EcOz Environmental Services

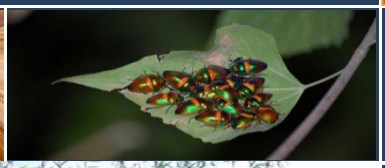
Chapter 1 Introduction

Sherwin Iron (NT) Pty Ltd

Sherwin Creek Iron Ore Project

Environmental Impact Statement





2013

Document Control Record

Document Code:	EZ13503-C0301-EIA-R-0001
Catalogue Number:	32783
Project Manager:	Justine Shailes
Author(s):	Chris Brady
Approved by:	Justine Shailes
	
Approval date:	20 November 2013

DOCUMENT HISTORY

Version	Issue Date	Brief Description	Reviewer/Approver
1.A	20 September 2013	Report preparation	C. Brady
1.B - D	25 September 2013	EcOz review	J. Richardson
1.0	2 October 2013	Final	J. Shailes

Recipients are responsible for eliminating all superseded documents in their possession.

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Table of Contents

Figures

1 Introduction

1.1 Proponent

Sherwin Iron (NT) Pty Ltd (Sherwin) is an Australian iron ore exploration and development company. The company's flagship project is the rich iron ore deposits at in its Roper River Iron Ore Project, near the Gulf of Carpentaria, Northern Territory.

Company Vision Statement

To be the foremost iron ore mine in the region and to mine high quality iron ore at a competitive cost in a safe and environmentally friendly manner.

Company Mission Statement

Sherwin Iron will operate in an environmentally and socially responsible manner whilst pursuing opportunities and innovation to minimise cost and maximise iron ore production.

1.1.1 Proponent details and contacts

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1.1.2 Environmental policy and record

Sherwin understands that strong community relations, environmental sensitivity and effective corporate governance are all fundamental factors in sustainable development. The Company believes that a commitment to sustainable development is vital in maintaining strong relations with Land Councils, native title holders and the community at large. Sherwin endeavours to comply with all legislative and common law requirements affecting its business, in particular occupational health and safety, the environment, native title and cultural heritage laws. Sherwin recognises, considers and respects that environmental issues may arise from the Company's activities. The Company complies with all applicable legal requirements in order to reduce any potential negative impact from its operations.

VDM Consulting - EcOz conducted a site audit (August 2011) for the exploration activities being undertaken by Sherwin Iron on leases EL24101, EL24102 and EL26412. The audit assesses the degree of compliance and performance with the MMP. The Audit found general compliance with the MMP obligations.

1.2 The Project

1.2.1 Project location

Sherwin plan to commence direct shipping ore (DSO) operations within the Sherwin Creek area (MLA29584) (project area) on Deposit C; this is called the Sherwin Creek Iron Ore Project (the project) and is the basis for this EIS. Sherwin has interests in the area in addition to the currently proposed project, namely the Roper River Iron Ore Project which comprises six areas across three Exploration Leases (EL24101, EL24102 & EL26412) (Figure 1-1). Besides MLA29584 Sherwin has also applied for two smaller mining leases for the accommodation camp and the 4.5 km haul road from the mine to the Roper Highway.

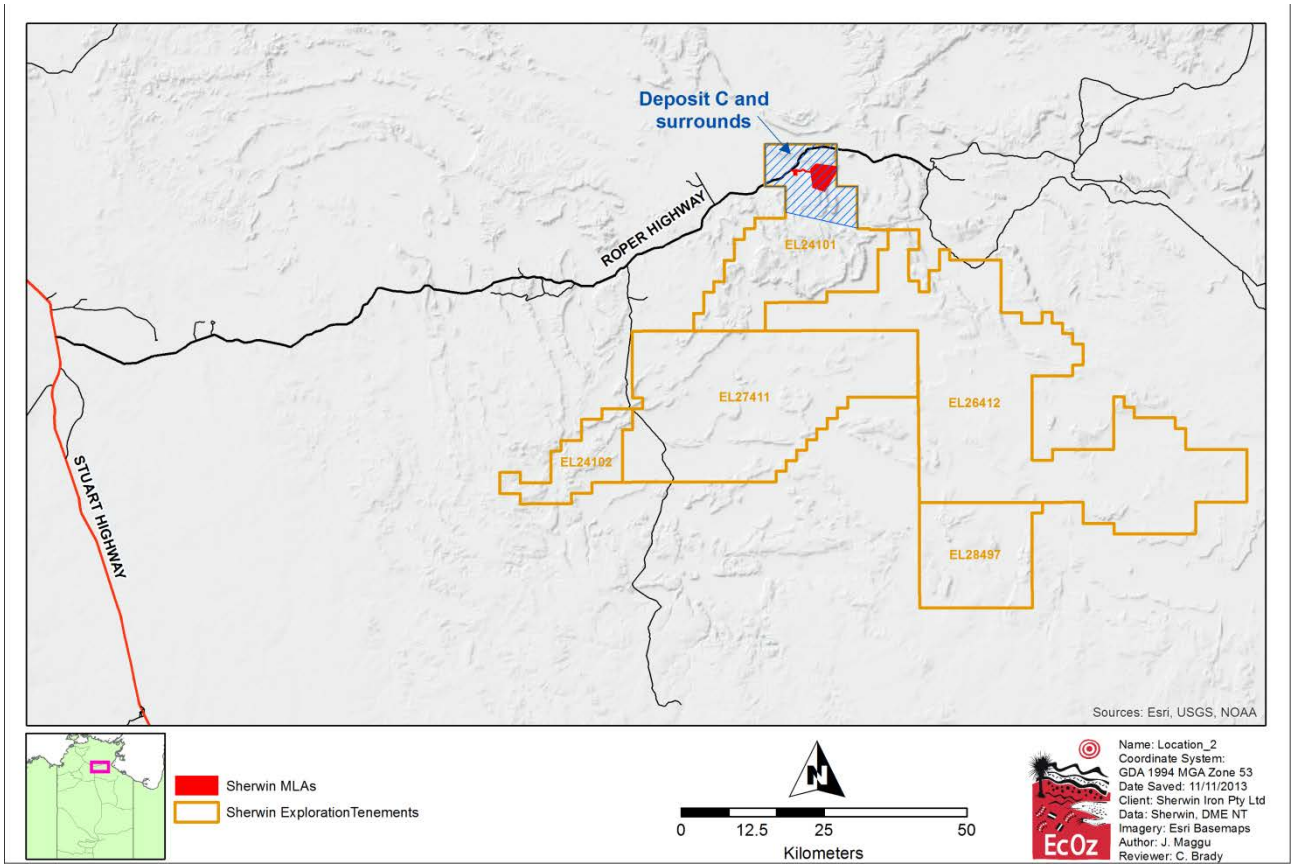


Figure 1-1. Map showing Sherwin exploration tenements and mineral lease MLA29584 (Deposit C)

The project is located in the Northern Territory 420 km south-east of Darwin and 150 km east of Mataranka via road. The project is linked to Darwin and Katherine by the Stuart Highway via the Roper Highway, which departs the Stuart Highway 10km South of Mataranka. The Roper Highway is a single lane sealed road, apart from the last 11km before the mine (west).

