted mineralised material (e.g. gloves, rags, etc.); and
- Radioactive contaminated drilling equipment.

##### **Liquid Wastes**

- Spillages of groundwater containing radioactive materials intersected during drilling; and
- Spillages of water used for drilling that intersect mineralised zones.

##### **Airborne Wastes**

- Airborne dusts generated during percussion drilling.

DevEx has a Radiation and Radioactive Waste Management Plan (RRWMP) for the company's exploration activities (see Appendix 5). The objective of this plan is to minimise these various radioactive waste streams from entering the environment and causing contamination.

Management measures detailed in the RRWMP include:

- Prior to drilling the drill site will be measured with a scintillometer to measure the background levels of the site. Measurements will be the entire pad.
- Personal gamma monitoring (TLD badges) will be issued quarterly to personnel in the following work groups:
  - Geologists & Field assistants, only those that will be handling radioactive core and samples on a routine basis;
  - Drillers & Drill Offsiders, who routinely assist in the collection of samples; and
  - Geophysical loggers that will be handling radioactive sources. Note: on occasions neutron TLD badges may be required for this work group;
  - Monitoring of all core, samples and drill cuttings with a scintillometer to determine presence or absence of radioactive material
- Dust suppression on drilling rigs to minimise the spread of dust from mineralised zones;
- Containing all water from drilling in the sump;
- Spillages of liquids containing radioactive materials will be minimised as much as practicable utilising the following practices:
  - Earthen bunds will be placed around work areas that may contain liquid radioactive material;
  - Use of properly maintained equipment;
  - Education and training of workers in the importance of minimising spillages and prompt reporting of incidents; and



- Core sample handling areas will be earthen bunded to catch all liquids and sludge's produced.
- At the completion of drilling each hole will be plugged and rehabilitated and the following radioactive waste management will occur:
  - Any possible surface contamination including spilt drill cuttings or drill samples will be returned to the drill hole or sump;
  - Any water from drillholes contained in the sump will be allowed to dry before being buried beneath clean soil;
  - Any radiological material intersected in drill cuttings or drill samples will be returned to the drill hole or where this is not possible, placed in the drill sump and buried with at least one metre of compacted soil cover, in accordance with uranium exploration industry best practice standards (Australian Uranium Association, 2009, Best Practice Guidelines for Uranium Exploration); and
  - No anomalous radioactive contamination will be left at drill sites; each will be checked after rehabilitation with a scintillometer.
- At the completion of drilling activities at a particular site all drill rigs and equipment will be thoroughly cleaned;
- Before leaving site all drill rigs and equipment will be checked for radioactive contamination. Any contaminated equipment found will be cleaned and re-checked prior to being released from the site; and
- Retaining mineralised samples in a locked and secure container with appropriate signage.

#### **5.4.8.4. Hydrocarbon Waste**

It is expected that small quantities of hydrocarbons, including diesel, oils and lubricants will be used during drilling and other exploration activities and these will be stored in the securely fenced bunded compound of the Mineral Lease (MLN962).

Management measures to ensure that spillages of hydrocarbons and other hazardous materials are minimised during storage and transportation include:

- The storage of hazardous materials and hydrocarbons in a securely fenced bunded area or in self-bunded tanks/containers;
- Transportation in accordance with applicable regulations and codes (if required);
- Firefighting equipment in the near vicinity of the storage area;
- Cleaning up of any spills and the remediation of contaminated areas; and
- Disposal of unused hazardous waste substances in a manner that minimises any potential impacts, including disposal to registered disposal sites where required.

Management measures to ensure that spillages of hydrocarbons and other hazardous materials are minimised during drilling include:

- Ensuring all pumps and fuel/hydrocarbon containers are placed on self bunding pallets during all drilling operations;
- Ensuring that there is constant supervision of fuelling of the rig at all times;
- Provision of a spill kit at the drilling rig;
- Ensuring that any spills are cleaned up and the contaminated area is rehabilitated;

- The construction of sumps at drill sites to contain any hydrocarbon contaminated water from drilling; and
- Placing plastic sheeting under drill rigs while operational to capture any hydrocarbon spills.

Management measures to ensure that spillages of hydrocarbons and other hazardous materials are minimised at the temporary campsite include:

- Storing all hydrocarbons within a plastic bunded spill enclosure;
- Provision of a spill kit at the campsite;
- Firefighting equipment in the vicinity of the storage area; and
- Refuelling using nozzle attachments on jerry cans.

