May 2022

DRAFT

BASIC ASSESSMENT REPORT

For the

PROPOSED PHOSPHATE ORE PROSPECTING RIGHT ON VARIOUS FARMS ALONG THE WEST COAST OF SOUTH AFRICA.

DMR SAMRAD REFERENCE: WC30/5/1/1/2/10403PR

Compiled for

COLT RESOURCES

Compiled by

EXIGENT

mineral resources
Department:
Mineral Resources
REPUBLIC OF SOUTH AFRICA

DRAFT BASIC ASSESSMENT REPORT

AND

ENVIRONMENTAL MANAGEMENT PROGRAMME REPORT

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).

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FILE REFERENCE NUMBER SAMRAD:	WC30/5/1/1/2/10403PR

ACRONYMS AND ABBREVIATIONS

ADWF	Average Dry Weather Flow
AMSL	Above mean sea level
HWC	Heritage Western Cape
BA	Basic Assessment
BAR	Basic Assessment Report
BID	Background Information Document
BGIS	Biodiversity Geographic Information System
C-PLAN	Conservation Plan
CA	Competent Authority
CARA	Conservation of Agricultural Resources Act
DAFF	Department of Agriculture, Forestry and Fisheries
DBAR	Draft Basic Assessment Report
DEA	Department of Environmental Affairs
DEAT	Department of Environmental Affairs and Tourism
DEDTEA	Department of Economic Development, Tourism and Environmental Affairs
DEFF	Department of Environment, Forestry and Fisheries
DEM	Digital Elevation Model
DHSWS	Department of Human Settlement and Water and Sanitation
DoT	Department of Transport
DRDLR	Department of Rural Development and Land Reform
DWA	Department of Water Affairs
DWS	Department of Water and Sanitation
EA	Environmental Authorisation
EAP	Environmental Assessment Practitioner
EC	Electrical Conductivity
EHM	Economic Heavy Mineral
EIA	Environmental Impact Assessment
EMF	Environmental Management Framework
EMPr	Environmental Management Programme
EI	Ecological Importance
EIS	Ecological Importance and Sensitivity
ES	Ecological Sensitivity
FBAR	Final Basic Assessment Report
GIS	Geographic Information Systems
GN	Government Notice
GNR	Government Notice Regulation
GPS	Geographic Positioning System
HDPE	High density polyethylene
HIA	Heritage Impact Assessment
I&APs	Interested and Affected Parties
IAIASA	International Association of Impact Assessments South Africa
IDP	Integrated Development Plan
IHI	Index of Habitat Integrity

IPP	Independent Power Producer
IWWMP	Integrated Waste and Water Management Programme
K	Potassium
LED	Local Economic Development
LUMS	Land Use Management System
MAR	Mean Annual Runoff
MLA	Mineral Liberation Analyzer
MLM	Matzikama Local Municipality
NDA	National Department of Agriculture
NDP	National Development Plan
NEMA	National Environmental Management Act
NEMBA	National Environmental Management: Biodiversity Act
NEMAQA	National Environmental Management: Air Quality Act
NEMWA	National Environmental Management: Waste Act
NFA	National Forest Act
NFEPA	National Freshwater Ecosystem Priority Areas
NGA	National Groundwater Archive
NHRA	National Heritage Resources Act
NSSD	National Strategy for Sustainable Development
NWA	National Water Act
PES	Present Ecological State
PET	Potential Evapotranspiration
pH	Potential Hydrogen
PIA	Paleontological Impact Assessment
PPP	Public Participation Process
RDP	Reconstruction and Development Programme
QDGC	Quaternary Degree Grid Cells
QEMSCAN	Quantitative Evaluation of Materials by Scanning Electron Microscopy
SA	South Africa
SACNASP	South African Council for Natural Scientific Professionals
SABS	South African Bureau of Standards
SAHRA	South African Heritage Resources Agency
SANBI	South African National Biological Institute
SANS	South African National Standards
SAWS	South African Wetland Society
SEM/EDX	Scanning Electron Microscopy with Energy Dispersive X-Ray Analysis
SKEP	Succulent Karoo Ecosystem Plan
SWSA	Strategic Water Source Areas
TDS	Total Dissolved Solids
TWQR	Target Water Quality Range
WC	Western Cape
WCBSP	Western Cape Biodiversity Spatial Plan
WCDEADP	Western Cape Government Environmental Affairs and Development Planning
WCDM	West Coast District Municipality

WISA	Water Institute of South Africa
WMA	Water Management Area
WRC	Water Research Council
WSA	Water Source Areas
XRF	X-ray fluorescence

REPORT AVAILABILITY

The draft Basic Assessment Report will be available for review from **Tuesday, 24 May 2022** to **Friday, 24 June 2022** for download from public.exigent.co.za/

All comments need to be submitted by email to coltresources@exigent.co.za or faxed to 086 614 7327 by close of business on **24 June 2022**. Kindly contact us should you require a hard copy or USB/CD copy of the report and appendices.

Hard copies of the report including all appendices will be available at the following locations:

Venue	Address	Contact person
Lamberts Bay Public Library	42 Church Street, Lamberts Bay	Haneke van Zyl, tel 027 432 1849
Strandfontein Public Library	Cnr Welgelegen Road and Dennegeur Avenue, Strandfontein	Phumla Vena, tel 021 814 1422
Doringbaai Public Library	Harbour Road, Doringbaai	Gladys Gal, tel 027 201 3457
Graafwater public library	Van der Stel Street, Graafwater	Amanda Swartz, tel 027 422 1108

Based on the information contained within this document, we specifically invite any interested and affected parties (I&APs) to provide comments on the aspects listed in Table 1-1. The table below can be used for completing the response:

Table 1-1. Specific aspects to provide comments on by I&APs

Aspect	Comments
To provide information on how they consider that the proposed activities will impact on them or their socio-economic conditions	
To provide written responses stating their suggestions to mitigate the anticipated impacts of each activity	
To provide information on current land uses and their location within the area under consideration	
To provide information on the location of environmental features on site to make proposals as to how and to what standard the impacts on site can be remedied. requested to make written proposals	
To mitigate the potential impacts on their socio-economic conditions to make proposals as to how the potential impacts on their infrastructure can be managed, avoided or remedied.	

EXECUTIVE SUMMARY

The Applicant, Colt Resources (Pty) Ltd has appointed Exigent Environmental to conduct the Environmental Authorisation process for the proposed prospecting application. The competent authority responsible for the consideration of this proposal is the DepaColt Resourcesnt of Minerals Resources. This application has been undertaken in terms of the Environmental Impact Assessment (EIA) Regulations published in terms of Government Notice Regulation (GNR) No. 326 of 7 April 2017 under Section 24(5) and 44 of the National Environmental Management Act (NEMA) (Act 107 of 1998), as amended, with the intent to carry out the EIA Process (in terms of Listing Notice 1 – GNR 327 and Listing Notice 3 – GNR 324) for the listed activities 20, 22 of GNR 327 and for the listed activities 12 of GNR 324. The Basic Assessment Report has been compiled in accordance with the requirements of the NEMA in particular, GNR 326 as published on 7 April 2017 (as amended), which outlines the requirements of the Environmental Impact Assessment Process. The information contained in this Basic Assessment Report provides a comprehensive description of the need and desirability of the proposed prospecting application, specifically relating to sustainability in the economic, social and environmental spheres.

The following specialist studies and assessments were undertaken:

- Heritage Impact Assessment;
- Ecological and Wetland Delineation Assessment; and
- Water Resource Assessment.

The sensitivity of the proposed project has been assessed by the respective specialist studies as well as review of available data and consultation with stakeholders and Interested and Affected Parties (I&APs). For the purpose of this BAR, the sensitivities in terms of the vegetation, wetland, heritage and hydrology have been taken into consideration. The recommendations and conditions from the specialist studies has been included in the Environmental Management Programme (EMPr) and must be incorporated into all decision-making and design processes.

The following mitigation measures are proposed for the proposed prospecting application:

- The High significance areas are those classified as CBA, PA NPAES, NFEPA and the 1km coastline areas. Recommendations have been made that after the initial airborne geophysical survey has been completed and target areas for drilling defined
- The wetlands with 500 m buffers and rivers and their respective 100m buffer have been considered high sensitivity which should not be impacted during prospecting. All prospecting activities should remain outside these areas.
- A 100m buffer to be placed around sensitive areas as identified in the Heritage Impact Assessment (HIA).
- Should any potential areas of significance be identified by a suitably qualified archaeologist and palaeontologist after the initial airborne geophysical survey has been completed and target areas for drilling defined these areas will be excluded from future drilling grid layout.
- All drilling results must include the occurrence of marine shell (depth below surface and depth of deposit) to assist the location of subsurface shell middens.

The Environmental Assessment Practitioner is of the opinion that due process has been followed during the undertaking of this Environmental Assessment process and associated public participation process to date and to be held during the draft BAR review period. An EMPr has been compiled and must be implemented throughout all phases of the proposed project.

The alternatives assessment of the project and study area is based on feasible project alternatives, in terms of allocated farms, geology, environmental sensitive areas and land use constraints such as servitudes. The activity alternatives included the options of utilising the full extent of the allocated farms, however these options would impact on the areas identified as sensitive and of importance, such as wetland and river areas, as well as servitudes, heritage areas and all related buffers.

The Environmental Assessment Practitioner is of the opinion that the proposed preferred alternatives presented in this report are deemed as the environmentally preferred alternatives due to the exclusion of sensitive and potential sensitive habitat and areas and their related buffers.

UITVOERENDE OPSOMMING

Exigent Enviromental is aangestel deur Colt Resources (Pty) Ltd, die Applikant, om die Omgewingsmagtigingsproses uit te voer vir die voorgestelde prospekteerreg aansoek. Die Bevoegde Owerheid verantwoordelik vir die oorweging van hierdie verslag, is die Departement van Minerale Hulpbronne (DMRE). Hierdie aansoek is onderneem in terme van die Omgewingsimpakregulasies (EIA), gepubliseer in terme van die Regering Kennisgewing Regulasies (GNR) No. 326 van 7 April 2017 onder gedeelte 24(5) en 44 van die Nasionale Omgewingsbestuurswet (NEMA) (Wet 107 van 1998), soos gewysig, met die intensie om 'n omgewingsimpakbepalingsproses uit te voer (in terme van gelyste aktiwiteite 20 en 22 van kennisgewingslys 1 - GN R327 en gelyste aktiwiteit 12 van kennisgewingslys 3 - GN R324).

Die Basiese Assesseringsverslag (BAR) is saamgestel volgens die vereistes van die Nasionale Omgewingsbestuurswet (NEMA) – in besonder die Regerings Kennisgewing (GNR) 326 gepubliseer op 7 April 2017 (soos gewysig), wat die vereistes van die Omgewingsimpakregulasies Proses uiteensit.

Die inligting vervat in hierdie basiese assesseringsverslag, bied 'n omvattende beskrywing van die behoefte en wenslikheid van die voorgestelde prospekteerreg aansoek, spesifiek met betrekking tot volhoubaarheid op ekonomiese-, sosiale- en omgewingsvlakke.

Die volgende spesialisstudies is onderneem:

- Erfenis Impakstudie
- Ekologiese- en Vleiland Assessering
- Assessering van Waterbronne

Die sensitiwiteit van die voorgestelde projek is beoordeel deur die onderskeie spesialisstudies, asook deur die hersiening van beskikbare data en konsultasie met belanghebbende en geaffekteerde partye.

Vir die doel van hierdie BAR is die sensitiwiteit in terme van plantegroei, vleiland, erfenis en hidrologie in ag geneem. Die aanbevelings en voorwaardes van die spesialisstudies is in die Omgewingsbestuursprogram (EMPr) opgeneem en moet geïnkorporeer word tydens alle besluitnemings- en ontwerpprosesse.

Die volgende maatreëls, om die impak op die omgewing te versag, is voorgestel vir die prospekteeraansoek:

- Die hoë sensitiwiteitsareas is geklassifiseer as Kritieke biodiversiteitsareas (CBA), beskermde areas (PA), Nasionale beskermede area uitbreidingsareas (NPAES) en Nasionale Varswater Omgewings bewaringsareas (NFEPA) en die 1km afstand van die kuslyn. Aanbevelings is gemaak dat, na die aanvanklike luggedraagde geofisiese opname voltooi is, teikenareas vir boor gedefinieer word
- 'n Buffer van 500 m moet rondom alle vleilande geplaas word en 'n buffer van 100 m rondom alle waterlope. Hierdie areas word as hoë sensitiwiteit- areas beskou wat nie tydens prospektering beïnvloed moet word nie. Alle prospekteeraktiwiteite moet buite hierdie gebiede bly
- 'n 100 m buffer moet rondom sensitiewe erfenis-gebiede geplaas word.
- 'n Behoorlik opgeleide argeoloog en paleontoloog moet die Colt Resources (Pty) Ltd eksplorasie-span vergesel tydens die nasien van boorgat posisies nadat die projek goedgekeur is. Indien potensiële gebiede van belang geïdentifiseer word, sal hierdie gebiede uitgesluit word van toekomstige boorwerk.

- Alle boor resultate moet die voorkoms van mariene skulp (diepte onder oppervlak en diepte van neerslag) insluit om te help met die identifisering van die ligging van ondergrondse 'shell middens'.

Die Omgewingskonsultant is van mening dat behoorlike prosedures gevolg is tydens die uitvoering van hierdie Omgewingsimpak studie en gepaardgaande openbare deelname proses tot op hede.

'n Omgewingsbestuursprogram is opgestel en moet tydens alle fases van die voorgestelde prospekteerreg projek geïmplementeer word.

Die assessering van die alternatiewe projek- en studieareas is gebaseer op haalbare projek alternatiewe in terme van toegewysde plase, geologie, sensitiewe om gewing en beperkings op grondgebruik soos bv. serwitute.

Die aktiwiteit alternatiewe het die opsie om die volle omvang van die toegewysde plase te benut, ingesluit, maar met nadelige gevolge vir die gebiede wat as sensitief en van belang geïdentifiseer is soos vleiland- en rivier gebiede, serwitute, erfenisgebiede en alle verwante buffers.

Die Omgewingskonsultant is van mening dat die voorgestelde alternatiewe wat in hierdie verslag aangebied word, as die voorkeur alternatief beskou word as gevolg van die uitsluiting van sensitiewe en potensiële sensitiewe habitat en gebiede en hul verwante buffers.

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Appendix D: Public Participation Process

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- Appendix D2: Information to Stakeholders and Interested and Affected Parties
- Appendix D3: Comments received
- Appendix D4: Comments and Responses Report
- Appendix D5: Public Participation Plan
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Appendix E DFFE Screening report for Accepted Farms

Appendix F DWS, DMRE and land rights communication

- Appendix F1: DMRE
- Appendix F2: DWS
- Appendix F3: Land rights

1. NOTICE

In terms of the Mineral and Petroleum Resources Development Act (Act 28 of 2002 as amended) (MPRDA), 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 (EA) can be granted following the evaluation of an Environmental Impact Assessment (EIA) and an Environmental Management Programme (EMPr) 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 (CA) and in terms of section 17 (1) (c) the CA 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 EA for listed activities triggered by an application for a right or a 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 EA being refused.

It is furthermore an instruction that the EAP 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.

2. OBJECTIVE OF THE BASIC ASSESSMENT PROCESS

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

a) determine the policy and legislative context within which the proposed activity is located and how the activity complies with and responds to the policy and legislative context;
b) identify the alternatives considered, including the activity, location, and technology alternatives;
c) describe the need and desirability of the proposed alternatives,
d) through the undertaking of an impact and risk assessment process inclusive of cumulative impacts which focused on determining the geographical, physical, biological, social, economic, heritage, and cultural sensitivity of the sites and locations within sites and the risk of impact of the proposed activity and technology alternatives on the these aspects to determine:
    i. the nature, significance, consequence, extent, duration, and probability of the impacts occurring to; and
    ii. the degree to which these impacts—
        (aa) can be reversed;
        (bb) may cause irreplaceable loss of resources; and
        (cc) can be managed, avoided or mitigated;
e) through a ranking of the site sensitivities and possible impacts the activity and technology alternatives will impose on the sites and location identified through the life of the activity to—
    i. identify and motivate a preferred site, activity and technology alternative;
    ii. identify suitable measures to manage, avoid or mitigate identified impacts; and
    iii. identify residual risks that need to be managed and monitored.

PART A
SCOPE OF ASSESSMENT AND BASIC ASSESSMENT REPORT

The Applicant, Colt Resources (Pty) Ltd (hereafter referred to as Colt Resources) has appointed Exigent Environmental (hereafter referred to as Exigent) to oversee the EA process for the proposed prospecting license application. COLT RESOURCES is planning to conduct prospecting activities (geophysical surveying, geological mapping and drilling) on various farms along the West Coast of South Africa for phosphate ore within the West Coast Group geological formation.

The competent authority (CA) responsible for the consideration of this proposal is the DepaColt Resourcesnt of Mineral Resources (DMRE). This application has been undertaken in terms of the EIA Regulations published in GN R326[1], under Section 24(5) and 44 of the NEMA, as amended, of the intent to carry out the EIA process (in terms of listed activity 20 and 22 of Listing Notice 1 – GN R327[2] and listed activity 12 of Listing Notice 3 – GN R324[3]).

This Basic Assessment Report (BAR) has been compiled in accordance with the requirements of the NEMA in particular, GN R326, which outlines the requirements of the EIA Process for the purpose of an EA for the activities which have been listed in GN R327 and GN R324.

Appendix 1 (3) of GN R326 promulgated in terms of the NEMA stipulates the minimum requirements and issues that need to be addressed in a BAR. This Draft BAR (DBAR) serves to address the requirements as they have been specified in the regulations.

Table 2-1 indicates the regulations that have been addressed and the section within the BAR where these requirements can be found. The format of the report is as per the DMRE template.

Table 2-1. Requirements of Appendix 1 (3) of GN R326 (as amended).

