mineral resources

Department:
Mineral Resources
REPUBLIC OF SOUTH AFRICA

DRAFT SCOPING REPORT

FOR LISTED ACTIVITIES ASSOCIATED WITH MINING RIGHT.

NAROOGNA SALT MINE

SUBMITTED FOR ENVIRONMENTAL AUTHORIZATIONS IN TERMS OF THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998 AND THE NATIONAL ENVIRONMENTAL MANAGEMENT WASTE ACT, 2008 IN RESPECT OF LISTED ACTIVITIES THAT HAVE BEEN TRIGGERED BY APPLICATIONS IN TERMS OF THE MINERAL AND PETROLEUM RESOURCES DEVELOPMENT ACT, 2002 (MPRDA) (AS AMENDED).

NAME OF APPLICANT:	**UNITED SALT (Pty) Ltd**
TEL NO:	**021 951 6501**
FAX NO:	**021 951 6509**
POSTAL ADDRESS:	**28 Trans Oranje Street Tygerberg Business Park Parow East 7510**
PHYSICAL ADDRESS:	**28 Trans Oranje Street Tygerberg Business Park Parow East 7510**
FILE REFERENCE NUMBER SAMRAD:	**NC30/5/1/2/2/10096MR**

December 2015
Report #: 2750/MR/DS

IMPORTANT NOTICE

In terms of the Mineral and Petroleum Resources Development Act (Act 28 of 2002 as amended), the Minister must grant a prospecting or mining right if among others the mining "will not result in unacceptable pollution, ecological degradation or damage to the environment".

Unless an Environmental Authorisation can be granted following the evaluation of an Environmental Impact Assessment and an Environmental Management Programme report in terms of the National Environmental Management Act (Act 107 of 1998) (NEMA), it cannot be concluded that the said activities will not result in unacceptable pollution, ecological degradation or damage to the environment.

In terms of section 16(3)(b) of the EIA Regulations, 2014, any report submitted as part of an application must be prepared in a format that may be determined by the Competent Authority and in terms of section 17 (1) (c) the competent Authority must check whether the application has taken into account any minimum requirements applicable or instructions or guidance provided by the competent authority to the submission of applications.

It is therefore an instruction that:

the prescribed reports required in respect of applications for an environmental authorisation for listed activities triggered by an application for a right or permit are submitted in the exact format of, and provide all the information required in terms of, this template. Furthermore please be advised that failure to submit the information required in the format provided in this template will be regarded as a failure to meet the requirements of the Regulation and will lead to the Environmental Authorisation being refused.

It is furthermore an instruction that:

The Environmental Assessment Practitioner must process and interpret his/her research and analysis and use the findings thereof to compile the information required herein. (Unprocessed supporting information may be attached as appendices). The EAP must ensure that the information required is placed correctly in the relevant sections of the Report, in the order, and under the provided headings as set out below, and ensure that the report is not cluttered with un-interpreted information and that it unambiguously represents the interpretation of the applicant.

Table of Contents

List of Figures

List of Appendices:

Appendix 1& 2: Qualification and CV of EAP
Appendix 3: Socio-economic and Heritage
Appendix 4: Site Layout Plan

List of Abbreviations:

CBA	Critical Biodiversity Area
DMR	Department of Mineral Resources
EAP	Environmental Assessment Practitioner
EMP	Environmental Management Programme
HWC	Heritage: Western Cape
I&AP	Interested and Affected Party

MWP	Mining Work Programme
ngl	Natural Ground Level
NID	Notification of Intent to Develop
POD	Public Open Day
SDF	Spatial Development Framework
SLP	Social and Labour Plan

1 OBJECTIVE OF THE SCOPING PROCESS

The objective of the scoping process is to, through a consultative process—

a) identify the relevant policies and legislation relevant to the activity;

b) motivate the need and desirability of the proposed activity, including the need and desirability of the activity in the context of the preferred location;

c) identify and confirm the preferred activity and technology alternative through an impact and risk assessment and ranking process;

d) identify and confirm the preferred site, through a detailed site selection process, which includes an impact and risk assessment process inclusive of cumulative impacts and a ranking process of all the identified alternatives focusing on the geographical, physical, biological, social, economic, and cultural aspects of the environment;

e) identify the key issues to be addressed in the assessment phase; (f) agree on the level of assessment to be undertaken, including the methodology to be applied, the expertise required as well as the extent of further consultation to be undertaken to determine the impacts and risks the activity will impose on the preferred site through the life of the activity, including the nature, significance, consequence, extent, duration and probability of the impacts to inform the location of the development footprint within the preferred site; and

f) Identify suitable measures to avoid, manage, or mitigate identified impacts and to determine the extent of the residual risks that need to be managed and monitored.

2 Contact Person and correspondence address

2.1 Details of the EAP who prepared the report

Name of the Practitioner: Craig Donald – Site Plan Consulting
Tel No: 021 854 4260
Fax No: 021 854 4321
E-mail address: craig@siteplan.co.za

2.2 The qualifications of the EAP

(With evidence attached as **Appendix 1**).

2.3 Summary of the EAP's past experience.

(EAP's curriculum vitae as **Appendix 1**)

3 Description of the property.

Farm Name:	Farm Naroogna 200 Portion 1 in the Administrative District of Calvinia
Application area (Ha)	690.0461
Magisterial district:	Calvinia Magisterial District
Distance / direction from nearest town	Brandvlei is located 12km SE
Surveyor General Code	C01500000000020000001

4 Locality map

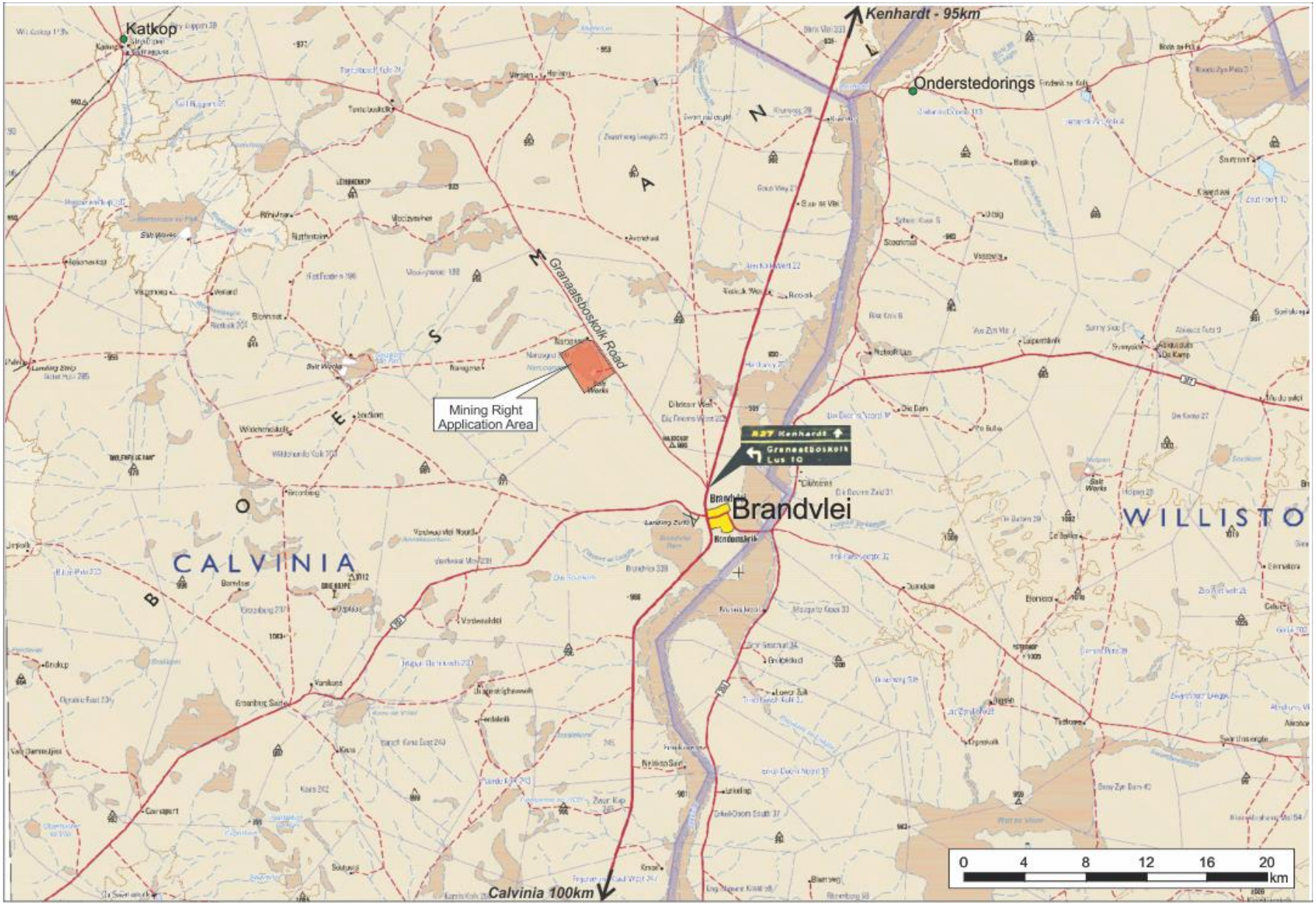

Figure 1: Locality Plan

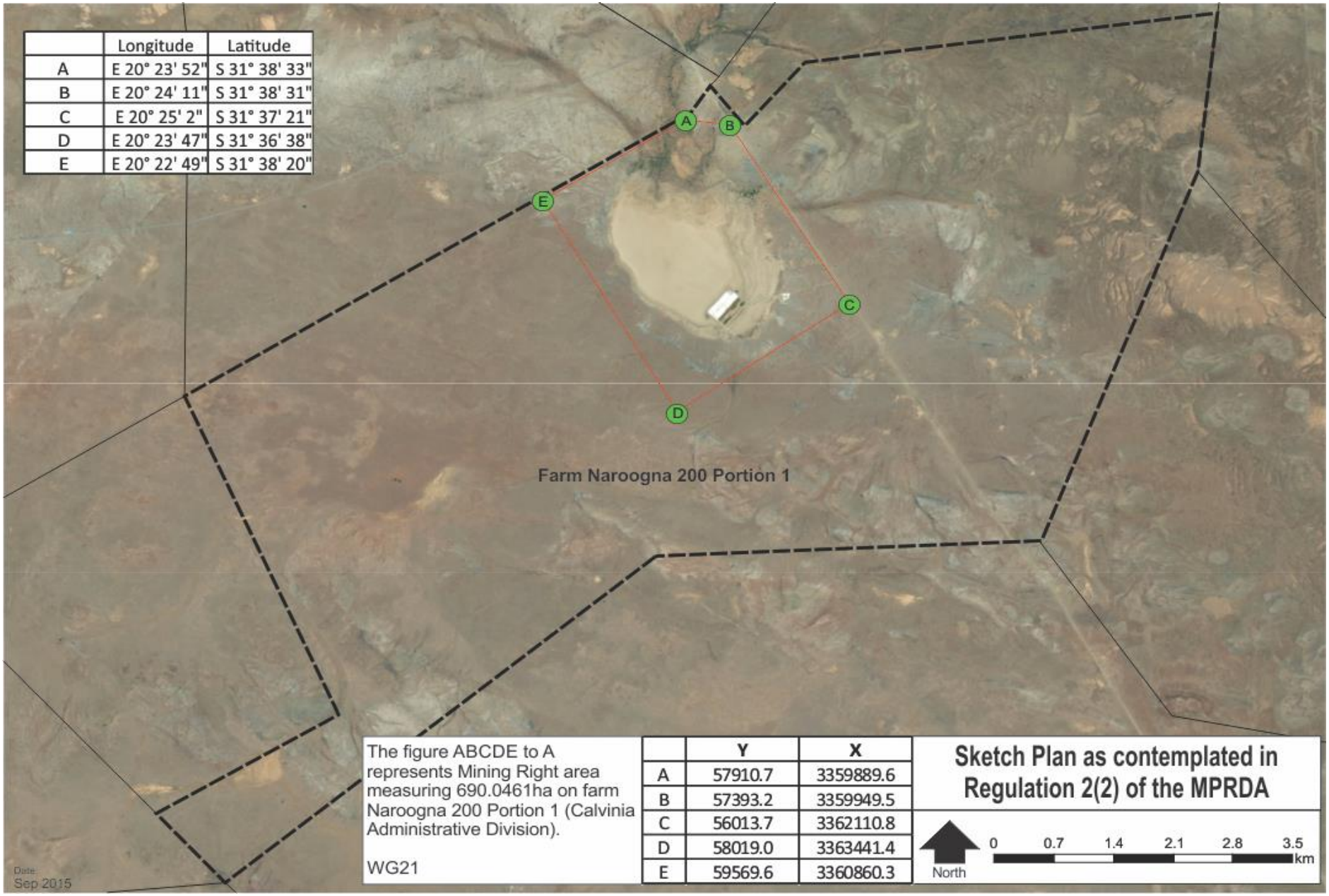

Figure 2: Detail Locality (Regulation 2(2) Drawing

5 Description of the scope of the proposed overall activity.

Background:

Mining has been taking place on this site since the early 1980's. Unfortunately no conversion of the old order right was lodged / obtained and this application is required in order to regularise their rights. A Water Use Licence Application will be underway shortly.

