

**ENVIRONMENTAL AUDIT REPORT FOR MINING LICENCE 130 IN KARAS  
REGION, NAMIBIA.**

**FOR**

**CLEAR SUN CONTRACTING SERVICES (PTY) LTD**

**Prepared by**



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## PURPOSE OF THE DOCUMENT

This Environmental Audit Report (EAR) was prepared for Clear Sun Contracting Services (Pty) Ltd by an independent Consultant, Outrun Consultants CC for the purposes of applying for an Environmental Clearance Certificate (ECC) for the mining of precious stones from Mining License 130 (ML 130) in Karasburg District in Karas Region. It was prepared as dictated by the Environmental Screening Notice issued by the Ministry of Environment, Forestry & Tourism (MEFT) in accordance with the Environmental Management Act of 2007 and its Regulations of 2012.

## 1. INTRODUCTION

The proponent, CLEAR SUN CONTRACTING SERVICES NAMIBIA (PTY) LTD (CSCSN) is planning to resume mining operations on Mining License 130 (ML 130) located in Karasburg District in Karas Region. ML130 was borne from Exclusive Exploration License 2656 (EPL2656) issued in September 1999 for the first time to a company called Veralex Industries (Pty) Ltd (VI). ML130 was granted on the 11th of August 2003 for a period of ten (10) years. VI mined over the 10-year period before they renewed it for the second time for another 10 years on the 6th of August in 2003. During this period the Environmental Management Act had not been passed yet. When CSCSN acquired ML130 in 2022, there were no records of environmental management and monitoring from the previous owners, VI. CSCSN's planned work will progressively include confirmatory geophysical surveying, geological mapping and sediment geochemical sampling and testing and the actual mining from ml 130. Mining and mineral exploration activities are listed activities that require an Environmental Clearance Certificate (ECC) from the Ministry of Environment, Forestry & Tourism (MEFT). It is against this background that the Proponent appointed an independent consultant, Outrun Consultants to conduct an Environmental and Social Impact Assessment (ESIA). During the screening phase, the Ministry of Environment Forestry and Tourism (MEFT) further recommended that an Environmental Audit and an Environmental and Social Management (ESMP) be done in order to comply with the requirements of the Environmental Management Act (2007). An Environmental Audit Report (EAR) was compiled during this process and submitted to the Competent Authority as an accompanying document for the purposes of applying for an ECC.

## 2. ENVIRONMENTAL AUDIT SCOPE

### 2.1. Purpose

The main purpose of this EAR is to assess the environmental status quo on ML 130 and the level of environmental compliance by VI over the period it was active on the site.

### 2.2. Objectives

To describe the environmental status quo on ML 130.

To assess the level of environmental compliance on ML 130

### 2.3. Methodology

#### 2.3.1. The Team that responsible for the audit.

**Table 1: Team members responsible for conducting the Environmental Audit.**

Activities	Organization	Responsible Team Member
Data collection & Analysis	Outrun Consultants cc	Josiah T. Mukutiri
Report writing	Outrun Consultants cc	Josiah T. Mukutiri

#### 2.3.2. Method / Approach followed

The audit relied on both primary and secondary data as presented below:

- On-site audit activities
  - Interviews with key informants using the questionnaires developed for each standard – ***This was not applicable since the site is not in operation;***
  - Review of available documents for acquiring a portfolio of evidence – ***This was done using available records;***
  - Inspection of site to acquire information relevant to the portfolio of evidence. Areas of operation covered included but where not limited to the remaining plant and equipment; mining pits / areas; Tailings or mining waste handling area; access routes; residential campsite; scrap metal and other industrial waste; used oil and domestic waste – ***This was conducted during filed work and relevant observations recorded.***
- Off-site audit activities

- Interviews with key informants for each standard or requirement;
- Inspection of documents supplied by Proponent for acquiring a portfolio of evidence.
  
- Data analysis: The information (portfolio of evidence) was processed so that it can inform the level of compliance assigned to each standard according to the level descriptors developed for the standards or legal compliance.
  
