



MITHRIL
RESOURCES LTD

ACN 099 883 922

2017

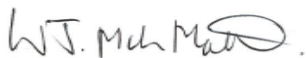
MINING MANAGEMENT PLAN
FOR THE
HUCKITTA PROJECT

Authorisation Number – 0490-03 Variation 4

DISCLAIMER

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This Document is endorsed by:

A handwritten signature in dark ink, appearing to read "J. McKinnon-Matthews". The signature is written in a cursive, flowing style.

Jim McKinnon-Matthews – General Manager Geology for Mithril Resources Ltd on the 27th March 2017

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COMMENTS (AS PER COMMENT FROM 6/5/2016 ASSESSMENT)

Section / Reference	Comments
General	<p>This MMP document has not been endorsed by a senior representative of the company.</p> <p>All documents submitted to the Department should be endorsed by a senior representative of the company who has the appropriate level of delegation.</p> <p><i>Noted: This document has been endorsed by a senior representative of Mithril Resources Ltd.</i></p>
1.0 Operator Details	<p>The postal and street address provided in this MMP do not match that which has been provided on the Application for Authorization, submitted to the Department on 10th April 2015.</p> <p>Ensure that the correct address is provided in future MMP submissions.</p> <p><i>An amendment outlining the updated address of Mithril Resources was submitted to the Department in July 2016</i></p>
3.0 Current Project Site Conditions	<p>Flora and Fauna</p> <p>A further six species were included in the Threatened Species List under the Environmental Protection and biodiversity Conservation Act as at 8th July 2015.</p> <p>These changes may be relevant to the project and can be found at: http://www.environment.gov.au/news/2015/07/14/six-species-listed-under-epbc-act.</p> <p><i>The distribution of these six species were reviewed and none were found to intersect the project are.</i></p>
Security	<p>A significant amount of rehabilitation has been undertaken at the Huckitta Project site. At present there is an outstanding Instruction regarding this matter (MDOC2016/5119).</p> <p>Upon satisfactory completion of this instruction, the Department will undertake a reassessment of the security held for the Huckitta Project.</p> <p><i>This instruction was satisfactorily completed and new security was issued for the project. There is now no outstanding Instruction over the Huckitta Project.</i></p>

1.0 OPERATOR DETAILS

Operator Name:	Mithril Resources Ltd ACN 099 883 922
Key Contact Person/s:	David Hutton, Managing Director Jim McKinnon-Matthews, General Manager Geology
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1.1 Organisational and Structure Chart

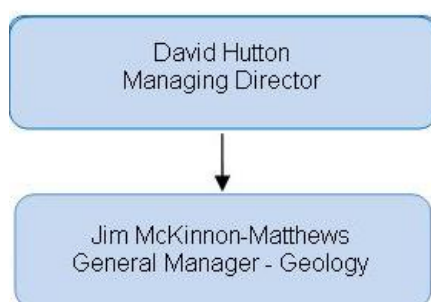


Figure 1: Organisational and Structure Chart (Technical Staff)

Various contractors (geologists, geophysicists, field assistants) hired on an as need basis – reporting directly to Jim or David.

1.2 Workforce

Mithril has its own geology staff to implement and supervise various contractors and consultants. During drilling campaigns there may be up to six (6) drilling staff and up to two Mithril staff on-site.

Pastoral lease staff will be contracted where possible for earthworks and rehabilitation.

2.0 PROJECT DETAILS

Project Name:	Huckitta Project
Location:	The project area is located approximately 170 kilometres north east of Alice Springs (Figure 2).
Site Access:	The area can be accessed from the north via the Plenty Highway and station tracks or the south via the Ross Highway and station tracks. Access to the southern area is via the Numery Road, which passes east from Alice Springs (Figure 2).
Mining Interest/s:	EL26942

Huckitta Project Titles

Title	Holder	Details
EL26942	Mithril Resources Ltd 100%	2 year renewal granted 5 th August 2015.

2.1 Map of Site Location and Layout

Accommodation for staff and contractors is on Ambalindum Station at the Basil Camp site. During 2016 the eight x 20 foot accommodation units and kitchen unit, the one x 40 foot ensuite unit and the generator were demobilised back to Alice Springs. If any field activities were to recommence at the site then accommodation at this site will be in the form of tents and/or a portable caravan. The area cleared for the main camp is ~0.25ha; an area of 0.5ha has been cleared for a core farm (Figure 3 and 4).

All rubbish, old fuels and oils stored in 44 gallon drums were removed from site in mid-2016 and disposed of at the appropriate waste facility in either Alice Springs and Adelaide. The site was inspected by compliance officers after this work was done.