The closest settlements to this area are Ngukurr (approximately 50 km east), Minyerri (approximately 60 km south) and Mataranka (approximately 120 km west). Ngukurr is the largest settlement in the region with more than 1500 residents.

Land use surrounding the project area includes pastoral, conservation, tourism, Aboriginal freehold and leasehold, fishing and horticulture. Currently, mining makes up a very small percentage of land use in the region. The project area lies within the Mount McMinn Pastoral Lease (Figure 1-2). Limmen National Park lies to the south east. The park has important natural, recreational and tourism, commercial and historical values, and the Northern Territory Government has recognised this with the declaration of the park mid-2012.

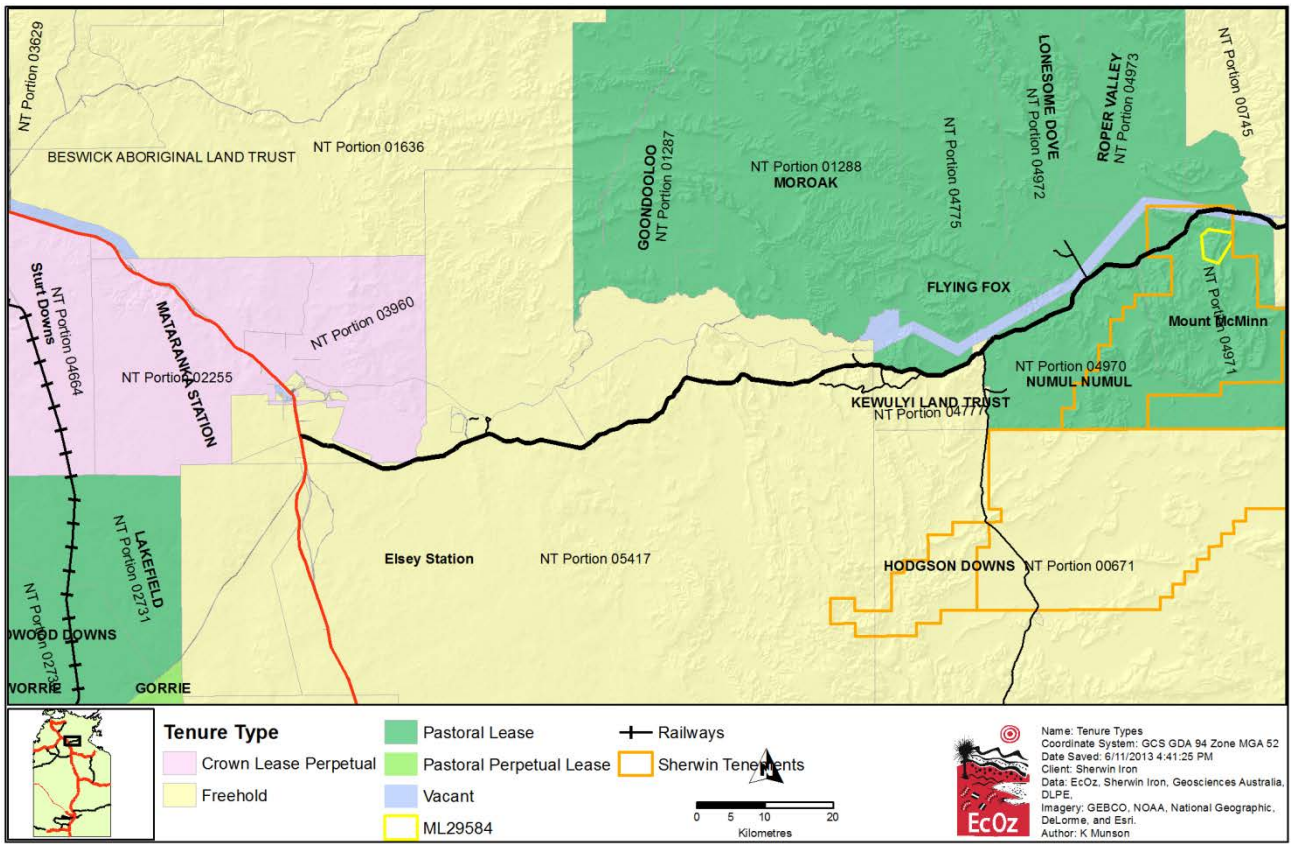
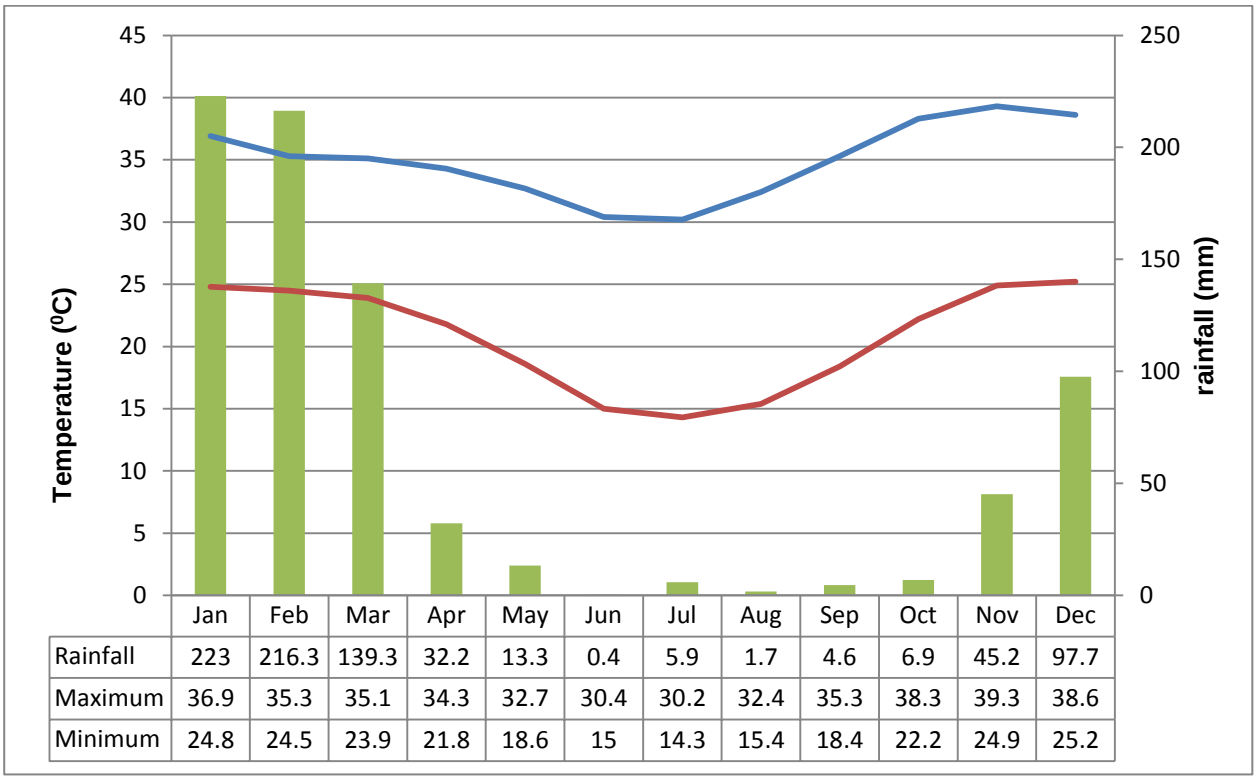