Mining Method and Site Layout

Refer Figure 3 and photos below. Brine is collected through borehole pumping of water and natural seepage into two concentration ponds north and south of the evaporation ponds. This concentrated brine is pumped into evaporation ponds from the 2 concentration ponds. Brine is pumped into the concentration ponds to about 100mm deep at least once per week. The water evaporates and the salt crystals start to form on the surface. As soon as the layer of salt crystals is thick enough (±50mm), the salt crystals are harvested by scraper and front-end loader.

The harvested salt is left to dry further in the stockpiling area and raw salt is loaded en masse onto carrier trucks and transported 9.5km to the final dispatch facility at the turn-off to Brandvlei. This facility is a separate entity off site and is not included here.

Rehabilitation

Salt mining is a continuous process and the water as well as salt deposits are constantly replenished by run-off water. The same evaporation ponds are used over and over. The only material that is removed in the process is water in the form of brine. Due to natural run-of the water levels are replenished and remain at a constant level. There is no need for rehabilitation as any salt deposits that form will dissolve over time

Due to the salty conditions there is no natural vegetation that could be disturbed. It is therefore not necessary to establish vegetation

Photo 1: One of the two concentration ponds excavated into the pans into which the brine concentrates. The brine is pumped from here into the evaporation ponds.

Photo 2: shows the evaporation ponds with the evaporated salt being harvested from the surface of the pond in the background.

Photo 3: shows the scale of the machinery which is used to harvest the salt

Photo 4: The logistical facility and bulk stockpiling area as viewed from the pan in the south.

Quality of material, Reserves and Lifespan.

Salt mining has taken place on this site since the early 1980's. Salt pans result from a combination of circumstances: The availability of susceptible surfaces, disturbance of communition surfaces (by animals and weathering), lack of integrated fluvial systems and power of deflational processes.

It is very difficult to predict the lifespan of a mine such as this given that brine is replenished after every rain or river flow (or other unknown events related to permeability and saturation variations, etc).

The water for the brine is constantly replenished from run-off water. There is no discernible dilution of the brine and it is estimated that the salt could be harvested for an

indefinite time. The limiting factor is not the availability of salt or brine, but rather the evaporation rate. In this case, borehole water (from middle of pan) is constantly pumped into either of the two concentration ponds (where the brine is thickened).

At this site, the average production rate of salt over the last several years has been 36 000 tons per annum. The cash flow forecast (in the Mining Work Programme) was based on actual historical production.

The following certificate of analysis of the material was provided by the applicant:

CERTIFICATE OF ANALYSIS **No: 6664**

I hereby confirm that a NaCl analysis on your order was done and the results were as follow:

Customer:		**United Salt (Pty) Ltd**	
Date received:		**24 August 2015**	
Grade salt:		**Naroogna Coarse Salt**	
Batch number:		**2014 – 2015 Harvest**	
		As received:	**Dry base:**
Sodium Chloride (NaCl)	-	**91.84%**	**95.87%**
Sulphite (SO4)	-	**1.49%**	**1.56%**
Water Insoluble Matter	-	**0.09%**	**0.09%**
Moisture	-	**4.20%**	

Figure 3: Existing Site Layout Plan (North at top of map)

6 Listed and specified activities

Provide a plan drawn to a scale acceptable to the competent authority but not less than 1:10 000 that shows the location, and area (hectares) of all the aforesaid main and listed activities, and infrastructure to be placed on site and attach as **Appendix 4**. Refer also Fig 3.

ACTIVITY	AERIAL EXTENT OF ACTIVITY	LISTED ACTIVITY	APPLICABLE LISTING NOTICE	WASTE MANAGEMENT AUTHORISATION
Application for Mining Right	690.0461ha	X	GNR984: Activity # 17. GNR 983 Activity # 28[1]	
1. POST-APPROVAL ACTIVITIES	It is important to note that this mine is already in place and no establishment phase is required. However, there are certain activities required to reduce environmental impact			
1.1. Demarcate mining areas as defined in Mine Plan and EMP	Using visible poles or alternative demarcation system. Not danger tape.			
1.2. Construct concrete / cement and brick bund around existing fuel tank to 110% of tank capacity	8m²			
1.3. Excavation of material from outside pan to construct pond walls - DONE	3500m²	X ([2])	GNR983: Activity 27	
2. OPERATIONAL PHASE ACTIVITIES				
2.1. Borehole located in middle of pan pumps water constantly into the concentration ponds	<10m² on pan surface			
2.2. Brine is collected through seepage into two concentration ponds north and south of the evaporation ponds	1 000m² each	X	GNR983: Activity # 12[3] GNR 983: Activity 19	

[1] Reads "Residential, mixed, retail, commercial, industrial or institutional developments where such land was used for agriculture or afforestation on or after 01 April 1998 and where such development:

(i) will occur inside an urban area, where the total land to be developed is bigger than 5 hectares; or

(ii) will occur outside an urban area, where the total land to be developed is bigger than 1 hectare;

excluding where such land has already been developed for residential, mixed, retail, commercial, industrial or institutional purposes".

Although strictly speaking, this does not apply given that Mining does not constitute Industrial in terms of the definitions of such, we are however including it as it may have implications for future LUPO processes.

[2] Item 1.3 together with the 7100m² logistical facilities and stockpiling area (Line item 2.7) make up just over 1ha and trigger Listing Notice 1 Activity 27. Note that this disturbance has already taken place and has been in existence prior to any NEMA listed activities.

[3] Pan is a watercourse in terms of definition in NWA and the concentration ponds are considered dams for the purposes of this section.

ACTIVITY	AERIAL EXTENT OF ACTIVITY	LISTED ACTIVITY	APPLICABLE LISTING NOTICE	WASTE MANAGEMENT AUTHORISATION
2.3. This brine is pumped into evaporation ponds from these concentration ponds.	1 mobile pump within pan disturbance area			
2.4. Six to eight evaporation ponds have been developed on the pan surface.	11.15ha[4]	X	GNR983: Activity # 12[5] GNR 983: Activity 19	
2.5. Evaporated salt scraped off surface by scraper				
2.6. Scraped salt loaded by front end loader to haul truck				
2.7. Salt hauled to drying area off pan by truck				
2.8. Salt dried in logistical facility / stockpiling area before final delivery in bulk off site	7 100m²	X ([2])	GNR983: Activity 27	
2.9. Vehicles using unsurfaced roadways	Existing 5m wide to 1200m long	No [6]		
2.10. Use of diesel bund	<10kl			
2.11. Use of small workshop	Building measures 55m² and includes office and store			
2.12. Potable water trucked in as required (minor volumes)				
2.13. Toilet -				
3. DECOMMISSIONING PHASE ACTIVITIES			GNR983: Activity # 22. Only applies at time of closure	
3.1. Remove final evaporated salt				
3.2. Remove / flatten all evaporation pond side walls.	1800m length to 1-2m in height x 4m wide = 10800m³			
3.3. Backfill concentration pond with existing stockpiled material	2 x 1000m²			
3.4. Remove all structures foundations and footings (unless required by landowner)	55m² building and bund			

[4] Note that water is only pumped to 10cm deep at a time BUT maximum water storage in these "dams" is 111 500m² x 0.5m deep = 55750m³ which exceed GNR983 Activity 13 BUT it does not represent OFF-STREAM storage of water

[5] Pan is a watercourse in terms of definition in NWA and the evaporation ponds are considered dams for the purposes of this section.

[6] Remember that this road has been in place since prior to listed activities. It is not a listed activity (GN985: Activity # 4 does NOT apply).

ACTIVITY	AERIAL EXTENT OF ACTIVITY	LISTED ACTIVITY	APPLICABLE LISTING NOTICE	WASTE MANAGEMENT AUTHORISATION
3.5. Rip surface of logistical facility and stockpiling area to 30 -45cm deep	7100m²			
3.6. Allow to revegetate naturally	7 100m²			
4. AFTERCARE PERIOD				
4.1. Remove alien vegetation, if present				
4.2. Monitor revegetation success and continue				
4.3. Conduct final performance assessment				
4.4. Lodge closure Application	609.0461ha	X	GNR983: Activity # 22. Only applies at time of closure	
4.5. DMR Grant Closure Application				

7 Description of the activities to be undertaken

(Describe Methodology or technology to be employed, and for a linear activity, a description of the route of the activity)

Refer Para 5 and 6 above.

8 Policy and Legislative Context

APPLICABLE LEGISLATION AND GUIDELINES USED TO COMPILE THE REPORT (A description of the policy and legislative context within which the development is proposed including an identification of all legislation, policies, plans, guidelines, spatial tools, municipal development planning frameworks and instruments that are applicable to this activity and are	REFERENCE WHERE APPLIED (i.e. Where in this document has it been explained how the development complies with and responds to the legislation and policy context)	HOW DOES THIS DEVELOPMENT COMPLY WITH AND RESPOND TO THE POLICY AND LEGISLATIVE CONTEXT (E.g. In terms of the National Water Act: - Water Use License has/has not been applied for).
National Environmental Management Act	Entire document including public participation	Environmental Authorization from DMR as competent authority
Mineral and Petroleum Resources Development Act	Template for Scoping Report	DMR application and process
Municipality's SDF	Need and Desirability (Para 9)	End Use informant
National Water Act	Disturbance of water course	Water Use Licence applications in process.
EIA Guideline and Information Document Series' "Guideline on Need and Desirability	Need and Desirability (Para 9)	Guideline for information utilized in this document
EIA Guideline 5 Assessing alternatives and impacts	Cumulative Impact Assessment (Para 9.2.1)	Guideline for information utilized in this document
NEMWA	Not applicable	No application for Waste Licence

9 Need and desirability of the proposed activities.

(Motivate the need and desirability of the proposed development including the need and desirability of the activity in the context of the preferred location).

The EIA Guideline and Information Document Series' "Guideline on Need and Desirability" dated August 2010 has been used to consider this aspect.

Important: The need and desirability should not **only** focus on the actual mining phase of this site's lifespan but also concentrate on the long term / permanent post mining land use proposal. As background to the following paragraphs, the **proposed eventual land use is to return the land as grazing land with the pan to be left in its natural condition.**

In fact, the need and desirability of this operation is actually borne out by the fact that it has survived at this site since the early 1980's. Should the need or desirability not have been demonstrated, then the mine would have shut down.

Need refers to timing of a project whilst desirability is defined to consider the placing of the activity. The first port of call in considering need and desirability is a determination of how the proposed project fits in with the Municipal Integrated Development Plan (IDP) and the Spatial Development Framework (SDF). Unfortunately, in this case, the SDF has not yet been completed (2015-2020 IDP Review, Hantam Municipality). Be that as it may, it can be reasonably assumed that the land and farm in question would form part of the low carrying capacity grazing areas which typify the region. There are no formally protected areas nearby and the site is not located close to any CBA. The pan would however form part of a classification with higher conservation-worthiness.

The guideline referred to above provides a list of 15 questions which are aimed at addressing the issue of need and desirability. The questions have been copied below with the consideration of each question as it relates to this application immediately following each question.

9.1 Need ('timing'):

Question 1: *Is the land use (associated with the activity being applied for) considered within the timeframe intended by the existing approved Spatial Development Framework (SDF) agreed to by the relevant environmental authority? (i.e. is the proposed development in line with the projects and programmes identified as priorities within the credible IDP)*.

The proposed land use that would be attributed to this land parcel would no doubt be low level grazing, given the current use of this and surrounding farms and the distance to any CBA. Whether the SDF will acknowledge the current mining taking place there is unlikely.

We have found that other SDF's take absolutely no cognisance of the mining industry. Mining is a place-bound activity but there can be no planning at an SDF level for specific sites. As a result each Mining Permit / Right application must be considered on its own merit.

Question 2: *Should development concerned in terms of this land use (associated with the activity being applied for) occur here at this point in time?*

Yes. It is recognised that mining is usually a short term activity within the time span of the resource, but the mining at this site does not eliminate the future use of the land for its current land use. In other words, the mining will not preclude future use of the land for pasture or for return to wilderness in the case of the off pan activities.

Question 3: *Does the community/area need the activity and the associated land use concerned (is it a societal priority)? This refers to the strategic as well as local level (e.g. development is a national priority, but within a specific local context it could be inappropriate)*

YES. This questions deals with "justifiable economic development" and it should lead to the conclusion of whether the project serves the community in the broader sense. There are 3 points to consider in this respect:

1. From a financial point of view: This mine and others owned and run by this and sister companies in the area are significant contributors to the community of Brandvlei. Not only in the sense of providing direct employment, but also through their Corporate Social Responsibility[7].
2. In addition the guaranteed salt source will lead to a more defined future for the company and as a result perhaps could be extended to job security.
3. Also note that the site is actually so far from the community as to render the impact from mining (i.e. biophysical) on the community negligible and as such the development cannot be seen to be inappropriate at this time.