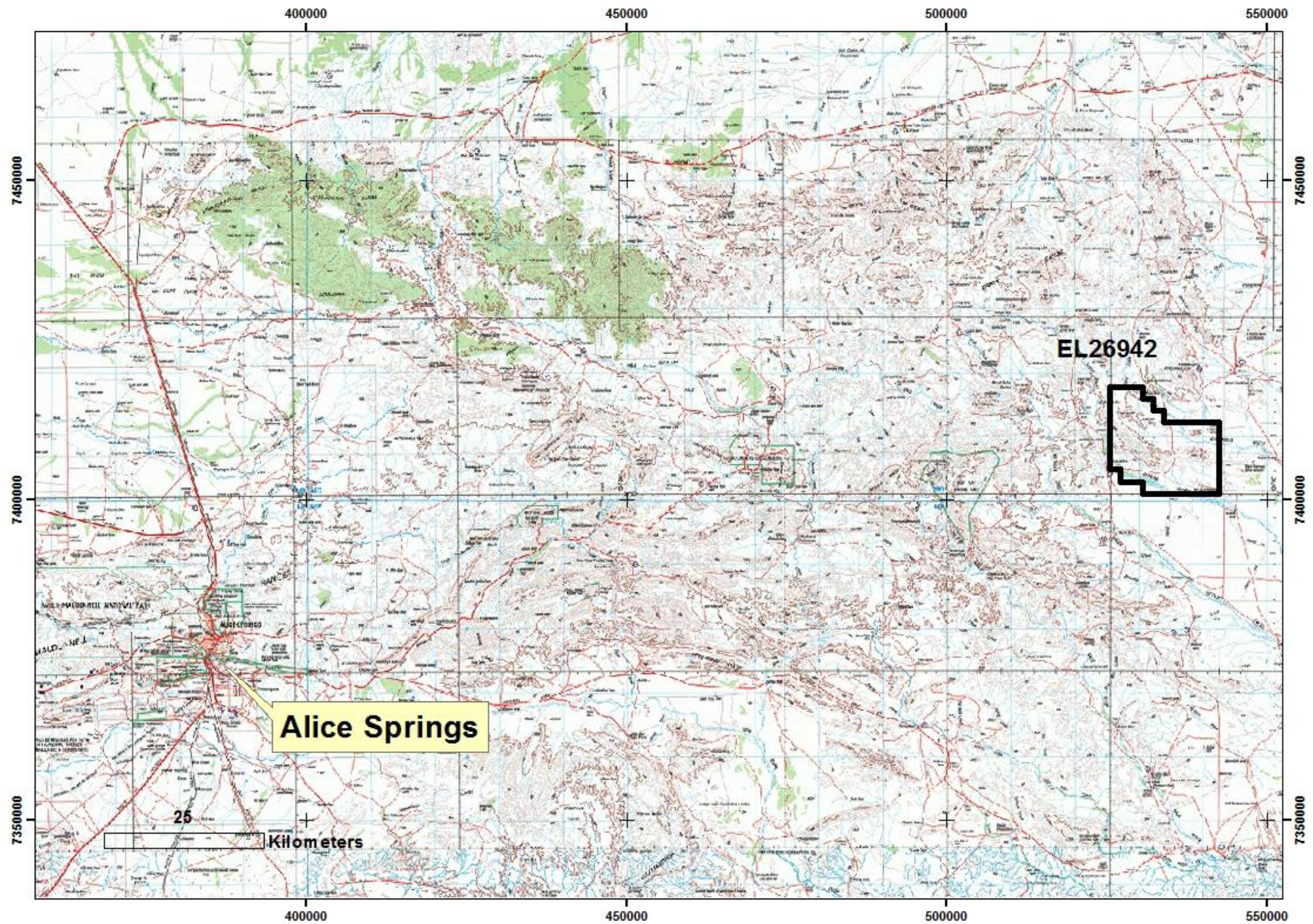


Figure 2: Project Location

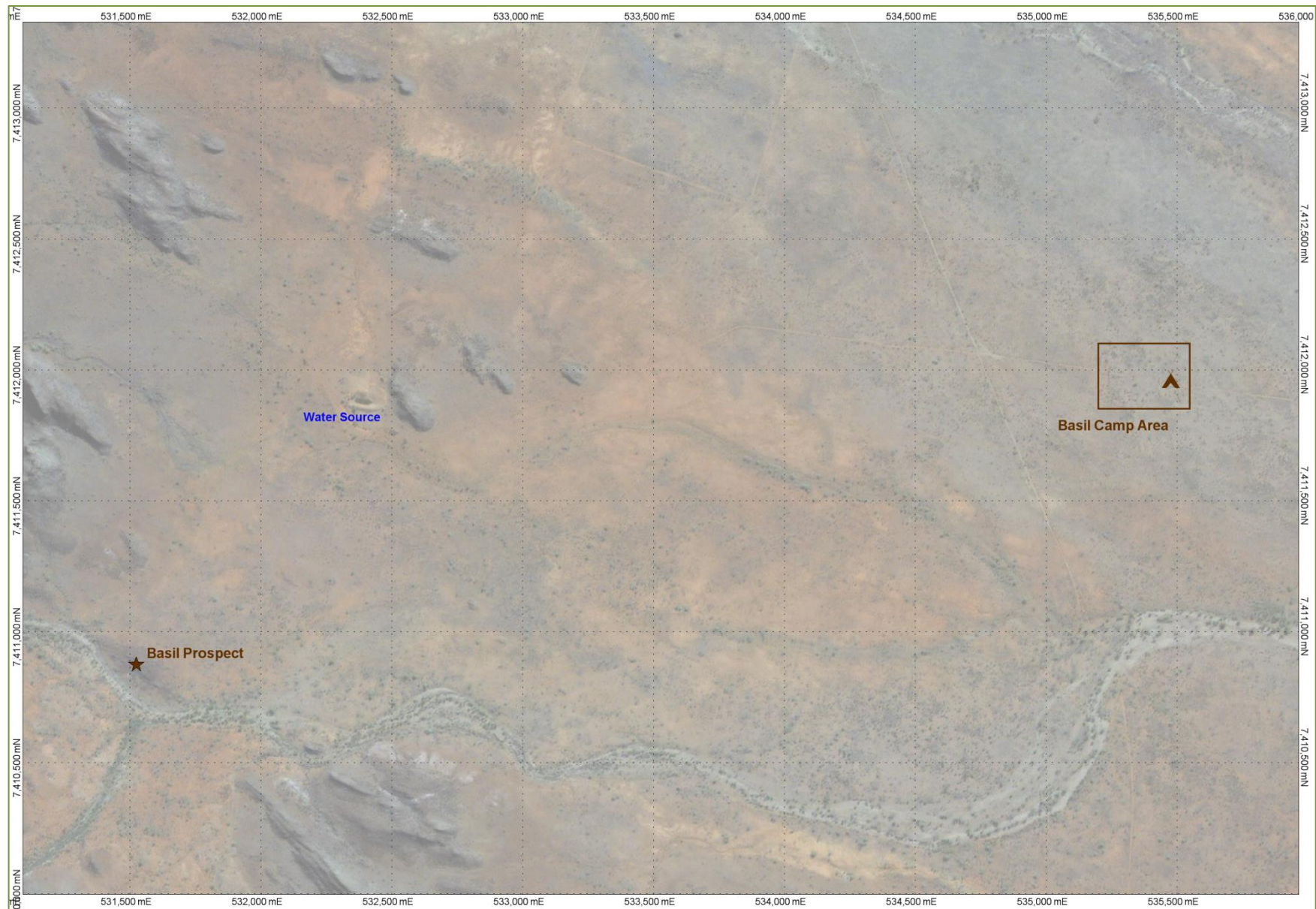


Figure 3: Camp Locations

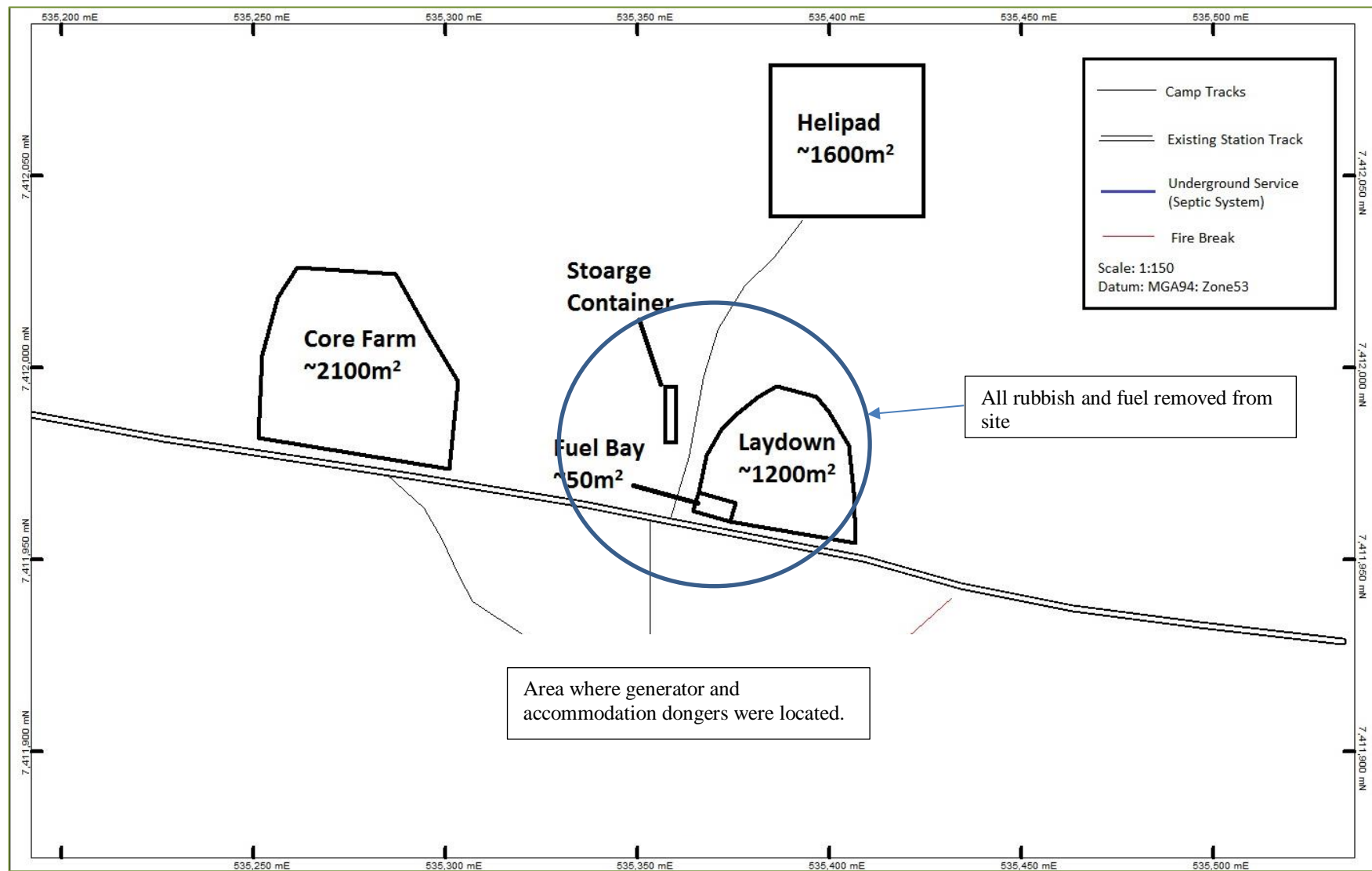


Figure 4: Basil Camp Layout (Ambalindum Station)

2.2 History of Development and Current Status

Historical Mining/Exploration

The current Huckitta Project originally comprised two separate projects, the Indiana Project (MMA Authorisation 0365-01) and the Hammer Hill Project (MMA Authorisation 0406-01). The project areas were amalgamated into one project called the Huckitta Project (MMA Authorisation 0490-01) for which Mithril is the Operator. In 2010 amendments to Authorisation 0406-01 resulted in the granting of Authorisation 0490-02, which in turn was amended to Authorisation 0409-03 for the 2011 exploration program. The Huckitta Project comprises the 8 granted exploration licences as detailed in section 2.0.

In 2008 activities on the project area consisted of Diamond Drill (DD) holes on EL10136 and EL24194.

Activities during 2009 were conducted on EL9725, EL10136, EL 26942, EL25453, EL25346 and EL25653. The activities consisted of 56 Air Core (AC), 3 DD, 31 Reverse Circulation (RC) and 1 RC/DD.

Activities during 2010 consisted of AC, DD and Auger (AUG) drilling on EL26942 only.

In 2011 activities consisted of AC, RC, Aug and DD drilling on EL24194, EL24427, EL26942, EL27243, EL25453 and EL25653 (see table below).

In 2012 drilling was completed in and around Areas 10 – 14 (EL28335 and EL25643). This drilling consisted of 62 Aircore drill holes, 17 RC drill holes and 5 Diamond drill holes.

In 2013 14 RC holes were drilled in Area 6 (EL25643), 9 RC holes drilled on Area 12 (EL27243), and 5 RC holes drilled in Area 13 (EL27435). A spread sheet detailing the activities and location of the 2013 drilling campaign was submitted with the 2014 MMP (as Appendix 2).

No work was completed during 2014.

No ground disturbing work was completed during 2015 other than a site visit to review the remaining rehabilitation requirements following a field visit by NT Mining Compliance staff based in Alice Springs. The Project was reduced to a single licence – EL26942 during this year.

In 2016 a concentrated effort was made to complete the rehabilitation to satisfy the outstanding Instruction by the department. This was successfully completed and the bond reduced to ~\$18K from >\$80K and as such no Instruction is currently held over the project.

2.3 Proposed Activities

No new ground disturbing activities are proposed for the project during 2017.

3.0 CURRENT PROJECT SITE CONDITIONS