Figure 1-2. Map showing land tenure in the region

The Interim Biogeographic Regionalisation for Australia (IBRA) divides Australia into units of broadly similar landform, geology and biodiversity (Baker et al. 2005). The project falls within the Gulf Fall and Uplands Bioregion. The Gulf Falls and Uplands bioregion comprises undulating terrain with scattered low, steep rocky hills. The landscape of the bioregion includes spectacular gorges, water holes and dissected sandstone plateaus. Vegetation is predominantly Eucalypt woodlands over Spinifex grasslands. Important rivers within this bioregion include the Roper and McArthur Rivers. The rocky sandstone ranges of this bioregion have some significant habitat values, and include some endemic or near-endemic species.

Climate

The Roper River region experiences two distinct seasons, an almost dry rainless season from May to September and a wet season from November to March (BoM 2013). Rainfall is concentrated during the wet season, with negligible rain during May to October. The wettest months are January and February with an average of 223 and 216 mm rain respectively. Temperatures range from an average maximum of 39.3 ^{0}C in November, to average minimum temperatures of 14.3 ^{0}C in July. Figure 1-3 below summarises rainfall and temperature data collected from 1976 to 1995 from the Roper Bar Store weather station located approximately 20 km east of the project area (BoM 2011).



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Rainfall	223	216.3	139.3	32.2	13.3	0.4	5.9	1.7	4.6	6.9	45.2	97.7
Maximum	36.9	35.3	35.1	34.3	32.7	30.4	30.2	32.4	35.3	38.3	39.3	38.6
Minimum	24.8	24.5	23.9	21.8	18.6	15	14.3	15.4	18.4	22.2	24.9	25.2

Figure 1-3. Mean monthly max. (blue) and min. temperatures (red) plus rainfall (green bars)
Roper Bar Store Weather Station 1976 – 1995 (BoM 2013)

The average yearly evaporation greatly exceeds the average rainfall, which is typical for northern Australia. The Roper River Landcare Group reported that evaporation exceeds rainfall for nine months of the year at Mataranka and peaks at the start of the build-up season (October and November) (Kraatz 2004).

Flooding and Tropical Cyclones

The Sherwin project occurs within areas subject to tropical cyclones. Typically, the cyclone period occurs from November to April. BoM cyclone tracking indicates that there have been numerous tropical cyclones across the region in the period of 1970-2004. BoM predicts that the project may be exposed to between 0.1 and 0.2 tropical cyclones per year, using information gathered over a 36 year period (Figure 1-4).

Meteorological monitoring at Roper Bar Store indicates that the highest daily rainfall was 183 mm (21/01/1987) in 19 years of records. The highest daily rainfall at Ngukurr, 45 km to the east of the project area, was much higher at 271 mm (2/1/1976) in 78 years of records. The potential impacts of flooding will be managed specifically for each component of the project, namely the mining operations, access roads and rehabilitation processes. Most areas become accessible from mid-April.

Wind

Prevailing winds are south-easterly during the dry season associated with high pressure cells in central Australia during that time. During the wet season particularly December to early April monsoonal weather from the northwest is more typical.

Wind speed and dominant direction plays an important role in the dispersion of dust particles. Mean monthly wind speed at Roper Bar Store ranges from 3.5 km/h (during March at 9 am) to 11.4 km/h (during September at 3 pm). Wind speeds generally display a higher maximum speed in the dry season months. On average, throughout the course of a year, wind direction is predominantly south-east in the morning and easterly in the afternoon (BoM 2013).