Question 4: *Are the necessary services with adequate capacity currently available (at the time of application), or must additional capacity be created to cater for the development?*

Everything is in place. This mining represents an extension of mining activities (in a temporal sense).

Question 5: *Is this development provided for in the infrastructure planning of the municipality, and if not what will the implication be on the infrastructure planning of the municipality (priority and placement of services and opportunity costs)?*

There is no need for placement of services or infrastructure by the municipality in terms of this application or post mining proposals.

[7] This includes the following list in 2014/15: Annual sponsorship of the local church bazaar, Annual donation to the Brandvlei end of year festivities, Sponsorship of clothing to the "Witness Action" programme, Annual sponsorship of the prize giving at Brandvlei Primary school, Annual sponsorship of the Brandvlei Middle School netball equipment, Handing out of food parcels to pensioners in Brandvlei, Provision of transport to high school learners from Brandvlei to high schools in other towns, Uniforms purchased for the annual Cape Town visit by 15 school learners, Ad hoc sponsorship of events and functions in the town, Sponsorship of the equipment for the Visible Policing department, Refurbishment of the Ladies and Gents toilets at Brandvlei Primary

Question 6: *Is this project part of a national programme to address an issue of national concern or importance?*

It could be argued that the empowerment imperative created by mining legislation does lead to economic and capacitive empowerment of HDSA's which may otherwise be lost as an opportunity should mining not continue on this site.

9.2 Desirability ('placing'):

Question 7: *Is the development the best practicable environmental option for this land/site?*

According to NEMA the "best practicable environmental option" means the option that provides the most benefit and causes the least damage to the environment *as a whole*, at a cost acceptable to society, in the long term as well as in the short term. In determining the best practicable environmental option, adequate consideration must also be given to opportunity costs.

The important point to note is that if mining does occur in terms of the provisions of this document, then there is no reason why pre-existing land use could not be put back in place.

Question 8: *Would the approval of this application compromise the integrity of the existing approved and credible municipal IDP and SDF as agreed to by the relevant authorities.*

Provided the rehabilitation of the site takes place in accordance with requirements, the requirements of the IDP (and assumed future SDF content) can still be met. Mining of this salt does not preclude the post mining use of the site for grazing / wilderness area. Revegetation will take place in the short to medium term and full restoration of the site will take place in the longer term.

Question 9: *Would the approval of this application compromise the integrity of the existing environmental management priorities for the area (e.g. as defined in EMFs), and if so, can it be justified in terms of sustainability considerations?*

Mining of this salt does not preclude the post mining use of the site for grazing / wilderness area. Revegetation will take place in the short to medium term and full restoration of the site will take place in the longer term.

Question 10: *Do location factors favour this land use (associated with the activity applied for) at this place? (this relates to the contextualisation of the proposed land use on this site within its broader context).*

Yes. The adjacent location of the pan and the salt content of the brine are the primary informants of how and where this type of mine would develop (amongst other informants). So, from a mining point of view the site cannot readily move. But it is

important to remember that mining is a short term use (in the grand scheme of things) on this site and the question must actually relate to the proposed end use of the site as per the opening paragraphs to this analysis. In such case, the site is still suited on a locational basis to the proposed end use/s of the site.

Question 11: *How will the activities or the land use associated with the activities applied for, impact on sensitive natural and cultural areas (built and rural/natural environment)?*

The location of these activities on this site for the last 35 years means that any impact that would have occurred in this respect would have already occurred or is occurring at present. The impact cannot be too significant otherwise widespread complaints would have resulted and mitigative actions would have been required.

Question 12: *How will the development impact on people's health and wellbeing (e.g. in terms of noise, odours, visual character and sense of place, etc.)?*

This site is located so distant from any residence or community as to render any impact in terms of health and well-being absolutely negligible.

Question 13: *Will the proposed activity or the land use associated with the activity applied for, result in unacceptable opportunity costs?*

No. This issue is dealt with in question 3 above.

Question 14: *Will the proposed land use result in unacceptable cumulative impacts?*

No. Refer para 9.2.1 below.

9.2.1 Cumulative Impact Assessment

The assessment of cumulative impacts on a site specific basis is often a complex operation. The aim of this impact analysis is ultimately to determine at which point the combined impacts from several operations (similar or dissimilar) in the area will affect the environment or part thereof to such a negative degree that the project should not be allowed to proceed.

Always remember that mining is a place-bound operation (as opposed to say housing or shopping development which is less dependent on geology or other factors).

The following is an amended procedure sourced from http://www.eiatoolkit.ewt.org.za/documents/DEAT/guidelines/ AT_EIA_Guideline5_Assessing_alternatives_and_impacts.doc

Types of cumulative impacts

Additive impact: Impacts of the same nature from different operations (e.g. excessive groundwater abstraction from several operations in the same area result in a severe drawdown effect)

Interactive impact: where a cumulative impact is the result of a combination of different impacts to cause a new kind of impact. This kind of impact can be:

- Countervailing – the net adverse effect is less than the sum of the individual impacts (e.g. pumping clear water into a polluted water resource).
- Synergistic – when the impacts work together to develop a sum of different impacts results in an impact which is greater than the individual impacts.

Methodology used in assessing cumulative impact/s

Determine extent of cumulative impacts:

- Identify potentially significant cumulative impacts associated with the proposed activity
- Establish the geographic scope of the assessment
- Establish the timeframe of the analysis
- Identify other activities affecting the environmental resources of the area

Describe the affected environment:

- Characterise the resources identified above in terms of their response to change and ability to withstand stress
- Define a baseline condition that provides a measuring point for the environmental resources that will be acted upon

Assess the cumulative impacts:

- Determine the magnitude or significance of cumulative impacts

Recommend mitigation measures.

So, using the aforementioned procedure as headings, herewith an assessment of the cumulative impacts arising from this operation:

Determining the extent of the cumulative impacts:

Identification of potentially significant impacts:

Proposed operations of this type could conceivably result in the following cumulative impacts:

Vegetation:

Refer para 14.1.5 for more detailed description of vegetation status. This development **has already resulted in the disturbance of 10 600m² (1.06ha) natural vegetation,** as a result of the logistical facility and stockpiling area clearance as well as the area utilised as "borrow pit" for the material utilised in the development of the pond walls on the pan.

Noise: There are no other mining operations within earshot of any community and as such, there can be no cumulative impact from this small operation.

Dust: To date there has been no complaints in respect of dust and dust is highly unlikely to present any impact on any residential area or surrounding land use.

Groundwater: The only groundwater impacted upon is the salty brine within the pan, which is concentrated in the concentration ponds and pumped to the evaporation ponds. For all intents and purposes the pan's groundwater is a closed inward draining system and the groundwater is continuously replenished through surface water flow and seepage. There are no other saltworks in the basin, and the groundwater is clearly too salty for stock or irrigation (*so there can be no cumulative impact*).

Socio-economic impacts: This cumulative impact of any employment in the area is a beneficial impact (albeit negligible). There is also income to the landowner.

Agriculture: Full description of agricultural status and land capability is as described in para 14.1.4.

Geographic Scope of assessment:

Impact aspect	Geographic scope
Vegetation	Farm Vegetation Biome
Dust	Local area – no impact on any community
Noise	Local area - no impact on any community
Socio-economic	Local Municipal area, company employees and customers and landowner
Agriculture	Farm

Timeframe of analysis

The proposed project will take place over a period of at least 30 years. The timeframe of the analysis would typically depend on the nature of the impact being assessed:

1) Life of mine impacts to be assessed are vegetation and agricultural impact, noise, dust, groundwater and socio-economic impact. These will be temporary and only until grazing is returned
2) Longer lasting impact could conceivably be the impact on groundwater, but this would not be a cumulative impact as discussed above

Other activities impacting on environmental resources in the area

The only other activity impacting on the environmental resources of the area is that arising through grazing.

Resource characterization

This section aims to characterise the environmental resources in terms of their ability to withstand additional stress.

Vegetation: No additional stress will arise through the continued mining at this site. The current disturbance will not increase. The impact is in any event so minor as to have absolutely no impact on a cumulative basis.

Agriculture / Land Capability: The low carrying capacity of this land means that even a permanent removal of this small 1.06ha patch of vegetation cannot be considered an additional stress in this otherwise arid landscape.

Noise: There will be no noise impact, given both the isolation of the site and the low levels of noise.

Dust: As for noise, similarly for dust.

Magnitude and significance of cumulative impacts

Vegetation

Insignificant if any impact in cumulative sense.

Agriculture / Land Capability: As discussed on the preceding page, this impact must be seen is temporary and insignificant on a cumulative basis.

Noise:

Impact will be insignificant, if any.

Air Quality:

Impact will be insignificant, if any.

Socio-economic:

Insignificant positive impact to landowner, employees and customers (through continued local supply).

10 Period for which the environmental authorisation is required

30 years – Maximum allowable under current legislation.

11 Description of the process followed to reach the proposed preferred site.

NB!! – This section is not about the impact assessment itself; It is about the determination of the specific site layout having taken into consideration (1) the comparison of the originally proposed site plan, the comparison of that plan with the plan of environmental features and current land uses, the issues raised by interested and affected parties, and the consideration of alternatives to the initially proposed site layout as a result.

Not applicable. This site has been mined in this location and method with exactly the same disturbance footprint and site layout since the 1980's.

12 Details of all alternatives considered.

With reference to the site plan provided as Appendix 4 and the location of the individual activities on site, provide details of the alternatives considered with respect to the following.

Not applicable. This site has been mined in this location and method with exactly the same disturbance footprint and site layout since the 1980's. Workable more suitable alternatives would already have arisen.

12.1 Property on which or location where it is proposed to undertake the activity;

The resource dictates the location of this activity. No other farms were explored as part of this application.

12.2 Type of activity to be undertaken;

Continued salt mining is the activity to be undertaken.

12.3 Design or layout of the activity;

Not applicable. Any relocation would result in additional environmental impacts

12.4 Technology to be used in the activity;

Not applicable.

12.5 Operational aspects of the activity;

Not applicable.

12.6 Option of not implementing the activity.

Not viable.

13 Details of the Public Participation Process Followed

Describe the process undertaken to consult interested and affected parties including public meetings and one on one consultation. NB the affected parties must be specifically consulted regardless of whether or not they attended public meetings. (Information to be provided to affected parties must include sufficient detail of the intended operation to enable them to assess what impact the activities will have on them or on the use of their land.

THIS DOCUMENT IS THE DRAFT SCOPING REPORT AND WILL SERVE AS THE BASIS DOCUMENT FOR PUBLIC INPUT. As a result, the description which follows is the proposed public participation methodology.

Public participation will take place in the following manner:

1) Consultation with the **landowner**. The landowner is Jancordi Beleggings (Pty) Ltd and the representative in this case is JL Diederiks. He is well aware of the mining, and will still be consulted for comment.
2) **Surrounding landowners**: These will be sent copies of this Scoping report by registered mail or Email depending on their preference to be determined by telephone call. Should they request a meeting, then such consultation will take place. Refer Figure 4 below for map of surrounding landowners' farms.
3) **State Departments**: Registered mail will be sent to the following State departments and NGOs:
    a. Department of Environment Affairs and Development Planning or equivalent
    b. Cape Nature or equivalent
    c. Department of Water and Sanitation
    d. Dept. of Agriculture Forestry and Fisheries

e. Municipality – Manager's Office and Environmental Section

f. Department of Transport: District / Provincial Roads Engineer

g. Heritage authority

h. Land Claims Commissioner.

4) **Broader public** will be notified in 3 ways:
   a. By way of newspaper advert in local newspaper
   b. By way of posters placed at project entrance. Posters will measure 62 x 40cm as per NEMA regulations.
   c. Though notification of the local councilor.

Please note that each of these notifications will contain details as to:

- How to contact the EAP
- How to get to see a copy of the draft Scoping report with notice that 2 copies of the draft Scoping Report will be available at the local Public Library or available per email or hard copy by post
- There will be no public meeting or public open day

Future public participation will then consist of the following:

1) Receipt of all comments in respect of the draft Scoping Report (and submission of same to DMR).
2) Compilation of final Scoping report and lodging to DMR
3) Late comments will be entertained and submitted to the DMR
4) Finalization of a draft EIA/EMP including:
   a. Specialist studies as determined for requirement in the scoping process.
   b. Comments in respect of the draft scoping report
5) Distribution of draft EMP to registered I&AP's as well as all State Departments and NGOs listed above for 30 day commenting period
6) If comments received on draft EMP make material change to EMP, then redistribution of 2nd draft version of the EMP will take place
7) Lodging of Final EMP to DMR with all comments and changes made as required.