- Report compilation:
  - An audit report was compiled for each operational activity and this report will contain the following information:
    - *Background*
    - *Audit scope and methodology*
    - *Project Location*
    - *Receiving Environment*
    - *Roles and responsibilities*
    - *Assessment of compliance*
    - *Challenges and / or difficulties encountered during the audit*
    - *Conclusions and recommendations*

### 3. PROJECT DESCRIPTION

#### 3.1. Location

Mining Licence 130 is located in Karasburg District in Karas Region along the Orange River at an area stretching from Aussenkehr towards Rosh Pinah.

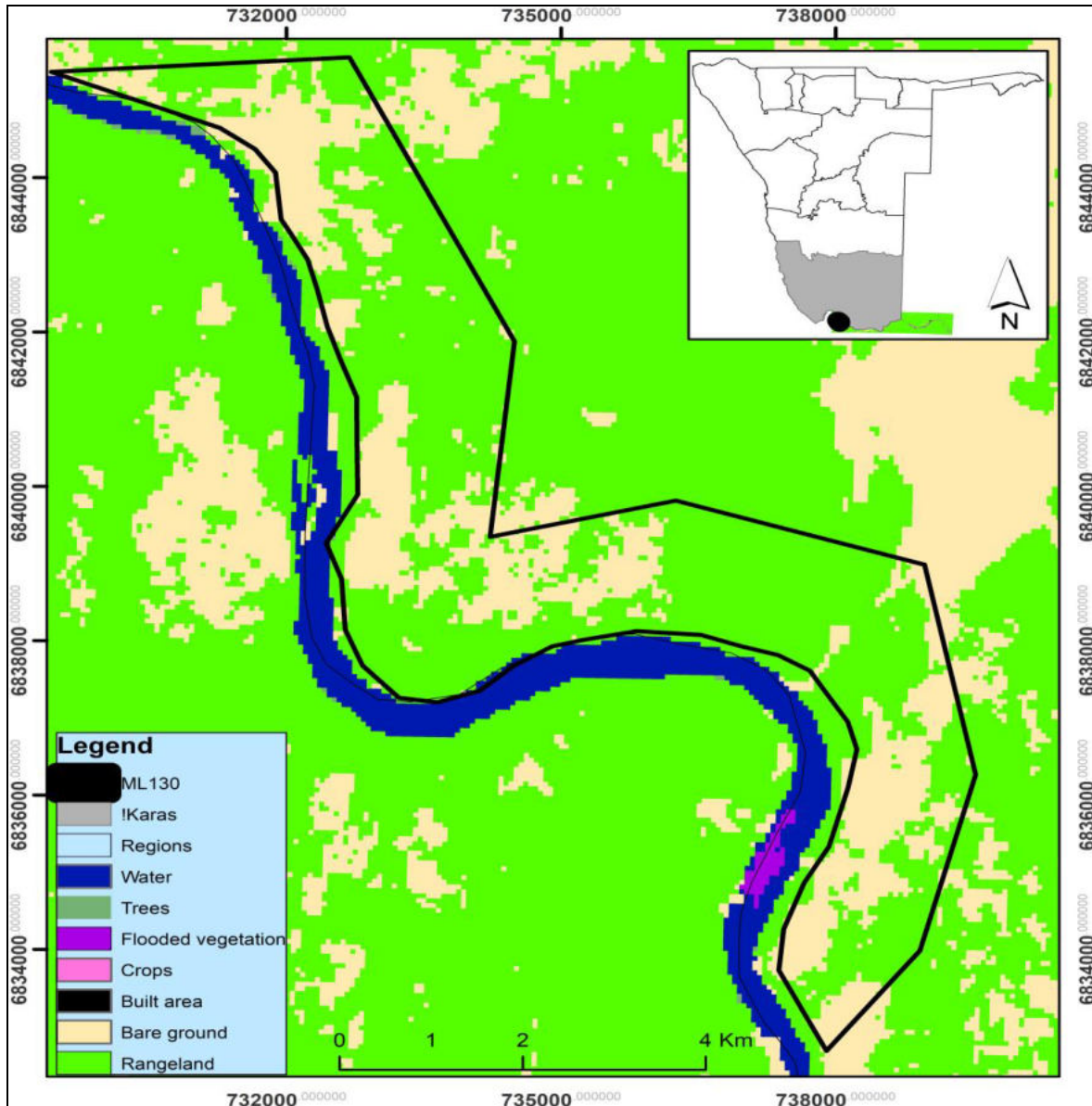


Figure 1: The location of ML 130 along the Orange River in Karas Region.