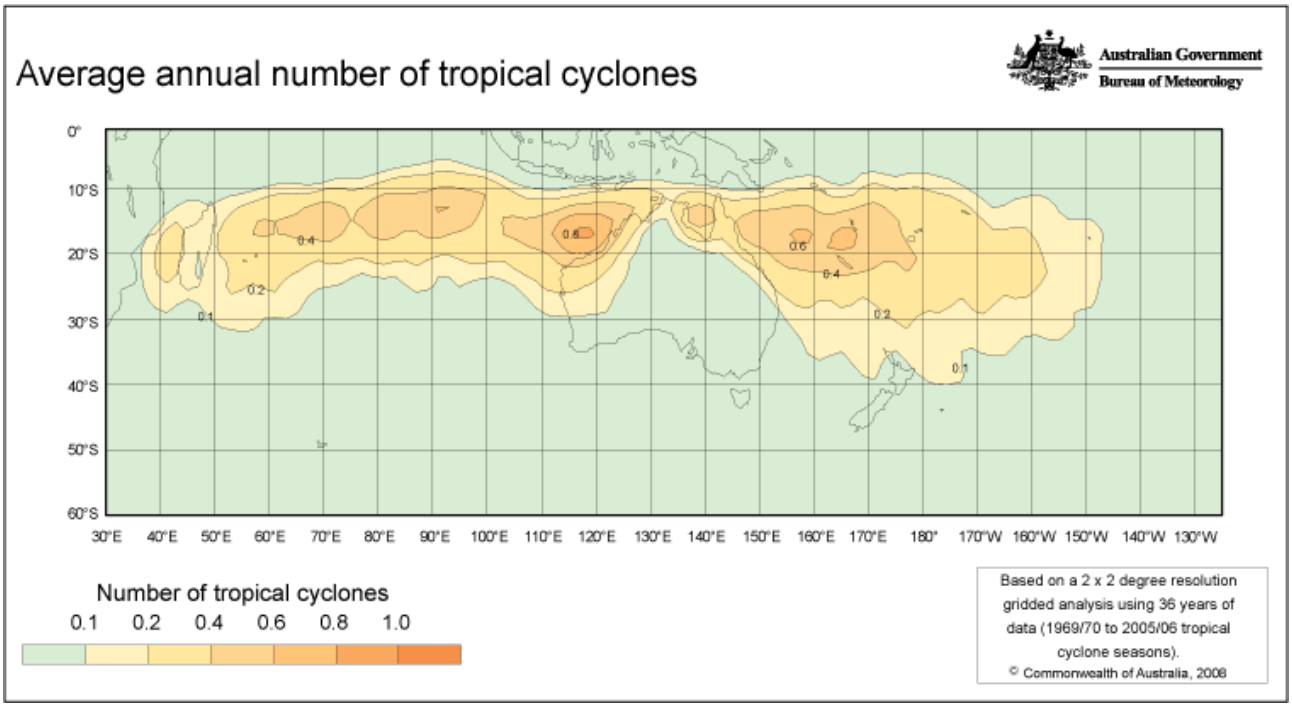


Figure 1-4. Average annual number of tropical cyclones

1.2.2 Project overview

In 1957, BHP (now BHP Billiton) commenced exploration on hematite sandstones immediately west of Roper Bar and defined many individual prospects. Drilling, costeaning and considerable metallurgical test work was completed, but the project was abandoned in the early sixties in favour of investigation of the massive deposits in the Pilbara Region of Western Australia.

Sherwin (then known as Batavia Mining Limited) commenced exploration on the Roper River Iron Ore Project in early 2010 under an option agreement to acquire the shares in North Australian Iron Ore Pty Ltd (NAIO). Sherwin exercised its right to acquire NAIO in August 2010. The Roper River Iron Ore Project comprises six areas across three Exploration Leases (EL24101, EL24102 & EL26412). Exploration activities identified iron ore deposits estimated at 488 Mt as well as two other large, highly prospective but unexplored tenements. Sherwin Iron has identified and optimised for three groups of deposits:

- HG (High grade) ore at 57% Fe
- LG (Low Grade) ore at 48% Fe
- MW (Mineralized Waste) at 40% Fe.

A wide range of options have been considered during the assessment of the feasibility of this project. The identification of the most appropriate method of developing and operating the project is often the catalyst to the project reaching the stage where a decision to proceed is made.

A decision was made to initially concentrate on the development of the high grade ore at Deposit C. The high grade ore is suitable as a Direct Shipping Ore (DSO) resource. DSO is a material that is basically 'quarried' in that it is mined, crushed and shipped to market. The mineral resource estimate shows that there is a potential Direct Shipping Ore (DSO) resource in Deposit C of 18.2 Mt at 58.3%Fe.

Advantages of the DSO are:

- A DSO project is a simple quarrying operation
- A DSO project requires approximately one fifth of the capital required to develop a Beneficiated Ore (BFO) project (that would utilise the low grade and mineralize waste)

- A DSO project, due to its simplicity, is expected to gain regulatory and environmental approvals sooner
- A DSO project, due to its simplicity and reduced capital outlay can reach production sooner
- A DSO project can fund and allow time for the further definition of a BFO resource, the BFO process and most appropriate transport option for the BFO material
- A DSO project can invest in, and allow time for, further environmental assessment, consultation and regulatory approvals of a BFO project
- A DSO project will allow Sherwin Iron to perform ongoing social impact studies to inform their future plans based on actual community outcomes and feedback, rather than pre-project expectations and suppositions.

It should be noted that various aspects of the project have changed since submission of the Notice of Intent in late 2012. Most specifically, Sherwin will not at this stage be pursuing mining at Deposits W and X. This will negate the need for the dam, airstrip, and haul roads between Deposit C and Deposits W and X. In addition, Sherwin will not at this stage pursue transport of ore via rail and have subsequently taken out the haul road connecting Deposit C to the rail. Further detail is contained within Chapter 2 (see section 2.9.2).

This environmental assessment is seeking approvals for mining of the DSO at Deposit C resulting in an expected mine life of approximately 6 years.

Product Transport

It is intended that the iron ore from Deposit C will be transported via public road to the Port of Darwin.

Associated Infrastructure

The project will involve the development of:

- Open pits to mine DSO at Deposit C
- Infrastructure (workshops, office, laydown, magazine, drainage, others)
- An area for DSO stockpile at the mine (ROM)
- Low Grade stockpile area and waste dump area at the mine site
- Haul road between pit and stockpiles
- Service roads within the project
- Accommodation village
- Water management and water storage infrastructure
- Haul road from ROM to the Roper Highway
- Stockpile at the Port of Darwin.

The location of the above infrastructure within MLA29584 is given in Figure 1-5.