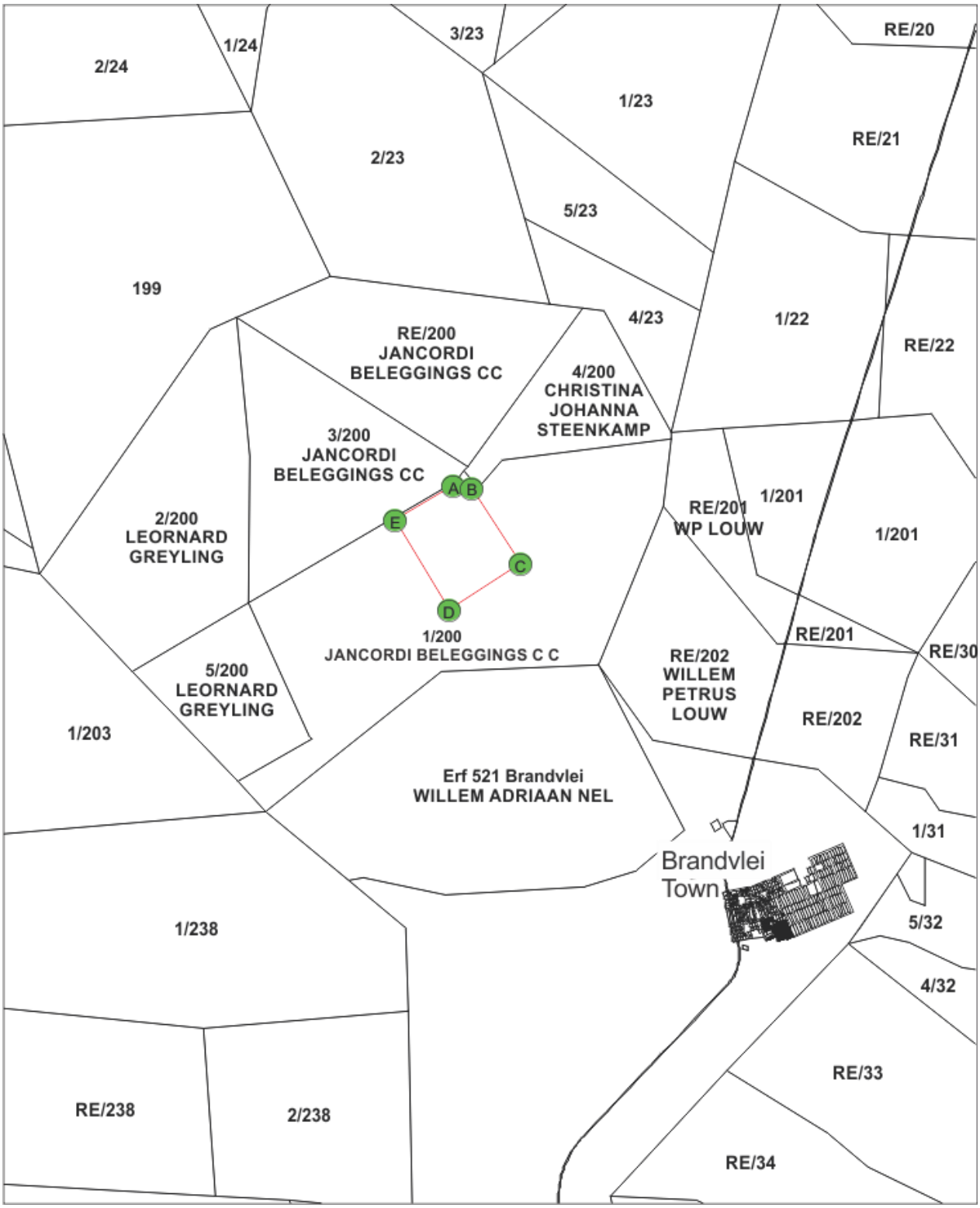

Figure 4: Surrounding / adjacent land ownership

Interested and Affected Parties: List the names of persons consulted in this column, and Mark with an X where those who must be consulted were in fact consulted.		Date Comments Received	Issues raised	EAPs response to issues as mandated by the applicant	Para in this report where the issues / responses were incorporated.
Landowner: Jancordi Beleggings CC represented by Mr JW Diederiks (Also adjacent landowner).	X				
Lawful occupier/s of the land	NA				
Landowners or lawful occupiers on adjacent properties – Refer Figure 11 above					
Mr L Greyling (Farm 200/2 and 200/5	X				
Mr CJ Steenkamp (Farm 200/4)	X				
Mr WP Louw (Farm 201 Rem and 202 Rem)	X				
Mr WA Nel (Erf 521)	X				
Municipal councillor: Hantam Municipality Ward 3: Mr F Sterkse	X				
Municipality: Director of Technical Services: infrastructure1@hantam.gov.za	X				
Municipality: Municipal Manager: Mr N van Stade -P/Bag X 14, Calvinia 8190.	X				
Organs of state (Responsible for infrastructure that may be affected Roads, Eskom, Telkom, DWA etc.)					
Department of Environment and Nature Conservation:	X				
Department of Water and Sanitation	X				
Dept. of Agriculture Forestry and Fisheries	X				
Department of Transport: District / Provincial Roads Engineer	X				
Department of Public Works	X				
ESKOM	X				
Communities					
Community of Brandvlei (Will be advertised in local newspapers and local library)	X				
Dept. Land Affairs					

Interested and Affected Parties: List the names of persons consulted in this column, and Mark with an X where those who must be consulted were in fact consulted.		Date Comments Received	Issues raised	EAPs response to issues as mandated by the applicant	Para in this report where the issues / responses were incorporated.
Land Claims Office: Mr R Oliver	X				
Traditional Leaders	NA				
Other Competent Authorities					
SAHRA	X				
OTHER AFFECTED PARTIES					
INTERESTED PARTIES					

Note that final comments must be in within 30 days and will be forwarded to the DMR as soon as possible after that.

14 The Environmental attributes associated with the sites: Baseline Environment

14.1 Type of environment affected by the proposed activity.

14.1.1 Topography

The topography has a bearing on visual impact. In this case the topography is typical Bushmanland plain topography with the occasional pan or "vloer" forming locally inward draining basins. These basins can get very large but in the case of this operation is a moderately sized basin.

Photo 5 below shows the relatively flat nature of the topography as well the inward draining slopes which surround the pan.

Existing impacts in respect of topography are insignificant and have arisen through:

Nature and extent of existing impact	Duration	Significance	Extent to which impact can cause or be:		
			reversed	irreplaceable loss of resource	avoided, managed or mitigated
2 concentration pits in pan each 1000m² to 2m deep and excavated material heaps alongside	Life of mine	Insignificant	Reversible	No	Can be fully mitigated
Pond walls on pan to 1-1.5m high	Life of Mine	Insignificant	Reversible	No	Can be fully mitigated
Excavation of material from outside pan used in development on pan (3100m² to 1m deep)	Permanent	Insignificant	Reversible (but unlikely to be reversed)	No	Can be fully mitigated

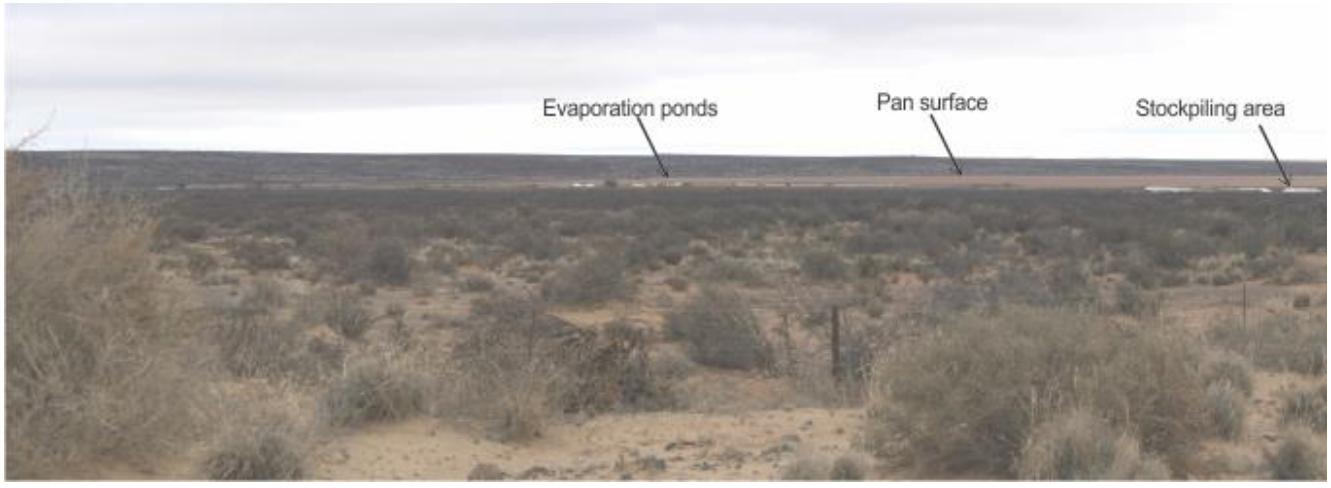

Photo 5: Topographical elements including pan and inward draining surrounding slopes.

14.1.2 Visual Impact

Photo 5 above was taken from the unsurfaced Granaatboskolk Road to the north of the pan. Even though the stark white of the salt stockpiles do stand out against the bleak surroundings, the scale of the impact must be seen as negligible given the limited use of the road and the distance to the mine from that road.

Existing impact in terms of visual impact is related to the following existing facilities/ features:

Nature and extent of existing impact	Duration	Significance	Extent to which impact can cause or be:		
			reversed	irreplaceable loss of resource	avoided, managed or mitigated
Ponds on the pan	Life of mine	Insignificant	Reversible	No	Can be fully mitigated (post mining)
Logistical facility area	Life of mine	Insignificant	Reversible	No	Can be fully mitigated (post mining)
Salt stockpiles in logistical facility area	Temporary (life of mine)	Insignificant	Reversible	No	Can be fully mitigated (post mining)

14.1.3 Soil

Soils of this part of the Bushmanland are shallow soils of a pedologically young landscape (Ellis and Lampbrecht, 1985). Typical for these arid regions, the A horizon is orthic (it is not rich in nutrients and there is a lack of what is general considered to be good topsoil (with humic and other organic content). Notwithstanding that, the upper 30cm of soil must always be treated as topsoil and removed prior to any development.

In the case of this mine, there has been no topsoil removal prior to development of the logistical facility area. But any topsoil which would have been removed in the early 1980's and stockpiled until today would not serve as topsoil in 30 years' time when decommissioning rehabilitation could take place at this mine.

Existing impact on soils is related to the following existing facilities/ features:

Nature and extent of existing impact	Duration	Significance	Extent to which impact can cause or be:		
			reversed	irreplaceable loss of resource	avoided, managed or mitigated
Ponds on the pan	Life of mine	Insignificant	Reversible	No	Can be fully mitigated (post mining)
Logistical facility area	Life of mine	Insignificant	Reversible	No	Can be fully mitigated (post mining)
Excavation of material from outside pan used in development on pan (3100m²)	Temporary	Insignificant	Reversible (with replacement of topsoil)	No	Can be fully mitigated

14.1.4 Land Capability / Agriculture

The land capability of the entire Mining Right application area is as follows. Note that the more restrictive wilderness land capability rating is used notwithstanding the fact that it is utilised for grazing. It is not pasture species that have been planted but natural wilderness grazing veld:

Land capability	*Area*	*%*
Wilderness area	410.94ha	59.6%
Arable Land	0ha	0%
Grazing	0ha	0%
Wetland Area (Pan excluding evaporation ponds)	266.85ha	38.7%

Area currently disturbed by mining : - 11.15ha on pan - 1.06ha not on pan	12.21ha	1.8%
Total	***690ha***	***100%***

The farm is located in the Bushmanland which is characterised as follows in terms of agricultural potential:

- Rainfall between 100-150mm per year (mostly late summer)
- Extremely high temperatures, strong dry winds, saline water and high evaporation combine to preclude crop production.
- No irrigation takes place
- Livestock watering a challenge with often poor quality water available.
- Majority of soils have poor moisture retention, low pH and low nutritive quality
- Land capability is thus non arable low potential grazing land[8]
- …veld has an extremely low carrying capacity (60-80ha/AU)[8].

Existing impact in respect of land capability is related to the following existing facilities/ features:

Nature and extent of existing impact	**Duration**	**Significance**	**Extent to which impact can cause or be:**		
			reversed	**irreplaceable loss of resource**	**avoided, managed or mitigated**
Loss of normal pan surface area of 11.15ha due to existing disturbance	Life of mine	Insignificant	Reversible	No	Can be fully mitigated (post mining)
Loss of wilderness/ grazing land to Logistical facility area (7100m²)	Life of mine	Insignificant	Reversible	No	Can be fully mitigated (post mining)
Loss of wilderness/ grazing land to excavation of material from outside pan used in development on pan (3100m²)	Temporary	Insignificant	Reversible (with replacement of topsoil)	No	Can be fully mitigated

14.1.5 Natural Vegetation

The following is noted:

1. The site is located on Bushmanland Basin Shrubland NKb6 which according to the 2012 Mucina and Rutherford mapping has a Conservation Status of ***Least Threatened.***
2. The distribution is as follows: Northern Cape Province: Large Bushmanland Basin centred on Brandvlei and Van Wyksvlei area, spanning Granaatboskolk in the west to Copperton in the east, and Kenhardt vicinity in the north to Williston vicinity in the south. Altitude ranges mostly from 800–1 200 m.
3. In terms of the Critical Biodiversity Area (CBA) Mapping, none of the areas are located on any terrestrial or aquatic CBA's

Conservation Target (percent of area) from NSBA	21%
Protected (percent of area) from NSBA	

[8] http://www.agis.agric.za/agismap_atlas/AtlasViewer.jsp

Remaining (percent of area) from NSBA	99.5%
Description of conservation status from NSBA	Least threatened
Description of the Protection Status from NSBA	Not protected
Area of the full extent of the Vegetation Type	34 690.68km²

Conservation

Least threatened. Target 21%. None of the unit is conserved in statutory conservation areas. No signs of serious transformation, but scattered individuals of *Prosopis* sp. occur in some areas (e.g. in the vicinity of the Sak River drainage system), and some localised dense infestations form closed woodlands' along the eastern border of the unit with Northern Upper Karoo (east of Van Wyksvlei). Erosion is moderate (56%) and low (34%).