A Natural Resources Management site report from CDU and an EPBC Protected Matters Report are attached at Appendix 2. The Operator considers that given the pastoral activities conducted over the project area over a number of years and the absence of reported threatened species on the area, as well as the exploration activities conducted within the area in recent years, the likelihood of the presence of threatened species is very low. Risk to any flora and fauna will be managed by observing the commitments in the MMP. An on-ground flora and fauna survey will be conducted should exploration proceed to mining.

Site Conditions	Description
Geology	<p>The Huckitta project falls within the MacDonnell Ranges bioregion, which covers 39,300 sq km, and includes the uplands, to the east, west and south west of Alice Springs. With Alice Springs and several outlying communities, this bioregion contains the highest population in Central Australia. Alice Springs is an important tourism centre, and a service centre for much of central Australia, including outlying Aboriginal communities.</p> <p>The bioregion is made up of two connected sections, one to the northeast of Alice Springs, and another to the southwest. It incorporates parts of two geological provinces, the Amadeus Basin and the Arunta Inlier.</p> <p>The mountain building event that produced the ranges in this bioregion occurred 350-300 million years ago. As a result of this event, which occurred along the boundary of the two geological provinces, there are two landform units within the bioregion. The crystalline ranges (Arunta metamorphics and granites) incorporate the northern and north-eastern ranges including the Chewings and Harts ranges, while the folded quartzite and sandstone ranges are to south and southwest of the bioregion and include Heavitree, James, George Gill and Fergusson Ranges.</p> <p>The extensive folding and faulting and erosion of the ranges have led to the formation of many gaps and gorges and the development of piedmont and alluvial plains.</p> <p>The MacDonnell ranges contain numerous spectacular gaps and gorges, often with permanent water holes and the tallest peaks in the Northern Territory, Mt Sonder, Mt Leibig and Mt Zeil. The ranges contain high plant species diversity with up to 65% of all central Australian species growing there. The gaps and gorges are especially important as they provide a wetter microclimate, which allows relict plant species to persist, and some annuals to survive long periods without rain.</p> <p>Soils vary from skeletal gravely sands on the slopes and ranges to deep alluvial sediments in the larger valleys and fringing plains.</p> <p>Soils types within the project area are rudosols, tenosols, kandosols, calcarosols, sodosols and vertosols.</p>