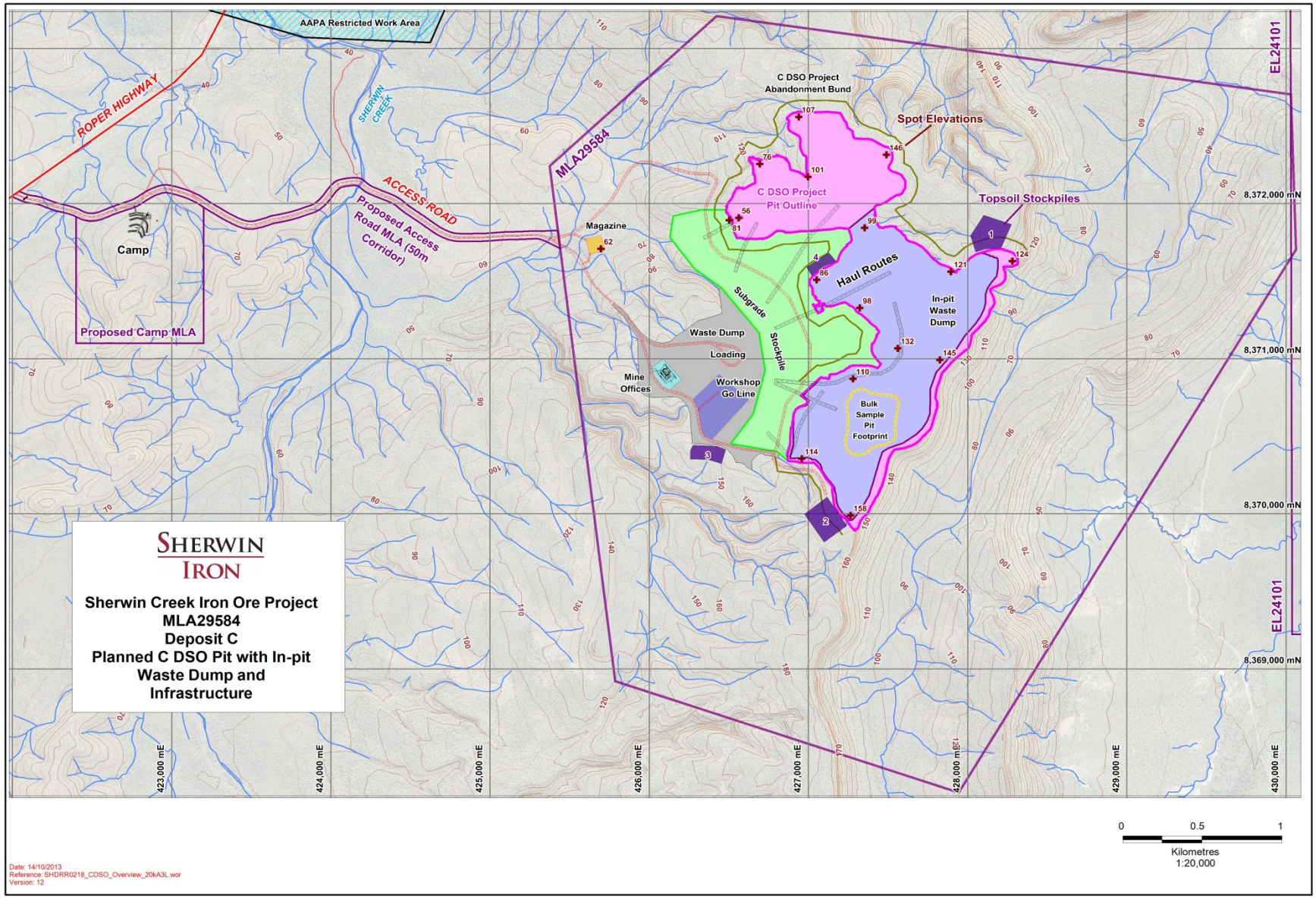


Figure 1-5. Plan showing location of infrastructure within the mineral lease

1.3 Project objectives

- To develop the project in a timely manner to capitalise on market opportunities
- To develop a safe workplace and operate in a safe manner
- Develop and operate according to Ecologically Sustainable Development principles
- Provide benefits to the region via increased infrastructure, employment and economic opportunities
- Operate at a profit and pay dividends to all stakeholders, including shareholders.

1.4 Project justification

1.4.1 Market requirements

The consensus is that demand for iron ore globally will double between now and 2030. This demand comes primarily from China, India, Japan, Korea and developing Countries like Vietnam. The quality of iron ore currently being mined is diminishing, as the available high-grade material has been depleted over the past four decades.

In furnaces required for steel making, a critical element in the production process is ensuring the phosphorous content does not reach a level exceeding 0.1%. A phosphorous content above this is detrimental to a Steel Furnace, produces sub-standard iron and has increased environmental implications. Most of the iron ore being mined globally today has a phosphorus content of nearly double that of which it contained two decades ago, and this is an increasing trend. Indeed, a substantial amount of iron ore today is approaching the upper tolerance levels of phosphorus. Analysis of the Roper Bar iron ore shows that it is one of the rare deposits globally that has nil or negligible phosphorus and as such the iron ore from Roper Bar will become increasingly in demand, and therefore valuable, as it will be necessary to blend ores to reduce phosphorus levels in the decades ahead.

Approximately one third of the NT gross domestic product is derived directly or indirectly from mining. World class mines are essential for the ongoing payment of royalties for the benefit of all Territorians.

1.4.2 Project benefits - social and environmental factors

Three of the four townships near the project (Ngukurr, Minyerri and Numbulwar) have few if any current economic activities and for a variety of reasons there are few and limited development opportunities available to them. This project offers significant short term employment and business opportunities. In addition to this it will provide a royalty injection, that if well managed can provide ongoing sustainable social and economic development opportunities.

Environmental aspects of the proposal have been studied and appropriate avoidance or management actions suggested. All development activities have an impact but the assessment of that impact against the potential impacted factors has reduced most of these to low.

Sherwin has committed to the following targets to ensure the project provides befit to local people:

- 30% of goods and services will be provided by local community business
- Aboriginal people will comprise 30% of the mine's operational workforce
- 100% of all Aboriginal employees and applicants will undertake literacy, numeracy and life skills training.

1.4.3 Related projects

Sherwin and Western Desert Resources Limited are both currently in the process of developing iron ore projects in the Roper River region. The Western Desert Iron Ore project is situated approximately 100 km to the east of the Sherwin Creek Iron Ore Project with iron ore exports predicted for mid-2013.

Discussions have been held between the two companies about possible ore transport options throughout the development of the two projects. An ore transport solution that mutually benefits both companies has not been determined.

1.5 Potential future increases

It is anticipated that approvals will be sought for mining of other DSO deposits as well as lower grade ores through beneficiation.

DSO

The latest study on mineral resource estimate shows that there is a potential Direct Shipping Ore (DSO) resource at Deposit X (8.07 Mt at 57.51%Fe) and Deposit W (7.39 Mt at 56.71%Fe).

Beneficiation

Investigative drilling has identified a very large volume of material that is of a lower grade and would require beneficiation, prior to sale. This material, referred to as Beneficiated Feed Ore or BFO (30 - 50% grade), would require crushing, grinding and then beneficiation, which involves the liberation of non-ferrous minerals from the ore so as to increase the iron percentage of the remaining material. Sherwin believe this low grade ore can be beneficiated to 60% Fe. The process by which this would be achieved will be further investigated and it is possible that a future approval for the beneficiation project will be sought.

1.6 Current status of proposal

Sherwin is currently awaiting relevant environmental approvals before mine development can progress. Sherwin submitted a Notice of Intent (NOI) for this project in November 2012.

Sherwin is currently undertaking a Bulk Sample program whereby DSO is being mined and transported via road to the Port of Darwin for export to China. This program allows steel mills to test the ore in their furnaces and ensures that Sherwin Iron has a desirable and therefore marketable product. A Bulk Sample Mine Management Plan (MMP) was submitted to the NT Government on 1 February 2013.