GNR 326 APPENDIX 3		DESCRIPTION OF REGULATION	PAGE
3 (a)	(i) and (ii)	Details and expertise of the EAP.	21
3 (b)	(i) to (ii)	The location of the activity.	22
3 (c)		A plan which locates the proposed activities, associated structures and infrastructure at an appropriate scale.	Appendix B
3 (d)		A description of the scope of the proposed activity, including:	
	(i)	All listed and specified activities triggered and being applied for.	31

[1] GNR326, GG40772, 07/04/2017
[2] GNR327, GG40772, 07/04/2017
[3] GNR324, GG40772, 07/04/2017

GNR 326 APPENDIX 3		DESCRIPTION OF REGULATION	PAGE
	(ii)	A description of the associated structures and infrastructure related to the development.	32
3 (e)		Description of the policy and legislative context within which the development is proposed and an explanation of the compliance with and responds to the legislation and policy context.	35
3 (f)		Motivation for the need and desirability for the proposed development.	42
3 (g)		Motivation for the preferred site, activity and technology alternative.	42
3 (h)		Description of the process followed to reach the proposed development footprint within the approved site including:	
	(i)	Details of all alternatives considered.	56
	(ii)	Details of the public participation process undertaken in terms of regulation 41 of the Regulations, including supporting documents and inputs.	57
	(iii)	Summary of the issues raised by interested and affected parties and in indication in the manner in which the issues were incorporated, or the reasons for not including them.	60
	(iv)	Environmental attributes associated with the alternatives focussing on geographical, physical, biological, social, economic, heritage and cultural aspects.	iv
	(v)	The impacts and risks identified including nature, significance, consequence, extent, duration and probability of impacts, including the degree to which these impacts can be reversed, cause irreplaceable loss of resources and can be avoided, managed or mitigated.	95
	(vi)	Methodology used in determining and ranking the nature, significance, consequence, extent, duration and probability of potential impacts and risks.	100
	(vii)	Positive and negative impacts that the proposed activity and alternatives will have on the environment and community that will be affected, focussing on geographical, physical, biological, social, economic, heritage and cultural aspects.	98
	(viii)	Possible mitigation measures that could be applied and level of residual risk.	99
	(ix)	The outcome of the site selection matrix.	N/A
	(x)	If no site alternatives, including alternative locations for the activity were investigated, the motivation for not considering such.	99
	(xi)	A concluding statement indicating the preferred alternative development location of the activity.	99
3 (i)		Description of process undertaken to identify, assess and rank the impacts the activity will impose on the preferred location through the life of the activity, including:	
	(i)	A description of all environmental issues and risks that were identified during the environmental impact assessment process.	99
	(ii)	An assessment of the significance of each issue and risk and an indication of the extent to which the issue and risk could be avoided or addressed by the adoption of mitigation measures.	99
3 (j)	(i) to (vii)	Identified potentially significant impacts and risks including cumulative, nature, significance, extent and duration, probability and degree to which the impact can be reversed, cause irreplaceable loss or can be mitigated.	100
3 (k)		Summary of the findings and impact management measures identified in any specialist reports and how they have been included in the final assessment report.	107
3 (l)		An Environmental Impact Statement which contains:	

GNR 326 APPENDIX 3		DESCRIPTION OF REGULATION	PAGE
	(i)	A summary of key findings of the environmental impact assessment.	106
	(ii)	A map at an appropriate scale which superimposes the propose activity and its associated structures and infrastructure on environmental sensitivities, indicating which areas should be avoided, including buffers.	119
	(iii)	A summary of the positive and negative impacts and risks of the proposed activity and identified alternatives.	120
3 (m)		Based on the assessment and where applicable, impact management measures from specialist reports, the recording of the proposed impact management objectives, and the impact management outcomes for inclusion in the EMPr.	122
3 (n)		Aspects conditional to the findings of assessments to be included as conditions of authorisation.	122
3 (o)		Assumptions, uncertainties and gaps in knowledge in assessment and mitigation.	123
3 (p)		Opinion on authorisation and if authorised, any condition that should be made in respect to authorisation.	123
3 (q)		Where the proposed activity does not include operational aspects, the period for which environmental authorisation is required, date on which activity will be concluded and post construction monitoring requirements finalised.	124
3 (r)	(i) to (iv)	Declaration of independence.	124
3 (s)		Where applicable, details of financial provision for rehabilitation, closure and ongoing post decommissioning management.	124
3 (t)		Specific information that may be required by the Competent Authority.	125
3 (u)		Any other matters required in terms of sections 24(4)(a) and (b) of the Act.	126

3. DETAILS OF THE

a) Environmental Assessment Practitioner (EAP)

Exigent provides multidisciplinary engineering and environmental services and provides sustainable solutions within an environmental developmental framework. Our foundations are built upon ecological principles with wide-ranging expertise in environmental management and assessment processes.

i. Details of the EAP

Name of the practitioner: Jacolette Adam

Tel number: 082 852 6417

Fax number: 086 614 7327

E-mail address: jacolette@exigent.co.za

ii. Expertise of the EAP

1. Qualifications of the EAP

(with evidence)

The qualifications of the EAP are listed in Table 3-1 and the full CV and evidence of qualifications are included in Appendix A.

Table 3-1. Environmental Assessment Practitioner details.

EAP	EDUCATION	REGISTRATIONS AND AFFILIATIONS
Ms Jacolette Adam	MSc LLM (Environmental Law)	Professional Natural Scientist (400088/02) Environmental Assessment Practitioner of South Africa (2019/1040)

iii. Summary of the EAP's past experience

(In carrying out the Environmental Impact Assessment Procedure)

Since 2002, Jacolette has led and completed numerous environmental assessments in terms of various legislated processes throughout South Africa and Africa, for a wide range of clients, including the mining sector, large-scale housing developments, private lodge developments, telecommunication industry, various engineering projects including linear projects such as pipelines, road construction, road upgrades as well as site-based engineering services. She has also been responsible for various strategic projects such as Integrated Environmental Management Programmes for municipalities as well as Provincial State of the Environment Reports. Her expert skill of environmental legislation provides value to the environmental applications and peer reviews of environmental assessments.

b) Location of the overall activity

The details of the project location are included in Table 3-2 and Table 3-3.

Table 3-2. Location of the overall activity

Farm Name:	The proposed prospecting will occur on 145 farms portions. Farm names are listed below in Table 3-3 and depicted on Figure 3-2.
Application area (Ha)	92 000 Ha
Magisterial district:	The proposed prospecting is located on farms within the Matzikama Local Municipality (MLM) (WC011), and the Cedarberg Local Municipality (CLM) (WC012) and within the West Coast District Municipality (WCDM) (DM1), Western Cape (WC) Province.
Distance and direction from nearest town	The study site is located North and East of Elands Bay and South and East of Strandfontein.
21-digit Surveyor General Code for each farm portion	Table 3-4 includes the 21-digit Surveyor General codes of the cadastral land parcels.

Table 3-3. List of affected Farm properties.

Farm Name	Farm No.	Subdivision No.	SG 21 Digit Code
Rietfontein	96	01 02; 05; 07; & 11	C02000000000009600000
Bonteheuvel	1	11 & 37	C05800000000000100000
Brandheuvel	288	01	
Bynest Klip	411		C07800000000041100000
Doorspring	432		C07800000000043200000
Rietfontein	623	01 & 02	C02000000000062300000
Modderfontein	225	30; 31; 32; 33; 34; 36; 42; 44; 46; 52; 55; 69, 94	C02000000000022500000
Brandwacht	226		C02000000000022600000
Klein Klipheuvel	229	01; 02; 03; 04; 05; 06	C02000000000022900000
Puts	399		C07800000000039900000
Harde Vlaktes Klipheuvel	405		C07800000000040500000
Kookfontein	88	01; 03; 04; 07; 08; 09; 13; 14; 15; 16; 17; 18; 19; 31	C02000000000008800000
Steenbokfontein	91		C02000000000009100000
Tent Klip	408		C07800000000040800000
Slangkop	233	01	C02000000000023300000
Skerpheuwel	232	02	C02000000000023200000
Louws Klipheuvel	227	01; 07; 08; 10; 12	C02000000000022700001
Wagendrift	230		C02000000000023000000
Donkins Bay Flats	428		C07800000000042800000
Hollebakstrandfontein	270	02; 11; 14; 22; 23; 24;	C07800000000027000000
Zeven Puts	434	01; 02;	C07800000000043400000
Deurpad	557	01	C02000000000055700000
Harde Vlaktes Klipheuvel	405	03; 05; 09	C07800000000040500000
Klein Holbak	406		C07800000000040600000
Compagnies Drift	93	01; 02; 03; 14; 15;	C02000000000009300000
Zoutpans-Klipheuvel	89		C02000000000008900000
Steenbokfontein	91	01; 02	C02000000000009100000
De Boom	273	01; 02	C07800000000027300000
Byneslaagte	274	02; 03	C07800000000027400000
Brandheuvel	228	01	C02000000000022800000
Wagendrift	230		C02000000000023000000
Kompagniesdrift	95	01	C02000000000009500000
Fonteintjie	466	02	C07800000000046600000
Kliphoek	397		C07800000000039700000
Kaliekamma	392	07	C07800000000039200000
Graauwe Duynen	231	05; 07	C02000000000023100000
Kookfontein	87		C02000000000008700002
Gert Visser Fontein	187	05	C02000000000018700000
Harde Vlakte Klipheuvel Extens	436	02; 04	C07800000000043600000

Farm Name	Farm No.	Subdivision No.	SG 21 Digit Code
Schuinsvlei Hoek	438		C07800000000043800000
Annex Blaauwklip	433		C07800000000043300000
Suurfontein	527	01	C02000000000052700000
Steenboksfontein	92	06; 09; 14; 15; 18	C02000000000009200000
Compagnies Drift	94		C02000000000009400000
Kookfontein	87	02	C02000000000008700000
Puts	398		C07800000000039800000
Modderfontein	225	30; 31; 32; 33; 34; 35; 36; 42; 43; 44; 45; 46; 47; 48; 50; 52; 53; 54; 55; 57; 58; 59; 60; 61; 62; 63; 64; 65; 66; 67; 69; 70; 92	C020000000000225000033
Plat Klip	272	05; 06; 07; 08	C07800000000027200000
Harde Vlaktes Klipheuvel	405	01; 03; 04; 05; 09; 10	C07800000000040500001

Table 3-4. The 21-digit Surveyor General code of the cadastral land parcels.

C	0	2	0	0	0	0	0	0	0	0	0	0	0	9	6	0	0	0	0	0
C	0	5	8	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
C	0	7	8	0	0	0	0	0	0	0	0	0	4	1	1	0	0	0	0	0
C	0	7	8	0	0	0	0	0	0	0	0	0	4	3	2	0	0	0	0	0
C	0	2	0	0	0	0	0	0	0	0	0	0	6	2	3	0	0	0	0	0
C	0	2	0	0	0	0	0	0	0	0	0	0	2	2	5	0	0	0	0	0
C	0	2	0	0	0	0	0	0	0	0	0	0	2	2	6	0	0	0	0	0
C	0	2	0	0	0	0	0	0	0	0	0	0	2	2	9	0	0	0	0	0
C	0	7	8	0	0	0	0	0	0	0	0	0	3	9	9	0	0	0	0	0
C	0	7	8	0	0	0	0	0	0	0	0	0	4	0	5	0	0	0	0	0
C	0	2	0	0	0	0	0	0	0	0	0	0	0	8	8	0	0	0	0	0
C	0	2	0	0	0	0	0	0	0	0	0	0	9	1	0	0	0	0	0	0
C	0	7	8	0	0	0	0	0	0	0	0	0	4	0	8	0	0	0	0	0
C	0	2	0	0	0	0	0	0	0	0	0	0	2	3	3	0	0	0	0	0
C	0	2	0	0	0	0	0	0	0	0	0	0	2	3	2	0	0	0	0	0
C	0	2	0	0	0	0	0	0	0	0	0	0	2	2	7	0	0	0	0	0
C	0	2	0	0	0	0	0	0	0	0	0	0	2	3	0	0	0	0	0	0
C	0	7	8	0	0	0	0	0	0	0	0	0	4	2	8	0	0	0	0	0
C	0	7	8	0	0	0	0	0	0	0	0	0	2	7	0	0	0	0	0	0
C	0	7	8	0	0	0	0	0	0	0	0	0	4	3	4	0	0	0	0	0
C	0	2	0	0	0	0	0	0	0	0	0	0	5	5	7	0	0	0	0	0
C	0	7	8	0	0	0	0	0	0	0	0	0	4	0	5	0	0	0	0	0
C	0	7	8	0	0	0	0	0	0	0	0	0	4	0	6	0	0	0	0	0
C	0	2	0	0	0	0	0	0	0	0	0	0	0	9	3	0	0	0	0	0
C	0	2	0	0	0	0	0	0	0	0	0	0	0	8	9	0	0	0	0	0
C	0	2	0	0	0	0	0	0	0	0	0	0	0	9	1	0	0	0	0	0
C	0	7	8	0	0	0	0	0	0	0	0	0	2	7	3	0	0	0	0	0
C	0	7	8	0	0	0	0	0	0	0	0	0	2	7	4	0	0	0	0	0
C	0	2	0	0	0	0	0	0	0	0	0	0	2	2	8	0	0	0	0	0
C	0	2	0	0	0	0	0	0	0	0	0	0	2	3	0	0	0	0	0	0
C	0	2	0	0	0	0	0	0	0	0	0	0	0	9	5	0	0	0	0	0
C	0	7	8	0	0	0	0	0	0	0	0	0	4	6	6	0	0	0	0	0
C	0	7	8	0	0	0	0	0	0	0	0	0	3	9	7	0	0	0	0	0
C	0	7	8	0	0	0	0	0	0	0	0	0	3	9	2	0	0	0	0	0
C	0	2	0	0	0	0	0	0	0	0	0	0	2	3	1	0	0	0	0	0
C	0	2	0	0	0	0	0	0	0	0	0	0	0	8	7	0	0	0	0	0
C	0	2	0	0	0	0	0	0	0	0	0	0	1	8	7	0	0	0	0	0
C	0	7	8	0	0	0	0	0	0	0	0	0	4	3	6	0	0	0	0	0
C	0	7	8	0	0	0	0	0	0	0	0	0	4	3	8	0	0	0	0	0

C	0	7	8	0	0	0	0	0	0	0	0	0	4	3	3	0	0	0	0	0
C	0	2	0	0	0	0	0	0	0	0	0	0	5	2	7	0	0	0	0	0
C	0	2	0	0	0	0	0	0	0	0	0	0	0	9	2	0	0	0	0	0
C	0	2	0	0	0	0	0	0	0	0	0	0	0	9	4	0	0	0	0	0
C	0	2	0	0	0	0	0	0	0	0	0	0	0	8	7	0	0	0	0	0
C	0	7	8	0	0	0	0	0	0	0	0	0	3	9	8	0	0	0	0	0
C	0	2	0	0	0	0	0	0	0	0	0	0	2	2	5	0	0	0	0	0
C	0			0	0	0	0	0	0	0	0	0	2	8	8	0	0	0	0	0

c) Locality map

(show nearest town, scale not smaller than 1:250000).

The locality maps are included in Figure 3-1 and Figure 3-2.

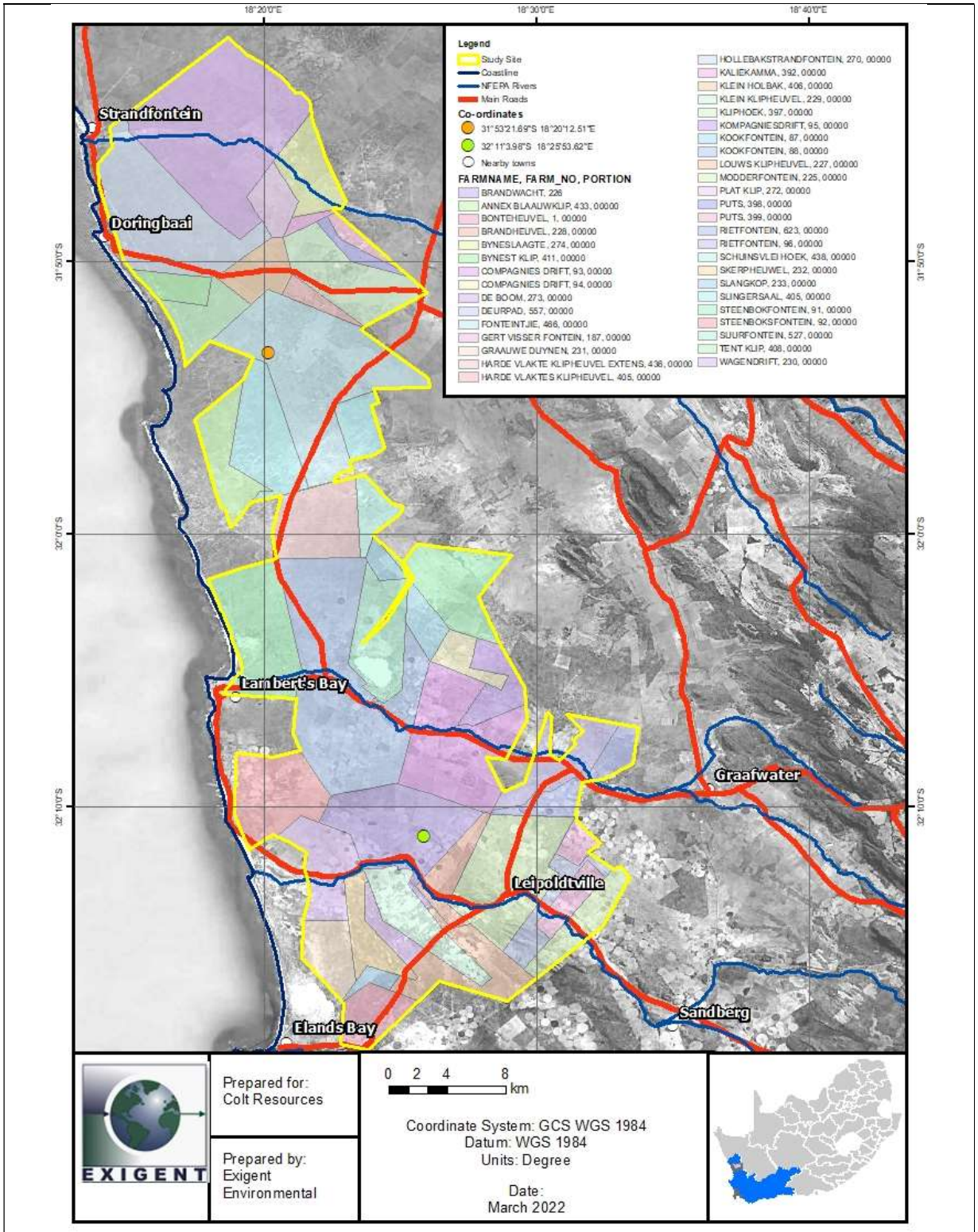
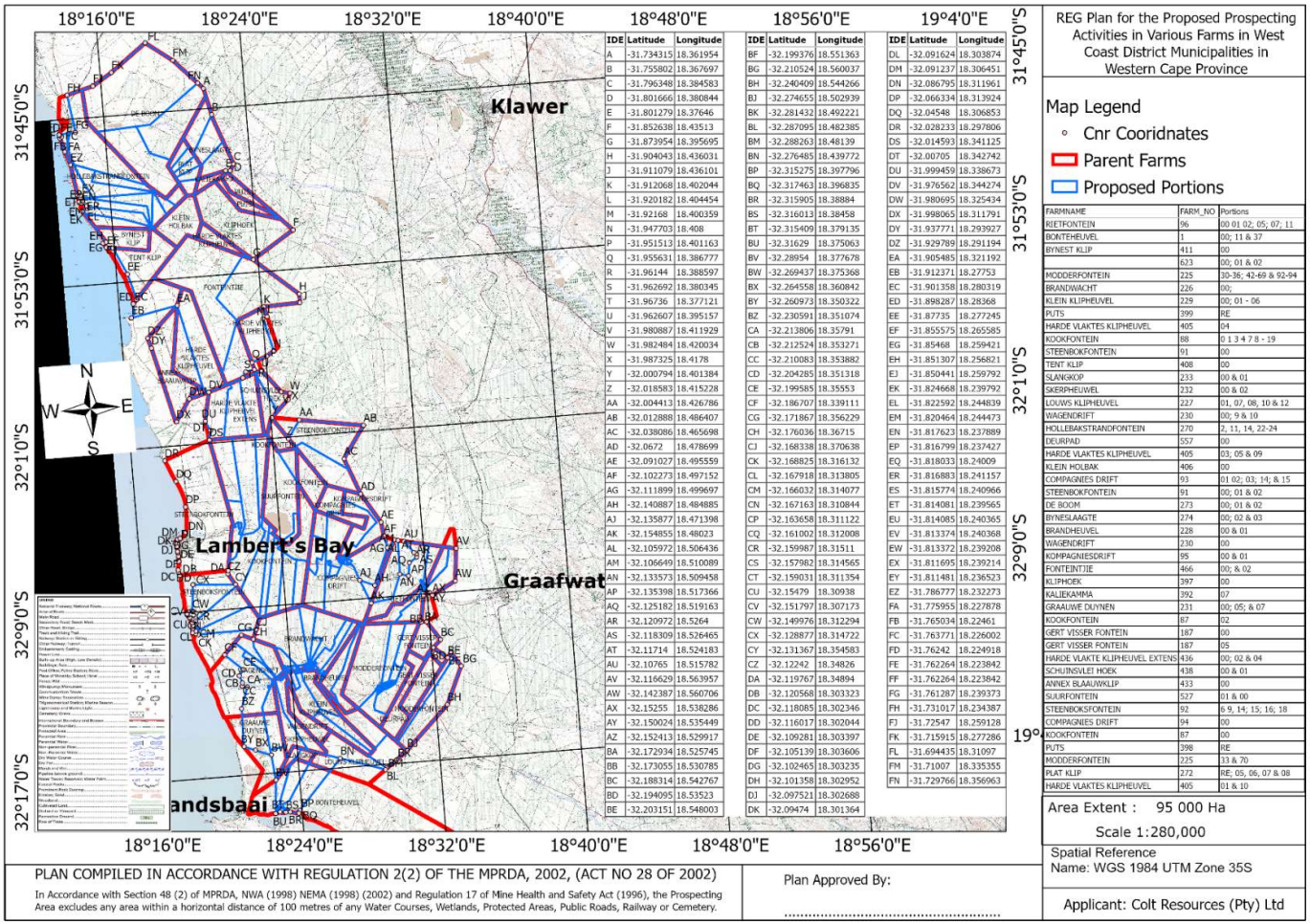