Site Conditions	Description
Hydrology	<p>The largest group of mountain ranges are those referred to collectively as the MacDonnell Ranges, which run approximately east and west from Alice Springs. These ranges and those extending from Alice Springs south west to Watarrka (Kings Canyon) and to the north east to the Harts Range, define the</p> <p>MacDonnell Ranges Bioregion. They are tall enough to precipitate considerable rainfall and give rise to the majority of the larger rivers, including the Finke River system, the Todd and Hale Rivers and Illogwa Creek, all running to the south east. The bioregion also provides a significant part of the catchments of the Sandover and Plenty River Systems.</p> <p>The arid climate of the region is modified by the presence of the mountain ranges. Rainfall is greater among the ranges, and the temperature and the evaporation rate are lower, especially within the protected valleys and gorges.</p> <p>Alice Springs, at the centre of the bioregion has a mean rainfall of 285 mm. Most of the rainfall falls in summer when the monsoonal depressions can bring widespread rainfall, or convectional thunderstorms produce highly localized storms.</p> <p>Diurnal and seasonal temperature changes are large, with frosts common during winter. Mean temperatures (Celsius) range from 21 - 36 in January to 4 - 19 in July.</p> <p>Average rainfall in the project area is ~330mm annually with evaporation approximately ten (10) times as great. Most rainfall occurs between October and March each year from storms coming south from the tropics. Surface water therefore is limited to a small number of semi-permanent water holes in the Harts Range to the west southwest, outside the project area.</p> <p>Numerous wells and water bores have been sunk on the Illogwa Creek and Huckitta 250K sheets with varying degrees of success. Successful bores are non-artesian and the water must be pumped to the surface by some means. The aquifers have been assigned three (3) broad chronostratigraphic types, these being – Proterozoic metamorphic and igneous basement rocks, Late Proterozoic and Palaeozoic sedimentary rocks of the Georgina Basin, and poorly cemented and unconsolidated unconfined Cainozoic sediments.</p> <p>No systematic sampling of the bore water has been undertaken.</p>

Site Conditions	Description
Flora	<p>The region is characterised by high relief ranges and foothills covered with Spinifex hummock grassland, sparse acacia shrublands and woodlands along watercourses.</p> <p>1,012 species have been identified in the bioregion, including 105 that are rare and threatened. This bioregion has very high plant species diversity. Spinifex and Acacias, particularly mulga (<i>Acacia aneura</i>) occur throughout the bioregion with plant communities varying from low open woodlands to sparse shrublands and hummock grasslands. The structure and composition of plant communities is largely determined by the geological substrate.</p> <p>Rich and varied plant communities including river red gum (<i>E. camaldulensis</i>), figs, cycads (<i>Macrozamia macdonnelli</i>), callistemon and mint bushes grow in the moist, cooler gaps and gorges. Commonly there is sparse ground layering of grasses with Spinifex being generally absent. The Plenty River and Illogwa Creek are occasionally lined with river red gums and ghost gums, various low trees, shrubs and grasses being found on the flood plains. Low rock rises and outcrops support sparse shrubs, low trees and occasionally Spinifex. Stands of Mulga may appear in some areas.</p> <p>The ranges contain the greatest concentration of rare and relict species in the arid zone. There are 120 endemic species with most of these growing in the higher hills and mountains, 80 rare and / or endangered species and 60 relict species. There are also some rare endemic Gondwana species.</p> <p>The ranges contain high plant species diversity with up to 65% of all central Australian species growing there. The gaps and gorges are especially important as they provide a wetter microclimate, which allows relict plant species to persist, and some annuals to survive long periods without rain.</p> <p>The CDU and EPBC reports (Appendix 2) will be used as a reference tool to identify any threatened species that may be sighted on the project area.</p>
Fauna	<p>Mammal species that are known to have occurred in the MacDonnell Ranges, 15 species (42%) have become regionally extinct over the last 100 years, including the western quoll (<i>Dasyurus geoffroyii</i>), and three bandicoot species. Several surviving species including the black-footed rock-wallaby (<i>Petrogale lateralis</i>) and the central rock rat (<i>Zyomys pedunculatus</i>) have undergone substantial contractions in range or reduction in total population, and these trends are ongoing.</p> <p>There is high bird diversity in the bioregion, due to the diversity of habitats, with 218 known species. Two species that have disappeared from this region are the malleefowl (<i>Leipoa ocellata</i>) and night parrot (<i>Pezoporus occidentalis</i>). There are 107 reptile species and 9 frogs. All 10 species of fish known from this region have been found in the Finke River system. Other rivers originating in the Mac Donnell Ranges have only one or two species. There are no fish in the George Gill Ranges or its creeks.</p> <p>The aquatic invertebrates, especially those in the George Gill and Chewings Ranges, represent unique aquatic communities of evolutionary importance in the arid zone.</p> <p>The CDU and EPBC reports will be used as a reference tool to identify any threatened species that may be sighted on the project area (Appendix 2).</p>

Site Conditions	Description
Pest Species	<p>Listed weed species within the search area for the site include the rubber bush (<i>Calotropis procera</i>), buffel grass (<i>Cenchrus ciliaris</i>), sweet acacia (<i>Vachellia farnesiana</i>) and flannel weed (<i>Sida cordifolia</i>).</p> <p>Weed identification and management data is attached at Appendix 3.</p> <p>Listed animal pest species include horses, rabbits, donkeys, foxes, dingos/ wild dogs and cats. Other pest species include house mice, Arabian camels and goats</p> <p>The CDU and EPBC reports will be used as a reference tool to identify any pest species that may be sighted on the project area.</p>
Land Use	<p>58.6% of the bioregion (22,638 sq kms) is pastoral lease or freehold, 31% (11,983 sq kms) is Aboriginal freehold, and 9.4% (3,634 sq kms) is reserved for conservation.</p> <p>Aboriginal lands include Roulpmaulpma, and part of Haasts Bluff in the west of the region.</p> <p>National Parks and Nature Reserves include West MacDonnell NP, Finke Gorge NP, Watarrka (Kings Canyon) NP, Trephina Gorge NP, N'Dhala Gorge Nature Park, Ruby Gap Nature Park and Arltunga Historic Reserve (Morton, <i>et. al.</i>, 1995).</p> <p>Predominant land uses are cattle grazing and tourism. There is also some horticulture in the region, including table grapes, dates and other fruits and vegetables.</p> <p>European settlement in this region began with the establishment of the Hermannsburg Mission on the Finke in 1887, and the development of the Alice Springs Telegraph Station in 1872. Pastoral properties also began to be established from that time. Gold mining around Arltunga began in the 1890's and other mining ventures have occurred in the Harts Range. Since the 1960's tourism has progressively become a major industry (Kerle, 1996).</p> <p>National Parks in this region such as Western MacDonnell, Watarrka and Finke Gorge have been established in recognition of the spectacular scenery and the presence of important biological refuges in the ranges.</p> <p>The Huckitta project area falls entirely within Perpetual Pastoral Lease (PPL):</p> <ul style="list-style-type: none"> • PPL 724 (Ambalindum Station)
Historical, Aboriginal, Heritage Sites	<p>Copies of NT Aboriginal Areas Protection Authority (AAPA) register inspection reports for the titles listed below are attached at Appendix 5:</p> <ul style="list-style-type: none"> • EL26942 <p>Registered and recorded Aboriginal sites have been recorded on all field maps to ensure that the areas remain undisturbed.</p> <p>A number of cultural heritage surveys have been undertaken by the Central Land Council ("CLC") and the Aboriginal Areas Protection Authority (AAPA).</p> <p>Heritage Register reports for the NT Portions within which the Exploration Licence falls is contained in Appendix 5.</p>

4.0 ENVIRONMENTAL MANAGEMENT SYSTEM / PLAN

Mithril has an environmental management system which identifies hazards, estimates the potential consequences of the hazards and identifies a management plan to control the risks. This is further outlined in Section 6 below and the Environmental Management Plan (Appendix 6) and the Weed Management Plan (Appendix 4).