1.6.1 Project approvals

The Project proposal was referred by the NT Department of Mines and Energy (DME) on 30 November 2012 to the NT Environment Protection Agency (EPA), for environmental assessment. On 18 December 2012, the then Deputy Chief Executive of the NT EPA under delegated authority determined that the project required formal assessment under the NT *Environmental Assessment Act* (*EA Act*), at the level of an Environmental Impact Statement (EIS). Issues of concern contributing to the decision included:

- the size and scale of the proposal
- the potential impacts on biodiversity, including listed flora and fauna, from land clearing activities and weed incursion as a result of the development
- uncertainties regarding in-pit rejects disposal and rehabilitation of the mine areas
- the unknown potential for acid and metalliferous drainage

- uncertainties associated with water resources and the potential impacts from the water supply dam
- the potential adverse changes and disturbance to riparian corridor habitats, aquatic habitats and other currently unknown habitats from construction of the haul roads
- the potential social, cultural and economic impacts.

The project was referred to the Australian Government Department of Sustainability, Environment, Water, Population and Communities (SEWPaC, now the Federal Department of the Environment) and, on 8 April 2013, was determined to be a controlled action under the *Environment Protection and Biodiversity Conservation Act 1999* (*EPBC Act*). The proposal is being assessed by accredited assessment under the NT *EA Act*.

1.6.2 The EIS process

This EIS provides the framework for considering the environmental, social, cultural and economic impacts of the proposed mine in the context of legislative and policy requirements and forms the basis of advice to the responsible Minister. It presents the results of a series of environmental, social and cultural assessments undertaken to generate baseline data and scope the impacts (positive and negative) and management implications for the proposed mine. This report is the primary source of information for the government and the public to use to assess this project. The public will have the opportunity to review and provide comment on the proposal during the assessment period. This EIS addresses the assessment Guidelines as proposed by the NT Government (refer to Appendix A)

This Chapter (Chapter 1) provides an introduction to the project and the project proponent (Sherwin), the assessment process under both the Australian and NT Governments, and the process of preparing the EIS and the public review process for this EIS.

The National Strategy for Ecologically Sustainable Development (NSED) (December 1992) defines ecologically sustainable development (ESD) as; *Using, conserving and enhancing the community's resources so that ecological processes, on which life depends, are maintained and the total quality of life, now and in the future, can be increased.* The NT *EA Act* does not specifically incorporate ESD however the above definition was endorsed by the Council of Australian Government in 1992.

The principles of ESD have assisted in determining the best way to develop this project. This has included employment of the precautionary principle, especially in regard to any aspects of the project where any level of uncertainty may exist.

Sherwin aim to ensure ongoing best practice environmental management, which has required a whole-of-project approach to risk assessment and ensured that ESD was considered in the engineering designs, management practices and ongoing management; and rehabilitation and monitoring plans.

The principals of ESD can be identified as five key concepts:

1. Long and short term economic, environmental, social and equitable considerations
2. The precautionary principle
3. Inter-generational equity
4. Conservation of biological diversity and ecological integrity
5. Improved valuation, pricing and incentive mechanisms.

Several of these key concepts associated with points 1, 3 and 5 are difficult to manage for a resource extraction activity that has a finite timeframe so Sherwin has identified a social benefits offsets package that aims to provide this remote and impoverished region with social and economic benefits far beyond the lifespan of the mining operation.

The accepted method for determining if the principles of ESD can be adopted is via the identification and understanding of risks. The risk assessment presented in Chapter 3 has been based on international best practice and undertaken using standardised methodologies.

1.6.3 EIS scope and structure

Information outlined in the EIS document applies to the design, construction and operation of the Iron Ore Mine. The geographical extent of the EIS is limited to areas potentially influenced by the project. An Executive Summary of the EIS has been issued as a stand-alone document for interested parties who may not wish to read the EIS in its entirety.

The main body of the EIS is structured into sections to conform with the NTEPA *Guidelines for the Preparation of an Environmental Impact Statement*. The guidelines have been attached as Appendix A. The Document Cross-reference (Appendix B) identifies where in the EIS document the relevant risks, requirements, assessment and management actions can be found.

Technical appendices providing detailed information on many aspects of the project are attached to the EIS as separate documents.

1.7 Guidelines & level of assessment

The project has been determined to require an EIS by the NTEPA and the Environment Minister of the NT. The Federal Department of the Environment (DoE) and the Commonwealth Environment Minister declared the project a Controlled Action under the EPBC Act. The relevant agencies have agreed to conduct the Assessment under the Bi-Lateral Agreement between the NT and the Commonwealth. Specific details regarding the agreement and its administration can be found on the relevant department's websites.

1.8 Public consultation and review process

This EIS will be released for public comment. This process will be facilitated by the advertising of the public consultation process in the NT News, Katherine Times and the Australian Newspapers. Dates for submissions are included on the advertisements and available on the NTEPA website.

Copies of the document will be made available on the NTEPA website, and a list of where hard copies are available is included in the EIS Guidelines at Appendix A.

1.9 Government and other agreements

The Roper River Iron Ore Project has special project status with the Northern Territory Government. Sherwin has obtained AAPA heritage clearance (refer to appendix O2).

There is an exploration and mining agreement for EL24101 which is on ALRA land and has undergone Native Title Determination (Chatterhoochee-Mt McMinn NTD6064/2001, status – active). The Native Title and Ancillary Agreements for other tenements are still being finalised.

The activities described in this EIS will be undertaken in accordance with the terms of acceptance of an MMP and with general regulatory legislation.

All tenement conditions will be complied with throughout the life of the project.

1.10 Relevant legislation and policy

This section identifies the legislation relevant to this development and introduces the aims and intent of the legislation and how these intents have been addressed in this development.

1.10.1 Commonwealth legislation

Environment Protection and Biodiversity Conservation Act 1999

Assessment under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (*EPBC Act*) is required for actions that are likely to have a significant impact on a Matter of National Environmental Significance (NES), or on the environment in general by Commonwealth agencies, or on Commonwealth land.

The matters of national environmental significance are:

- World Heritage properties
- National Heritage places
- Wetlands of international importance (Ramsar wetlands)
- Threatened species and ecological communities
- Migratory species
- Commonwealth marine areas
- The Great Barrier Reef Marine Park
- Nuclear actions (including uranium mines).

The Australian Government Department of the Environment (DoE) administers the Act and has established a formal referral and assessment process. If DoE determines a project will likely significantly impact a matter of national significance it is declared a "controlled action" and undergoes assessment and approval under the *EPBC Act*. In the Northern Territory this is through an accredited assessment process between the NT and Australian governments. While the NT Government undertakes the assessment, but the Federal Government (DoE) will approve the project through as assessment report with conditions.