Figure 3-1. Locality map indicating farm portions of the proposed prospecting license application



IDE	Latitude	Longitude
A	-31.734315	18.361954
B	-31.755802	18.367697
C	-31.796348	18.384583
D	-31.801666	18.380844
E	-31.801279	18.37646
F	-31.852638	18.43513
G	-31.873954	18.395695
H	-31.904043	18.436031
J	-31.911079	18.436101
K	-31.912068	18.402044
L	-31.920182	18.404454
M	-31.92168	18.400359
N	-31.947703	18.408
P	-31.951513	18.401163
Q	-31.955631	18.386777
R	-31.96144	18.388597
S	-31.962692	18.380345
T	-31.96736	18.377121
U	-31.962607	18.395157
V	-31.980887	18.411929
W	-31.982484	18.420034
X	-31.987325	18.4178
Y	-32.000794	18.401384
Z	-32.018583	18.415228
AA	-32.004413	18.426786
AB	-32.012888	18.486407
AC	-32.038086	18.465698
AD	-32.0672	18.478699
AE	-32.091027	18.495559
AF	-32.102273	18.497152
AG	-32.111899	18.499697
AH	-32.140887	18.484885
AJ	-32.135877	18.471398
AK	-32.154855	18.48023
AL	-32.105972	18.506436
AM	-32.106649	18.510089
AN	-32.133573	18.509458
AP	-32.135398	18.517366
AQ	-32.125182	18.519163
AR	-32.120972	18.5264
AS	-32.118309	18.526465
AT	-32.11714	18.524183
AU	-32.10765	18.515782
AV	-32.116629	18.563957
AW	-32.142387	18.560706
AX	-32.15255	18.538286
AY	-32.150024	18.535449
AZ	-32.152413	18.529917
BA	-32.172934	18.525745
BB	-32.173055	18.530785
BC	-32.188314	18.542767
BD	-32.194095	18.53523
BE	-32.203151	18.548003

IDE	Latitude	Longitude
BF	-32.199376	18.551363
BG	-32.210524	18.560037
BH	-32.240409	18.544266
BJ	-32.274655	18.502939
BK	-32.281432	18.492221
BL	-32.287095	18.482385
BM	-32.288263	18.48139
BN	-32.276485	18.439772
BP	-32.315275	18.397796
BQ	-32.317463	18.396835
BR	-32.315905	18.38884
BS	-32.316013	18.38458
BT	-32.315409	18.379135
BU	-32.31629	18.375063
BV	-32.28954	18.377678
BW	-32.269437	18.375368
BX	-32.264558	18.360842
BY	-32.260973	18.350322
BZ	-32.230591	18.351074
CA	-32.213806	18.35791
CB	-32.212524	18.353271
CC	-32.210083	18.353882
CD	-32.204285	18.351318
CE	-32.199585	18.35553
CF	-32.186707	18.339111
CG	-32.171867	18.356229
CH	-32.176036	18.36715
CJ	-32.168338	18.370638
CK	-32.168825	18.316132
CL	-32.167918	18.313805
CM	-32.166032	18.314077
CN	-32.167163	18.310844
CP	-32.163658	18.311122
CQ	-32.161002	18.312008
CR	-32.159987	18.31511
CS	-32.157982	18.314565
CT	-32.159031	18.311354
CU	-32.15479	18.30938
CV	-32.151797	18.307173
CW	-32.149976	18.312294
CX	-32.128877	18.314722
CY	-32.131367	18.354583
CZ	-32.12242	18.34826
DA	-32.119767	18.34894
DB	-32.120568	18.303323
DC	-32.118085	18.302346
DD	-32.116017	18.302044
DE	-32.109281	18.303397
DF	-32.105139	18.303606
DG	-32.102465	18.303235
DH	-32.101358	18.302952
DJ	-32.097521	18.302688
DK	-32.09474	18.301364

IDE	Latitude	Longitude
DL	-32.091624	18.303874
DM	-32.091237	18.306451
DN	-32.086795	18.311961
DP	-32.066334	18.313924
DQ	-32.04548	18.306853
DR	-32.028233	18.297806
DS	-32.014593	18.341125
DT	-32.00705	18.342742
DU	-31.999459	18.338673
DV	-31.976562	18.344274
DW	-31.980695	18.325434
DX	-31.998065	18.311791
DY	-31.937771	18.293927
DZ	-31.929789	18.291194
EA	-31.905485	18.321192
EB	-31.912371	18.27753
EC	-31.901358	18.280319
ED	-31.898287	18.28368
EE	-31.87735	18.277245
EF	-31.855575	18.265585
EG	-31.85468	18.259421
EH	-31.851307	18.256821
EJ	-31.850441	18.259792
EK	-31.824668	18.239792
EL	-31.822592	18.244839
EM	-31.820464	18.244473
EN	-31.817623	18.237889
EP	-31.816799	18.237427
EQ	-31.818033	18.24009
ER	-31.816883	18.241157
ES	-31.815774	18.240966
ET	-31.814081	18.239565
EU	-31.814085	18.240365
EV	-31.813374	18.240368
EW	-31.813372	18.239208
EX	-31.811695	18.239214
EY	-31.811481	18.236523
EZ	-31.786777	18.232273
FA	-31.775955	18.227878
FB	-31.765034	18.22461
FC	-31.763771	18.226002
FD	-31.76242	18.224918
FE	-31.762264	18.223842
FF	-31.762264	18.223842
FG	-31.761287	18.239373
FH	-31.731017	18.234387
FJ	-31.72547	18.259128
FK	-31.715915	18.277286
FL	-31.694435	18.31097
FM	-31.71007	18.335355
FN	-31.729766	18.356963

FARMNAME	FARM_NO	Portions
RIETFONTEIN	96	00 01 02; 05; 07; 11
BONTEHEUVEL	1	00; 11 & 37
BYNEST KLIP	411	00
	623	00; 01 & 02
MODDERFONTEIN	225	30-36; 42-69 & 92-94
BRANDWACHT	226	00;
KLEIN KLIPHEUVEL	229	00; 01 - 06
PUTS	399	RE
HARDE VLAKTES KLIPHEUVEL	405	04
KOOKFONTEIN	88	0 1 3 4 7 8 - 19
STEENBOKFONTEIN	91	00
TENT KLIP	408	00
SLANGKOP	233	00 & 01
SKERPHEUWEL	232	00 & 02
LOUWS KLIPHEUVEL	227	01, 07, 08, 10 & 12
WAGENDRIFT	230	00; 9 & 10
HOLLEBAKSTRANDFONTEIN	270	2, 11, 14, 22-24
DEURPAD	557	00
HARDE VLAKTES KLIPHEUVEL	405	03; 05 & 09
KLEIN HOLBAK	406	00
COMPAGNIES DRIFT	93	01 02; 03; 14; & 15
STEENBOKFONTEIN	91	00; 01 & 02
DE BOOM	273	00; 01 & 02
BYNESLAAGTE	274	00; 02 & 03
BRANDHEUVEL	228	00 & 01
WAGENDRIFT	230	00
KOMPAGNIESDRIFT	95	00 & 01
FONTEINTJIE	466	00; & 02
KLIPHOEK	397	00
KALIEKAMMA	392	07
GRAAUWE DUYNEN	231	00; 05; & 07
KOOKFONTEIN	87	02
GERT VISSER FONTEIN	187	00
GERT VISSER FONTEIN	187	05
HARDE VLAKTE KLIPHEUVEL EXTENS	436	00; 02 & 04
SCHUINSVLEI HOEK	438	00 & 01
ANNEX BLAAUWKLIP	433	00
SUURFONTEIN	527	01 & 00
STEENBOKSFONTEIN	92	6 9, 14; 15; 16; 18
COMPAGNIES DRIFT	94	00
KOOKFONTEIN	87	00
PUTS	398	RE
MODDERFONTEIN	225	33 & 70
PLAT KLIP	272	RE; 05, 06, 07 & 08
HARDE VLAKTES KLIPHEUVEL	405	01 & 10

Figure 3-2. Locality of the proposed prospecting license application.

d) Description of the scope of the proposed overall activity

(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)

The MPRDA Regulation 2(2) map is provided as Figure 3-2. Locality of the proposed prospecting license application.

i. Description of planned non-invasive activities:

1. Literal study

During this stage information pertaining to the geological, geographical, environmental and geomorphological including the topographical and infrastructural systems of the area will be studied with the aim of designing the prospecting program and also the impact that the programs will have in the environmental and the ecosystem of the area. Information will be gathered from relevant areas including the Council of the Geoscience and other commercial areas where it may be available. Sources of information will include geological reports, general geological textbooks and geological maps, topographical maps, agricultural and land use maps. Visits to the area will also be conducted in order to acquire information that might not be available in literature. Detailed geological information will then be gathered which will be used in planning further prospecting and exploration strategy.

2. Geological mapping

This stage will include the field traverse in the farm collecting geological information. Lithological contacts, outcrops, faults, dykes, folds will be mapped including their attitude and characteristics like dip and strikes, thickness etc. this information will be correlated with the literature study information in order to correlate with the correct stratigraphy and lithological units.

3. Geophysical Survey:

A decision will be taken to conduct geophysical observation or procure geophysical data from commercial sources and organizations that collect them. The information that will be acquired will be chiefly gravity which will be aimed at delineating structures of higher or lower gravitatic susceptibility than the surrounding country rocks. If the company conducts the observations, it will be airborne (drone) surveys conducted with the auspices of a contractor.

4. Sampling and resource modeling

This stage entails sampling the core and chips from drilling as well as data manipulation to produce drilling results information. Resource modelling is conducted which will result in tonnages and grade distribution. However, this is still in low geological confidence. From the results, a decision will be taken if prospecting will be continued. During the non-invasive methods, additional information is gathered in the form of prefeasibility studies. This includes the determination of the suitable mining method and its costs. Other information that is gathered includes the macro and the microeconomics that will determine the feasibility of the project.

5. Farm liaison

Engagement with landowners regarding access to the sites.

ii. Description of planned invasive activities:

6. Drilling

Planned invasive prospecting methods entail conducting drilling to ascertain the existence of the expected minerals, its thickness and distribution. Samples will be taken and analyzed. The number of boreholes planned is approximately 390:

- Soil Sampling
- Auger Drilling
- Reconnaissance drilling
- Trenching
- Resource drilling
- Feasibility drilling

Reverse Circulation drilling is the most cost-effective method for the testing and assessing the deposit with Percussion techniques being offered as an alternative should circumstances so require. Laboratory assay will proceed concurrently with drilling. The depths will vary from very shallow (approx. 2m) to nearly 100m. The exact depths of the boreholes will be determined while the drilling program is underway as influenced by the depths and dips measured in the previous boreholes.

7. Trenching and test pits

Trenches will be dug and test pits to obtain large sample volumes.

Trenching will be conducted where deposits have been determined to occur very close to the surface. Twenty trenches are planned to be excavated and the length of the trenches will be determined by the burial depth. Trenches will not be conducted any deeper than 2m for all intents and purposes.

8. Geological Report & Pre-feasibility study

Feasibility studies will be conducted in two stages as pre-feasibility studies and feasibility studies where some commonly call it definitive feasibility studies. Information gathered during feasibility studies includes but is not limited to macro and micro-economics, mining methods, human resources, environmental, financial, metallurgical etc. in the prefeasibility studies, a series of mining methods are evaluated with the orebody and a most suitable one is chosen. Costs relative to the mining methods are estimated and financial models are built. In the feasibility studies, more information is gathered around the chosen mining method and again models are built to determine the feasibility of the project.

iii. Listed and specified activities

Table 3-5. GNR327 and GNR324 activities applicable to the proposed prospecting license application.

NAME OF ACTIVITY	AERIAL EXTENT OF THE ACTIVITY (HA OR M^2)	LISTED ACTIVITY (Mark with an X where applicable or affected.)	APPLICABLE LISTING NOTICE
• Site camp, equipment storage, site office	N/A as existing facilities will be utilised/rented in close proximity to the study area		
• Storage of hydrocarbons	N/A as existing fuel facilities within nearby towns would be used to obtain diesel for equipment		
• The establishment and rehabilitation of temporary access roads.	Approximately 500m^2 per drilling hole will be impacted, however no clearing of vegetation will be required. The sample will be removed from the site. Access roads will not be cleared, it will be a once-off temporary disturbance to the vegetation.	X	Listed activity 12, Listing Notice 3: R. No. 324 of 7 April 2017, as amended
• Site preparation including vegetation clearance and removal and temporary storage of topsoil and spoil at the drilling holes. • Prospecting and associated activities including the drilling of core boreholes.		X	Listed activity 20, Listing Notice 1: R. No. 327 of 7 April 2017, as amended
• Closure and decommissioning of any remaining prospecting activities.	Approximately 500m^2 per drilling hole will be impacted.	X	Listed activity 20, Listing Notice 1: R. No. 327 of 7 April 2017, as amended

iv. Description of activities to be undertaken

(Describe Methodology or technology to be employed, including the type of commodity to be prospected/mined and for a linear activity, a description of the route of the activity)

1. Commodity

The phosphorus-bearing sediments, both consolidated (phosphorites) and unconsolidated (pelletal phosphorites) occur along the western coast of the country in what is known as phosphate deposits. The deposits consist of a variety of rock types including boulders and cobbles of phosphatised limestone, either conglomeratic or non-conglomeratic and spheroidal pellets of francolite. These sediments show several planes of erosion and at least on two occasions the sea has transgressed over land, depositing phosphatic sands. It then regressed, uncovering the coastal margin and eroding some of the sediments (Fuller 1979, Dingle *et al*. 1983)). This has resulted in a patchy and discontinuous distribution of phosphorites.

2. Project target

The principal target for the programme will be heavy minerals associated with the West Coast Group. The prospecting programme will focus on the Alexander Bay Formation and the Graauw Dunien Formation. Marine and aeolian sands from these two formations hosts mineralisation at Namakwa Sands and Kamiesberg deposits.