4.1 Environmental and OHS Policies and Responsibilities

A copy of the Mithril Resources Environmental Policy is attached at Appendix 7. The performance objectives are listed in section 6 of the MMP. Mithril has a chain of command with clear responsibilities for people within the organisation; the organisational responsibility hierarchy is as outlined below.

Level within organisation	Responsibilities
Responsible Officer	Is responsible to ensure that the organisation meets its obligations to provide a healthy and safe workplace as required by the Workplace Health and Safety (National Uniform Legislation) Act 2011 and the implementation of Mithril's Health, Safety and Welfare and environmental policies and programs.
Managers	Managers plan schedule and control all work and must ensure that appropriate measures are implemented to control risks to health, safety and the environment.
Contract Geoscientific Staff	Technical contractors under the supervision of the responsible officer or Manager control of the day to day work in the field. They must ensure that work is done in accordance with any existing health, safety and the environmental procedures and in a manner which controls the risks to health safety and the environment.
Contract field assistants / Other contractors	Field assistants are required to complete their work in a manner that does not put themselves, others or the environment at risk. They are to follow reasonable instructions and use any training, personal protective equipment or tools provided with regard to health, safety or the environment.

The Responsible Officer

- Is the person responsible for the health and safety and environmental obligations within the organisation.
- Will ensure that the company complies with the legislative requirements of the Workplace Health and Safety (National Uniform Legislation) Act 2011 and environmental compliance.
- Will undertake periodic reviews of the OHS&W and environmental systems operating within Mithril in conjunction with the appropriate consultative group/persons

Managers

Managers have responsibility in their areas of control to:

- Carry out their roles and responsibilities as detailed in the relevant health and safety and environment policies and procedures. This includes the monitoring, auditing and inspections of rehabilitation completed and submission of reports detailing this work.
- Ensure all risks to health and safety and environment are identified, assessed and effectively controlled.
- Provide employees with the necessary skills, training and equipment to safely undertake their work.

Contract Geoscientific Staff

Persons with supervisory responsibilities have a responsibility to:

- Implement relevant health and safety and environmental policies and procedures in their areas of control.
- Provide the necessary information, instruction and training to workers under their control.
- Ensure workers carry out their jobs effectively and safely.

Other contactors

Workers have a responsibility to:

- Protect their own health and safety and to avoid adversely affecting the health and safety and environment of other persons or places in the workplace.
- Report any incident or hazards (OHS or Environmental) at work to management as soon as possible after the event.
- Ensure that all equipment provided is used correctly.
- Obey all instructions, such as policies and procedures issued to protect their own personal health and safety, the health and safety of others and the environment.
- Report or make recommendations to management to avoid, eliminate or minimize any hazards of which they are aware regarding working conditions or methods.
- Ensure that they are not, by the consumption of alcohol or a drug, in such a state as to endanger their own safety at work or the safety of any other person at work.

Specific Roles and Responsibility have been assigned to:

- The Responsible Officer (**David Hutton** – Managing Director)
- Managers (**Jim McKinnon-Matthews** – General Manager Geology),

4.2 Statutory Requirements

The legislation listed below affects exploration activities on the Huckitta project:

- The Mineral Titles Act 2010;
- The Mineral Titles Regulations;
- Mining Management Act;
- Mining Management Regulations;
- Weeds Management Act;
- Bushfires Act;
- NT Aboriginal Sacred Sites Act;
- Native Title Act;
- Aboriginal Land Rights (Northern Territory) Act;
- Environment Protection & Biodiversity Conservation Act;
- Work Health and Safety (National Uniform Legislation) Act 2011;

- Water Act;
- Soil Conservation and Land Utilisation Act;
- Waste Management and Pollution Control Act;
- Any reporting requirements of the listed Acts;
- Lease conditions; and
- MMA Authorisation conditions.
- Territory Parks, and Wildlife Conservation Act

4.3 Non-Statutory Requirements

Where operations are conducted within the boundaries of Pastoral Leases the Operator has loose agreements with the Landholders in respect of activities such as earthworks and rehabilitation.

A number of cultural heritage surveys have been undertaken by the CLC and AAPA prior to ground disturbing activities.

4.4 Identified Stakeholders and Consultation

Consultation has been undertaken between Mithril Resources and all relevant stake holders. The relevant stake holders that have been identified include:

- Ambalindum Station;
- Central Land Council & Aboriginal Traditional Owners of the area where the land status is Aboriginal Land or Aboriginal Freehold Land;
- The Department of Mines and Energy;
- The Department of Land Resource Management; and
- NT WorkSafe.

Station owners are regularly consulted in respect of Mithril Resources exploration activities. This is normally done by phone, email or in person.

In areas where ground disturbing work is to be undertaken a heritage survey is conducted with either the CLC or AAPA, which provide a certificate showing the locations of any sites of significance and/or areas to be avoided.

Government Departments are consulted in line with statutory requirements.

4.5 Induction and Training

Mithril Resources has the requirement that all persons working on the Huckitta project must complete a site specific induction, which includes the standard operating procedures (SOP) for the Huckitta project.

It is Mithril's aim to have all site personnel with a first aid qualification.

As stated in section 4.1, the site supervisor is the person responsible for inducting and training personnel. Employees and contractors are required to complete an induction prior to commencing work on a site. The induction covers:

- Environmental responsibilities of the company;
- Environmental responsibilities of the individual;

- Environmental awareness;
- Responsible operating practices;
- Reporting procedure.

The names of personnel that have participated in and completed the induction process are recorded. Records are stored on site and at the company's offices.

Training topics covered both in the induction and as additional training include:

- Incident reporting;
- Site inspections;
- Weed identification and management;
- Fuel storage;
- Emergency response training;
- Soil and erosion management;
- Waste management;
- Disturbing drainage patterns;
- Sacred site intrusion;
- Other issues raised during toolbox meetings such as fire extinguisher raining and modifying procedures may be the subject of further training; and
- All of the issues listed in section 4.6 of the MMP.