Environments affected or potentially affected by the project include those within the cleared mining zone, the immediate areas surrounding this and including ancillary infrastructure, the accommodation village and the haul road from the mine site to the Roper Highway.

An EPBC Act Protected Matters Report generated on these locations and area surrounding them indicates that none of the areas is within or near a site mentioned in the matters of National Environmental Significance (namely World Heritage; National Heritage; The Great Barrier Reef; Commonwealth marine areas) mentioned above.

In regards to nuclear actions, the project does not involve uranium mining or mining of any radioactive elements.

The project is in the vicinity of recorded habitats for nationally listed threatened species and nationally listed migratory species. Potential impacts on the overall status of these species are considered minimal, and the terrestrial and aquatic ecology investigations have supported this.

Native Title Act 1993

The *Native Title Act 1993* provides legal recognition of the rights and interests of Aboriginal people over land and water controlled under their traditional laws and customs. The Act sets out basic principles regarding native title in Australia and establishes a regulating and governing body, the National Native Title Tribunal.

The Act also sets out processes by which native title rights are established, protected and compensation determined. Another important function of the Act is through facilitating Indigenous Land Use Agreements between native title parties and other interest holders.

The entire project is on some form of leasehold land where Native Title has been sought. All activities associated with the proposal are proceeding under the assumption that Native Title exists.

Sherwin has instigated a community consultation strategy based on open sharing of information with all stakeholders and communities including the NLC and NT Government. Sherwin has developed a stakeholder matrix and consultations with key stakeholders such as Australian and NT Government departments, land councils, land managers, land owners and Traditional Owners has been open and ongoing since exploration began in the area.

Sherwin collaborates with Indigenous communities by identifying and protecting areas of cultural significance while it consults with traditional owners and land councils about the company's current and planned activities. This ensures that respect and trust occurs both ways with Sherwin respecting the connections of Aboriginal people with their land and sites of significance and the Aboriginal people and their Councils respecting the staff and the work carried out by Sherwin (more detail is available in Appendix K).

Aboriginal Land Rights (Northern Territory) Act 1976

The *Aboriginal Land Rights (Northern Territory) Act 1976* provides for the granting of inalienable freehold title to traditional Aboriginal owners of land in the Northern Territory, the establishment of Land Councils, and the establishment and management of Land Trusts to hold the Aboriginal land for the benefit of traditional owners of the land. The Act also regulates exploration and mining on Aboriginal land and sets out the processes to be followed when negotiating with Traditional Owners for access to and leases over Aboriginal land. An exploration license cannot be granted in relation to Aboriginal land without the consent of the relevant Land Council (for the traditional owners) and the Minister. A mineral lease cannot be granted unless an agreement has been entered into under the act.

Revised National Weeds Strategy 1999

The Revised National Weeds Strategy (RNWS) was produced by the Commonwealth Government in 1999 to reduce the impact of weeds on the sustainability of Australia's productive capacity and natural ecosystems by adopting a more coordinated and integrated approach to weed management.

A central component of the RNWS is the identification of Weeds of National Significance (WONS) which have been determined based on the invasive tendencies, impacts, potential for spread and socioeconomic and environmental values. A total of 20 species have been given WONS status as a result of this process. The RNWS takes a strategic approach to weed management issues of national significance through a critical assessment of existing weed management measures and lists the roles and responsibilities of government, community, landowners and land users.

Two of the principles upon which this strategy is based relate to the roles and responsibilities of weed managers. These principles are:

1. Successful weed management requires a coordinated national approach which involves all levels of government in establishing appropriate legislative, educational and coordination frameworks in partnership with industry, landholders and the community
2. The primary responsibility for weed management rests with landholders/land managers but collective action is necessary where the problem transcends the capacity of the individual landholder/land manager to address it adequately.

1.10.2 Northern Territory legislation

Environmental permitting of mining activities is regulated in the Northern Territory by both the *Mining Management Act* and the *Environmental Assessment Act* (*EA Act*).

A decision on the appropriate permitting route for new mining proposals in the Northern Territory is initiated by the proponent's submission of a Notice of Intent (NOI) to the NT Government through DME. If assessment under the *EA Act* is thought to be required, the NOI is referred to the NT EPA. Draft Guidelines for a project which is required to be assessed under the *EA Act* are developed in consultation with relevant

advisory bodies. The Draft Guidelines provide advice to the proponent regarding the issues that will need to be addressed in the EIS.

Draft guidelines are made available to the public for comment and review for a period. At the close of this period, any public comments and advice from relevant advisory bodies are considered and the Guidelines are finalised for approval by the NTEPA. Once approved, the NTEPA forwards the final Guidelines to the proponent to prepare the EIS. Once the proponent receives a copy of the final Guidelines and a direction from the NTEPA to prepare an EIS, the proponent prepares the EIS. There is no statutory timeframe in which the proponent is to prepare the EIS unless specified by the NTEPA.

Once the EIS has been submitted it undergoes a minimum public review period of 28 days. During this time, the EIS is also circulated to various government advisory bodies for comment in their area of expertise. Invitation for public comment is advertised by the proponent in various media, and copies of the EIS are placed on display at NT libraries and other suitable locations as well as the NT Government website. The proponent also makes copies available for sale.

At the close of the public review period, the NTEPA has 28 days in which to make a determination about the proposal. This decision is based upon the contents of the EIS, issues raised in any comments received and advice from the various advisory bodies. The NTEPA's determination is included in the Assessment Report which also includes any suggestions or recommendations concerning conditions which should apply to the proposal in order to minimise potential environmental impacts and to protect the environment. The Assessment Report is forwarded to the NT Minister for Lands, Planning and the Environment who will forward it to the responsible Minister for consideration (that is, the Minister responsible for approving the proposal). The NTEPA provides the assessment report directly to the Australian Government Minister for the Environment.

The Assessment Report is publicly available through the web site. All Assessment Reports are available to the public as a hard copy.

Following completion of the assessment and approval process under the *Environmental Assessment Act* the DME proceeds with the approval process under the *Mineral Titles Act 2010* and *Mining Management Act*.

Mineral Titles Act 2010 and Mining Management Act 2011

The *Mineral Titles Act 2010* and the *Mining Management Act* are the principal legislation for the regulation of mining proposals in the Northern Territory, both of which are administered by the DME.

The *Mineral Titles Act 2010* establishes the framework within which activities to explore for and mine mineral resources can occur. The Act sets out the administrative processes for authorising these activities through the granting of a title.