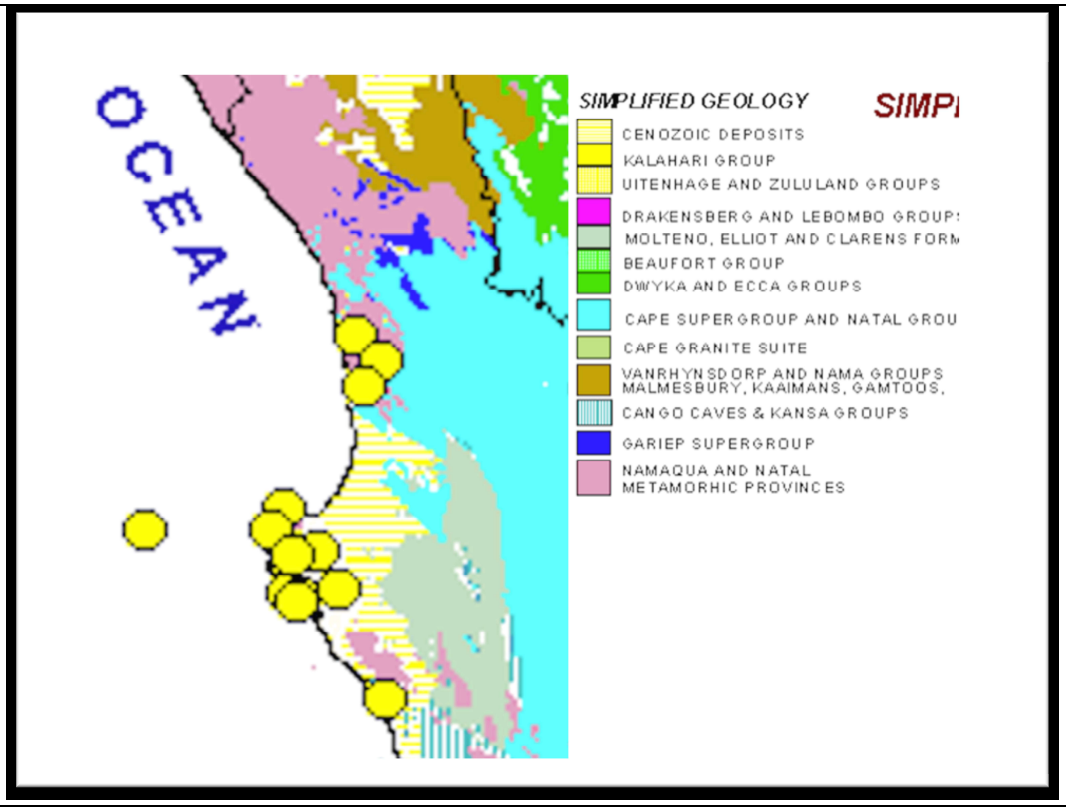


Figure 3-3. Distribution of the West Coast Group along the west coast of South Africa (Roberts et al., 2006)

3. Project programme

The project will be executed based on the following prospecting techniques and related programme:

A phased approach, with clear milestones will be utilised. Although no exploration programme is rigid, a broad outline of the envisaged programme is given below.

a) Phase 1 – Target Definition

The initial phase will be a target definition phase aimed at defining prospective targets within the prospecting area. Desktop studies, interpretation of satellite imagery and an airborne geophysical survey will be completed during this phase.

- Literature review and desktop study
- Detailed satellite image and digital elevation model interpretation.
- Review regional airborne geophysics with main emphasis on magnetic and radiometrics.
- Field ground truthing of geological and geomorphological features through from satellite imagery interpretation.
- Community and Environmental Studies
- Airborne Magnetic and Radiometric Survey
- Digital Elevation Survey – from airborne geophysics

b) Phase 2: Target Testing

Target testing will commence in Year 2. Targets defined from Phase 1 will be drill tested at reconnaissance scale as proof of concept for selected radiometric anomalies and geomorphological targets.

Work completed in Phase 2 will include:

- Target drill testing – reconnaissance and grid drilling
- Sampling and assaying for THM, Slimes and Oversize content

c) Phase 3 & 4: Detailed Target Delineation

Further target testing and delineation will be completed using grid-based drilling in Year 3 and 4. The grid size will be determined by the degree of continuity of the observed mineralization.

Work completed in Phase 3 & 4 will include:

- Target drill testing –grid drilling
- Sampling and assaying
- Mineralogy analysis
- GIS and database management

d) Phase 5: Project of Merit

Project of Merit work will be undertaken at Phase 5 in Year 5. The objective of this work will be to confirm a discovery. Usually this work precedes a Pre-feasibility study. The work will entail further target

delineating with even more close spaced drilling. It is anticipated that drilling density will be at 0.2km line spacing with accompanying drillhole spacing at 0.2km and 0.1km stations.

e) Policy and legislative context

Table 3-6. Applicable legislation to the proposed activities

APPLICABLE LEGISLATION AND GUIDELINES USED TO COMPILE THE REPORT	REFERENCE WHERE APPLIED	HOW DOES THIS DEVELOPMENT COMPLY WITH AND RESPOND TO THE LEGISLATION AND POLICY CONTEXT
(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 to be considered in the assessment process		(E.g. In terms of the National Water Act a Water Use License has/ has not been applied for)
ACTS		
Mineral and Petroleum Resources Development Act, 2002 (MPRDA)	Act responsible for mining in South Africa.	This application is submitted to the DMREE which is the CA in terms of the MPRDA.
National Environmental Management Act 107 of 1998 (NEMA)	NEMA is an all-encompassing act regulating various aspects of natural resources using integrated environmental management and pollution control. The NEMA provides for: • The right to an environment that is not harmful to the health and well-being of the South African people; • Sustainable development, environmental protection, equitable distribution of natural resources; and • The formulation of environmental management frameworks. The proposed prospecting activities require authorisation as per the EIA Regulations.	See Table 3-5 for details of the listed activities applied for in this application.
EIA Regulations, 2014 (GN R982) as amended by GN R 326 on 7 April 2017	The amended environmental regulations were promulgated on 7 April 2017 in terms of the various NEMA Regulations guide to environmental management. These regulations included: • GNR 326: The Minister of Environmental Affairs, hereby make the regulations pertaining to environmental impact assessments, under section 24(5) and 44 of the NEMA; • GNR 327: The purpose of this notice is to identify the activities that would require environmental authorisations prior to	Listing notices as per included in Table 3-5 has been applied for to DMRE.

APPLICABLE LEGISLATION AND GUIDELINES USED TO COMPILE THE REPORT	REFERENCE WHERE APPLIED	HOW DOES THIS DEVELOPMENT COMPLY WITH AND RESPOND TO THE LEGISLATION AND POLICY CONTEXT
	commencement of that activity and to identify CAs in terms of section 24(2) and 24(D) of the Act; • GNR 325: The purpose of this notice is to identify activities that would require an environmental authorisation prior to the commencement of that activity and to identify CAs in terms of Sections 24(2) and 24(D) of this Act; and • GNR 324: The purpose of this notice is to list activities and identify CAs under sections 24(2) and 24(D) of the Act, where environmental authorisation is required prior to commencement of that activity in specific identified geographic areas only.	
Financial Provisioning Regulations[4]	Section 3v) of the NEMA refers to calculating the financial provision of the proposed activities.	See Section 3(v) within this report for details on the financial provision.
National Environmental Management: Biodiversity Act 10 of 2004 (NEM:BA)	The NEMBA provides for the management and conservation of South Africa's biodiversity within the framework of the NEMA, 1998; and provides for and includes: • The protection of species and ecosystems that warrant national protection; • The sustainable use of indigenous biological resources; • The fair and equitable sharing of benefits arising from bio-prospecting involving indigenous biological resources; • The establishment and functions of a South African National Biodiversity Institute; and for matters connected therewith; • Biodiversity planning and monitoring; • Protection of threatened or protected ecosystems; • Protection of threatened or protected species; and • The control of alien species, invasive species and genetically modified organisms. Species that are classified as threatened and/or protected are listed in Government Gazette 151 of February 2007 and the regulations are included in Government Gazette 152 of February 2007, with the most	NEMBA Threatened or Protected Species (TOPS) are expected to occur within the study area. The vegetation types within the study are situated within five Least Threatened ecosystems, namely (Lambert's Bay Strandveld, Namaqualand Strandveld, Graafwater Sandstone Fynbos, Cape Inland Salt Pans, Cape Estuarine Salt Mashes) and one Vulnerable ecosystem (Leipoldtville Sand Fynbos). The TOPS and National Threatened Ecosystem Database vegetation areas have been considered in Section 3)iv a) and 3)iv) c. A desktop ecological assessment (Appendix C2) and water resources assessment (Appendix C3) were conducted and the findings of these reports have been summarised in Table 3-15 to Table 3-17.

[4] GN R452 in GG 41584, 20/04/2018

APPLICABLE LEGISLATION AND GUIDELINES USED TO COMPILE THE REPORT	REFERENCE WHERE APPLIED	HOW DOES THIS DEVELOPMENT COMPLY WITH AND RESPOND TO THE LEGISLATION AND POLICY CONTEXT
	recent amendment in Government Notice 576 of July 2011. Threatened ecosystems in need of protection are listed Government Notice 1002 of December 2011. The NEMBA: Alien and Invasive Species Lists[5] in conjunction with the following Notices and Lists were promulgated in terms of Sections 66(1), 67(1), 70(1)(a), 71(3) and 71A: • Notice 1: Notice in respect of Categories 1a, 1b, 2 and 3, Listed Invasive Species, in terms of which certain Restricted Activities are prohibited in terms of section 71A(1); Exempted in terms of section 71(3); require a Permit in terms of section 71(1); • Notice 2: Exempted Alien Species in terms of Section 66(1); • Notice 3: National Lists of Invasive Species in terms section 70(1); and • Notice 4: Prohibited Alien Species in terms of section 67(1).	
National Heritage Resources Act 25 of 1999 (NHRA)	The NHRA S38 lists certain development activities which require notification to the Heritage Western Cape (HWC).	The proposed prospecting license application has considered the implications of this Act and the recommendations of the specialist study will be implemented. A desktop HIA (Appendix C1) has been conducted for the proposed project and the findings of this report has been summarised in Table 3-15 to Table 3-17. The Notice of Intent will be submitted to the HWC simultaneously with the release of the DBAR. A copy of the DBAR will be provided to HWC.
National Water Act 36 of 1998 (NWA)	The NWA identifies 11 consumptive and non-consumptive water uses which must be authorised under a tiered authorisation system. Section 27 of the NWA specifies that the following factors regarding water use authorisation must be taken into consideration: • The efficient and beneficial use of water in the public interest;	Consultation is ongoing with the CA for the regulation of the NWA, namely the DepaColt Resourcesnt of Human Settlements, Water and Sanitation (DHSWS). A pre-application water use enquiry has been submitted to DHSWS on 8 April 2022 submitted via the E-WULAAS system (Ref number WU24141). A pre-application

[5] GN R1020, GG43735, 25/09/2020

APPLICABLE LEGISLATION AND GUIDELINES USED TO COMPILE THE REPORT	REFERENCE WHERE APPLIED	HOW DOES THIS DEVELOPMENT COMPLY WITH AND RESPOND TO THE LEGISLATION AND POLICY CONTEXT
	• The socio-economic impact of the decision whether to issue a licence; • Alignment with the catchment management strategy; • The impact of the water use, resource directed measures; and • Investments made by the applicant in respect of the water use in question. Section 21 of the NWA identifies listed activities for which a Water Use Licence should be obtained. A licence is required to carry out any activities involving modifications to watercourses or wetlands. As per GA509, pertaining to the provision of a General Authorisation in terms Section 21 c) and i) under the NWA, the regulatory area of a wetland is regarded as the 500 m around a wetland and the regulatory area of a watercourse is 100 m. Any development within these defined regulatory areas will require a Water Use Licence.	meeting has taken place on 19 May 2022 (Meeting minutes attached in Appendix F2. A desktop water resources assessment was conducted (Appendix C3) and the findings of this report has been summarised in Table 3-15 to Table 3-17.
Conservation of Agricultural Resources Act (Act 43 of 1983)	The Conservation of Agricultural Resources Act (Act 43 of 1983) (CARA) provides for the: • Protection of wetlands; and • Requires the removal of listed alien invasive species. The National DepaColt Resourcesnt of Agriculture (NDA) is the responsible authority for enforcing the CARA. This Act also requires that any declared invader species in the proposed site be controlled according to their declared invader status.	The Environmental Management Programme (EMPr) included in Part B of this report, includes the compulsory removal of invader plants from the study area during the rehabilitation phase of the impacted areas, where applicable.
Restitution of Land Rights Act (Act 22 of 1994)	Confirmation is sought in terms of which of the farms have standing land claims against them.	A query with regards to land claims was been lodged to the Land Claims Commissioner on 8 April 2022..
Spatial Planning Land Use and Management Act (Act 16 of 2013)	The Act states in S12 that during the preparation of a SDF, the following needs to be adhered with, in terms of mining: *1n) Give effect to national legislation and policies on mineral resources and sustainable utilisation and protection of agricultural resources,*	The BAR incorporates the SDF in various sections throughout the report, i.e. socio-economic planning as well as biodiversity features.
	S7 refers to rezoning of agricultural land in relation to mining and related activities.	This application is not submitted in terms of SPLUMA S7 rezoning. Applications in terms of SPLUMA will be

APPLICABLE LEGISLATION AND GUIDELINES USED TO COMPILE THE REPORT	REFERENCE WHERE APPLIED	HOW DOES THIS DEVELOPMENT COMPLY WITH AND RESPOND TO THE LEGISLATION AND POLICY CONTEXT
		submitted separately by a registered Townplanner if required.
Western Cape Land Use Planning Act, 2014 (No 3 of 2014).	S59 of this Act deals with the Land use planning principles and includes reference to the natural environment which should be considered and excluded from planning, where applicable.	This application only takes cognisance of the S59 of the Land Use Planning principles requirements. It does not form part of this application.
BY-LAWS		
Matzikama Municipality: Land Use Planning By-Law, 2015	This by-law deals with the land use planning principles and includes reference to the natural environment which should be considered and excluded from planning, where applicable.	This application only takes cognisance of the MLM by-laws in terms of spatial planning; however, the re-zoning does not form part of this application.
Cedarberg Municipality: Land Use Planning By-Law, 2019	This by-law deals with the land use planning principles and includes reference to the natural environment which should be considered and excluded from planning, where applicable.	This application only takes cognisance of the CLM by-laws in terms of spatial planning; however, the re-zoning does not form part of this application.
FRAMEWORKS AND GUIDELINES		
The Western Cape Spatial Development Framework (2020) (WCSDP)	The WCDM SDF is a strategic spatial planning policy that should guide spatial planning and land use decisions in the district, in parallel and aligned with national, provincial and local government policies and strategies, specifically focussing on population growth in the next 10 years. The SDF includes spatial planning information relating to important aspects including economic opportunities.	The assessment of the SDF has in terms of the study area and prospecting related activities has been incorporated in S3) iv) 1a).
The West Coast District Municipality Integrated Development Plan 2017 – 2021 (WCDMIDP, 2017)	The IDP provides the following, and supports the SDF: • Provide a clear strategic vision, set of goals and objectives of the municipality • Identify the challenges currently facing the municipality that can be tackled in the long-term spatial plan of the municipality • Give an indication of the priority funding allocation	The assessment of the IDP has in terms of the study area and prospecting related activities has been incorporated in S3) iv) 1a).
West Coast District Municipality Spatial Development Framework (WCDMSDF, 2020)	One of the goals of the WCSDF is to 'Promote conservation of Critical Biodiversity Areas by strategically implementing sustainable agricultural activities and urban development where the impact on biodiversity will be the lowest, while also mitigating the potential impact of nature (climate change) on the residents of the district.'	It is stated that mining sector only contributes 1.1% to the GDPR of the WCD economy. The assessment of the SDF has in terms of the study area and prospecting related activities has been incorporated in S3) iv) 1a)..
Matzikama Local Municipality Spatial Development Framework (2018-2022)	The MLM SDF includes details of spatial population planning on a local municipal scale.	The vision of the approved Local Economic Development Strategy for the Matzikama Municipality 2018-2022 entails the following: "*Collaboratively moving Matzikama forward*

APPLICABLE LEGISLATION AND GUIDELINES USED TO COMPILE THE REPORT	REFERENCE WHERE APPLIED	HOW DOES THIS DEVELOPMENT COMPLY WITH AND RESPOND TO THE LEGISLATION AND POLICY CONTEXT
		by creating an inclusive, sustainable and diverse economy that will create jobs and alleviate poverty.", and then in order to achieve this vision, one of the goals and objectives are to create a diverse economy by means of Strengthening and developing local business and the mining value chain.
Cedarberg Municipality: Land Use Planning By-Law, 2019	The CLM SDF includes details of spatial population planning on a local municipal scale.	The purpose of the Cederberg Municipal spatial development framework is to provide detailed priorities in relation to land use planning and, in so far as they are linked to land use planning, biodiversity and environmental issues.
DEA, 2017. Integrated Environmental Management Guideline: Guideline on Need and Desirability;	The EIA Regulations require that the Need and Desirability of a proposed project be outlined as part of the impact phase (GNR 891 of 2014). The Guideline on Need and Desirability (DEA, 2017) will be addressed by analysing the questions on the specific impacts. GNR 891 of 2014 state environmental authorities must support increased economic growth and promote social inclusion, whilst ensuring that such growth is ecologically sustainable. This is consistent with the national priorities. Furthermore, the New Growth Path (2010) aims to target the country's limited capital and capacity at activities that maximise the creation of decent work opportunities. Both macro and micro economic policies are used to create a favourable overall environment as well as to support more labour absorbing activities. The main indicators of success will be job creation, economic growth, equity and environmental outcomes. The National Development Plan 2030 (NDP) (2012) stresses that the threat to the 'environment and the challenge of poverty alleviation are closely intertwined' and as such environmental policies should not be framed as a choice between the environment or economic growth. Sustainable development is the process that is followed to achieve the goal of sustainability. Sustainable development implies the selection and implementation of a development option that allows for appropriate, justifiable social and economic goals to be achieved. This	The needs and desirability of the project has been evaluated against the requirements of GNR891 of 2014 in Table 3-7 and Table 3-8.

APPLICABLE LEGISLATION AND GUIDELINES USED TO COMPILE THE REPORT	REFERENCE WHERE APPLIED	HOW DOES THIS DEVELOPMENT COMPLY WITH AND RESPOND TO THE LEGISLATION AND POLICY CONTEXT
	is based on meeting basic needs and equity, without compromising the natural systems on which it is based (National Strategy for Sustainable Development and Action Plan 2011 – 2014 (NSSD 1) (2011). The concept of need and desirability relates to the nature, scale, and location of the development being proposed, as well as the wise use of land. Essentially, the concept of need and desirability can be explained in terms of the general meaning of its two components in which need primarily refers to time and desirability to place. Need and desirability are interrelated, and the two components can be considered in an integrated and holistic manner (GN891 of 2014).	
DEAT, 2010. NEMA Draft Implementation guideline: Public participation	The guideline document provides guidance on execution of the Public Participation Process (PPP). The primary objectives of PPP include: • Meaningful and timeous participation of I&APs; • Identification of issues and concerns of key stakeholders and I&APs i.e. focus on important issues; • Promotion of transparency and an understanding of the proposed project and its potential environment (social and biophysical) impacts; • Accountability for information used for decision-making; • To serve as a structure for liaison and communication with I&APs; and • A meeting in identifying potential environmental (social and biophysical) impacts associated with the proposed project.	The PPP has been conducted thus far as per the NEMA Guideline document. The draft BAR is now available for a comment period of 30 days, after which it will be updated, and the Final BAR will be submitted to WCDEADP for decision-making.

f) Need and desirability of the proposed activities

The EIA Regulations require that the Need and Desirability of a proposed project be outlined as part of the impact phase (GNR 891 of 2014). The Guideline on Need and Desirability (DEA, 2017) was addressed by analysing the questions on the specific impacts in detail as listed in Table 3-7 and Table 3-8. These assessments form the backbone of the motivation for the project.