#### 3.2. Site Description

##### 3.2.1. Accessibility to site



The gravel road between Noordoewer and Rosh Pinah, overpasses the ML130 area. The residential campsite is located in northern part of the Block №11 and is connected by dirt road with main road. The distances from the mine campsite to the nearest common settlements are as follows: Aussenkjer-50 km, Noordoewer-50 km, Rosh Pinah-160 km, Karasburg-230 km, Springsbok (RSA) -170 km.

### 3.3. Existing Equipment and Installations Onsite

#### 3.3.1. Plant and equipment

There is equipment onsite which comprise mainly of crushers, conveyance systems, diesel tanks and wet screens which can be refurbished for use. On the north eastern side of the processing plant are the brick walls and an empty container showing the remains of the residential camp.



Figure 2: Plant and equipment left onsite by the previous mining company, VI. Source: Own photograph.



Figure 3: The remains of the residential house and storage container on ML 130. Source: Own photograph

## 4. RECEIVING ENVIRONMENT

### 4.1. Topography

The topography of the southern part of the country covered by ML 130 is defined by 3 major forces that shaped the size and shape of the country's features: geomorphological, climate and biological. They shape and alter the composition of the land. On an average this area stands as high as 1500 to 2000m above sea level and is characterized by the rocky-mountains that are interrupted by basins in the lower areas. Occasionally dolerite outcrops are also very common

### 4.2. Climate

The climate of area is arid. The total annual precipitation is less than 350mm per year and is highly variable and unpredictable. The hottest months are December, January and February (up to 45-50 °C), coldest (18-25°C) - June, July and August.

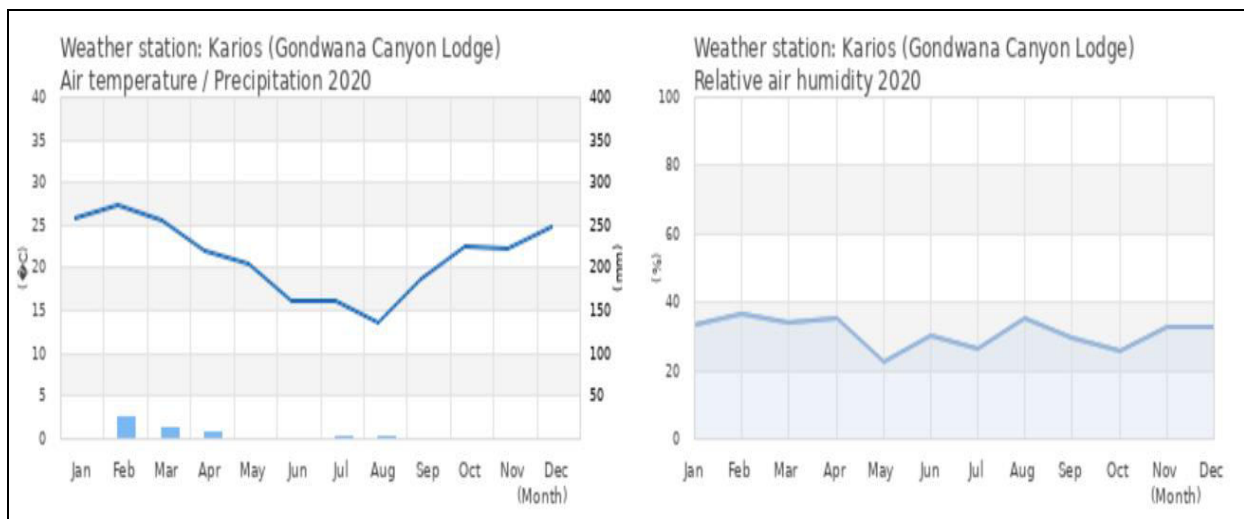


Figure 4: Average annual precipitation and temperatures experienced in the project area, ML130. Source:[http://www.sasscalweathernet.org/weatherstat\\_monthly\\_we.php](http://www.sasscalweathernet.org/weatherstat_monthly_we.php)