4.6 Identification of Environmental Aspects and Impacts

Aspect	Impact	Risk Rating	Management Measures (prevention)	Management Measures (remediation)
Clearing for drill pads/ tracks/ camps	Possible loss of native flora and habitat for fauna	Medium	<p>Leave the area of the drip line of a tree's canopy untouched to protect the tree's root ball.</p> <p>If drill pads are required, clear the smallest possible area using blade –up technique.</p> <p>Re-establish / clear tracks using blade–up technique. Establish camps in cleared areas.</p>	<p>Close/ cap drill holes as soon as possible after exploration activities have ceased. Re-spread topsoil over pads; monitoring will determine re-seeding is required.</p> <p>Remove all rubbish from camp areas for disposal at approved facility.</p>
Weed management	Spread of weeds	Medium	<p>Inspect vehicles prior to entry and exit from project area.</p> <p>Incidences of new weed species on site will be reported to DLRM and DME.</p>	Establish a monitoring regime to ensure that the measures that are in place are effective.
Drilling	<p>Hydrocarbon spills – risk of contamination of soil, surface and ground water</p> <p>Dust and noise emission – disturbance to flora fauna</p>	Medium	<p>Sumps to be lined with a heavy polyurethane membrane where appropriate. All drilling fluids used in sumps are to be biodegradable.</p> <p>Diesel fuel will be brought on site in 200 litre drums and transferred via a hand-pump. Spill kit will be on hand at transfer point.</p> <p>Disturbance to flora and fauna will be minimal due to sensitive clearing of drill pads. Noise and dust emissions will be managed with mandatory noise and dust reduction equipment on plant and machinery. PPE will be issued to personnel to minimize exposure to dust and noise.</p>	<p>Small quantities of fuel (in sealed 200 litre drums) will be carried on the service truck. Spill kit will be on hand at transfer point</p> <p>Topsoil will be re-spread as soon as possible after cessation of drilling.</p>

Aspect	Impact	Risk Rating	Management Measures (prevention)	Management Measures (remediation)
Fuel Storage	Hydrocarbon leak / spill	Medium	<p>Diesel fuel will be brought on site in 200 litre drums and transferred via a hand-pump.</p> <p>Spill kit will be on hand at transfer point. Drip trays are to be in place when vehicles are stationary or being refueled to prevent soil contamination.</p> <p>All fuel drums are stored within a lined and bunded area to prevent soil contamination.</p>	Small quantities of fuel (in sealed 200 litre drums) will be carried on the service truck. Spill kit will be on hand at transfer point
Hydrology	Water encountered during drilling/ surface water	Medium	If water is encountered, it will be diverted into drill sumps or ponds.	Water to be diverted onto surrounding land will first be diverted into a sump or a silt trap to drop its silt load.
Sacred Site Intrusion	Destruction of sacred site	High	<p>The operator has received abstracts from the AAPA Register of Sacred Sites confirming that there are registered sites within the project area.</p> <p>The operator has received maps from AAPA to identify the areas on which the sites occur.</p> <p>Registered and recorded Aboriginal sites have been recorded on all field maps to ensure that the areas remain undisturbed.</p> <p>The CLC and AAPA have conducted numerous heritage clearances and all ground disturbing work completed has been heritage cleared.</p>	Knowledge of the precise location of sacred sites on the project area will enable the operator to remove any risk of intruding on registered or unregistered sites.
Flora and Fauna Management	Intrusion/ removal of threatened species habitat	High	Prior to work being undertaken a visual inspection will be conducted to determine the presence of the threatened flora and fauna. Upon completion of rehabilitation a visual inspection will be conducted.	Use the CDU and EPBC reports and other threatened species checklists as reference tools when inspecting an area prior to commencing operations.
Erosion Management	Unrehabilitated drill pads, drill holes, access tracks and camp areas	High	Rehabilitate drill pads and cap drill holes to DME specifications as soon as possible if no further down hole activity is planned. Maintain uniform surface contouring on	Establish a monitoring regime to ensure that rehabilitated areas are not subject to erosion.

	can become eroded. Risk of impact on flora and fauna		area. Rehabilitate access tracks and camp areas to DME specifications as soon as they are no longer required.	
Aspect	Impact	Risk Rating	Management Measures (prevention)	Management Measures (remediation)
Vehicle Movement	Erosion of tracks and all areas driven across, dust and weed spread	Medium	When driving use existing tracks where possible and avoid areas of thick vegetation. Ensure new tracks are properly created, rehabilitated once unrequired, and monitor for signs of erosion. Drive slow around areas with infrastructure to minimise dust. Ensure all vehicles are adequately washed down before entering site and on completion of a program	Establish a monitoring regime to ensure that rehabilitated areas are not subject to erosion and that the measures in place are effective.
Waste Management	Human waste, kitchen waste and food scraps can attract animal pest species	Medium	<p>Covered bins will be used for the collection and storage of wastes. Rubbish bins or pits will be established in locations, which minimise the threat to stock or wildlife.</p> <p>Waste waters from kitchens and showering facilities are directed to earth drains designed to prevent discharge unless septic tanks have been installed in which case all waste water is contained with them.</p> <p>Toilet facilities may consist of drill holes or chemical systems. Any necessary pits are covered with a minimum of one meter of fill.</p> <p>All rubbish is taken off-site and disposed of at appropriate licensed waste facilities.</p>	All personnel will be instructed in correct waste management during their site induction.

KEY		CONSEQUENCE (C)		
Critical Risk				
High Risk		Low Little to no impact	Medium Medium term -ve impact	High Irreversible or long term -ve impact
Moderate Risk				
Low Risk				
LIKELIHOOD (L)	High >75% Chance event will occur in life of plan	4	7	9
	Medium 25%<=75% Chance event will occur in life of plan	2	5	8
	Low <25% Chance event will occur in life of plan	1	3	6

Figure 5: Risk Matrix from MMP Advisory Structure Guide

4.7 Emergency Procedures and Incident Reporting

An emergency procedure has been formulated and is included in site inductions. A copy of these procedures, including a map, will be provided to the Central Australian Remote Health Services (CARHS) based in Alice Springs. Please Note: After consultation with the RFDS and the CARHS, it was deemed more appropriate to use the CARHS.

All incidents and accidents are reported to the senior Mithril representative on site and then appropriate documentation is completed. In the event of a serious accident or incident the DME Chief Executive Officer will be notified of the occurrence as soon as practicable as required by section 29 of the *Mining Management Act*.

Reporting of environmental incidents is the responsibility of the Senior Mithril employee at the site using the Mithril Environmental incident report form. If the Senior Mithril Employee deems the incident to be serious or critical, the department will be notified using the appropriate incident report form (appendix 5: CF7-001_Notification_of_a_Serious_Accident).

All policies, targets, objectives, responsibilities and procedures are controlled from Mithril's Adelaide offices with copies of relevant documents being located in the field office.

Specifically a copy of the Mining Management Plan and Environmental Management Plan is maintained in the field office whilst field activities are being undertaken with the master documents being controlled from Mithril's Adelaide office.

The Mine Management Plan and Environmental Management plan are reviewed annually by the Exploration Manager in consultation with management, senior geologists, geologists and field personnel.

In the event of an environmental incident or accident occurring on the project area, it will be reported to the senior Mithril representative on site and then appropriate documentation is completed. Any environmental incidents will be recorded in a site register.

As required, incidents rated above "Class 2" and above will be reported to the Chief Executive Officer of the Department of Mines and Energy in the manner set out in the Draft Guidelines. A copy of the DME Draft Guideline for Reporting is attached at Appendix 8.

4.8 Environmental Audits and Inspections

Mithril Resources has a philosophy of continual informal auditing whilst activities are being undertaken with a formal audit being completed once rehabilitation is completed.

This is described in detail in the Environmental Management Plan (Appendix 6).

Officers from DME undertook a field visit of the Huckitta Project between 27th and 29th August 2015. Mithril were advised of deficiencies / further work being required on the project. Following this field visit Mithril undertook an evaluation of the required work as advised by the DME by means of a field visit and subsequent report. The recommendations that came out of this Mithril trip are outlined in the report contained in Appendix 11.

4.9 Environmental Performance Reporting

To date informal internal performance reporting has only been undertaken.