GNR 891 of 2014 state environmental authorities must support increased economic growth and promote social inclusion, whilst ensuring that such growth is ecologically sustainable. This is consistent with the national priorities. Furthermore, the New Growth Path (2010) aims to target the country's limited capital and capacity at activities that maximise the creation of decent work opportunities. Both macro and micro economic policies are used to create a favourable overall environment as well as to support more labour absorbing activities. The main indicators of success will be job creation, economic growth, equity and environmental outcomes.

The National Development Plan 2030 (NDP) (2012) stresses that the threat to the 'environment and the challenge of poverty alleviation are closely intertwined' and as such environmental policies should not be framed as a choice between the environment or economic growth.

Sustainable development is the process that is followed to achieve the goal of sustainability. Sustainable development implies the selection and implementation of a development option that allows for appropriate, justifiable social and economic goals to be achieved. This is based on meeting basic needs and equity, without compromising the natural systems on which it is based (National Strategy for Sustainable Development and Action Plan 2011 – 2014 (NSSD 1) (2011).

The concept of need and desirability relates to the nature, scale, and location of the development being proposed, as well as the wise use of land. Essentially, the concept of need and desirability can be explained in terms of the general meaning of its two components in which need primarily refers to time and desirability to place. Need and desirability are interrelated, and the two components can be considered in an integrated and holistic manner (GN891 of 2014).

In order to contemplate the need for the project, the benefits which the proposed project would hold for the local, regional and national community. The need for the project is emphasized by emphasizing how communities would benefit from the development. For the purpose of this report, the need is dealt with by answering the questions as set out in guideline on need and desirability in terms of the EIA Regulations of 2017.

Table 3-7 and Table 3-8 summarises the key questions and the process which has been followed during the BA process to ensure the needs motivation has been adequately assessed.

i. Need

In order to contemplate the need for the project, the applicant must explain which benefits the proposed development would hold for the local, regional and national community. The need for the project is emphasized by emphasizing how communities would benefit from the development. For the purpose of

this report, the need is dealt with by answering the questions as set out in guideline on need and desirability in terms of the EIA Regulations of 2017.

Table 5-1 summarises the key questions and the process which has been followed during the BA process to ensure the needs motivation has been adequately assessed.

Table 3-7. Benefit motivation and assessment guideline.

Question			BAR conclusion
1.	How will this development (and its separate elements/aspects) impact on the ecological integrity of the area?		
	1.1.	How were the following ecological integrity considerations taken into account? • Threatened Ecosystems; • Sensitive, vulnerable, highly dynamic or stressed ecosystems, such as coastal shores, estuaries, wetlands, and similar systems require specific attention in management and planning procedures, especially where they are subject to significant human resource usage and development pressure; • Critical Biodiversity Areas ("CBAs") and Ecological Support Areas ("ESAs"); • Conservation targets; • Ecological drivers of the ecosystem; • Environmental Management Framework; • Spatial Development Framework; and • Global and international responsibilities relating to the environment (e.g. RAMSAR sites, Climate Change, etc.)	• The proposed prospecting area has been assessed in terms of various ecological and biodiversity databases, such as Mucina & Rutherford (2006), BGIS SANBI (2018) and WCBBSP (2017). • The study area is located within the Fynbos and Succulent Karoo Biome, located dominantly within the Lambert's Bay Strandveld and Leipoldtville Sand Fynbos (Mucina & Rutherford, 2006). According to the National vegetation data (BGIS SANBI, 2018) and the WCBBSP (2017), the study area is mainly located within the Lambert's Bay Strandveld and Leipoldtville Sand Fynbos. WCBBSP further recognises small Cape inland salt pans and the National vegetation database recognises the Cape Esturine Salt Marshes within the study area. • According to the Ecosystem Threat Status of National Biodiversity Assessment (NBA, SANBI 2018 as per GNR1002 of 2011) the study area is located within the **Vulnerable** Leipoldtville Sand Fynbos, **Least Threatened** Lambert's Bay Strandveld, **Least Threatened** Graafwater Sandstone Fynbos, **Least Threatened** Cape Esurine Salt Mashes, **Least Threatened** Namaqualand Strandveld and **Least Threatened** Cape Inland Salt Pans. The largest portion of the study area falls within the Leipoldtville Sand Fynbos and Lambert's Bay Strandveld, with the Graafwater Sandstone Fynbos, Cape Esurine Salt Mashes Namaqualand Strandveld and Cape Inland Salt Pans allocated to small areas within the study site.
	1.2	• How will this development disturb or enhance ecosystems and/or result in the loss or protection of biological diversity? • What measures were explored to firstly avoid these negative impacts, and where these negative impacts could not be avoided altogether, what measures were explored to minimise and remedy (including offsetting) the impacts? • What measures were explored to enhance positive impacts?	The sensitivity of the proposed project has been assessed by the respective specialist studies as well as review of available data and consultation with stakeholders and Interested and Affected Parties. For the purpose of this BAR, the sensitivities in terms of the vegetation, wetland, heritage and hydrology have been taken into consideration. The recommendations and conditions from the specialist studies has been included in the EMPR, and must be incorporated into all decision-making and design processes.

Question			BAR conclusion
			The following mitigation measures have been proposed for the respective reports: • In terms of the vegetation and wetland specialist study, a 500m buffer has been included surrounding all desktop identified wetlands, a 100m buffer around all rivers, streams and hydrological features, • a 100m buffer around all heritage aspects.
	1.3	• How will this development pollute and/or degrade the biophysical environment? • What measures were explored to firstly avoid these impacts, and where impacts could not be avoided altogether, what measures were explored to minimise and remedy (including offsetting) the impacts? • What measures were explored to enhance positive impacts?	Implementation of the proposed buffers will minimise the impacts during the prospecting phase, including mitigation measures specified in the BAR such as only using existing farm roads as far as possible.
	1.4	• What waste will be generated by this development? • What measures were explored to firstly avoid waste, and where waste could not be avoided altogether, what measures were explored to minimise, reuse and/or recycle the waste? • What measures have been explored to safely treat and/or dispose of unavoidable waste?	The proposed development will not generate waste.
	1.5	• How will this development disturb or enhance landscapes and/or sites that constitute the nation's cultural heritage? • What measures were explored to firstly avoid these impacts, and where impacts could not be avoided altogether, what measures were explored to minimise and remedy (including offsetting) the impacts? • What measures were explored to enhance positive impacts?	The sensitivity of the proposed project has been assessed by the respective specialist studies as well as review of available data and consultation with stakeholders and Interested and Affected Parties. For the purpose of this BAR, the sensitivities in terms of the vegetation, wetland, heritage and hydrology have been taken into consideration. The recommendations and conditions from the specialist studies has been included in the EMPR and must be incorporated into all decision-making and design processes. The following mitigation measures have been proposed for the respective reports: • a 100m buffer around all heritage aspects.

Question			BAR conclusion
	1.6	• How will this development use and/or impact on non-renewable natural resources? • What measures were explored to ensure responsible and equitable use of the resources? • How have the consequences of the depletion of the non-renewable natural resources been considered? • What measures were explored to firstly avoid these impacts, and where impacts could not be avoided altogether, what measures were explored to minimise and remedy (including offsetting) the impacts? • What measures were explored to enhance positive impacts?	• The EMPr and specialist recommendations will manage the impacts within these sensitive natural resources. • The impact on natural drainage lines have been assessed in the BAR and specialist studies in terms of avoidance by means of implementing a 100m buffer.

	1.7	• How will this development use and/or impact on renewable natural resources and the ecosystem of which they are part?
		• Will the use of the resources and/or impact on the ecosystem jeopardise the integrity of the resource and/or system taking into account carrying capacity restrictions, limits of acceptable change, and thresholds?
		• What measures were explored to firstly avoid the use of resources, or if avoidance is not possible, to minimise the use of resources?
		• What measures were taken to ensure responsible and equitable use of the resources?
		• What measures were explored to enhance positive impacts?
		  • Does the proposed development exacerbate the increased dependency on increased use of resources to maintain economic growth or does it reduce resource dependency (i.e. de-materialised growth)? (note: sustainability requires that settlements reduce their ecological footprint by using less material and energy demands and reduce the amount of waste they generate, without compromising their quest to improve their quality of life).
		  • Does the proposed use of natural resources constitute the best use thereof? Is the use justifiable when considering intra- and
			• The proposed prospecting area has been amended to exclude sensitive habitats and have proposed a buffer zone around these sensitive features
			• The mitigation hierarchy was implemented and the remaining impacts cannot be mitigated by means of avoidance.
			• Implementation of the prospecting leads to a potential enhancement of economy and job creation in the area in the future, however this is dependent upon several requirements.

Question			BAR conclusion
		intergenerational equity, and are there more important priorities for which the resources should be used (i.e. what are the opportunity costs of using these resources this the proposed development alternative?) • Do the proposed location, type and scale of development promote a reduced dependency on resources?	
	1.8	• How were a risk-averse and cautious approach applied in terms of ecological impacts? • What are the limits of current knowledge (note: the gaps, uncertainties and assumptions must be clearly stated)? • What is the level of risk associated with the limits of current knowledge? • Based on the limits of knowledge and the level of risk, how and to what extent was a risk-averse and cautious approach applied to the development?	The sensitivity of the proposed project has been assessed by the respective specialist studies as well as review of available data and consultation with stakeholders and Interested and Affected Parties. For the purpose of this BAR, the sensitivities in terms of the vegetation, wetland, heritage and hydrology have been taken into consideration. The recommendations and conditions from the specialist studies has been included in the EMPR and must be incorporated into all decision-making and design processes. The following mitigation measures have been proposed for the respective reports: • In terms of the vegetation and wetland specialist study, a 500m buffer has been included surrounding all desktop identified wetlands, a 100m buffer around all rivers, streams and hydrological features, Risks include the fact that this was only a desktop study, however the data of the WCBSP was also assessed and included and this data is more specific on a larger scale. Recommendations has been made that after the initial airborne geophysical survey has been completed and target areas for drilling defined, an ecologist will overlay these areas on the sensitivity map in order to identify areas that would need to be validated on site prior to commencing drilling. Should any other species of concern be identified by the ecologist, the proposed drilling grid layout should be amended.
	1.9	• How will the ecological impacts resulting from this development impact on people's environmental right in terms of the following: o Negative impacts: e.g. access to resources, opportunity costs, loss of amenity (e.g. open space), air and water quality impacts, nuisance (noise, odour, etc.), health impacts, visual impacts, etc. What measures	The ecological impacts of this proposed prospecting activities are limited to a small footprint, for a limited period.

Question			BAR conclusion
		were taken to firstly avoid negative impacts, but if avoidance is not possible, to minimise, manage and remedy negative impacts? o Positive impacts: e.g. improved access to resources, improved amenity, improved air or water quality, etc. What measures were taken to enhance positive impacts?	
	1.10	Describe the linkages and dependencies between human wellbeing, livelihoods and ecosystem services applicable to the area in question and how the development's ecological impacts will result in socio-economic impacts (e.g. on livelihoods, loss of heritage site, opportunity costs, etc.)?	• During the initial public participation period, concerns were raised in terms loss of scarce water resources, impacting negatively on the agricultural activities, impact on tourism activities. • This can be mitigated by adhering to the mitigation measures in the EMPR for management of nuisance impacts.
	1.11	Based on all of the above, how will this development positively or negatively impact on ecological integrity objectives / targets / considerations of the area?	The ecological impacts of this proposed prospecting activities are limited to a small footprint, for a limited period.
	1.12	Considering the need to secure ecological integrity and a healthy biophysical environment, describe how the alternatives identified (in terms of all the different elements of the development and all the different impacts being proposed), resulted in the selection of the "best practicable environmental option" in terms of ecological considerations?	The proposed layout alternative is based on the exclusion of sensitivity areas and the related buffers.
	1.13	Describe the positive and negative cumulative ecological/biophysical impacts bearing in mind the size, scale, scope and nature of the project in relation to its location and existing and other planned developments in the area?	The cumulative impacts are limited due to the ongoing rehabilitation principle of Colt Resources. No drilling areas will be left unrehabilitated. And the rehabilitation will be monitored as per the requirements of the EMPR and rehabilitation programme.

ii. Desirability

The desirability of the project relates to the placement of the activities. The motivation must indicate why the location of the development in this particular area would be more desirable than establishing it in another area. It will be dealt with by answering the questions as set out in the DEA guideline on need and desirability in terms of the EIA Regulations of 2017.

Table 3-8 summarises the key questions and process followed during the BA process to ensure the desirability of the project has been thoroughly assessed.

Table 3-8. Desirability motivation and assessment guideline.

Question			BAR conclusion
2.	What is the socio-economic context of the area, based on, amongst other considerations, the following considerations?		
	2.1	• The IDP (and its sector plans' vision, objectives, strategies, indicators and targets) and any other strategic plans, frameworks of policies applicable to the area; • Spatial priorities and desired spatial patterns (e.g. need for integrated of segregated communities, need to upgrade informal settlements, need for densification, etc.); • Spatial characteristics (e.g. existing land uses, planned land uses, cultural landscapes, etc.); and • Municipal Economic Development Strategy ("LED Strategy").	• The current application is only for prospecting within the area, hence it will not impact on the strategic vision or spatial patterns of the area. • Should the outcomes of the prospecting be positive and the intention to mine is considered, the full assessment of these policies in terms of mining and spatial patterns will be assessed. A decision on these aspects can only be considered in approximately 5 years' time, and by then updated IDP's will be available.
	2.2	• Considering the socio-economic context, what will the socio-economic impacts be of the development (and its separate elements/aspects), and specifically also on the socio-economic objectives of the area? • Will the development complement the local socio-economic initiatives (such as local economic development (LED) initiatives), or skills development programs?	• The impact of prospecting on the socio-economic initiatives is very limited, and this application is confined to prospecting. • Should the outcomes of the prospecting be positive and the intention to mine is considered, the full assessment of these policies in terms of mining and spatial patterns will be assessed. A decision on these aspects can only be considered in approximately 5 years' time, and by then updated IDP's will be available.
	2.3	• How will this development address the specific physical, psychological, developmental, cultural and social needs and interests of the relevant communities?	• The impact of job creation and potential job loss has been assessed in the Impact assessment Table in this report.
	2.4	• Will the development result in equitable (intra- and inter-generational) impact distribution, in the short- and long-term? • Will the impact be socially and economically sustainable in the short- and long-term?	• Limited job opportunities will be created during the prospecting phase.

	2.5	• In terms of location, describe how the placement of the proposed development will:
		  • result in the creation of residential and employment opportunities in close proximity to or integrated with each other;
		  • reduce the need for transport of people and goods;
		  • result in access to public transport or enable non-motorised and pedestrian transport (e.g. will the development result in densification and the achievement of thresholds in terms public transport);
			• The impact of prospecting on these aspects are very limited, and this application is confined to prospecting.
			• Management and mitigation of prospecting related impacts are assessed in the impact assessment table and EMPr.

Question			BAR conclusion
		• compliment other uses in the area; • be in line with the planning for the area; • for urban related development, make use of underutilised land available with the urban edge; • optimise the use of existing resources and infrastructure; • opportunity costs in terms of bulk infrastructure expansions in non-priority areas (e.g. not aligned with the bulk infrastructure planning for the settlement that reflects the spatial reconstruction priorities of the settlement); • discourage "urban sprawl" and contribute to compaction/densification; • contribute to the correction of the historically distorted spatial patterns of settlements and to the optimum use of existing infrastructure in excess of current needs; • encourage environmentally sustainable land development practices and processes; • take into account special locational factors that might favour the specific location (e.g. the location of a strategic mineral resource, access to the port, access to rail, etc.); • the investment in the settlement or area in question will generate the highest socio-economic returns (i.e. an area with high economic potential); • impact on the sense of history, sense of place and heritage of the area and the socio-cultural and cultural-historic characteristics and sensitivities of the area; and • in terms of the nature, scale and location of the development promote or act as a catalyst to create a more integrated settlement?	
	2.6	• How were a risk-averse and cautious approach applied in terms of socio-economic impacts? • What are the limits of current knowledge (note: the gaps, uncertainties and assumptions must be clearly stated)? • What is the level of risk (note: related to inequality, social fabric, livelihoods, vulnerable communities' critical resources, economic vulnerability and sustainability) associated with the limits of current knowledge? • Based on the limits of knowledge and the level of risk, how and to what extent was a risk-averse and cautious approach applied to the development?	• The impact of prospecting on these aspects are very limited, and this application is confined to prospecting. • Management and mitigation of prospecting related impacts are assessed in the impact assessment table and EMPr. • The impact assessment methodology was applied to potential impacts, as indicated in Section 3.

Question			BAR conclusion

	2.7	• How will the socio-economic impacts resulting from this development impact on people's environmental right in terms following:
		  • Negative impacts: e.g. health (e.g. HIV-Aids), safety, social ills, etc. What measures were taken to firstly avoid negative impacts, but if avoidance is not possible, to minimise, manage and remedy negative impacts?
		  ○ Positive impacts. What measures were taken to enhance positive impacts?
			• The impact of prospecting on these aspects are very limited, and this application is confined to prospecting.
			• Management and mitigation of prospecting related impacts are assessed in the impact assessment table and EMPr.
			• The impact assessment methodology was applied to potential impacts, as indicated in Section 3(h).