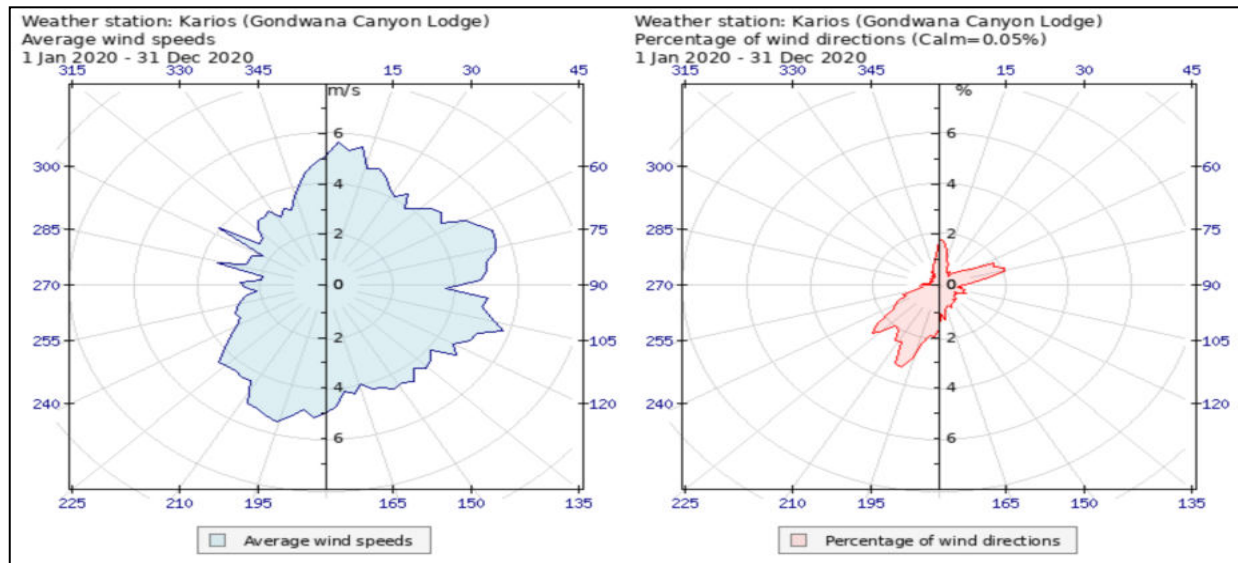


Figure 5: Average wind speeds and directions in the ML130 area. Source: [http://www.sasscalweathernet.org/weatherstat\\_monthly\\_we.php](http://www.sasscalweathernet.org/weatherstat_monthly_we.php)

### 4.3. Vegetation / Flora

The vegetation is extended only along the banks of the river and dominant biome is classified as the Karas Dwarf Shrubland on the Eastern part of the licenced area while the Desert Dwarf shrub Transition covers the greater portion past the central part of the licenced area all the way to the North Western end of ML 130. These areas are known for their unique and endemic plant species such as the *Aloe pillansii* (Quiver tree); *Aloe ramosissima*, *Aloe dichotoma*; and the Hafmens

### 4.4. Fauna

#### 4.4.1. Reptiles

At least 22% or 55 species of Namibian lizards are classified as endemic. The occurrence of reptiles of “conservation concern” includes about 67% of Namibian reptiles (Griffin 1998b). The diversity and uniqueness of the reptiles found in the study area make it a herpetological paradise, more than 50 reptile species have been recorded including 3 species of tortoise and one terrapin. Over grazing and mining in critical habitats are some of the biggest problems facing reptiles in Namibia (Griffin 1998b). The Angulate tortoise and the Namaqua Speckled Padloper are common in the study area. Although not studied in the /Ai /Ais Hotsprings Game Park per se, tortoises are found in high densities and their biomass measured as the weight of

tortoises per hectare can exceed that of many antelope species. In the Addo Elephant National Park, their weight was only exceeded by that of the elephants. They have poor digestion and eat large quantities of plants and as a result their faecal matter are full of undamaged seeds like elephant dung but theirs have a chance of germination since they are deposited in bushes as opposed to the open. This makes them very important ecosystem members for seed dispersal, (Branch, 2008).

#### 4.4.2. Avian Diversity

Namibia with approximately 658 of known bird species is considered very small as compared to other areas in Africa especially the equatorial regions with high rainfall and characterized by thick evergreen forests. The avian diversity expected to occur in the study area is indicated in the table below.