In terms of current disturbance (i.e. that which has taken place) approx. 1.06ha of natural vegetation disturbance has taken place through logistical facility area development as well as borrow pit for development of the paddock walls on the pan. Such disturbance took place in 1985. No further disturbance is anticipated.

There is no vegetation on the pan.

Existing impact in respect of vegetation is related to the following existing facilities/ features:

Nature and extent of existing impact	**Duration**	**Significance**	**Extent to which impact can cause or be:**		
			reversed	**irreplaceable loss of resource**	**avoided, managed or mitigated**
Disturbance to vegetation due to Logistical facility area development(7100m²)	Life of mine	Insignificant	Reversible	No	Can be fully mitigated (post mining)
Disturbance to vegetation due to excavation of material from outside pan used in development on pan (3100m²)	Temporary	Insignificant	Reversible (with replacement of topsoil)	No	Can be fully mitigated

14.1.6 Animal Life

Animal life typical of the Bushmanland area are in evidence on the farm and within the Mining Area despite the lengthy period which the mine has been in place. Although no larger faunal species were seen, there is evidence through footprints on site of buck ad rodents. No further impact on animal life is anticipated so no further study will be required in this regard.

Nature and extent of existing impact	**Duration**	**Significance**	**Extent to which impact can cause or be:**		
			reversed	**irreplaceable loss of resource**	**avoided, managed or mitigated**
Disturbance to vegetation due to Logistical facility area development(7100m²)	Life of mine	Insignificant	Reversible	No	Can be fully mitigated (post mining)
Disturbance to vegetation due to excavation of material from outside pan used in development on pan (3100m²)	Temporary	Insignificant	Reversible (with replacement of topsoil)	No	Can be fully mitigated

14.1.7 Surface Water

Given the disturbance of a water course (i.e. pan surface) by the mining it is incumbent on the applicant to lodge Water Use Licence Application.

No other surface water features are disturbed by the salt mining activities.

Nature and extent of impact	Duration	Significance	Extent to which impact can cause or be:		
			reversed	irreplaceable loss of resource	avoided, managed or mitigated
Disturbance to pan surface by development of concentration and evaporations ponds (11.15ha on 278ha pan)	Life of mine	Insignificant	Reversible	No	Can be fully mitigated (post mining)

14.1.8 Ground Water

The site is located in Quaternary Basin D57D. Groundwater is withdrawn from the pan at a rate of about 260 000m³ per annum. Such water / brine is evaporated to yield the salt. This calculation of water use is based on the following:

- 62 500m² evaporation surface area in total in 6 ponds
- Assume less one pond being harvested at any given time
- So Assume 50 000m² evaporation surface
- These are filled up say 1 per week with 10cm of water
- Results in total weekly requirement of 5000m³
- For 52 weeks
- Total 260 000m³ water withdrawn from pan every year

In terms of the current General Authorisation (2004) for taking and storage of water, the following applies in Quaternary Basin D57D:

- No groundwater may be abstracted from this Quaternary basin without WULA except in the case of the 20m³ permitted per day for small industrial users.
- The applicant clearly exceeds this limit, so this aspect will have to be covered in the Water Use Licence Application, amongst others.

Furthermore, note that according to draft 2012 regulations in respect of General Authorisations, no General Authorisations are applicable within 750m of a pan.

Existing impact in respect of groundwater is as follows:

Nature and extent of existing impact	Duration	Significance	Extent to which impact can cause or be:		
			reversed	irreplaceable loss of resource	avoided, managed or mitigated
Pumping of 260 000m³ from pan every year	Life of mine	Insignificant	Reversible. The brine is replenished naturally as has been occurring for the last 30 years	No	NA

14.1.9 Air Quality (Dust)

Attention is drawn to paragraph 4.8.4 of the extract from SANS regarding recognition that certain enterprises need to operate within "band 3" by virtue of "the practical operation of the enterprise..." provided that the best available control technology is applied for the duration".

"DUST FALL STANDARDS SANS 1929:2004
4.8 Dust Deposition
4.8.1 General
The four-band scale to be used in the evaluation of dust deposition is given in 4.8.2 and target, alert and action levels indicated in 4.8.3. Permissible margins of tolerance are outlines in 4.8.4 and exceptions noted in 4.8.5

4.8.2 Evaluation Criteria for Dust Deposition
Dust deposition rates shall be expressed in units of mg m² day-1 over a 30-day averaging period. Dust deposition shall be evaluated against a four-band scale as presented in Table 9.

Table 9 – Four-band scale evaluation criteria for dust deposition

Band number	Band description label	DUSTFALL RATE (D) (*mg* /m² /day [1] 30-day average)	Comment
1	Residential	D < 600	Permissible for residential and light commercial.
2	Industrial	600< D < 1 200	Permissible for heavy commercial and industrial.
3	Action	1 200 < D < 2 400	Requires investigation and remediation if two sequential months lie in this band, or more than three occur in a year.
4	Alert	2 400 < D	Immediate action and remediation required following the first exceedance. Incident report to be submitted to relevant authority.

4.8.3 Target, Action and Alert Thresholds are given in Table 10

Table 10 – Target, action and alert thresholds for dust deposition

Level	DUSTFALL RATE (D) (mg/ m² /day [1] 30-day average)	Averaging period	Permitted frequency of exceedances
Target	300	Annual	
Action residential	500	30 days	Three within any year, no two sequential months
Action industrial	1 200	30 days	Three within any year, no two sequential months.
Alert threshold	2 400	30 days	None. First exceedance requires remediation and compulsory report to authorities.

4.8.4 Margin of Tolerance
An enterprise may submit a request to the authorities to operate within Band 3 (ACTION Band), as specified in Table 9, for a limited period, providing that this is essential in terms of the practical operation of the enterprise (for example the final removal of a tailings deposit) and provided that the best available control technology is applied for the duration.

No margin of tolerance will be granted for operations that result in dustfall rates which fall within Band 4 (ALERT Band) as specified in Table 9.

4.8.5 Exceptions
Dustfalls that exceed the specified rates but that can be shown to be the result of some extreme weather or geological event shall be discounted for the purpose of enforcement and control. Such event might typically result in excessive dustfall rates across an entire metropolitan region, and not be localised to a particular operation. Natural seasonal variations, such as dry windy period during the Highveld spring will not be considered extreme events for this definition"

At present, the ambient dust levels are low and any existing dust impact is the result of:

- Occasional vehicles on unsurfaced roads in the area
- Wind generated dust on a regional level (especially during dry times)

No surrounding land use of land user is affected by any dust which may be generated from this mine.

Existing dust generators and impact rating are described in table in part 15.2

14.1.10 Noise

Current noise generating activities in the area are related to occasional traffic and earthmoving equipment on the pan – otherwise very quiet rural noise levels. No surrounding land use of land user is affected by any noise which may be generated from this mine.

Existing noise generators and impact rating are described in table in part 15.2

14.2 Description of the current land uses.

The following land uses are located within the Mining Right application area:

1) The majority of the site is utilised as pasture for sheep /goats (mostly).
2) The pan surface has an 11.15ha evaporation pond system in place.
3) The 7100m² logistical facility area.

The following land uses surround the site:

- The overall surrounding nature of land is wilderness, but it all subject to grazing by small stock – Refer figure 2
- The closest farmstead is located more than 2km north of the evaporation ponds
- The closest community is the Brandvlei community some 12km south east of the project.
- There are no power lines of significance, no rail lines or any infrastructure of note.

14.3 Description of specific environmental features and infrastructure on the site.

Refer Figures 1-4, Paragraph 14.1 1 to 14.1.10 as well as para 14.2.

14.4 Environmental and current land use map.

(Show all environmental and current land use features)

Refer figure 3 which shows the existing site layout and surrounding land use.

15 Impacts identified

(Provide a list of the potential impacts identified of the activities described in the initial site layout that will be undertaken, as informed by both the typical known impacts of such activities, and as informed by the consultations with affected parties together with the significance, probability and duration of the impacts)**.**

Note that in this draft Scoping Report, only the potential impacts identified are the typical impacts known for such activities. This will be subject to further public participation to identify additional / different impacts.

Step one is to identify applicable impacts, as per table below. Second step is to ascribe significance and details as per table thereafter.

Note that the table below does not consider impacts which have already occurred through the

development of these facilities more than 30 years ago. So the table will only consider operational and decommissioning activities (as well as required Post approval activities which are aimed at limiting existing and potential impacts).

15.1 Impact Identification

Activity. **This table identifies potential impacts and differentiates between negative or beneficial impacts.** **Yellow indicates existing impacts which will not change and will not be assessed further (unless relevant)**	Geology	Topography	Soil/ Topsoil	Visual	Land Capability	Vegetation	Surface Water	Ground Water	Animal Life	Noise	Air Quality (Dust)	Social/ Economic	Archaeology/ Cultural	Hydrocarbon Impact	Traffic /Access
Application for Mining Right															
1. POST-APPROVAL ACTIVITIES															
1.1. Demarcate mining areas as defined in Mine Plan and EMP															
1.2. Construct concrete / cement and brick bund around existing fuel tank to 110% of tank capacity															
1.3. Excavation of material from outside pan to construct pond walls - DONE															
2. OPERATIONAL PHASE ACTIVITIES															
2.1. Borehole located in middle of pan pumps water constantly into the concentration ponds															
2.2. Brine is collected through seepage into two concentration ponds north and south of the evaporation ponds															
2.3. This brine is pumped into evaporation ponds from these concentration ponds.															
2.4. Six to eight evaporation ponds have been developed on the pan surface.															
2.5. Evaporated salt scraped off surface by scraper															
2.6. Scraped salt loaded by front end loader to haul truck															
2.7. Salt hauled to drying area off pan by truck															
2.8. Development of logistical facility area - DONE															
2.9. Salt dried in logistical facility / stockpiling area before final delivery in bulk off site															
2.10. Vehicles using unsurfaced roadways															
2.11. Use of diesel tank															
2.12. Use of small workshop															
2.13. Potable water trucked in as required (minor volumes)															
2.14. Toilet -															

Activity. **This table identifies potential impacts and differentiates between negative or beneficial impacts.** **Yellow indicates existing impacts which will not change and will not be assessed further (unless relevant)**	Geology	Topography	Soil/ Topsoil	Visual	Land Capability	Vegetation	Surface Water	Ground Water	Animal Life	Noise	Air Quality (Dust)	Social/ Economic	Archaeology/ Cultural	Hydrocarbon Impact	Traffic /Access
3. DECOMMISSIONING PHASE ACTIVITIES															
3.1. Remove final evaporated salt															
3.2. Remove / flatten all evaporation pond side walls.															
3.3. Backfill concentration pond with existing stockpiled material															
3.4. Remove all structures foundations and footings (unless required by landowner)															
3.5. Rip surface of logistical facility and stockpiling area to 30 -45cm deep															
3.6. Allow to revegetate naturally															
4. AFTERCARE PERIOD															
4.1. Remove alien vegetation, if present															
4.2. Monitor revegetation success and continue															
4.3. Conduct final performance assessment															
4.4. Lodge closure Application															
4.5. DMR Grant Closure Application															

Note that in the table below, the yellow entries from the table above are not included. These impacts have already occurred and their significance is dealt with under existing environment in para 14.1.1 to 14.1.10. It serves no purpose to include these in the table below.

In addition, the table below does not include description of the beneficial impact of decommissioning rehabilitation measures (as these should be fairly clear to the reader).

15.2 Impact rating

Remember that pre-existing impacts as a result of 30 years of mining are contained in Part 14. SO this table only deals with on – going impacts. For example, the impact on topography as a result of the development of the evaporation ponds has already taken place and has been assessed in Part 14. However, the visual impact of these ponds is on-going and is included in Part 15.