	2.8	• Considering the linkages and dependencies between human wellbeing, livelihoods and ecosystem services, describe the linkages and dependencies applicable to the area in question and how the development's socio-economic impacts will result in ecological impacts (e.g. over utilisation of natural resources, etc.)?	• The EMPr provides measures to prevent or minimise the proposed prospecting related impacts. • The proposed preferred alternatives presented in this report takes cognisance of the ecological sensitivities and therefore ensures that the of sensitive and potential sensitive habitat and areas and their related buffers is excluded from the project footprint. .
	2.9	• What measures were taken to pursue the selection of the "best practicable environmental option" in terms of socio-economic considerations?	• Alternatives of the project and study area were assessed based on feasible project alternatives, in terms of allocated farms, geology, environmental sensitive areas and land use constraints such as servitudes. The best practicable environmental option was assessed based on the sensitivities identified such as wetland and river areas, as well as servitudes, heritage areas and all related buffers. The proposed preferred alternatives presented in this report are deemed as the preferred alternative due to the exclusion of sensitive and potential sensitive habitat and areas and their related buffers.
	2.10	• What measures were taken to pursue environmental justice so that adverse environmental impacts shall not be distributed in such a manner as to unfairly discriminate against any person, particularly vulnerable and disadvantaged persons (who are the beneficiaries and is the development located appropriately)? • Considering the need for social equity and justice, do the alternatives identified, allow the "best practicable environmental option" to be selected, or is there a need for other alternatives to be considered?	• Alternatives of the project and study area were assessed based on feasible project alternatives, in terms of allocated farms, geology, environmental sensitive areas and land use constraints such as servitudes. The best practicable environmental option was assessed based on the sensitivities identified such as wetland and river areas, as well as servitudes, heritage areas and all related buffers. The proposed preferred alternatives presented in this report are deemed as the preferred alternative due to the exclusion of sensitive and potential sensitive habitat and areas and their related buffers.
	2.11	• What measures were taken to pursue equitable access to environmental resources, benefits and services to meet basic human needs and ensure human wellbeing, and what special measures were taken to ensure access thereto by categories of persons disadvantaged by unfair discrimination?	• The current application is only for prospecting within the area and limited job opportunities will be created during the prospecting phase. • Should the outcomes of the prospecting be positive and the intention to mine is considered, the full assessment of these policies in terms of mining and spatial patterns will be assessed and more job opportunities will be made available to local

Question			BAR conclusion
			community (including previously disadvantaged individuals) that will contribute to the human wellbeing of the area.
	2.12	• What measures were taken to ensure that the responsibility for the environmental health and safety consequences of the development has been addressed throughout the development's life cycle?	• These impacts have been assessed and addressed in the EMPr that has been included in this report.
	2.13	• What measures were taken to: • ensure the participation of all interested and affected parties; • provide all people with an opportunity to develop the understanding, skills and capacity necessary for achieving equitable and effective participation; • ensure participation by vulnerable and disadvantaged persons; • promote community wellbeing and empowerment through environmental education, the raising of environmental awareness, the sharing of knowledge and experience and other appropriate means; • ensure openness and transparency, and access to information in terms of the process; • ensure that the interests, needs and values of all interested and affected parties were taken into account, and that adequate recognition were given to all forms of knowledge, including traditional and ordinary knowledge; and • ensure that the vital role of women and youth in environmental management and development were recognised and their full participation therein were promoted?	• In accordance with the EIA Regulations, the commencement of the EIA (BA) Process for the project was advertised in the local newspaper and site notices were placed near and at the site and notification letters were distributed to all Interested and Affected parties and stakeholders in order to ensure that the widest group of I&APs were informed during the initial public participation phase. • All comments received during the Public Participation Phase (PPP) have and will be incorporated and addressed within the comments and response reproof the draft and final BAR.
	2.14	Considering the interests, needs and values of all the interested and affected parties, describe how the development will allow for opportunities for all the segments of the community (e.g. a mixture of low-, middle-, and high-income housing opportunities) that is consistent with the priority needs of the local area (or that is proportional to the needs of an area)?	• The current application is only for prospecting within the area and limited job opportunities will be created during the prospecting phase. • Should the outcomes of the prospecting be positive and the intention to mine is considered, the full assessment of these policies in terms of mining and spatial patterns will be assessed and more job opportunities will be made available to local community (including previously disadvantaged individuals) that will contribute to the human wellbeing of the area.
	2.15	What measures have been taken to ensure that current and/or future workers will be informed of work that potentially might be harmful to human health or the environment or of dangers associated with the work, and what measures have been taken to ensure that the right of workers to refuse such work will be respected and protected?	• The EMPr provides measures to prevent or minimise the impact of the proposed prospecting activities. The workers that will be employed on site would need to conduct environmental and safety training in order to understand the environmental risks and dangers associated with the proposed project.

Question			BAR conclusion
	2.16	• Describe how the development will impact on job creation in terms of, amongst other aspects: o the number of temporary versus permanent jobs that will be created; o whether the labour available in the area will be able to take up the job opportunities (i.e. do the required skills match the skills available in the area); o the distance from where labourers will have to travel; o the location of jobs opportunities versus the location of impacts (i.e. equitable distribution of costs and benefits); and o the opportunity costs in terms of job creation (e.g. a mine might create 100 jobs, but impact on 1000 agricultural jobs, etc.).	• The current application is only for prospecting within the area and limited job opportunities will be created during the prospecting phase. • Should the outcomes of the prospecting be positive and the intention to mine is considered, the full assessment of these policies in terms of mining and spatial patterns will be assessed and more job opportunities will be made available to local community (including previously disadvantaged individuals) that will contribute to the human wellbeing of the area.
	2.17	• What measures were taken to ensure: o that there were inter-governmental coordination and harmonisation of policies, legislation and actions relating to the environment; and o that actual or potential conflicts of interest between organs of state were resolved through conflict resolution procedures?	• All depaColt Resourcesnts dealing with legislation applicable to this project have been contacted and informed about the proposed project.
	2.18	What measures were taken to ensure that the environment will be held in public trust for the people, that the beneficial use of environmental resources will serve the public interest, and that the environment will be protected as the people's common heritage?	• The BA process was followed as per the applicable laws and related regulations of South Africa. • Mitigation measures presented in this document as well as the EMPr provided for the project aims to limit the impact of the proposed project on the sensitivities identified on site. These mitigation measures have been included in the specialist studies, the BAR and EMPr.
	2.19	Are the mitigation measures proposed realistic and what long-term environmental legacy and managed burden will be left?	• Mitigation measures presented in this document as well as the EMPr provided for the project aims to limit the impact of the proposed project on the environment. The proposed preferred alternatives presented in this report are deemed as the preferred alternative due to the exclusion of sensitive and potential sensitive habitat and areas and their related buffers.
	2.20	What measures were taken to ensure that the costs of remedying pollution, environmental degradation and consequent adverse health effects and of preventing, controlling or minimising further pollution, environmental damage or adverse health effects will be paid for by those responsible for harming the environment?	• The EMPr provides measures to prevent or minimise the impact of the proposed project on the environment. These measures are realistic and implementable. • Should the outcomes of the prospecting be positive and the intention to mine is considered, the full assessment of the policies in terms of mining and spatial patterns will be assessed. A Remediation Plan must then be compiled and executed throughout the project.

Question			BAR conclusion
	2.21	Considering the need to secure ecological integrity and a healthy bio-physical environment, describe how the alternatives identified (in terms of all the different elements of the development and all the different impacts being proposed), resulted in the selection of the best practicable environmental option in terms of socio-economic considerations?	• Alternatives of the project and study area were assessed based on feasible project alternatives, in terms of allocated farms, geology, environmental sensitive areas and land use constraints such as servitudes. The best practicable environmental option was assessed based on the sensitivities identified such as wetland and river areas, as well as servitudes, heritage areas and all related buffers. The proposed preferred alternatives presented in this report are deemed as the preferred alternative due to the exclusion of sensitive and potential sensitive habitat and areas and their related buffers.
	2.22	Describe the positive and negative cumulative socio-economic impacts bearing in mind the size, scale, scope and nature of the project in relation to its location and other planned developments in the area?	• The impact of prospecting on the socio-economic initiatives is very limited, and this application is confined to prospecting. • Should the outcomes of the prospecting be positive and the intention to mine is considered, the full assessment of these policies in terms of mining and spatial patterns will be assessed and more job opportunities will be made available to local community (including previously disadvantaged individuals) that will contribute to the human wellbeing of the area.

g) Motivation for the overall preferred site, activities and technology alternatives

The alternatives assessment of the project and study area is based on feasible project alternatives, in terms of allocated farms, geology, environmental sensitive areas and land use constraints such as servitudes.

h) Full description of the process followed to reach the proposed preferred alternatives within the site

(NB!! – This section is about the determination of the specific site layout and the location of infrastructure and activities on site, having taken into consideration the issues raised by interested and affected parties, and the consideration of alternatives to the initially proposed site layout.)

An alternative, in relation to the proposed activity, refers to different means of meeting the general purpose and requirements of the activity. This can be through the identification of an alternative property on which the activity can take place, the type of activity to be undertaken, a change in the design or layout of the activity, the technology used in the activity or the operational aspects of the activity. It also includes the option of not implementing the activity, referred to as the No-Go alternative. The section below considers the details of the development footprint alternatives in relation to six types of alternatives.

i. Details of the development footprint 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:

(a) the property on which or location where it is proposed to undertake the activity;
(b) the type of activity to be undertaken;
(c) the design or layout of the activity;
(d) the technology to be used in the activity;
(e) the operational aspects of the activity; and
(f) the option of not implementing the activity.)

a) Property/location alternative

No application site alternatives were proposed for the prospecting application, as these farms have been allocated by DMREE as per the prospecting application. However, within the allocated farms, site localities of the proposed borehole grid layout were assessed in order to avoid areas with ecological, hydrological and cultural significance within the limited range of the geology and mineral ore bodies.

b) Type of activity

The applicant wishes to prospect in the study area for the heavy mineral commodities.

c) Design or layout of the activity

The activity alternatives included the options of utilising the full extent of the allocated farms, however the proposed alternative excludes identified areas of importance, such as wetland and river areas, as well as servitudes, heritage areas and all related buffers.

d) Technology alternatives

Various proposed borehole drilling methods will be considered during site activities, based on the conditions on site.

e) Operational alternatives

The proposed prospecting operational alternatives include the grid size. However, this approach as set out in Section 3(d), is the best practice operational procedure for prospecting.

f) 'No-Go' alternative

The no-go alternative means that no prospecting will occur, and the potential ore remains uncharacterized. Linked to this would be no impact on the vegetation and the additional utilisation of the roads.

The no-go alternative will not necessarily inhibit the orebody to be assessed in the future.

Concluding statement regarding the alternatives

The proposed alternatives have been proposed based on the assessment of the site sensitivities and consideration of the available best practice technology options.

ii. 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.)

1. Identification of and Consultation with Key Stakeholders and Landowners

The first step in the PPP entails the identification of key I&APs and Stakeholders, including:

Identification of I&APs takes place using existing databases, on-site interaction, responses to newspaper advertisements, networking, and a proactive process to identify key I&APs within the study area. All the information obtained from the I&APs, together with dates and details of the correspondence and a record of all issues raised was recorded within a comprehensive database of affected landowners (and occupiers where relevant). This database is updated on an on-going basis throughout the process and acts as a record of the communication/involvement process. This database was prepared by Exigent and used to record I&APs and stakeholder correspondence. The database was continually updated throughout the public participation process. Landowners, key stakeholders and interested parties were given the opportunity to comment during the public registration period.

2. Advertising

In accordance with the EIA Regulations, the commencement of the BA Process for the project was advertised in the local newspaper. English advertisements were placed in the local newspaper, 'Die Kontrei' on 4 March 2022 and Cape Argus that served as the announcement of the proposed project. In order to ensure that the widest group of I&APs were informed during the initial public participation phase, the public participation information was distributed to the stakeholders.

Figure 3-4 indicates the locality of posters on site in proximity of the proposed prospecting area. Photos of the posters are included in Appendix D2.

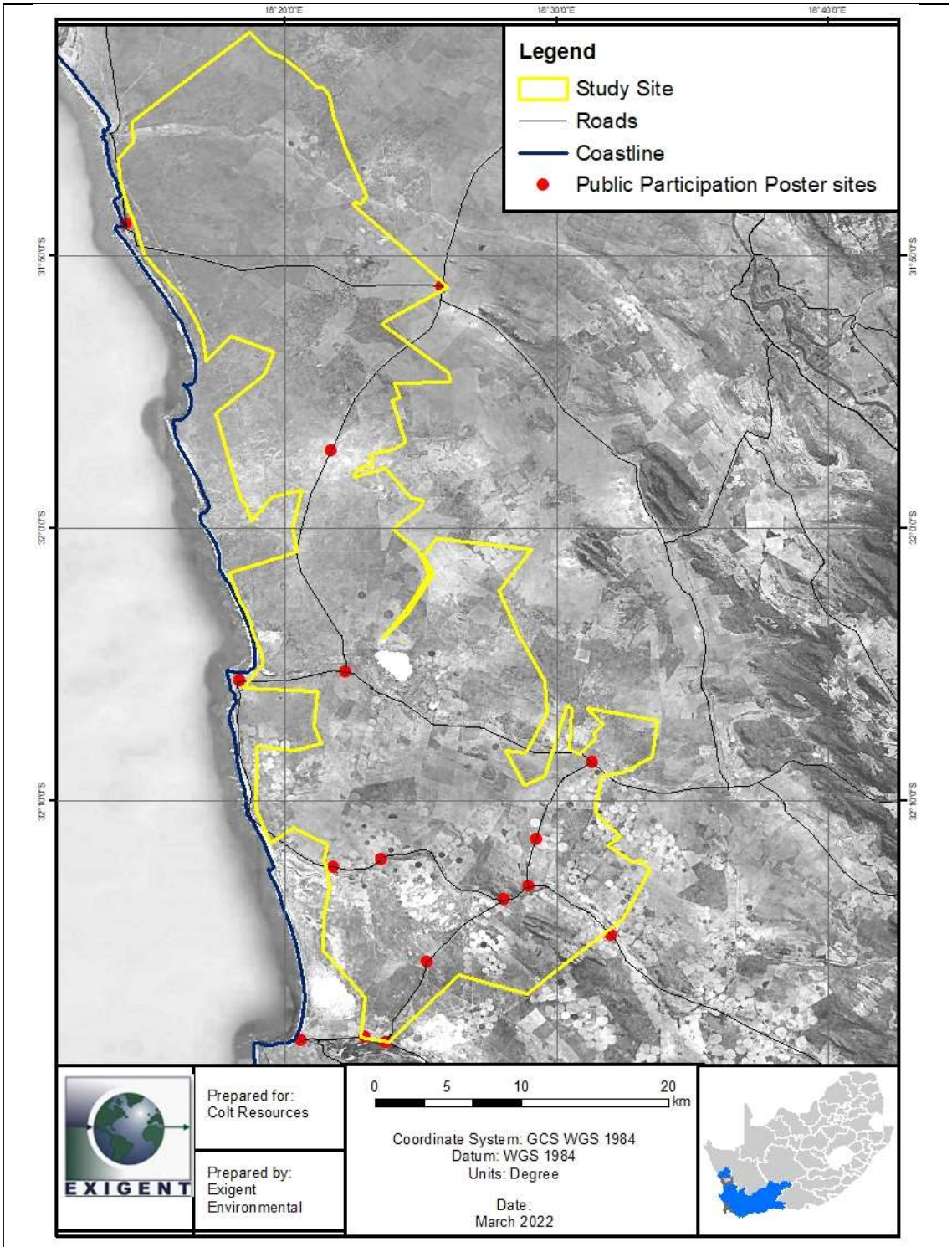


Figure 3-4. Map depicting location of posters placed in vicinity of the proposed prospecting area

Copies of the newspapers advertisement and site notices placed in the vicinity of the prospecting application farms have been attached as part of Appendix D2.

3. Background Information Letter

A Background Information letter was compiled and distributed to I&APs and relevant stakeholders for the proposed project. The aim of the letter was to provide a brief outline of the proposed project, provide I&APs and stakeholders with a map of the study area, provide preliminary details regarding the Basic Assessment (BA), and to explain how I&APs can become involved in the project.

4. Public and Authority review of the draft Basic Assessment Report

The draft Basic Assessment Report (BAR) will be available for review for 30 calendar days. The documents will be accessible by means of download from public.exigent.co.za. the documents will also be placed at the venues included in Table 3-9 for public review.

Table 3-9. Venues of draft BAR for public review

Venue	Address	Contact person
Lamberts Bay Public Library	42 Church Street, Lamberts Bay	Haneke van Zyl, tel 027 432 1849
Strandfontein Public Library	Cnr Welgelegen Road and Dennegeur Avenue, Strandfontein	Phumla Vena, tel 021 814 1422
Doringbaai Public Library	Harbour Road, Doringbaai	Gladys Gal, tel 027 201 3457
Graafwater public library	Van der Stel Street, Graafwater	Amanda Swartz, tel 027 422 1108

Hard copies will be posted to the pre-identified key stakeholders and links for download of the electronic copies to all registered I&APs (unless requested otherwise). In instances where stakeholders or I&APs had trouble accessing or downloading the public documents, a softcopy of the documents (in the form of a USB flash disk) will be sent to the stakeholder or I&AP.

A 30-calendar day period is allowed for this review process. All I&APs and Stakeholders registered on the project database will be notified of the availability of this report by SMS, WhatsApp or e-mail. A hard copy of the draft report was simultaneously submitted to the DMRE. The DMRE will be notified of the distribution of the Draft reports to the following organs of state, in order for them to request their comments on the draft BAR within 30 calendar days from the date of submission:

- Matzikama Local Municipality;
- Cederberg Local Municipality
- West Coast District Municipality;
- Cape Nature;
- DepaColt Resourcesnt of Water and Sanitation;
- DepaColt Resourcesnt of Environmental Affairs;
- DepaColt Resourcesnt of Agriculture;

- Doornbaai Local Municipality; and
- NWCape Mining Forum

5. Issues Trial (Comments and Response Report)

Issues and concerns raised during the initial registration period for the PPP was compiled into a CRR (Appendix D4), with responses provided by Exigent and the project team. Information from this initial PPP phase has been incorporated into the BAR by means of impacts and mitigations. From this CRR, an action list will be compiled detailing the actions which the Applicant are required to undertake in order to address specific issues raised.

iii. Summary of issues raised by I&APs

(Complete the table summarising comments and issues raised, and reaction to those responses)

Following the publication of the adverts, the placement of the site notices and the circulation of the BID all communications between Exigent, the I&APs and the Stakeholders, all comments received have been included in Appendix D3 and a topic-specific issues assessment has been included in Table 3-10.

Table 3-10. Topic-specific summary of comments received during the initial project notification phase.