Prior to any activities taking place on a granted Mineral Lease, an authorisation to carry out mining activities under the *Mining Management Act* must be obtained. The objectives of the *Mining Management Act* are to ensure that the development of mineral resources is in accordance with the best practice health, safety and environmental standards and to protect the environment and health and safety of all persons on mining sites.

Under the *Mining Management Act*, an application for an authorisation to carry out mining activities must be accompanied by a Mining Management Plan (MMP). An MMP includes information relating to the description of mining activities, the management system to be implemented for the management of health, safety and environmental aspects, costing of closure activities and particulars of organisational structure. Plans of any existing or proposed mine workings and infrastructure must also be included. The MMP is required to be reviewed at intervals specified in the authorisation to carry out mining activities.

Environmental Assessment Act 1994

The *Environmental Assessment Act* and the *Environmental Assessment Administrative Procedures* establish the framework for the assessment of potential or anticipated environmental impacts of development, and provide for protection of the environment. This EIS reports to the administrators of the *Environmental*

Assessment Act and members of the public the potential impacts of the project and demonstrates that the risks have been appropriately addressed.

Water Act 2011

The *Water Act* is administered by the Water Resources Division of the Department of Land Resource Management and provides for the investigation, allocation, use, control, protection and management of surface water and groundwater resources, as well as the administrative process for licensing these activities. The Act allows the enforceable allocation of water to various declared beneficial uses including; agriculture, aquaculture, public water supply, riparian and industry, while ensuring that adequate provisions are made to maintain cultural and environmental requirements.

Water Control Districts are declared in areas where it is recognised that increasing development and demand for water have the potential to cause degradation to water quality and reduce flows required to maintain water dependent ecosystems in the region. Water extraction licences are required for extraction greater than 5ML/year within a Water Control District however mining activities are exempt from this requirement as well as water extraction for domestic or stock watering purposes.

In regards to waste disposal licensing, this project is not planning to discharge any waste off the Mining Lease, if off-lease discharge is required a waste discharge licence will be sought. Waste is defined in the *Water Act* as any solids, liquids or gas, which, if added to the water, may pollute the water.

Territory Parks and Wildlife Conservation Act 2011

This Act applies statutory obligations in relation to the protection of flora and fauna. This Act allows the listing of threatened species with special conservation status, and requires a permit to be obtained prior to interference with these species.

Northern Territory Aboriginal Sacred Sites Act 1989

The *Northern Territory Aboriginal Sacred Sites Act 1989* recognises the need to preserve and enhance Aboriginal cultural tradition in relation to certain land in the NT and Aboriginal self-determination. The Act provides for the protection and registration of sacred sites by the traditional owners of the sacred sites or the custodians who have the responsibility for protecting a sacred site in accordance with Aboriginal tradition.

The Aboriginal Areas Protection Authority (AAPA) is responsible for administering the Act and records and maintains a sacred sites register. Custodians may apply to the AAPA to have a sacred site included in the Register and may also include, amongst other things, restrictions on activities that may be carried out on or in the vicinity of the sacred site.

Unauthorised entry on to a sacred site is an offence under the Act and penalties are prescribed accordingly. A person or entity may apply to the Authority to issue an Authority Certificate to allow a person or entity to undertake work on or in the vicinity of a sacred site. Again, unauthorised entry to undertake work on or in the vicinity of a sacred site is an offence under the Act and penalties are prescribed.

The Minister may issue a Minister's Certificate for work to be undertaken on or near a sacred site when an Authority Certificate has not been issued. Whilst a Minister's Certificate has the same effect as an Authority Certificate, in the event of variance the Authority Certificate will have no force or effect.

The Act provides for the preservation of proprietary rights of owners of land comprised in a sacred site. Proprietary owners may enter and remain on that land and do anything on that land for the normal enjoyment of that owner's proprietary interest in the land.

Sherwin hold an AAPA Certificate for the area covered by EL24101 (refer to Appendix O2).

Weeds Management Act 2001

The *Weeds Management Act* was enacted on 1 July 2001, replacing the former *Noxious Weeds Ordinance 1962*. The new Act has been written to reflect contemporary thinking with respect to community weed management; to reflect greater responsibility for all land managers, and to ensure that landholders are responsible for carrying out weed control on their associated lands. This Act is linked to the *Northern Territory Weeds Management Strategy 1996-2005* that has the objective 'to protect the Northern Territory economy, community, industries, and environment from adverse impacts of weeds'.

The Northern Territory Government uses the 'NT Weed Risk Management System' to identify and prioritise plants to be considered for declaration as weeds in accordance with the *Weed Management Act* and to determine the appropriate management response for those plants.

Declared species are assessed on the severity of impacts and likelihood of its control using a number of parameters including:

- Invasiveness: mode of reproduction, and potential to disperse
- Impacts: capacity to modify the environmental, social or economic values
- Distribution: current distribution and potential distribution based on favoured habitat.

As well as:

- Costs and ease of control: ease of detection, accessibility of the site, cost of control methods and effectiveness, time to reproduction from a new plant, reproductive capacity (e.g. duration the weed may reproduce and the amount of reproductive parts) and factors contributing to the spread or establishment of the weed
- Persistence: how long propagules may remain viable in the environment and the probability of re-invasion.

The *Weeds Management Act* states that the owner and occupier of land must:

a) Take all reasonable measures to prevent the land being infested with a declared weed

b) Take all reasonable measures to prevent a declared weed or potential weed on the land spreading to other land

c) Within 14 days after first becoming aware of a declared weed that has not previously been, known to be present on the land, notify an officer of the weeds location.

Other Relevant Legislation

Other Northern Territory legislation relevant to the project includes the following acts and their associated amendments and regulations:

Bushfires Act 2009.

Control of Roads Act 2011.

Dangerous Goods Act 2011.

Environmental Offences and Penalties Act 2011.

Miscellaneous Acts Amendment (Aboriginal Community Living Areas) Act 2000.

Planning Act 2009.

Soil Conservation and Land Utilisation Act 2009.

Traffic Act 2011.

Waste Management and Pollution Control Act 2011.

Work Health and Safety (National Uniform Legislation) Act 2011.

1.10.3 Relevant Standards, codes of practice and guidelines

- NOHSC: 1007 National Standard for Occupational Noise.
- AS1269: Occupational Noise Management Series
- NOHSC: 1015 National Standard for the Storage and Handling of Workplace Dangerous Goods
- NOHSC: 1005 National Model Regulation for the Control of Workplace Hazardous Substances
- NOHSC: 1008 Approved Criteria for Classifying Hazardous Substances
- AS1940: 2004 The Storage and Handling of Flammable and Combustible Liquids
- IECA Best Practice Erosion and Sediment Control guidelines