Activity	Nature of impact	Extent	Duration	Probability	Significance	Extent to which impact can cause or be:		
						reversed	irreplaceable loss of resource	avoided, managed or mitigated
Application for Mining Right								
1. POST-APPROVAL ACTIVITIES								
1.1. Demarcate mining areas as defined in Mine Plan and EMP								
1.2. Construct concrete / cement and brick bund around existing fuel tank to 110% of tank capacity								
1.3. Excavation of material from outside pan to construct pond walls - DONE								
2. OPERATIONAL PHASE ACTIVITIES								
2.1. Borehole located in middle of pan pumps water constantly into the concentration ponds								
2.1.1. Groundwater	Borehole water pumped into concentration ponds	±260 000m³ per annum	Life of mine	Definite	Insignificant (Recharges as shown over last 30 years)	Yes	No	Managed
2.2. Brine is collected from borehole and through seepage into two concentration ponds north and south of the evaporation ponds								
2.2.1. Groundwater	Brine water collects in the ponds through natural sub surface seepage through the pan's soil (Borehole addressed in line item 2.2.1 above)	2 ponds measuring a total of 2000m² to 2-3m deep	Life of mine	Definite	Insignificant	Yes	No	Mitigated

Activity	Nature of impact	Extent	Duration	Probability	Significance	Extent to which impact can cause or be:		
						reversed	irreplaceable loss of resource	avoided, managed or mitigated
2.3. This brine is pumped into evaporation ponds from these concentration ponds.								
2.3.1. Hydrocarbon	Potential leakage from pumps	Local (Pan)	Until clean up	Possible	Insignificant (given small volume in pump)	Yes	No	Mitigated / Managed
2.4. Six to eight evaporation ponds have been developed on the pan surface.								
2.4.1. Visual Impact	White evaporation ponds visible against otherwise beige / brown landscape.	Visible from seldom used Granaatboskolk road	Life of mine	Definite	Insignificant	Yes	No	Mitigated post mining
2.5. Evaporated salt scraped off surface by scraper								
2.5.1. Noise	Noise of earthmoving equipment	Local	On occurrence for life of mine	Definite	Insignificant (None of surrounds)	No	No	Can be Mitigated
2.5.2. Hydrocarbon	Potential fuel / hydraulic fluid leaks from earthmoving equipment	Local	Until clean up	Possible	Insignificant (given small volumes in equipment)	Yes	No	Mitigated / Managed
2.6. Scraped salt loaded by front end loader to haul truck								
2.6.1. Noise	Noise of earthmoving equipment	Local	On occurrence for life of mine	Definite	Insignificant (None of surrounds)	No	No	Can be Mitigated
2.6.2. Hydrocarbon	Potential fuel / hydraulic fluid leaks from earthmoving equipment	Local	Until clean up	Possible	Insignificant (given small volumes in equipment)	Yes	No	Mitigated / Managed
2.7. Salt hauled to drying area off pan by truck								

Activity	Nature of impact	Extent	Duration	Probability	Significance	Extent to which impact can cause or be:		
						reversed	irreplaceable loss of resource	avoided, managed or mitigated
2.7.1. Noise	Noise of vehicles	Local	On occurrence for life of mine	Definite	Insignificant (None of surrounds)	No	No	Can be Mitigated
2.7.2. Dust	Dust generated by vehicles / trucks	Local	On occurrence for life of mine	Definite	Insignificant (None of surrounds)	No	No	Can be Mitigated
2.7.3. Hydrocarbon	Potential fuel / hydraulic fluid leaks from vehicle	Local	Until clean up	Possible	Insignificant (given small volumes in vehicle)	Yes	No	Mitigated / Managed
2.8. Development of logistical facility area - DONE								
2.9. Salt dried in logistical facility / stockpiling area before final delivery in bulk off site								
2.9.1. Visual	White stockpiles visible against otherwise beige / brown landscape.	Visible from seldom used Granaatboskolk road	Life of mine	Definite	Insignificant	Yes	No	Mitigated post mining
2.9.2. Noise	Noise of vehicles	Local	On occurrence for life of mine	Definite	Insignificant (None of surrounds)	No	No	Can be Mitigated
2.9.3. Dust	Dust generated by vehicles / trucks	Local	On occurrence for life of mine	Definite	Insignificant (None of surrounds)	No	No	Can be Mitigated
2.9.4. Hydrocarbon	Potential fuel / hydraulic fluid leaks from vehicle	Local	Until clean up	Possible	Insignificant (given small volumes in vehicle)	Yes	No	Mitigated / Managed
2.10. Vehicles using unsurfaced roadways								
2.10.1.Noise	Noise of vehicles	Local	On occurrence for life of mine	Definite	Insignificant (None of surrounds)	No	No	Can be Mitigated
2.10.2.Dust	Dust generated by vehicles / trucks	Local	On occurrence for life of mine	Definite	Insignificant (None of surrounds)	No	No	Can be Mitigated

Activity	Nature of impact	Extent	Duration	Probability	Significance	Extent to which impact can cause or be:		
						reversed	irreplaceable loss of resource	avoided, managed or mitigated
2.10.3.Hydrocarbon	Potential fuel / hydraulic fluid leaks from vehicle	Local	Until clean up	Possible	Insignificant (given small volumes in vehicle)	Yes	No	Mitigated / Managed
2.11. Use of diesel tank								
2.11.1.Hydrocarbon	Potential fuel fluid leaks from tank (which is currently unbunded)	Local	Until clean up	Possible	Moderate (if no mitigation applied)	Yes	No	Mitigated / Managed
2.12. Use of small workshop								
2.12.1.Hydrocarbon	Potential fuel / hydraulic fluid leaks at workshop	Local	Until clean up	Possible	Insignificant (given small volumes involved)	Yes	No	Mitigated / Managed
2.13. Potable water trucked in as required (minor volumes)								
2.14. Toilet -								
2.14.1.Surface Water	Possible pollution of surface water	Very Local	Temporary	Very unlikely	Insignificant	Yes	No	Mitigated / Managed
2.14.2.Groundwater	Possible pollution of groundwater	Very local	Temporary	Very unlikely	Insignificant	Yes	No	Mitigated / Managed
3. DECOMMISSIONING PHASE ACTIVITIES								
3.1. Remove final evaporated salt								
3.1.1. Noise	Noise of earthmoving equipment	Local	On occurrence for life of mine	Definite	Insignificant (None of surrounds)	No	No	Can be Mitigated
3.1.2. Hydrocarbon	Potential fuel / hydraulic fluid leaks from earthmoving equipment	Local	Until clean up	Possible	Insignificant (given small volumes in equipment)	Yes	No	Mitigated / Managed
3.2. Remove / flatten all evaporation pond side walls.								
3.2.1. Noise	Noise of earthmoving equipment	Local	On occurrence for life of mine	Definite	Insignificant (None of surrounds)	No	No	Can be Mitigated

Activity	Nature of impact	Extent	Duration	Probability	Significance	Extent to which impact can cause or be:		
						reversed	irreplaceable loss of resource	avoided, managed or mitigated
3.2.2. Hydrocarbon	Potential fuel / hydraulic fluid leaks from earthmoving equipment	Local	Until clean up	Possible	Insignificant (given small volumes in equipment)	Yes	No	Mitigated / Managed
3.3. Backfill concentration pond with existing stockpiled material								
3.3.1. Noise	Noise of earthmoving equipment	Local	On occurrence for life of mine	Definite	Insignificant (None of surrounds)	No	No	Can be Mitigated
3.3.2. Hydrocarbon	Potential fuel / hydraulic fluid leaks from earthmoving equipment	Local	Until clean up	Possible	Insignificant (given small volumes in equipment)	Yes	No	Mitigated / Managed
3.4. Remove all structures foundations and footings (unless required by landowner)								
3.4.1. Noise	Noise of earthmoving equipment	Local	On occurrence for life of mine	Definite	Insignificant (None of surrounds)	No	No	Can be Mitigated
3.4.2. Hydrocarbon	Potential fuel / hydraulic fluid leaks from earthmoving equipment	Local	Until clean up	Possible	Insignificant (given small volumes in equipment)	Yes	No	Mitigated / Managed
3.5. Rip surface of logistical facility and stockpiling area to 30 -45cm deep								
3.5.1. Noise	Noise of vehicles	Local	On occurrence for life of mine	Definite	Insignificant (None of surrounds)	No	No	Can be Mitigated
3.5.2. Dust	Dust generated by vehicles / trucks	Local	On occurrence for life of mine	Definite	Insignificant (None of surrounds)	No	No	Can be Mitigated
3.5.3. Hydrocarbon	Potential fuel / hydraulic fluid leaks from vehicle	Local	Until clean up	Possible	Insignificant (given small volumes in vehicle)	Yes	No	Mitigated / Managed

Activity	Nature of impact	Extent	Duration	Probability	Significance	Extent to which impact can cause or be:		
						reversed	irreplaceable loss of resource	avoided, managed or mitigated
3.6. Allow to revegetate naturally								
4. AFTERCARE PERIOD								
4.1. Remove alien vegetation, if present								
4.2. Monitor revegetation success and continue								
4.3. Conduct final performance assessment								
4.4. Lodge closure Application								
4.5. DMR Grant Closure Application								

16 Methodology used in determining the significance of environmental impacts

(Describe how the significance, probability, and duration of the aforesaid identified impacts that were identified through the consultation process were determined in order to decide the extent to which the initial site layout needs revision).

An initial table was compiled which described each activity (whether listed or not in terms of NEMA), potential impact, significance and duration. Such table is included in the draft Scoping report which is being made available to all identified Interested and Affected Parties.

Any relevant responses received would then inform a revision of the site layout plan. Although there have been no revisions required as yet, it is possible that the site layout require revision through continued input by I&AP's as well as specialist studies yet to be conducted.

The impacts are rated according to nature, extent, duration, probability of occurring and significance.

a) The significance level is based on the following criteria:

Significance		***Criteria***
Negative	Significant (S)	• Recommended level always exceeded with associated widespread community action • Disturbance to areas that are pristine, have conservation value, are important resource to humans and will be lost forever • Complete loss of land capability • Destruction of rare or endangered specimens • May affect the viability of the project
	Moderate (M)	• Moderate measurable deterioration and discomfort • Recommended level occasionally violated – still widespread complaints • Partial loss of land capability • Complete change in species variety or prevalence • May be managed • Is insignificant if managed according to EMP provisions
	Minor/ (I) Insignificant	• Minor deterioration. Change not measurable • Recommended level will rarely if ever be violated • Sporadic community complaints • Minor deterioration in land capability • Minor changes in species variety or prevalence
	Negligible	• An impact will occur but it is barely discernible and not worthy of further investigation
Positive	Minor	• Improvements in local socio-economics
	Significant	• Major improvements in local socio-economics with some regional benefits

b) The **duration** is classified as:
- Permanent (post-closure)
- Life of Mine (LOM)
- Temporary

c) The **probability** is ranked as:
- Definite/Certain
- Possible
- Unlikely

17 The positive and negative impacts that the proposed activity (in terms of the initial site layout) and alternatives will have on the environment and the community that may be affected.

(Provide a discussion in terms of advantages and disadvantages of the initial site layout compared to alternative layout options to accommodate concerns raised by affected parties)

Not Applicable Yet.

18 The possible mitigation measures that could be applied and the level of risk.

(With regard to the issues and concerns raised by affected parties provide a list of the issues raised and an assessment/ discussion of the mitigations or site layout alternatives available to accommodate or address their concerns, together with an assessment of the impacts or risks associated with the mitigation or alternatives considered).

Not Applicable. No concerns raised at this stage.

19 The outcome of the site selection Matrix. Final Site Layout Plan

(Provide a final site layout plan as informed by the process of consultation with interested and affected parties)

Existing Site Layout Plan is as contained in Figure 3. Still subject to public participation.

20 Motivation where no alternative sites were considered.

Not Applicable, especially in light of this being an existing mine and any Mining Right application generally being dependant on geology and therefore place-bound.

21 Statement motivating the preferred site.

(Provide a statement motivation the final site layout that is proposed)

The site layout in this document has been informed by the following factors:

1) 30 years of salt mining on the farm has determined the optimum layout for this mine
2) The overwhelming informant in any mining venture must be the location of suitable material to mine. The salt in the brine has remained suitable at this pan for the last 30 years.
3) In this case, other environmental factors (such as vegetation, visual impact etc) combined with the lack of surrounding land users and uses mean that the optimum layout of the mine can be achieved from an operational pint of view (unencumbered by impactees which are often the case in other mines).

22 Plan of study for the Environmental Impact Assessment process

22.1 Description of alternatives to be considered including the option of not going ahead with the activity.

The following alternatives must be considered during the EIA process:

Alternatives in respect of:	Contained in draft Scoping report	Update in Final Scoping report
Property on which or location where it is proposed to undertake the activity	Yes. Refer Para 12.1	Not yet applicable
Type of activity to be undertaken	Yes. Refer Para 12.2	Not yet applicable
Design or layout of the activity	Yes. Refer Para 12.3	Not yet applicable
Technology to be used in the activity	Yes. Refer Para 12.4	Not yet applicable
Operational aspects of the activity	Yes. Refer Para 12.5	Not yet applicable
Option of not implementing the activity	Yes. Refer Para 12.6	Not yet applicable

22.2 Description of the aspects to be assessed as part of the environmental impact assessment process

(The EAP must undertake to assess the aspects affected by each individual mining activity whether listed or not, including activities such as blasting, Loading, hauling and transport, and mining activities such as Excavations, stockpiles, discard dumps or dams, water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc…etc…etc.)