Issues raised (comments received)	EAPs response to issues as mandated by the applicant	Section and paragraph reference in this report where the issues and or response were incorporated.
BIODIVERSITY AND WATER		
This prospecting right application will have a negative effect on the environment, disturbing ecosystem functioning, ground water processes and cause habitat loss and environmental degradation.	All prospecting activities will remain within the existing roads where possible. The total disturbed areas will be minimal, however all disturbed areas will be cleared, and shaped to the match the surrounding topography, ripped, topsoil replaced, ameliorated and further reinstated in accordance with the pre-land use and land cover. The prospecting activities will occur on a very small scale, with short-term impacts and will therefore not impact on tourism potential of the area.	Incorporated into the EMPr. Section 1d) iii and iv within Part B EMPr
The Lamberts Bay / West Coast area is already under great pressure with little water and repeated mining / prospecting applications that can have no benefit to the environment are detrimental to the tourism, ecology and fishing industry.	As discussed with DWS (Appendix F2), no water will be extracted, and no prospecting activities will occur within 500m of wetlands or within 100m of watercourses	Water issues were addressed in Appendix C3 and Appendix F2
The entire West Coast District is such a sensitive area with a huge water shortage. Any form of mining on prospecting will have a major negative effect on nature, tourism as well as marine resources	As discussed with DWS (Appendix F2), no water will be extracted, and no prospecting activities will occur within 500m of wetlands or within 100m of watercourses	Water issues were addressed in Appendix C3 and Appendix F2
Sensitive areas. Bad roads already a problem Water shortage is a massive problem. Negative impact on sea fisheries, environmental tourists and more. Marine resources and poor community - all negatively affected.	As discussed with DWS (Appendix F2), no water will be extracted, and no prospecting activities will occur within 500m of wetlands or within 100m of watercourses	Water issues were discussed with DWS in Appendix F2 Ecological, Heritage and Water Impacts are addressed in Appendix C1-3

Issues raised (comments received)	EAPs response to issues as mandated by the applicant	Section and paragraph reference in this report where the issues and or response were incorporated.
The West Coast is an extremely sensitive area with a huge water shortage and an already poor community. Marine resources, tourism and nature will be adversely affected by any ongoing mining operations	As discussed with DWS (Appendix F2), no water will be extracted, and no prospecting activities will occur within 500m of wetlands or within 100m of watercourses	Water issues were addressed in Appendix C3 and Appendix F2. Ecological, Heritage and Water Impacts are addressed in Appendix C1-3.
Scarcity of water is the biggest concern. Proclaimed as a PNR. Best unspoiled piece of land for generations to come. We protect it for generations. Tourism will be greatly impacted which was built up through the years. Local communities will suffer.	All prospecting activities will remain within the existing roads where possible. The total disturbed areas will be minimal, however all disturbed areas will be cleared, and shaped to the match the surrounding topography, ripped, topsoil replaced, ameliorated and further reinstated in accordance with the pre-land use and land cover. The prospecting activities will occur on a very small scale, with short-term impacts and will therefore not impact on tourism potential of the area.	Water issues were addressed in Appendix C3 and Appendix F2 Ecological, Heritage and Water Impacts are addressed in Appendix C1-3.
Strongly object to any mining exploration along our West Coast. It will irreparably damage the coastal dunes & hinterland and no kind of rehabilitation promised is genuine balance the creation of a debt bowl!!		Water issues were addressed in Appendix C3 and Appendix F2 Ecological, Heritage and Water Impacts are addressed in Appendix C1-3
The intended area lies in biodiversity corridor which is very sensitive to development. The prevailing westerly winds will transform the environment into a desert landscape due to the sandy soil. Due to the flowers, the area is a tourist mecca. Water is already scarce, farming region dependent on sufficient water, no surface water.	The I&AP was registered on the I&AP database to be kept informed of the availability of project information. The biodiversity aspects have been discussed in the ecological specialist study in detail, and also in the Draft BAR. (Appendix C). All prospecting activities will remain within the existing roads where possible. The total disturbed areas will be minimal, however all disturbed areas will be cleared, and shaped to the match the surrounding topography, ripped, topsoil replaced, ameliorated and further reinstated in accordance with the pre-land use and land cover. The prospecting activities will occur on a very small scale, with short-term impacts and will therefore not impact on tourism potential of the area.	Ecological, Heritage and Water Impacts are addressed in Appendix C1-3

Issues raised (comments received)	EAPs response to issues as mandated by the applicant	Section and paragraph reference in this report where the issues and or response were incorporated.
	As discussed with DWS (Appendix F2), no water will be extracted, and no prospecting activities will occur within 500m of wetlands or within 100m of watercourses.	
Intended development affects all farms adjacent to the farm. Very sensitive due to biodiversity. Westerly winds blow 6 months of the year and disturbed soil becomes wind erosion spots. Environment earns income from tourism if flowers are destroyed no income Water in farming region is already critically scarce	The I&AP was registered on the I&AP database to be kept informed of the availability of project information. The biodiversity aspects have been discussed in the ecological specialist study in detail, and also in the Draft BAR. (Appendix C). All prospecting activities will remain within the existing roads where possible. The total disturbed areas will be minimal, however all disturbed areas will be cleared, and shaped to the match the surrounding topography, ripped, topsoil replaced, ameliorated and further reinstated in accordance with the pre-land use and land cover. The prospecting activities will occur on a very small scale, with short-term impacts and will therefore not impact on tourism potential of the area. As discussed with DWS (Appendix F2), no water will be extracted, and no prospecting activities will occur within 500m of wetlands or within 100m of watercourses.	Ecological, Heritage and Water Impacts are addressed in Appendix C1-3
RENEWABLE ENERGY PROJECTS IN THE AREA		
I am writing to you from AMDA Developments, a renewable energy development company in Cape Town. Please kindly see the response to the notification letter dates 03 March 2022. Please don't hesitate to contact us if you would like more clarity on the letter or our existing rights. AMDA writes to you in your capacity as a representative for Colt Resources (Pty) Ltd who are currently applying to conduct mineral exploration activities under DMR reference number: WC30/5/1/1/2/10403PR. AMDA Juliett is a wind farm development that has been awarded section 53 mineral rights over the Remaining Extent of the Farm De Boom No 273. In	The comment was captured in the Comments and response report and a meeting was set up for discussion between AMDA and the Applicant. AMDA requested the Applicant to exclude the approved windfarm site from the prospecting application, however the Applicant stated that this decision will only be made after the non-invasive phase has been completed, and more information is available.	Minutes of meeting included in Appendix D6.1

Issues raised (comments received)	EAPs response to issues as mandated by the applicant	Section and paragraph reference in this report where the issues and or response were incorporated.
addition to these rights, we have been awarded an environmental authorisation by the Department of Environment Forestry and Fisheries as of 30 April 2019 (DEFF Reference Number - 14/12/16/3/3/2/1074). We would like to highlight that our wind farm development is at an advanced stage of development and as such whilst we have no comment on the broader exploration you are undertaking, we would like to strongly point out that the "Juno Wind Farm" would not at this time support the prospecting for minerals on the De Boom land parcel as the land is currently reserved for wind farm development. In addition to the land use and environmental rights we have on the land, we also have a binding leasing agreement with the landowner as well as several other development-related permits. We would like to follow your prospecting activity and as such kindly ask that myself and Piero Granelli be included on the I&AP list. We also kindly request a detailed response to our position communicated in this letter.		
TOURISM		
Environment earns income from tourism if flowers are destroyed no income. Water in farming region is already critically scarce.	The prospecting activities will occur on a very small scale, with short-term impacts and will therefore not impact on tourism potential of the area. As discussed with DWS (Appendix F2), no water will be extracted, and no prospecting activities will occur within 500m of wetlands or within 100m of watercourses. The biodiversity aspects have been discussed in the ecological specialist study in detail, and also in the Draft BAR. (Appendix C).	Water issues were addressed in Appendix C3 and Appendix F2. Ecological, Heritage and Water Impacts are addressed in Appendix C1-3
The environmental impact & destruction of the land as well as the damage of the pristine West Coast will inflict irreversible damage on nature and tourism.	As discussed with DWS (Appendix F2), no water will be extracted, and no prospecting activities will occur within 500m of wetlands or within 100m of watercourses. The biodiversity aspects have been discussed in the ecological specialist study in detail, and also in the Draft BAR. (Appendix C).	Water issues were addressed in Appendix C3 and Appendix F2. Ecological, Heritage and Water Impacts are addressed in Appendix C1-3.

Issues raised (comments received)	EAPs response to issues as mandated by the applicant	Section and paragraph reference in this report where the issues and or response were incorporated.
It has been a family farm since 1831. It is declared PNR. Rich history, except that West Coast is already losing its glory. Tourism will never be the same again. Non-white and White communities will suffer. Drugs, smuggling illegal crops from sources.	All prospecting activities will remain within the existing roads where possible. The total disturbed areas will be minimal, however all disturbed areas will be cleared, and shaped to the match the surrounding topography, ripped, topsoil replaced, ameliorated and further reinstated in accordance with the pre-land use and land cover. The prospecting activities will occur on a very small scale, with short-term impacts and will therefore not impact on tourism potential of the area.	Refer to the project description section in the report with regards to the proposed activities.
PROCESS AND LICENSING		
My husband (Kobus Visser) and I registered separately as I&APs for this prospecting and water use license application in March 2022. Per the details of the project as sent out by yourself (copy here below) the comment period for the prospecting application has already passed (03 May 2022), and that for the water-use license should still be in process until 17 June 2022. However, neither of us has received a copy of the Draft BAR or Draft WULA documents from yourselves as yet, nor are these available on the Exigent website. Please be so kind as to advise what the way forward is regarding these applications and their respective public participation processes.	The I&AP was informed that the DBAR date of release was delayed, and the date was amended. All I&APs will be informed of the availability of the Draft BAR for comments.	Public Participation in the DBAR.
Please find attached the Registration Form I completed to register as an Interested & Affected Party (I&AP) for the prospecting and water use license applications WC 30/5/1/1/2 / 10403PR. Most of the information about this I have received to date has been in both English and Afrikaans, except for the privacy policy document. I think it is important that these terms are also published in Afrikaans, so that I&AP has clarity about the policy that is applied. I also see that the email notification (copy below) regarding the availability of the BAV (Basic Assessment Report) in English does not correspond with the dates in the Afrikaans version.	The I&AP was registered on the I&AP database to be kept informed of the availability of project information. An Afrikaans version of the privacy policy was distributed via the project website and also forwarded to the I&AP on 22 March 2022.	N/A

Issues raised (comments received)	EAPs response to issues as mandated by the applicant	Section and paragraph reference in this report where the issues and or response were incorporated.
I reserve the right to comment and object when the necessary documents have been made available and a public meeting has been held.	We acknowledge the typing error in the dates between the Afrikaans and English versions of the notification e-mail, and it has been corrected	

iv. The environmental attributes associated with the alternatives

(The environmental attributed described must include socio-economic, social, heritage, cultural, geographical, physical and biological aspects)

1. The baseline environment

a) Type of environment affected by the proposed activity

(its current geographical, physical, biological, socio- economic, and cultural character).

Climate

The general area surrounding and including the study area, straddles both Hot Desert climates (*BWh*) and Cold Desert climates (*BWk*) according to the Köppen-Geiger Climate classification, typically experiencing hot to very hot, dry summers and cool to cold, dry winters. As per the vegetation type description obtained from Mucina & Rutherford (2006), the climate can be described as a winter rainfall with rainfall during May and August. Frost is very rare and may occur 3 or 4 days per year with the lowest temperatures being 5-10°C.

The study area sees a Mean Annual Precipitation (MAP) ranging between 116 and 450 mm and the rainfall in these areas typically averages 170mm per annum. The Mean daily maximum and minimum temperatures 30.2°C and 6.6°C for February and July, respectively. Other climatic conditions include dense mist, and fog and dew occurring occasionally.

The general area surrounding and including the study area, classifies as Hot semiarid climates (type "BSh") according to the Köppen-Geiger Climate classification, which typically experiences hot, sometimes extremely hot, summers and warm to cool winters, with some to minimal precipitation. Rainfall in these areas typically ranges between 110mm to 170mm per annum.

Geology

The majority of the study area falls within the Fynbos and Succulent Karoo Biome. The succulent Karoo is one of the only arid regions that are recognised by the world biodiversity hotspot. The succulent Karoo is known as one of the 25 richest and most threatened reservoirs of flora and fauna. The succulent Karoo holds the world's richest succulent flora and high reptile and invertebrate diversity. Only around 30 000 km2 of the original vegetation remains in a pristine state and only 5.8% is conserved (Mucina and Rutherford, 2006). This Biome is associated with drier and warmer conditions and are primarily located on lower slopes which have an annual rainfall which occurs between 20 and 300 mm and summer temperatures which reach up to 44°C.

The Fynbos Biome is severely impacted particularly from climate change and it is predicted that around 50% will be lost. The Fynbos Biome is characterised by three (3) distinct, naturally fragmented vegetation types namely: fynbos, renosterveld and strandveld which occur in winter and summer rainfall areas. The Fynbos biome is found on sandy lowland coastal plains as well as mountains however not in areas where the rainfall is below 200 mm and are less common on shale-derived loamy mesotrophic substrates.

Both the aforementioned biomes share multiple similarities in both climate and seasonality and the absence of C4 grasses these biomes are very distinct by means of their biophysical, ecological and phylogeographic respects. These biomes make up the majority of the Greater Cape Floristic Region

which is specific to winter rainfall and summer drought with the exception of the vegetation in the higher altitudes which may match the summer precipitation with the precipitation received in Winter.

The study area comprises of the West Coast Group, Peninsula, Pakhuis and Cedarberg Formations, Piekenierskloof, Graafwater and Sardina Bay Formations which support the coastal Aeolian Sand on Lime and Sandy Soils. These soils are weakly developed soils with loose sediments with the occurrence of semi desert soils. The study site also includes rock and rock debris and Lithosols and litholic soils: miscellaneous rocks. The Broad Soils Classification (ENPAT) describes the area as Red-yellow apedal, freely drained soils with accompanying Grey regic sands and Glenrosa and/or Mispah forms.

The study site is laiden with various land types such as Ae373, Ca144, Ai68, Ai69, Ca144, Ca142, Hb111, Hb112, Hb114, Hb115, Ha64, Ha66, Ha67, Ai70, Ai71, Ai72, Ib491, Ha68.

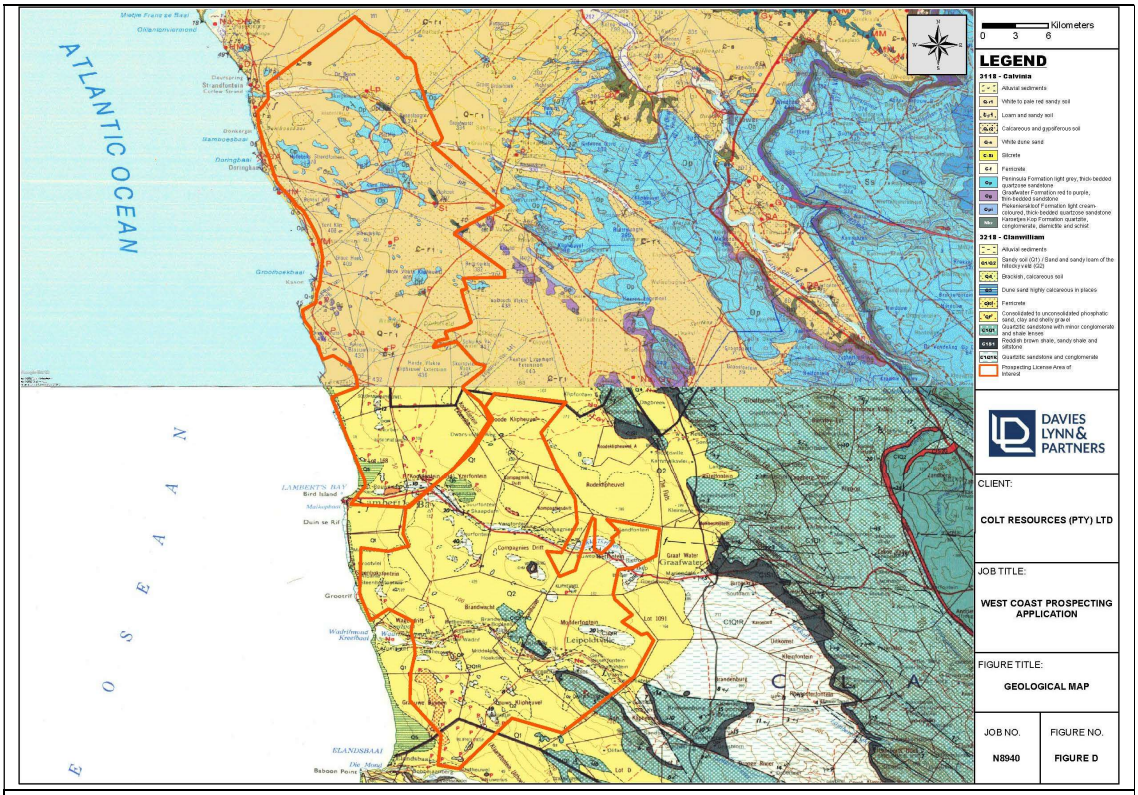


Figure 3-5. Geology of the prospecting area

Topography and drainage

According According to the available information, the project area typically has a topographical elevation typically ranging between approximately 5m across the low-lying western coastal portions of the site, and approximately 320m above mean sea level (m MSL) across the south-eastern portions of the site, along a northwest-southeast trending sandstone ridge. The topography of the study area can generally be described as gently sloping to moderately undulating. The general areal drainage of the northern portions of the project area is typically towards the Sandlaagte River, which drains west-wards towards the Atlantic

Ocean. The central portions of the study area are typically drained by the Jakkals River, which also flows west-wards towards the Atlantic Ocean. The southern portions of the site typically drain towards the Langvlei River, which similarly drains west-wards towards the Atlantic Ocean. Additionally, there are a number of very minor wetlands occurring within the project area and are anticipated to form in topographical depressions and seepage zones.