Monitoring program - monitoring for environmental aspects as stated in section 4.6.

Progress made against environmental targets - Environmental targets have been achieved with minimal disturbance to the natural environment.

Progress made towards achieving revegetation and closure objectives – Good progress was made in 2016 with the clean-up of the Basil camp rubbish and old fuel and oil as well as completing the rehabilitation on drill holes highlighted in 2015.

Environmental reviews and audits conducted – Mithril conducted a number of rehabilitation programs on the project in 2016. Following these programs and reports submitted, and subsequent field trips by mining compliance officers, the Security for the project was reduced.

5.0 EXPLORATION REHABILITATION

Disturbance	Rehabilitation Activities	Schedule (Timing)	Closure Objectives / Targets	Monitoring Techniques
Drill holes	<p>When samples have been analysed and there is no requirement to go back down-hole, the holes will be permanently plugged with plastic cones below ground level, backfilled and mounded as per DME Advisory Note AA7-029.</p> <p>If more down-hole activity is proposed temporary caps will be installed.</p>	Holes will be permanently or temporarily capped following cessation of the drilling program.	All holes will be permanently plugged/ capped as per DME Advisory Note AA7-029.	<p>Rehabilitated drill sites will be inspected after 12 months to ensure that the site is safe and stable and that there have not been any hole failures.</p> <p>Remediation of any failures will be undertaken immediately.</p>
Drill pads	Any topsoil that was removed will be re-spread over the pad. Any shrubs or trees that were removed will be placed over the area to provide habitat for small fauna.	<p>The pad may not be rehabilitated immediately after drilling ceases if more down-hole is scheduled.</p> <p>If no further work is proposed the pad will be rehabilitated after drilling ceases as per DME Advisory Note AA7-029.</p>	<p>The drill pad will be rehabilitated after drilling ceases as per DME Advisory Note AA7-029.</p> <p>Drill pads will be left in a safe and stable condition as soon as possible after the end of drilling program.</p>	Rehabilitated drill pads will be inspected after 12 months to ensure that the site is safe and stable and that regrowth on the area is satisfactory.
Sumps	<p>Sumps will not be filled until all water has been pumped out or evaporated.</p> <p>Polyurethane liners (if used) will be removed for disposal at an approved facility.</p>	If no further work is proposed the sump will be rehabilitated after drilling ceases as per DME Advisory Note AA7-029.	<p>The sump will be rehabilitated after drilling ceases as per DME Advisory Note AA7-029.</p> <p>Sumps will be left in a safe stable condition as soon as possible after the end of drilling program.</p>	Rehabilitated sumps will be inspected after 12 months to ensure that the site is safe and stable and that regrowth on the area is satisfactory.
Costeans	None proposed.			
Bulk sample pits	None proposed.			

Tracks / Gridlines	<p>In the event that that tracks and gridlines are intended to be left in place, Mithril will seek written consent from the landholder and provide a copy of the advice to DME as evidence of the landholder's intention.</p> <p>In the event that tracks and gridlines are not required to be left in place, they will be rehabilitated in accordance with the methods in the attached DME Advisory Note AA7-005 – Clearing and Rehabilitation of Tracks and Gridlines.</p>	Tracks/ Gridlines will be rehabilitated as per DME Advisory Note AA7-005 upon closure of the Authorisation unless required to remain in place by the pastoralist.	Tracks will be rehabilitated as per DME Advisory Note AA7-005 unless required to remain in place by the pastoralist.	Rehabilitated tracks will be inspected at after 12 months to ensure that they remain safe and stable and that regrowth on the area is satisfactory.
Sample bags	Sample bags stored on drill pad while samples are being analysed. Upon completion of process drill cuttings are intended be returned down-hole.	Within 6 months or at completion of assessment process, whichever occurs sooner.	Empty sample bags down-hole and remove all bags from site for disposal at approved facility.	Rehabilitated drill pads will be inspected after 12 months to ensure that the site is safe and stable, free from sample bags and that regrowth on the area is satisfactory.
Camp	Other than existing camp small campsite only are proposed; tents to be established on open areas, no clearing proposed. Domestic rubbish will be removed and disposed of at an approved facility – e.g. Alice Springs.	Camp site being vacated will be cleaned up prior to leaving the site.	The camp will be located on previously cleared area. The site will be left in "as found" condition.	Camp site will be inspected after 12 months to ensure that they remain safe and stable and that regrowth on the area is satisfactory.

6.0 PERFORMANCE OBJECTIVES

The environmental performance objectives that have been set by Mithril Resources are outlined below. The information in the table details how Mithril intends to meet these environmental goals and how it will measure its effectiveness in meeting its stated goals.

In all cases the responsibility for the operation implementation resides with management as outlined in the Environmental Management Plan.

The achievement of these objectives are viewed in the light of continuous improvement so dates for completion are not given however the achievement of the goals is evaluated annually as a minimum.

Objective 1: Minimise the risk to employees, contractors, the public and other third parties.

Objective 2: Minimise disturbance and avoid contamination to soil by avoiding eroded areas, avoid establishing new tracks where possible and monitoring existing tracks for erosion, avoiding establishment of windrows where they may affect water flow and properly banded fuel storage area.

Objective 3: Avoid the introduction or spread of pest plants, animals, invasive and introduced species, and implement control measures as necessary.

Objective 4: Minimise disturbance to drainage patterns and avoid contamination of surface waters and shallow ground water resources.

Objective 5: Avoid disturbance to sites of cultural and heritage significance.

Objective 6: Minimise disturbance to native vegetation and native fauna.

Objective 7: Remediate and rehabilitate operational areas to agreed standards.

ENVIRONMENTAL OBJECTIVES, CONTROLS AND MEASUREMENT CRITERIA

Environmental Objectives	Comment	Guide to How Objectives Can Be Achieved	Assessment Criteria
<p><u>Objective 1:</u></p> <p><u>Minimise the risk to employees, contractors, the public and other third parties.</u></p>	<p>The criteria for assessing the achievement of this objective have been developed on the basis of the current understanding of the field activities to be undertaken.</p> <p>The key to achieving this objective in relation to both down-hole abandonment and surface drill site restoration is to ensure that the visual prominence of the abandoned well site and its access track(s) is minimised to the extent where it is difficult for third parties to detect and therefore access these sites.</p> <p>The backfilling of all sumps and the removal of rubbish from the restored drill site should be carried out.</p>	<p>All employees and contract personnel complete an induction prior to commencement of work in the field.</p> <p>Signage in place to warn third parties of access restrictions to operational areas.</p> <p>All appropriate PPE (personnel protective equipment) is issued and available as required in accordance with company operating requirements and applicable standards.</p> <p>Effective Emergency Response Plan (ERP) and procedures are in place.</p> <p>Annual exercise of ERP.</p> <p>Communication of potential hazards to safety associated with drilling operations to potentially affected parties prior to commencement of operations.</p> <p>Reporting systems for recording injuries and accidents in place, and annual; (at minimum) review of records to determine injury trends.</p> <p>Implementation of appropriate corrective actions.</p> <p>Ensuring safety and environment management plans are updated and reviewed.</p>	<p>Zero Lost Time Injuries (LTI's)</p> <p>Zero Medically Treated Injuries (MTI's)</p> <p>Reasonable measures implemented to ensure no injuries to the public or third parties.</p>