## 5.5. Environmental Review, Inspections and Monitoring

On 20 October 2017, Departmental Officers and representatives from the Northern Land Council and Supervising Scientist Branch inspected areas on the Nabarlek Uranium Mine including the Exploration Camp which services the Nabarlek and West Arnhem Projects. During the visit it was observed that activities addressing the 2016 DPIR instruction (MDOC2016/09963: Instruction Letter Inspection Report September 2016 – UEL Nabarlek – 0435-010731-01) has been completed or was in the process of completion, this was documented in the 2017 Site Inspection Report (MDOC2017/010192: Nabarlek Inspection Report – 20 October 2017). DevEx confirmed completion of outstanding items in a letter to DPIR on 1<sup>st</sup> February 2018 and received acceptance of completion of all outstanding items from the DPIR on the 25 February 2018. This audit was primarily concerned with Nabarlek MMP, but sections of the Camp also relate to the West Arnhem MMP including the clean up of hydrocarbons and hazardous materials at the exploration camp.

No drilling or ground disturbing activities took place in 2017.

Photo monitoring of the 2015 RC/Diamond drilling commenced in 2015 and the rehabilitation is recorded in Appendix 1. Photo monitoring of the 2019 RC/Diamond drilling commenced in 2019, but the 12 and 24 month photography has not been followed up due to COVID-19 travel and access restrictions. The follow-up of this photography has however been made a priority and will be completed in the current field season.

An Environmental Review was planned to take place after the 2019 Drilling Activities, in early 2020, however this has been postponed due to COVID-19 related travel restrictions. The Review was planned to address the following:

1. Weed Mapping of all access tracks and drill pads for both planned for 2019 drilling activities.
2. Standards and Management Plan for Noise and Dust Generated by Drilling Operations – Drill Rigs to site are required to be fitted for Dust Suppression.
3. Erosion and sediment control – Drill Pads (post 2015) will be inspected for signs of erosion
4. All Drill Pads will be measured with a scintillometer and photographed prior to drilling commencing
5. All staff and drilling contractors will be required to sign off on reading the Radiation and Radioactive Waste Management Plan prior to drilling commencing.
6. The Company's Radiation Safety Officer will be present at commencement of the Drilling Operation to ensure compliance with the Radiation and Radioactive Waste Management Plan.

The 2022 Annual Environmental Audit of the Nabarlek mineral lease and West Arnhem Joint Venture took place on the 23-24<sup>th</sup> of August 2022. The audit team was comprised of personnel from the Supervising Scientist Branch(SSB), the Northern Land Council(NLC) and the Northern Territory Department of Industry, Tourism and Trade(DITT).

The Audit assessed DevEx's performance against the commitments made in the 2021 MMP, and pre and post drilling procedures(DEVEX-DRL-SWP Pre Drilling and Post Drilling). These plans and procedures are mirrored in the MMP for the West Arnhem Joint Venture Project. Inspections were primarily conducted on Mineral Lease 962 and EL10176. The audit tested 29 commitments, with no non conformances being identified. The recommendations from the 2022 Environmental audit will be implemented for the 2023 MMP and subsequent exploration program.

All DevEx documents are subject to document control to prevent unauthorised alteration and to ensure that all employees have access to and can easily identify the most up to date versions and enable effective management of reviews. A document register ensures the effective management of documents. These include, but are not limited to, management plans and procedures, environmental policies, procedures and forms, monitoring records and data, incident reports and investigations, inspections and audits.

Documents are kept on site at Nabarlek. However regular break-ins have seen vandalism of the office facilities, including destruction of documentation. Documents have been relocated to the lockable storage containers in the hope to protect these documents and ensure availability.

## **5.6. Environmental Performance**

### **5.6.1. Objectives and Targets**

Environmental performance objectives involve the measurement of rehabilitation of disturbed sites and the protection from invasive weed species. The Company regularly monitors 1. progress of rehabilitation and 2. Occurrences of foreign weed species and fauna.

DevEx, through its *Sustainable Development Policy and Environment Policy*, is committed to achieving best practice in environmental and safety management. To track its performance in these areas DevEx has developed a number of performance indicators with associated targets that will be used in 2021-2022 (Table 13). The objectives have been selected to ensure continual improvement in environmental management of exploration activities and safety performance.

Table 13: Environmental and Safety Performance Indicators for 2022-2023

Performance Indicator	Current Measure	Target
<b>SAFETY</b>		
Number to Lost Time Injuries per year	0	0
Number of Medical Treated Injuries per year	1	0
Number of First Aid Treatments per year	0	0
Number of incidents per month	0	0
Percentage of drill rigs inspected	100	100
Number of reportable environmental incidents	0	0
Number of environmental incidents per month	0	0
Number of native fauna deaths from operations	0	0
Number of un-authorised environmental disturbances	0	0

DevEx has developed performance objectives for both its exploration activities and the rehabilitation of legacy uranium mining areas. The objectives have been selected to ensure continual improvement in its environmental management of exploration activities. Specific objectives are given in Table 14.