**Table 2: Birds known to occur in the project area, ML 130.**

<b>Common Name</b>	<b>Scientific Name</b>
Common ostrich	<i>Struthio camelus</i>
Southern black korhaan	<i>Eupodotis afra</i>
Cape spurfowl	<i>Francolinus eapensis</i>
Pied crow	<i>Corvus albus</i>
Blacksmith lapwing	<i>Vanellus armatus</i>
Namaqua sandgrouse	<i>Pteroctes namaqua</i>
Jackal buzzard	<i>Buteo rufofuscus</i>
Southern pale chanting goshawk	<i>Melierax canorus</i>
Rock kastered	<i>Falco rupicolus</i>
Bokmakierie Telophorus zeylonus	<i>Telophorus zeylonus</i>
Pale- neinged starlingn	<i>Onychognathus nabouroup</i>
White backed mousebird	<i>Colius colius</i>
Namaqua done	<i>Oena capensis</i>
Ant- eating chat	<i>Myrmecocichla formicivora</i>
Cape weaver	<i>Ploceus capensis</i>
Cape sparrow	<i>Passer melanurus</i>
Yellow canary	<i>Crithagra flavi ventris</i>

#### 4.4.3. Amphibian

Like most of the species, amphibians are decreasing the world over due to various factors including habitat destruction or alteration. Most amphibian species are aquatic and more rivers and streams are drying or becoming intermittent which alters biotic communities significantly as well as the biogeochemical processes of the river, (Thibault Datry, 2014). Research has been focused on perennial rivers for decades with ephemeral or intermittent rivers being neglected. As a result, basic information on habitats and species lists are not always available including here in Namibia and elsewhere. There are about 4 000 species of amphibians worldwide with just over 200 species known from southern Africa and at least 57 species expected to occur in Namibia. Some authors say Namibia has 50 species of frogs with 3 endemics, (Barbara Curtis, 1998). Griffin (1998a) also put this figure at 50-recorded species and a final species richness of approximately 65 species, 6 of which are endemic to Namibia. All this could be an underestimate due to reasons mentioned earlier-on. Amphibians known to occur in the project area are listed below.

**Table 3: List of amphibian species known or expected to occur in the project area.**

<b>COMMON NAME</b>	<b>SCIENTIFIC NAME</b>
Amatola Toad; Karoo Toad; Paradise	<i>Vandijkophrynus spp.</i>
Common Platanna; Cape Platanna; Muller's Platanna	<i>Xenopus spp.</i>
Common River Frog; Cape River Frog, Drakensburg River Frog	<i>Amietia spp.</i>
Beaded Sand Frog; Cape Sand Frog; Knocking Sand Frog	<i>Tomopterna spp.</i>
Karoo Caco; Namaqua Caco; Striped CAco; Mountain Caco; Bronze Caco	<i>Cacosternum spp.</i>

#### 4.5. Land-use

The dominant land-uses that drive the economy of this area are agriculture, tourism and mining. This is the backbone of Namibia's famous table grapes, dates, mango, oranges, and water melons. The project area boundaries interact with Aussenkher Private Farm. Tourism which is characterized by water-based activities is also very popular here and vibrant. There

was one campsite in the licenced area, Sjambok Campsite but has since been closed for reasons we could not established at the time of the study. The nearest conservation park is the /Ais- /Ais-Richtersveld Transfrontier Park (ARTFP) between Namibia and South and jointly conserves the Succulent Karoo Biome which is and international biodiversity hotspot. Plant diversity is the biological basis for hotspot designation. Plants have been used as qualifiers for Hotspots because they are the basis for diversity in other taxonomic groups and are well-known to researchers. The hotspot concept targets regions where the threat is greatest to the greatest number of species and allows conservationists to focus cost-effective conservation efforts there. The world's 25 biodiversity hotspots contain 44 percent of all plant species and 35 percent of all terrestrial vertebrate species in only 1.4 percent of the planet's land area, (Farmer, 2003 - 2004; Daily, 2015).