The following activities and environmental aspects thereof will continue to be assessed during the EIA:

Activity and Environmental Element	Was it provisionally assessed in the Draft Scoping Report	Status in the Final Scoping report
Application for Mining Right		
1. POST-APPROVAL ACTIVITIES		
1.1. Demarcate mining areas as defined in Mine Plan and EMP		
1.2. Construct concrete / cement and brick bund around existing fuel tank to 110% of tank capacity		
1.3. Excavation of material from outside pan to construct pond walls - DONE		
2. OPERATIONAL PHASE ACTIVITIES		
2.1. Borehole located in middle of pan pumps water constantly into the concentration ponds		
2.1.1. Groundwater	Yes	Not yet applicable
2.2. Brine is collected from borehole and through seepage into two concentration ponds north and south of the evaporation ponds		
2.2.1. Groundwater	Yes	Not yet applicable
2.3. This brine is pumped into evaporation ponds from these concentration ponds.		
2.3.1. Hydrocarbon	Yes	Not yet applicable
2.4. Six to eight evaporation ponds have been developed on the pan surface.		
2.4.1. Visual Impact	Yes	Not yet applicable
2.5. Evaporated salt scraped off surface by scraper		
2.5.1. Noise	Yes	Not yet applicable
2.5.2. Hydrocarbon	Yes	Not yet applicable
2.6. Scraped salt loaded by front end loader to haul truck		
2.6.1. Noise	Yes	Not yet applicable
2.6.2. Hydrocarbon	Yes	Not yet applicable

Activity and Environmental Element	Was it provisionally assessed in the Draft Scoping Report	Status in the Final Scoping report
2.7. Salt hauled to drying area off pan by truck		
2.7.1. Noise	Yes	Not yet applicable
2.7.2. Dust	Yes	Not yet applicable
2.7.3. Hydrocarbon	Yes	Not yet applicable
2.8. Development of logistical facility area - DONE		
2.9. Salt dried in logistical facility / stockpiling area before final delivery in bulk off site		
2.9.1. Visual	Yes	Not yet applicable
2.9.2. Noise	Yes	Not yet applicable
2.9.3. Dust	Yes	Not yet applicable
2.9.4. Hydrocarbon	Yes	Not yet applicable
2.10. Vehicles using unsurfaced roadways		
2.10.1.Noise	Yes	Not yet applicable
2.10.2.Dust	Yes	Not yet applicable
2.10.3.Hydrocarbon	Yes	Not yet applicable
2.11. Use of diesel tank		
2.11.1.Hydrocarbon	Yes	Not yet applicable
2.12. Use of small workshop		
2.12.1.Hydrocarbon	Yes	Not yet applicable
2.13. Potable water trucked in as required (minor volumes)		
2.14. Toilet -		
2.14.1.Surface Water	Yes	Not yet applicable
2.14.2.Groundwater	Yes	Not yet applicable
3. DECOMMISSIONING PHASE ACTIVITIES		
3.1. Remove final evaporated salt		
3.1.1. Noise	Yes	Not yet applicable
3.1.2. Hydrocarbon	Yes	Not yet applicable
3.2. Remove / flatten all evaporation pond side walls.		
3.2.1. Noise	Yes	Not yet applicable
3.2.2. Hydrocarbon	Yes	Not yet applicable
3.3. Backfill concentration pond with existing stockpiled material		
3.3.1. Noise	Yes	Not yet applicable
3.3.2. Hydrocarbon		
3.4. Remove all structures foundations and footings (unless required by landowner)	Yes	Not yet applicable
3.4.1. Noise	Yes	Not yet applicable
3.4.2. Hydrocarbon	Yes	Not yet applicable
3.5. Rip surface of logistical facility and stockpiling area to 30 -45cm deep		
3.5.1. Noise	Yes	Not yet applicable
3.5.2. Dust	Yes	Not yet applicable
3.5.3. Hydrocarbon	Yes	Not yet applicable
3.6. Allow to revegetate naturally		
4. AFTERCARE PERIOD		
4.1. Remove alien vegetation, if present		
4.2. Monitor revegetation success and continue		
4.3. Conduct final performance assessment		
4.4. Lodge closure Application		
4.5. DMR Grant Closure Application		

22.3 Description of aspects to be assessed by specialists

Given:

- the lack of future impacts in the future and,
- the fact that mining has taken place here for the last 30 years
- That WULA will be required (including detailed informational requirements in respect of surface and groundwater),

no specialist studies are deemed necessary at this stage. This is of course subject to input from the public participation exercise.

22.4 Proposed method of assessing the environmental aspects including the proposed method of assessing alternatives

In this Scoping report the environmental aspects have been assessed based on the experience of the report compiler (Refer CV in Appendix 1 & 2). This will be further assessed and refined in the following ways:

- Consultation with / Call for comments from all Interested and Affected Parties (I&AP's)
- Call for specialist studies to include assessment on specific environmental elements.

The results of such further assessments will be included in the future EIA/EMP.

22.5 The proposed method of assessing duration and significance

As for Para 22.4.

22.6 The stages at which the competent authority will be consulted

This draft Scoping report will be submitted to relevant State Departments. The final Scoping report will be submitted to the competent authority and such report will contain the details and results of the initial public participation. Consultation continues and all comments will be forwarded to the DMR and included in future EIA/EMP

The competent authority will decide on the implementation of the Plan of Study. If the applicant is given the go ahead to continue, then the EIA and EMP will be subject to public participation and finally lodged to the competent authority.

22.7 Particulars of the public participation process with regard to the Impact Assessment process that will be conducted

22.7.1 Steps to be taken to notify interested and affected parties

(These steps must include the steps that will be taken to ensure consultation with the affected parties identified in (h) (ii) herein).

Notification of I&AP's will take place in a system relative to their expected input as follows:

1) Landowner: Through personal consultation (if required)[9].
2) Surrounding adjacent landowners: Through telephone call, email or registered post

[9] The mine has been on the farm for the last 30 years and the landowner is well aware of the mine and its implications for himself and the farm. In addition he has been in contact will the salt mining company over the years.

3) General public and residents of Brandvlei: Through advert in local press
4) Notice placed at entrance of mine & local library notice board
5) In addition, the relevant Govt Departments will be contacted by Registered mail and / or Email in respect of the proposed project (as well as per telephone where appropriate).

Note that all parties will have full access to the Scoping report and EIA/EMP (in final or draft form depending on timing of consultation).

22.7.2 Details of the engagement process to be followed.

(Describe the process to be undertaken to consult interested and affected parties including public meetings and one on one consultation. NB the affected parties must be specifically consulted regardless of whether or not they attended public meetings and records of such consultation will be required in the EIA at a later stage).

All parties (except landowner and State Departments) will have to register their interest in the matter. Land owner and State Depts. will be deemed to be registered I&AP's.

All registered I&AP's will be kept abreast of the application and will be supplied with all relevant documentation as well as consultations (one on one), if they so wish.

All commenting periods will be minimum 30 days as per NEMA regulations.

22.7.3 Description of the information to be provided to Interested and Affected Parties.

(Information to be provided must include the initial site plan and sufficient detail of the intended operation and the typical impacts of each activity, to enable them to assess what impact the activities will have on them or on the use of their land).

The information presented will depend on timing. Initially, the draft Scoping report will serve as the basis for comment. The next round of public participation will use the draft EIA/EMP as the information provided for further consultation.

22.8 Description of the tasks that will be undertaken during the environmental impact assessment process.

The following tasks will need to be undertaken during the EIA process:

- Public participation will proceed as a transparent as an all-inclusive as possible.
- All registered I&AP's will be kept informed and provided several opportunities to comment.
- Draft EIA / EMP will be compiled as basis for further consultation
- No Specialist studies will be completed at this stage (this may be modified as a result of public participation which may indeed reveal specialist studies that will be required.

22.9 Measures to avoid, reverse, mitigate, or manage identified impacts and to determine the extent of the residual risks that need to be managed and monitored.

In this table we have included the existing impacts given that these do have the potential for residual risk if not mitigated. However, only the impacts which are potentially residual impact are included, so for example, the impact of noise generated by earthmoving equipment during construction of the pond walls is not included here.

Activity (whether listed or not listed) and potential impact E.g. dust, noise, drainage surface disturbance, fly rock, surface water contamination, groundwater contamination, and air pollution etc….etc….)	**Mitigation Type** (modify, remedy, control, or stop)Through (e.g. noise control measures, storm-water control, dust control, rehabilitation, design measures, blasting controls, avoidance, relocation, alternative activity etc.). E.g. Modify through alternative method. Control through noise control Control through management and monitoring through rehabilitation.	**Potential for Residual Risk**
Application for Mining Right		
1. POST-APPROVAL ACTIVITIES		
1.1. Demarcate mining areas as defined in Mine Plan and EMP	This is a mitigation measure to be implemented to eliminate residual impacts	
1.2. Construct concrete / cement and brick bund around existing fuel tank to 110% of tank capacity.	This is a mitigation measure to be implemented to eliminate residual impacts	
1.2.1. Surface Water	Bund will eliminate any future or residual impact	None, after bunding and removal during decommissioning rehabilitation
1.2.2. Groundwater	Bund will eliminate any future or residual impact	None, after bunding and removal during decommissioning rehabilitation
1.2.3. Hydrocarbon	Bund will eliminate any future or residual impact	None, after bunding and removal during decommissioning rehabilitation
1.3. Excavation of material from outside pan to construct pond walls - *Done*.		
1.3.1. Topography	Remedy through mitigation measures (sloping, levelling etc)	None
1.3.2. Soil	Spread existing soil heaps to act as topsoil	Soil must not be phytotoxic and preclude any revegetation.
1.3.3. Visual	Remedy through rehabilitation	None
1.3.4. Land Capability	Remedy through rehabilitation	Linked to soil
1.3.5. Vegetation	Remedy through rehabilitation	Linked to soil
1.3.6. Animal Life	Remedy through rehabilitation	Linked to soil
2. OPERATIONAL PHASE ACTIVITIES		
2.1. Borehole located in middle of pan pumps water constantly into the concentration ponds		
2.1.1. Groundwater	Monitor	None
2.2. Brine is collected from borehole and through seepage into two concentration ponds north and south of the evaporation ponds		
2.2.1. Groundwater	Monitor	None

Activity (whether listed or not listed) and potential impact E.g. dust, noise, drainage surface disturbance, fly rock, surface water contamination, groundwater contamination, and air pollution etc….etc….)	**Mitigation Type** (modify, remedy, control, or stop)Through (e.g. noise control measures, storm-water control, dust control, rehabilitation, design measures, blasting controls, avoidance, relocation, alternative activity etc.). E.g. Modify through alternative method. Control through noise control Control through management and monitoring through rehabilitation.	**Potential for Residual Risk**
2.2.2. Topography	Remedy through backfill	None
2.2.3. Visual Impact	Remedy through backfill	None
2.2.4. Land Capability	Remedy through backfill	None
2.3. This brine is pumped into evaporation ponds from these concentration ponds.		
2.3.1. Hydrocarbon	Hydrocarbon pollution prevention protocol to be implemented	None
2.4. Six to eight evaporation ponds have been developed on the pan surface.		
2.4.1. Visual Impact	None required	None
2.4.2. Topography	Remedy through post mining rehabilitation	None
2.4.3. Land Capability	Remedy through post mining rehabilitation	None
2.5. Evaporated salt scraped off surface by scraper		
2.5.1. Noise	None required	None
2.5.2. Hydrocarbon	Hydrocarbon pollution prevention protocol to be implemented	None
2.6. Scraped salt loaded by front end loader to haul truck		
2.6.1. Noise	None required	None
2.6.2. Hydrocarbon	Hydrocarbon pollution prevention protocol to be implemented	None
2.7. Salt hauled to drying area off pan by truck		
2.7.1. Noise	None required	None
2.7.2. Dust		
2.7.3. Hydrocarbon	Hydrocarbon pollution prevention protocol to be implemented	None
2.8. Development of logistical facility area		
2.8.1. Soil	Remedy through post mining rehabilitation	Risk would be associated with no proper soil handling methodology
2.8.2. Visual	None required	None
2.8.3. Land Capability	Remedy through post mining rehabilitation	Risk would be associated with no proper soil handling methodology
2.8.4. Vegetation	Remedy through post mining rehabilitation	Risk would be associated with no proper soil handling methodology
2.8.5. Animal Life	Linked to revegetation. Remedy through post mining rehabilitation	Risk would be associated with vegetation regrowth
2.9. Salt dried in logistical facility / stockpiling area before final delivery in bulk off site		
2.9.1. Visual	Remove	None
2.9.2. Noise	None required	None
2.9.3. Dust	Control through dust reduction methodology if required	None
2.9.4. Hydrocarbon	Hydrocarbon pollution prevention protocol to be implemented	None
2.10. Vehicles using unsurfaced roadways		
2.10.1. Noise	None required	None