Table 14: DevEx 2023 Performance Objectives

No	Overall Objective	Target for 2023	When
1	No reportable environmental incidents	Zero	Dec 2023
2	Update and submit MMP	Annually	July 2023
3	Rehabilitate exploration disturbance areas	Continue photo monitoring of 2014-22 rehabilitated drillholes and rehabilitate any new disturbances	Dec 2023

### 5.6.2. Performance Reporting

DevEx will track safety and environmental performance through key performance indicators (see section 6) and report these in subsequent Mining Management Plans.

Photo monitoring will be undertaken in conjunction with exploration activities to track potential impacts to vegetation and measure rehabilitation success (see section 6 for more detail).

## 5.7 Emergency Procedures and Incident Reporting

DevEx requires that all environmental incidents, near misses and hazards are reported to a supervisor immediately. Specific environmental incidents that require reporting include:

- Hydrocarbon spillage;
- Animal injuries or deaths
- Wildfire;
- Cyclone or intense rain event;
- Unplanned vegetation disturbances;
- Breaches of the environmental policies or procedures; or
- Other unforeseen events.

All incidents will be recorded on an Environmental Incident Register. All environmental incidents will also be reported to the Mining Compliance division within the Department of Primary Industry and Resources on the Notification of an Environmental Incident form as per section Section 29 of the Mining Management Act.

Emergency procedures have been developed to ensure appropriate management of potential incidents. Generic environmental incident management includes:

- Supervisor to immediately inspect the area and implement temporary control;
- Immediate internal notification to management and subsequently to regulatory authorities as required;
- Use a risk based approach to determine severity and root cause of incident;
- Identify corrective actions to be undertaken to mitigate any adverse consequences;
- Follow up to ensure corrective actions are implemented;
- Identify changes to work practices to ensure the incident does not reoccur; and
- In the case of a reportable incident, provide relevant authorities with a final report stating any long term initiatives proposed to manage residual impacts.

DevEx's emergency procedures are provided in Appendix 6.

All environmental incidents are reported in accordance with Section 29 of the *Mining Management Act*.

## 6. Exploration Rehabilitation

The objective of exploration rehabilitation is to reinstate the site to as near as original condition as possible and to leave it in a state where revegetation can occur after the completion of exploration activities. Rehabilitation activities for exploration work programs are summarised in Table 15 and detailed in the *Post-Drilling Procedure* (see Drilling Procedures in Appendix 7).

Topsoil management is critical to rehabilitation success. Proposed measures applicable to preservation of topsoil include:

- Any topsoil or vegetative material removed during the clearing process will be stockpiled for use during rehabilitation;
- Topsoil material will be stripped and stockpiled separately to any other soils; and
- Topsoil stockpiles will be laid out in strips no more than 1 metre in height as close as possible to where they are to be used in future rehabilitation work. Stockpiles will be located away from work areas so that they are not mistakenly driven over.

At the completion of exploration rehabilitation, the land will be left to naturally regenerate. If monitoring (see Section 6.1) shows natural revegetation to be ineffective then seeding with provenance species and/or weed control measures will be undertaken.

Existing tracks are closed off for the wet season, prior to DevEx leaving site. PVC piping and associated earthworks over creek crossings are removed and erosion control measures, such as spur drains or contour banks, are placed at suitable regular intervals. Natural drainage lines are checked to ensure that they are not blocked and any obstructions are removed. Any windrows that have developed along the tracks are flattened to prevent preferential flow paths.

All rehabilitation works will be recorded on the West Arnhem Drillhole Rehabilitation Register (Appendix 1) which will be implemented by DevEx as drilling works are initiated.

### 6.1. Photo Monitoring

Photo monitoring of all drillhole sites before and after drilling is undertaken to allow comparison of the rehabilitated site to the original undisturbed site. A *Drillhole Photo Monitoring Procedure* (Appendix 8) has been developed to ensure consistency for all drill site photo monitoring, with a photo-monitoring station established for each drillhole enabling replication at defined time intervals after rehabilitation (immediately after, 12 months and 24 months). Information associated with each photo (photo-monitoring station coordinates, azimuth of photo, date and photo ID) is recorded on a *Pre-Drilling Data Form* and *Post-Drilling Data Form* (Appendix 7).