<p><u>Objective 2:</u></p> <p><u>Minimise disturbance and avoid contamination to soil.</u></p>	<p>The impacts associated with soil disturbance can potentially include compaction, wind and water erosion and dust generation.</p> <p>The main source of disturbance to soils is associated with Access track construction, camp, drill pads, creation of borrows pits, restoration activity and vehicle movements.</p>	<p><u>Drill site, grid line and access track construction</u></p> <p>Minimise the footprint of the drill site, camp and access tracks.</p> <p>Use existing tracks and consider alternate routes during planning phase to minimise environmental impacts</p> <p>Where possible avoid track construction and either walk or drive over vegetation.</p> <p>Topsoil stockpiled from sump construction and respread on abandonment.</p> <p>Construct and rehabilitate drill pads, grid lines and tracks in line with advisory notes (attached).</p> <p><u>Fuel and Chemical Storage and Handling</u></p> <p>All fuel, oil and chemical storages banded in accordance with the appropriate standards</p> <p>Records of spill events and corrective actions maintained in accordance with company procedures.</p> <p>Spills or leaks are immediately reported and clean up actions initiated.</p> <p>Logged incidents are reviewed annually to determine areas that may require corrective action in order to reduce spill volumes in subsequent years (and drive continual improvement).</p> <p>Chemical and fuel storage procedures are reviewed and monitored in audit process.</p> <p><u>Waste Disposal (domestic, sewage and sludges)</u></p> <p>Covered bins are provided for the collection and storage of wastes.</p> <p>All loads of rubbish are covered during transport to the central waste facility.</p> <p>Pits are not established in locations, which pose an unacceptable hazard to stock or wildlife.</p> <p>Where appropriate a weed and feral animal management strategy is in place (avoidance and control strategies).</p> <p>Rig and vehicle wash downs are designed to minimise impacts</p>	<p><u>Drill site, grid line and access track construction</u></p> <p>No significant long term impact to soil, flora and fauna in the area of disturbance.</p> <p>Minimise off-road driving or creation of shortcuts.</p> <p><u>Fuel and Chemical Storage and Handling</u></p> <p>No spills/leaks outside of areas designed to contain them.</p> <p><u>Waste Disposal</u></p> <p>No litter of waste to escape designated waste repositories.</p> <p>No spills or leaks from sewage treatment process and sludge pits.</p> <p>No weeds or feral animals are introduced to operational areas.</p>
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<p><u>Objective 3:</u> <u>Avoid the introduction or spread of pest plants, animals, invasive and introduced species, and implement control measures as necessary.</u></p>	<p>Activity associated with lease and access track construction, such as movement of vehicles and equipment, is a potential source of weed or disease introduction and spread. The most effective technique to prevent the introduction and spreading of weed species is to ensure that vehicles and equipment are appropriately cleaned prior to entry into a construction site.</p>	<p>Where appropriate a weed and feral animal management strategy is in place (avoidance and control strategies).</p> <p>Rig and vehicle wash downs are initiated in accordance with the management strategy.</p> <p>If new weeds or feral animals are identified appropriate control measures are implemented.</p>	<p>No weeds or feral animals are introduced to operational areas.</p>
<p><u>Objective 4:</u> <u>Minimise disturbance to drainage patterns and avoid contamination of surface waters and shallow ground water resources.</u></p>	<p>The main threats to drainage patterns and surface waters, and shallow ground waters are considered to be interruption of natural flows as a result of earthworks and contamination.</p> <p>Operation area selection should aim to minimise impact to drainage systems, by avoiding sensitive areas and appropriate construction methods to avoid windrows.</p>	<p><u>Access Track Construction</u></p> <p>Avoid construction of tracks in the vicinity of drainage channels where possible.</p>	<p><u>Access Track Construction</u></p> <p>Access tracks are located and constructed to maintain pre-existing water flows (i.e. channel contours are maintained on floodplains and at creek crossings).</p>
		<p><u>Drilling Mud Sumps</u></p> <p>All drill cuttings, muds and non-toxic drill fluids are contained within the designated mud sumps with adequate freeboard at the completion of operations to allow for a 30cm cover of clean fill at remediation.</p>	<p><u>Drilling Mud</u></p> <p>No overflow of drill cuttings, muds and other drilling fluids from mud sumps.</p> <p>No non-mineral waste material disposal to sumps.</p>
		<p><u>Fuel and Chemical Storage and Handling</u></p> <p>All fuel, oil and chemical storages banded in accordance with the appropriate standards</p> <p>Spills or leaks are immediately reported and clean up actions initiated.</p> <p>Chemical and fuel storage procedures, including signage, are reviewed and monitored in audit process.</p>	<p><u>Fuel/Chemical Storage and Handling</u></p> <p>No leaks/spills outside of areas designed to contain them.</p>

<p><u>Objective 5:</u> <u>Avoid disturbance to sites of cultural and heritage significance.</u></p>	<p>The aim of the objective is to ensure that any sites of cultural (Aboriginal or non-Aboriginal) heritage significance are identified and protected.</p>	<p>Consultation with stakeholders (i.e. government agencies, landholders etc) in relation to the possible existence of heritage sites, as necessary.</p> <p>Cultural heritage surveys will be conducted over all areas planned for ground disturbing activities.</p>	<p>Ares identified for ground disturbing activities are surveyed and any sites of Aboriginal and non-Aboriginal heritage identified.</p> <p>Any identified cultural and heritage sites have been avoided.</p>
<p><u>Objective 6:</u> <u>Minimise disturbance to native vegetation and native fauna.</u></p>	<p>Primary risks to native fauna include clearing of habitat and obstruction of movement through cleared areas, the presence of borrow pits, fuel and chemical storage and management, and waste management activities.</p>	<p><u>Waste Management</u></p> <p>Covered bins are provided for the collection and storage of wastes.</p> <p>All loads of rubbish are covered during transport to the central waste facility.</p> <p>Pits are not established in locations, which pose an unacceptable hazard to stock or wildlife.</p>	<p><u>Waste Disposal</u></p> <p>No litter of waste to escape designated waste repositories.</p> <p>No spills or leaks from sewage treatment process and sludge pits.</p> <p><u>Introduced species</u></p> <p>On weeds or feral animals introduced to operational areas</p>
<p><u>Objective7:</u> <u>Remediate and rehabilitate operational areas to agreed standards.</u></p>		<p><u>Well Site and Access Track Restoration</u></p> <p>Rehabilitation/ abandonment plans for surface activities will be developed in consultation with relevant stakeholders and in sympathy with advisory notes (attached)</p> <p>Compacted soil areas ripped and soil profile and contours are reinstated following completion of operations.</p>	<p><u>No unresolved reasonable stakeholder complaints.</u></p> <p>All stakeholders are satisfied with rehabilitation. Contaminated site are remediated.</p> <p><u>Drill site and access track restoration</u></p> <p>minimise visual impact of abandoned drill sites minimise visual impact of abandoned access tracks re-establish natural vegetation on abandoned drill sites and access tracks</p>

APPENDICES