Activity (whether listed or not listed) and potential impact E.g. dust, noise, drainage surface disturbance, fly rock, surface water contamination, groundwater contamination, and air pollution etc….etc….)	**Mitigation Type** (modify, remedy, control, or stop)Through (e.g. noise control measures, storm-water control, dust control, rehabilitation, design measures, blasting controls, avoidance, relocation, alternative activity etc.). E.g. Modify through alternative method. Control through noise control Control through management and monitoring through rehabilitation.	**Potential for Residual Risk**
2.10.2. Dust	Control through dust reduction methodology if required	None
2.10.3. Hydrocarbon	Hydrocarbon pollution prevention protocol to be implemented	None
2.11. Use of diesel tank		
2.11.1. Hydrocarbon	Hydrocarbon pollution prevention protocol to be implemented	None
2.12. Use of small workshop		
2.12.1. Hydrocarbon	Hydrocarbon pollution prevention protocol to be implemented	None
2.13. Potable water trucked in as required (minor volumes)		
2.14. Toilet -		
2.14.1. Surface Water	Remove	None
2.14.2. Groundwater	Remove	None
3. DECOMMISSIONING PHASE ACTIVITIES		
3.1. Remove final evaporated salt	This is a mitigation measure to be implemented to eliminate residual impacts	
3.1.1. Noise	None required	None
3.1.2. Hydrocarbon	Hydrocarbon pollution prevention protocol to be implemented	None
3.2. Remove / flatten all evaporation pond side walls.	This is a mitigation measure to be implemented to eliminate residual impacts	
3.2.1. Noise	None required	None
3.2.2. Hydrocarbon	Hydrocarbon pollution prevention protocol to be implemented	None
3.3. Backfill concentration pond with existing stockpiled material	This is a mitigation measure to be implemented to eliminate residual impacts	
3.3.1. Noise	None required	None
3.3.2. Hydrocarbon	Hydrocarbon pollution prevention protocol to be implemented	None
3.4. Remove all structures foundations and footings (unless required by landowner)	This is a mitigation measure to be implemented to eliminate residual impacts	
3.4.1. Noise	None required	None
3.4.2. Hydrocarbon	Hydrocarbon pollution prevention protocol to be implemented	None
3.5. Rip surface of logistical facility and stockpiling area to 30 -45cm deep	This is a mitigation measure to be implemented to eliminate residual impacts	
3.5.1. Noise	None required	None
3.5.2. Dust	Control through dust reduction methodology if required	None
3.5.3. Hydrocarbon	Hydrocarbon pollution prevention protocol to be implemented	None
3.6. Allow to revegetate naturally		
4. AFTERCARE PERIOD		
4.1. Remove alien vegetation, if present		

Activity (whether listed or not listed) and potential impact E.g. dust, noise, drainage surface disturbance, fly rock, surface water contamination, groundwater contamination, and air pollution etc….etc….)	**Mitigation Type** (modify, remedy, control, or stop)Through (e.g. noise control measures, storm-water control, dust control, rehabilitation, design measures, blasting controls, avoidance, relocation, alternative activity etc.). E.g. Modify through alternative method. Control through noise control Control through management and monitoring through rehabilitation.	**Potential for Residual Risk**
4.2. Monitor revegetation success and continue		
4.3. Conduct final performance assessment		
4.4. Lodge closure Application		
4.5. DMR Grant Closure Application		

23 Other Information required by the competent Authority

23.1 Compliance with the provisions of sections 24(4)(a) & (b) read with section 24(3) (a) and (7) of the National Environmental Management Act (Act 107 of 1998). The EIA report must include the:-

23.1.1 Impact on the socio-economic conditions of any directly affected person.

(Provide the results of Investigation, assessment, and evaluation of the impact of the mining, bulk sampling or alluvial diamond prospecting on any directly affected person including the landowner, lawful occupier, or, where applicable, potential beneficiaries of any land restitution claim, attach the investigation report as **Appendix 3** and confirm that the applicable mitigation is reflected in 2.5.3; 2.11.6.and 2.12.herein).

Socio-economic impact occurs as a result of the following parties' socio-economic status being altered:

- Landowner: Positive impact in respect of surface rental and / or other income as a result of the salt mining.
- Mining Company and employees: Guaranteed income for duration of the project.
- Consumer: Guaranteed continued supply of salt
- The applicant company is bound by prescriptions of the Social and Labour Plan to contribute to the community's skills development and must also implement a Local Economic Development project which meets the satisfaction of the DMR and local authority.
- The social and labour plan also prescribes skills development for staff and community members.

23.1.2 Impact on any national estate referred to in section 3(2) of the National Heritage Resources Act.

(Provide the results of Investigation, assessment, and evaluation of the impact of the mining, bulk sampling or alluvial diamond prospecting on any national estate referred to in section 3(2) of the National Heritage Resources Act, 1999 (Act No. 25 of 1999) with the exception of the national estate contemplated in section 3(2)(*i*)(vi) and (vii) of that Act, attach the investigation report as **Appendix 3** and confirm that the applicable mitigation is reflected in 2.5.3; 2.11.6.and 2.12.herein).

None.

24 Other matters required in terms of sections 24(4)(a) and (b) of the Act.

(the EAP managing the application must provide the competent authority with detailed, written proof of an investigation as required by section 24(4)(b)(i) of the Act and motivation if no reasonable or feasible alternatives, as contemplated in sub-regulation 22(2)(h), exist. The EAP must attach such motivation as **Appendix 4)**.

Not applicable – refer Site Layout Plan as indicated in Appendix 4.

25 UNDERTAKING REGARDING CORRECTNESS OF INFORMATION

I C**raig Donald** herewith undertake that the information provided in the foregoing report is correct, and that the comments and inputs from stakeholders and Interested and Affected parties has been correctly recorded in the report.

Signature of the EAP
DATE: 4 December 2015

26 UNDERTAKING REGARDING LEVEL OF AGREEMENT

I **Craig Donald** herewith undertake that the information provided in the foregoing report is correct, and that the level of agreement with interested and Affected Parties and stakeholders has been correctly recorded and reported herein.

Signature of the EAP
DATE: 4 December 2015

APPENDIX 1 & 2

Experience and CV of EAP

Name: **CRAIG DONALD**

Date of Birth: 26 February 1967

Parent Firm: Site Plan Consulting

Position in Firm: Member

Years with the Firm: Since 1989

Nationality: South African

Qualifications:

Year	Qualification	Institution
1984	Senior Certificate Matriculation	Plumstead High School
1992	National Higher Diploma: Town & Regional Planning (*cum Laude*)	Cape Technikon
1995	Minerals and Metals Extraction short course	Continuing Engineering Education, University of Witwatersrand
1997	National Diploma: Surface Mine Management	Technikon SA
1999	Principles for Environmental Management short course	Environmental Evaluation Unit of University of Cape Town
2003	Masters of Business Administration	University of Cape Town

Languages : English (first language)
Afrikaans (second language)

Key Qualifications:
I have many years practical experience in diverse spatial and mine planning projects after completing a National Higher Diploma in Town and Regional Planning.

After joining Setplan (in 1989), my main involvement was the preparation of environmental management programmes (mainly in surface mining related field) and geographic information systems. In order to obtain a deeper understanding of the relevant issues, I completed a Surface Mine Management course as well as short courses such as the Environmental Evaluation course run by the EEU of UCT. I completed a part-time MBA at UCT in 2003 and became a member of Site Plan Consulting CC in 2006.

In that time I have developed experience in use of Word, Excel, CorelDraw and ArcView GIS and expanded my tasks as follows.

Main tasks:
The main focus of work experience has been in the licencing, physical and environmental planning, monitoring and closure of surface mining operations. The mines have varied in:

- Size from small sand mines to the largest aggregate or diamond producers,
- Products from clay to diamonds,
- Location from the Alexander Bay to East London/KZN coastal areas as well as inland in Free State and Limpopo
- Scale and type of environmental impact.

In respect of the licencing and physical planning of surface mines, the work entails *inter alia* the compilation of:

- Mining and Prospecting Work Programmes: a detailed mine / prospect plan and project description including cash flow forecast / budget to determine mine's economic viability and cost of prospecting
- Social and Labour Plan: Legislated document required to describe how the mine will maximise its socio-economic impact through enforced education, training and corporate social responsibility programmes for the staff and surrounding community.

In respect of the environmental planning, the work has entailed the compilation of Environmental Management Plans and Programmes in accordance with the requirements of the Mineral and Petroleum Resources Development Act with due regard for National Environmental Management Act (before the amalgamation of these 2 pieces of legislation in December 2014). Such EMP's have been conducted with full public participation and liaison with and full input form specialists as required. Such documents also required the calculation of the financial quantum required for closure / decommissioning activities. This quantum is recalculated on an annual basis once the project is operational.

In respect of monitoring the work involves conducting of environmental audits to measure the level of compliance of actual site conditions against the prescriptions of the EMP. The auditing task also served to highlight any shortcomings in the EMP.

Closure of surface mining operations has entailed the conducting of all public participation and the lodging of all documentation required.

Relevant Project Experience:

Prospecting Rights (including public participation and compilation of EMPlans (inclusive of EIAs)):

- For Salt on Papendorp Pan as community initiative
- EMPs only for 7 Heavy Mineral Prospects of the West Coast
- Firlands (Gordons Bay) for aggregate
- Zoet and Zuur Diamond pipe (Boshof, Free State)

- Several Alluvial Diamond prospects on West Coast and inland West Coast (Western and Northern Cape)
- Phosphate prospect (Saldanha)
- Aggregate prospect near Oyster Bay in Eastern Cape
- Cobalt, Copper, Molybdenum, Nickel, Lead, Zinc, Silver, Gold & Platinum Group Minerals on 13 farms in the Kenhardt Magisterial District
- Nickel and related minerals on 8 farms near Kliprand
- Kaolin at Langklip (near Saldanha)
- Base minerals around Oena Mine in Northern Cape
- 6 sites for Uranium in the Karoo
- Nickel prospect at Oup near Pofadder
- Commissioners Pan Salt Prospect
- Gypsum prospects near Kimberley, Vanrhysdorp and in the Bushmanland
- Sand sources for Atlantis Foundries (Western Cape)

Mining Permits and Rights (including full Public Participation and compilation of EMPs inclusive of EIAs)

- Caledon Manganese Mining Permit
- Pentlands Granite Quarry Mining Right near Empangeni (KZN)
- Gamohaan Aggregate Quarry near Kuruman
- Cawood Salt Mine at Sout River mouth (Amendment of existing Right)
- Kuipersbult Aggregate Mining Right near Lephalale (Limpopo) as source for Medupi Power station construction
- Dikpens Gypsum Mine Extension (Bushmanland)
- Yserfontein Pan Gypsum mine - update of EMP
- Gypsum Mine for PPC near Vanrhynsdorp
- Transand Aggregate mine near Hartenbosch
- Aggregate and sand mine on municipal owned land in Gansbaai (Permit and Right)
- Sand mining permit near Salmonsdam Nature Reserve, Stanford
- Limestone Mining Right north of Klawer
- Sand Mining permits near Gouritz River / Vlees Bay
- Gecko Fert Phospate Mining Right near Langebaanweg
- Oyster Bay Mining Right application for Aggregate
- Moddergat Sand Mining Right (between Worcester and Villiersdorp)
- Mining Right for Manganese near Swellendam
- Involvement to a greater or lesser degree in at least 50 other Mining Permit and Mining Right applications
- EMP updates / amendments (some of which did not require public participation) for several operations (at least 20).

Environmental Performance Assessments (monitoring) of the following sites on one off or regular basis:

- Crammix Clay Mine (Brakenfel)
- Botriver Sand mine (Steyns)
- Cawood Salt Mine (Sout River)
- Swellendam Manganese Mine

- Gecko Fert Phosphate Prospects
- Cape Lime Limestone Mine near Vredendal
- Denron operations (Sand and Aggregate) Knysna / Plettenberg Bay area
- Dimension Stone Mines of Verde Bitterfontein (Namaqualand)
- Limestone quarries in Bredasdorp and Vredendal
- Cawood Salt Mine on West Coast
- Various Afrimat aggregate operations throughout the country

Closure Applications (for mining and prospecting operations):

- Gecko Fert Phosphate Prospecting Rights
- Knysna Whitebridge Quarry
- Denron Funda and Helderwater Quarry
- Crammix Clay Mine
- Vaale Valley Sand Mine (Mossel Bay)
- Various Dimension Stone bulk samples for Verde Bitterfontein (Namqualand)

"One Environmental System" applications (Post 8 December 2014):

- Cape Lime Sand Mine (Schaap Kraal operation) – Afrimat
- Atlantis Foundries Sand Mine – ZLLD Sand Mining (Pty) Ltd – Underway
- De Hoek Sand Mining Right – Buy-Line Trading (Pty) Ltd - Underway
- Denver Quarry – Afrimat (Underway)
- Desert Rose Dimension Stone Mine – Application only

APPENDIX 3:

SOCIAL AND HERITAGE.

Subject to specialist study and will be reported on in draft EIA/EMP to be distributed to registered I&AP's

APPENDIX 4:

SITE LAYOUT PLAN


To the Borehole
Concentration Pond
Pan Surface
Freshwater
Header Tank
Product
Stockpiles
Office,
Store &
Workshop
As yet unbunded
fuel tank
Old tailings
Evaporation Ponds 1-6
Concentration Pond
0
60
120
180
240
300
m
Google earth