#### *4.6. Geology and Hydrogeology*

The territory of the concession is included into the content of Namagua Middle Proterozoic Granitic-Gneissic Belt. The Subaerial bimodal vulcanites of alkaline series of Orange River group, intruded by comagmatic differential (from mafic to acid) bodies by Vioolsdrift Intrusive Suite of Bremen Complex. Feldspar porphyries, granodiorites, gabbro, diorites and granites are more often the bedrock of terrace gravels in downstream of Orange River. As Bremen Complex, and feldspar porphyry are easily deteriorated under effect of hydrodynamical processes, that promote formation of natural traps for concentrating of heavy minerals.

The dikes of Late Cretaceous period are widely spreaded over the concession ex-tents. They are usually presented by dolerites and basalts, very frequently with alkaline grade. Dikes are directed in various directions (prevailing direction is circummeridional) and in some cases represented barriers on ways of paleoriver. The last could result also in formation of traps.

## 5. ENVIRONMENTAL AUDIT FINDINGS

### 5.1. Legal and policy compliance

<b>Instrument</b>	<b>Regulated Activity</b>	<b>Responsible Authority</b>	<b>Status and / or Comment</b>
Mines and Minerals Act	Mining	MME	Compliant – Mining License is valid
EMA Act (2007) and its Regulations of 2012	Mining and exploration	MEFT	Partial compliance – Previous Operator i.e. VI did not have an ECC
Water Abstraction Permit	Abstraction of water from the Orange river	MAWF	Compliant

### 5.2. Environmental Management Measures

#### 5.2.1. Land degradation

<b>Instrument</b>	<b>Regulated Activity</b>	<b>Responsible Authority</b>	<b>Status and / or Comment</b>
EMA Act (2007) and its Regulations of 2012	Mining and exploration	MEFT	Partial compliance – Previous Operator left behind open pits.

#### 5.2.2. Domestic waste

<b>Instrument</b>	<b>Regulated Activity</b>	<b>Responsible Authority</b>	<b>Status and / or Comment</b>
EMA Act (2007) and its Regulations of 2012	Domestic waste management at the mine workers' campsite	MEFT	Was difficult to assess since the site has not been in operation for many years.



### 5.2.3. Hydrocarbons management

<b>Instrument</b>	<b>Regulated Activity</b>	<b>Responsible Authority</b>	<b>Status and / or Comment</b>
EMA Act (2007) and it Regulations of 2012	Repairs and maintenance of equipment and vehicles	MEFT	Was difficult to assess since the site has not been in operation for many years.

### 5.3. Site management

The site is not in operation and there is no one to take care of the equipment which has been severely vandalized.

### 5.4. Staff management

This could not be assessed since the site is offline and no records were available to capture relevant information.

### 5.5. Waste management

<b>Instrument</b>	<b>Regulated Activity</b>	<b>Responsible Authority</b>	<b>Status and / or Comment</b>
EMA Act (2007) and it Regulations of 2012	Waste management	MEFT	Non-Compliant, most scrap metal can be seen lying around onsite

### 5.6. Fire and safety management

This could not be assessed since the site is offline and no records were available to capture relevant information.

*5.7. Challenges and limitations / difficulties faced during the audit*

- Limited records / lack of adequate information of the operations of VI, previous mining company;
- The audit was conducted after a long time since the operations stopped and as a result some of the relevant field evidence may have been destroyed over time.

## 6. CONCLUSION AND RECOMMENDATIONS

### 6.1. *Conclusion*

This EAR has presented the context and findings of the status quo more than during the historical mining activities due to lack of sufficient records or information about the previous mining activities. The findings show that there is sufficient evidence that the previous mining company was not compliant:

- No environmental records were available nor ECC
- Poor waste management
- Un-rehabilitated mining pits

This was taken into consideration and adopted in the proposed Environmental and Social Management Plan which was compiled for the same project. However, this creates an opportunity for someone to take responsibility and have these nonconformities addressed and is inherently the Proponent's responsibility.

## PHOTO GALLERY



**Figure 6: Scrap metal stock piled onsite by the previous mining company. Source: Own photograph.**



**Figure 7: Abandoned equipment and unprocessed material. Source: Own photograph.**



**Figure 8: Abandoned equipment (right) and un-rehabilitated mining pit (left). Source: Own photograph.**



**Figure 9: Abandoned unprocessed ore. Source: Own photograph.**