### 6.2. Current Rehabilitation Status

Under the former JV arrangements with Cameco as operator, all disturbed areas resulting from exploration work programs were rehabilitated at the completion of each field season by Cameco.



Table 15: Rehabilitation Activities for Exploration Work Programs

Disturbance	Rehabilitation Activities	Schedule (Timing)	Closure Objectives	Monitoring
Drill holes	<p>Plug each drillhole below the surface and backfill to the surface.</p> <p>Remove any mineralised uranium material from the drill hole site.</p>	By the End of the Field Season	<p>All drillholes plugged and safe prior to the end of the field season. Temporary capping of drill holes following completion of drilling.</p> <p>Ensure revegetation is progressing and weeds have not established at the 12 month inspection.</p>	<p>Photographs taken before drilling, post-rehabilitation and at the 12 month inspection.</p> <p>Enter rehabilitation data onto Nabarlek Drillhole Rehabilitation Register.</p> <p>Follow up any sites which require further work.</p>
Drill sumps	<p>Sample bags emptied into the sump.</p> <p>Empty sample bags burnt at the Nabarlek domestic refuse pit.</p> <p>Drill cuttings placed into the drill sump.</p> <p>Backfilled with excavated material.</p> <p>Recontoured to the original contour.</p> <p>Respread with stored topsoil.</p>	At completion of drill Programme	<p>All sumps backfilled prior to the end of the field season.</p> <p>Ensure revegetation is progressing and weeds have not established at the 12 month inspection.</p>	<p>Photographs taken before drilling, post-rehabilitation and at the 12 month inspection.</p> <p>Enter rehabilitation data onto Nabarlek Drillhole Rehabilitation Register.</p> <p>Follow up any sites which require further work.</p>
Drill pads	<p>All rubbish removed, including sample bags, wooden pegs, etc</p> <p>Recontoured to original contour and compacted areas scarified.</p> <p>Stockpiled topsoil respread over the site.</p> <p>Cleared vegetation spread across the site.</p> <p>Final radiation reading taken and recorded on <i>Post-Drilling Data Form</i>.</p>	At completion of field season	<p>All drill pads clean and recontoured.</p> <p>Ensure revegetation is progressing and weeds have not established at the 12 month inspection.</p> <p>Ensure there is no radiological contamination of the surface soils by comparing the final radiation reading with the initial radiation reading at each work site.</p>	<p>Photographs taken before drilling, post-rehabilitation and at the 12 month inspection.</p> <p>Enter rehabilitation data onto Nabarlek Drillhole Rehabilitation Register.</p> <p>Follow up any sites which require further work.</p>
Access tracks	<p>Any compacted areas to be ripped.</p> <p>Any windrows to be flattened to prevent</p>	At the completion of the field season.	All new tracks rehabilitated prior to the end of the field season.	Follow up any sites which require further work.

Disturbance	Rehabilitation Activities	Schedule (Timing)	Closure Objectives	Monitoring
	<p>preferential flow paths developing and leading to erosion.</p> <p>PVC piping and associated earthworks over creek crossings removed and erosion control measures (e.g. spur drains or contour banks) placed at suitable regular intervals.</p> <p>Check that any natural drainage lines are not blocked and any obstructions from creek crossings are removed.</p> <p>Stockpiled topsoil respread over the track.</p> <p>Any cleared vegetation to be respread.</p>		<p>All existing tracks closed off for the wet season.</p> <p>Ensure revegetation is progressing and weeds have not established at the 12 month inspection.</p>	

### 6.3. Exploration Rehabilitation Register

DevEx's rehabilitation register related directly to drill holes and associated activities and is referred to within this document and provided in Appendix 1. The Drill hole register has been updated to only include drilling within the West Arnhem MMP and also compares the scintillometer readings post drilling with recorded background levels previously noted in earlier MMPs for West Arnhem. Scintillometer readings from the 2015 drilling are below recorded background. It is recommended to recheck these readings again to ensure the instrument use was accurate. Readings are low.

### 6.4. Costing of Closure Activities

Rehabilitation costs for the exploration work proposed for the 2021-2022 field season (as detailed in Section 3.2) have been calculated using the DPIR standard format. The completed form has been provided in Appendix 4 and the summary page is provided in Table 16.

## 7. References

Brock, J., 1997, Native Plants of Northern Australia, Reed.

Clark, M., Traynor, S. and Dunlop, A., 1987, *Plants of the Tropical Woodland*, Conservation Commission of the Northern Territory. Government Printer of the Northern Territory.