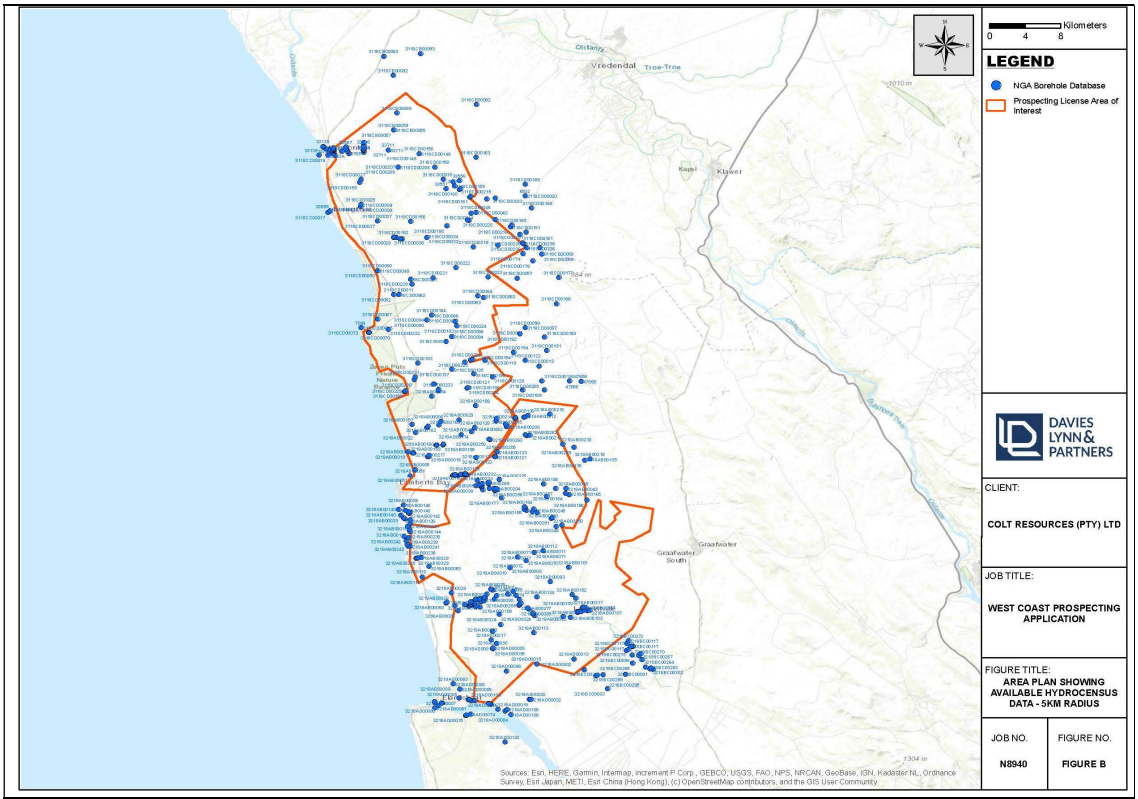


Figure 3-6. Topography including shallow water table and low-lying associated areas

Soil

Soil information was obtained from various sources, including the Juno 140MW Wind Energy Farm Scoping report (2018) which included a soil survey. In this Scoping study, it was stated that the area is dominated by red soil of the Hutton formation, with varying depth and underlying material.

The study area is mainly located within the Leipoldtville Sand Fynbos which mainly consist of Deep, acid, Tertiary sands, generally pale yellow to reddish brown, or grey (Mucina & Rutherford, 2006). The dominant land type is Ai, Hb, and Ca. The Knersvlakte Quartz Vygieveld which is allocated to small area along the Olifantsriver consists of Clastic sediments of the Vanrhynsdorp Group and some of the Gariep Supergroup schists, it has alkaline soils which have a low to high quartz content. The dominant Land types are Fc and Fb (Mucina & Rutherford, 2006).

The Namaqualand Spinescent Grassland is situated in the northern portion of the study area. Namaqualand Spinescent Grassland and consists of soils that are deep, coarse, unstructured, red, sandy

soils with very low stone content, more or less neutral soil pH, low salinity and with no or very low carbonate content (Mucina & Rutherford, 2006). The westerly winds that occur have transported the sand that originates at the mouth of the palaeo-Orange River inland. The dominant land type is Ae and Ag has subordinate role.

The Namaqualand Strandveld is situated on the east section of the study area and the soils in this area are reddish brown.

The Juno report (2018) describes the vegetation in the area is mainly disturbed and the soils have a low clay content which makes it susceptible to wind erosion. Near the Oliphants river the Mispah (Ms) and Glenrosa (Gs) soil form occurs and these soils are shallow. Oakleaf (Oa), Dundee (Du) and Kroonstad (Kd) soil forms occur in valley bottoms where there are alluvial soils.

Based on the findings of the study area a large extent of the area is marked as Endangered according to (Mucina & Rutherford, 2006) however because of the low mean precipitation (116 and 450 mm annually) that occurs in these areas the soils have a very low potential and the vegetation/agricultural growth is slow.

Biodiversity

In order to describe the biodiversity on the site, there are various sources which has been consulted, such as the National vegetation data from SANBI, as well as the Western Cape Biodiversity Spatial Plan (WCBSP) (2016). The WCBSP was released in 2016 by CapeNature and DEADP. It includes conservation important areas as well as land use guidelines linked to the map categories to be used during decision-making processes. The results of the assessments based on the available resources will be described below in order to provide a detail description of the site in order to identify the sensitive areas.

The Freshwater Biodiversity Information System (FBIS) indicates that there are a number of wetlands occurring within the project area and are anticipated to form in topographical depressions and seepage zones (Figure 3-8). The description of the wetland systems is included below.

Habitat vegetation types

The prospecting area falls within the Fynbos and Succulent Karoo Biome, located dominantly within the Lambert's Bay Strandveld and Leipoldtville Sand Fynbos. The study area also occurs within the, Graafwater Sandstone Fynbos, Cape Esurine Salt Mashes and Namaqualand Strandveld, according to the NBA (2018). The WCBSP (2016) identified the Cape Inland Salt Pans as an additional vegetation type. On a more accurate and finer scale, the WCBBSP recognises small Cape inland salt pans and Cape Lowland Freshwater Wetlands within the study area (Figure 3-7).

According to the Ecosystem Threat Status of National Biodiversity Assessment (NBA, SANBI 2018 as per GNR1002 of 2011) the study area is located within the **Vulnerable** Leipoldtville Sand Fynbos, **Least Threatened** Namaqualand Strandveld, **Least Threatened** Lamberts Bay Strandveld and **Least Threatened** Namaqualand Strandveld, **Vulnerable** Graafwater Sandstone Fynbos, **Least Threatened Cape Estuarine Salt Marshes** and Not Listed Cape Inland Salt Pans. The largest portion of the study

area falls within the Leipoldtville Sand Fynbos, with the Knersvlakte Quartz Vygieveld allocated to small area along the Olifantsriver and the Namaqualand Spinescent Grassland confined to the northern portion of the study area. These vegetation types are described in more detail below and indicated in Figure 3-7. The MLM IDP identifies the study area as part of the Endangered Sand Fynbos Triangle Bio-region.

The WCBSP identifies all habitat types as Least Threatened apart from the Lambert's Bay Strandveld which is identified as Vulnerable and Leipoldtville Sand Fynbos as Endangered (Table 3-11).

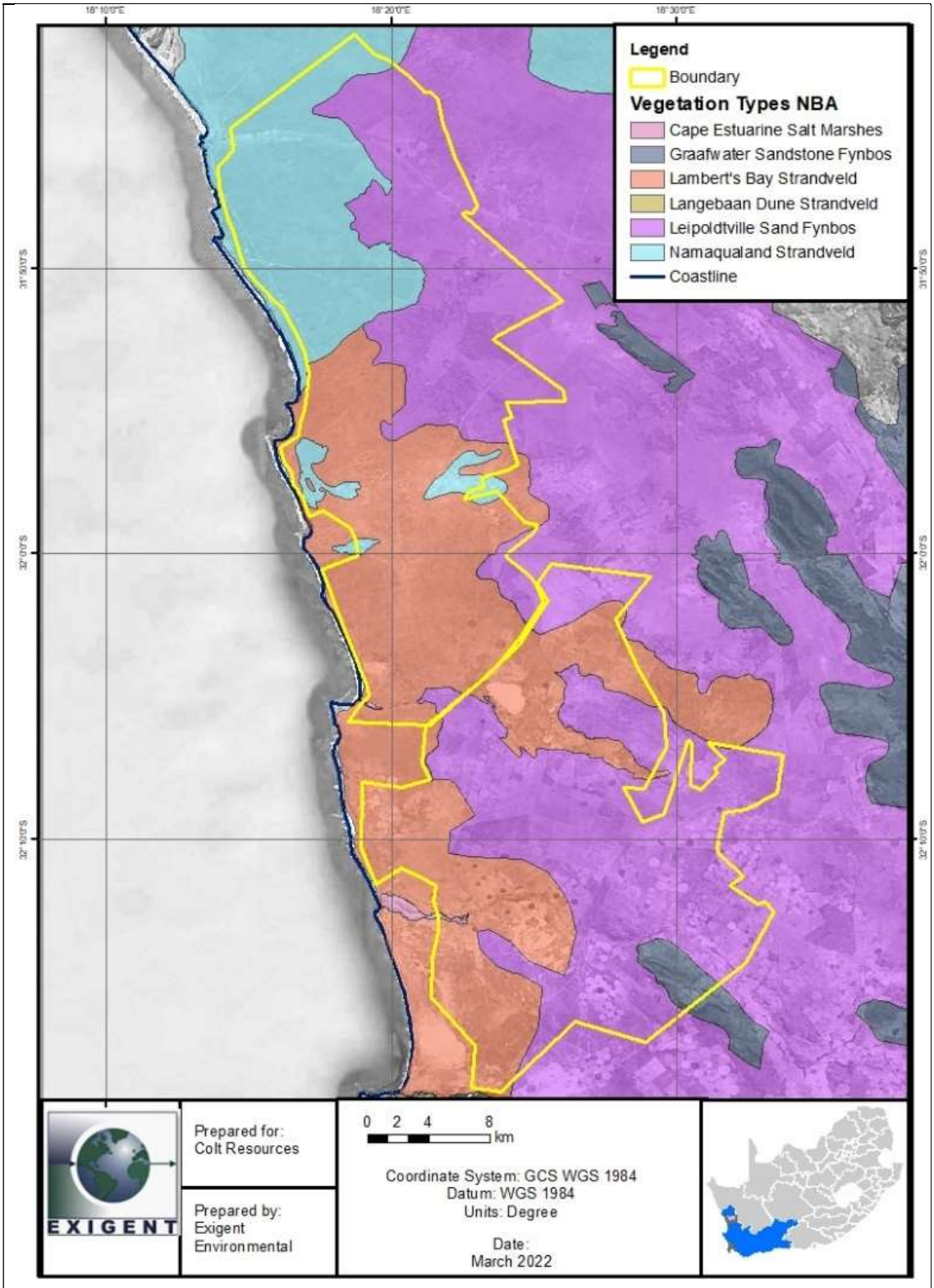


Figure 3-7. Mucina and Rutherford (2006) Vegetation types

Leipoldtville Sand Fynbos

This occurs in the Western Cape Province, on coastal plains on both sides of the Olifants River to Aurora and continues to the base of the Graafwater Mountains and Piketberg. This fybos also is evident in the Olifants River Valley from the Bulshoek Dam to The Baths (Keerom), there is however a gap between Klawer Vlei and Sandkop.

The Leipoldtville Sand Fynbos contains plains, that are covered with shrublands. The shrubs are 2-3m tall and occur in clumps. The vegetation is dense with 1-1.5m tall restiolands, and with several low to tall shrubs. If there is an abundant amount of rain geophytes can occur in this area. This area is mainly restioid and asteraceous fynbos types, this sand fynbos lacks Ericaceae. At its northern (arid) boundary the sand fynbos structure becomes very diffuse and is progressively replaced by strandveld. (Mucina & Rutherford, 2006).

Namaqualand Strandveld

This occurs in the Northern and Western Cape Provinces from the southern Richtersveld and goes as far as Donkins Bay. It goes deep inland up to 40km and goes towards the coast near the river mouths of a few rivers namely the Spoeg, Buffels, Swartlintjies, Groen and Bitter Rivers.

The Namaqualand Strandveld contains flat to undulating coastal peneplain. The vegetation is low in species richness shrubland which is dominated by a plethora of erect and creeping succulent shrubs as non-succulent shrubs, in wet years annuals with perennial flora can be witnessed. The land type of this area consists of Ah, Ae, Af, Ai and Ag. About 10% of the vegetation has been transformed and this is because of overgrazing, this has resulted in the occurrence of alien species.

Lamberts Bay Strandveld

This vegetation is typically composed of areas of tall, evergreen shrubs. This includes a number of bulbs, grasses, succulents and annual flowers growing in between. lants that are naturally found in Cape Strandveld include shrubs such as *Chrysanthemoides monilifera, Olea exasperata, Metalasia muricata, Roepera flexuosum, Rhus laevigata and Rhus glauca; succulents such as Sour figs (Carpobrotus acinaciformis and Carpobrotus edulis*) and *Mesembryanthemum* species; *Restios*; herbs such as geraniums and a great variety of daisies (*Senecio elegans, Senecio burchellii, Dimorphotheca pluvialis* and a number of others). There are also endemic plant species such as *Lampranthus tenuifolius.* Larger trees that are indigenous to coastal Strandveld include: Milkwood *(Sideroxylon inerme)*, Sea guarri *(Euclea racemosa),* Cape Camphor tree *(Tarchonanthus camphoratus), Candlewood (Pterocelastrus tricuspidatus),* Wild olive *(Olea europea subsp. africana),* Coastal silkybark *(Robsonodendron maritimum)*

There are also endemic plant species such as *Lampranthus tenuifolius*. The most similar vegetation types to CFDS are Langebaan Dune Strandveld and Overberg Dune Strandveld.

Graafwater Sandstone Fynbos

Low mountains and gently undulating plains. Low scrub with scattered tall shrubs. Many woody non-fynbos shrubs occur mainly in fire safe environments within the fynbos matrix. This vegetation in most common in rocky areas and cliffs.

Cape Inland Salt Pans

This occurs in within the Jakkalsrivier Valley, Soutpan near Yzerfontein, Rondevlei, Paardevlei (Mucina & Rutherford, 2006). These wetlands comprise of low succulent shrubs and herbs that are salt tolerant as well as grasses (Mucina & Rutherford, 2006). As a result of being cut off from the sea they have become dry, and are temporarily flooded during winter rains but found to be dry during the summer months (Mucina & Rutherford, 2006). The vegetation occurs in small depressions dominated by low succulent scrub composed of creeping chenopods and salt-tolerant herbs and grasses. This vegetation type is considered Least Threatened and 20% is statutorily conserved in the Agulhas and West Coast National Parks as well as in the Soetendalsvlei and Rocherpan Nature Reserves. However, as this ecosystem is associated with hydrological features and plays an important ecological role, it is considered sensitive to disturbance.

Cape Estuarine Salt Marshes

Salt marshes are defined as “areas, vegetated by herbs, grasses or low shrubs, bordering saline water bodies. Salt marshes occur in arctic and temperate regions, as well as in the subtropics and tropics where they occur in areas where mangrove development is precluded, or as a component of a salt marsh-mangrove ecotone.

Western Cape Biodiversity Spatial Plan

According to the Western Cape Biodiversity Spatial Plan (WCBSP) - Ecosystem Threat Status 2016 layer the study area consists of several vegetation types and wetland systems. The vegetation types identified within the Cape Inland Salt Pans (Least Threatened) as an additional vegetation type.

Cape Inland Salt Pans

This occurs in within the Jakkalsrivier Valley, Soutpan near Yzerfontein, Rondevlei, Paardevlei (Mucina & Rutherford, 2006). These wetlands comprise of low succulent shrubs and herbs that are salt tolerant as well as grasses (Mucina & Rutherford, 2006). As a result of being cut off from the sea they have become dry, and are temporarily flooded during winter rains but found to be dry during the summer months (Mucina & Rutherford, 2006). The vegetation occurs in small depressions dominated by low succulent scrub composed of creeping chenopods and salt-tolerant herbs and grasses. This vegetation type is considered Least Threatened and 20% is statutorily conserved in the Agulhas and West Coast National Parks as well as in the Soetendalsvlei and Rocherpan Nature Reserves. However, as this

ecosystem is associated with hydrological features and plays an important ecological role, it is considered sensitive to disturbance.

According to Mucina and Rutherford (2006), these pans are classified as vulnerable in terms of its conservation status. Some 20% is statutorily conserved mainly in the Agulhas and West Coast National Parks as well as in the Soetendalsvlei and Rocherpan Nature Reserve. Only 3% is in private land and 20% transformed to cultivated land or mines (Mucina & Rutherford, 2006). Alien invasive species such as Australian herbaceous Atriplex is evident in some areas (Mucina & Rutherford, 2006).

Table 3-11. Key vegetation types found in the study area (Mucina and Rutherford, 2006; NSBA, 2011, 2015 and 2018, WCBSP, 2016).

Vegetation type	Status		
	National Biodiversity Assessment 2018	WCBSP (2016)	Mucina and Rutherford
Leipoldtville Sand Fynbos Occurs on a large portion of the project site	Vulnerable	Endangered	Endangered
	Description		
	None of the areas is protected in statutory conservation areas. Highly transformed (55%) mostly by cultivation of potatoes and rooibos. As a result of water extraction for pivot irrigation, the area is drying out. Alien plant invasions are a threat, with Acacia saligna and A. cyclops being the most problematic.		
Lamberts Bay Strandveld	Least Threatened	Vulnerable	Vulnerable
	Description		
	The Lamberts Bay Strandveld is the dominant vegetation within the prospecting site and is considered Least threatened and endemic to coastal areas around Cape Town. This type of vegetation is primarily used for stock farming as it contains many palatable species and hence provides adequate natural pasture. The strandvelf vegetation is seasonal presents its growing period during the wet months which range from autumn to spring.		
Namaqualand Strandveld	Least threatened	Least threatened	Least Threatened
	Description		
	The vegation is threatened by coastal mining for heavy metals, at Brand-se-Baai area. None of the areas is protected in statutory conservation areas, however, a few reserves occur such as the (Bojaansklip, Donkins Bay, Doorspring, Molyneux, Zeven Puts) which protects the vegetation that occurs there. Transformed area (10%), Alien plant invasions such as Acacia could be a threat.		
Graafwater Sandstone Fynbos	Vulnerable	Least threatened	Vulnerable
	Description		
	Non conserved in statutory conservation areas. Some 28% is transformed mainly in valley bottoms. The Alien wood plants located in this vegetation includes Acacia cyclops and A. saligna. Erosion is low and low.		
Cape Estuarine Salt Marshes	Least threatened	Least threatened	Least threatened
	Description		
	They are subjected to periodic flooding as a result of fluctuations (tidal or nontidal) in the level of the adjacent water body". Salt marshes occur in arctic and temperate regions, as well as in the subtropics and tropics where they occur in areas where mangrove development is precluded, or as a component of a salt marsh-mangrove ecotone		
Cape Inland Salt Pans	Not classified	Least threatened	Least threatened
	Description		
	Some 20% is statutorily conserved mainly in the Agulhas and West Coast National Parks as well as in the Soetendalsvlei and Rocherpan Nature Reserve. Only 3% is in private land and 20% transformed to cultivated land or mines. Alien invasive species such as Australian herbaceous Atriplex is evident in some areas.		

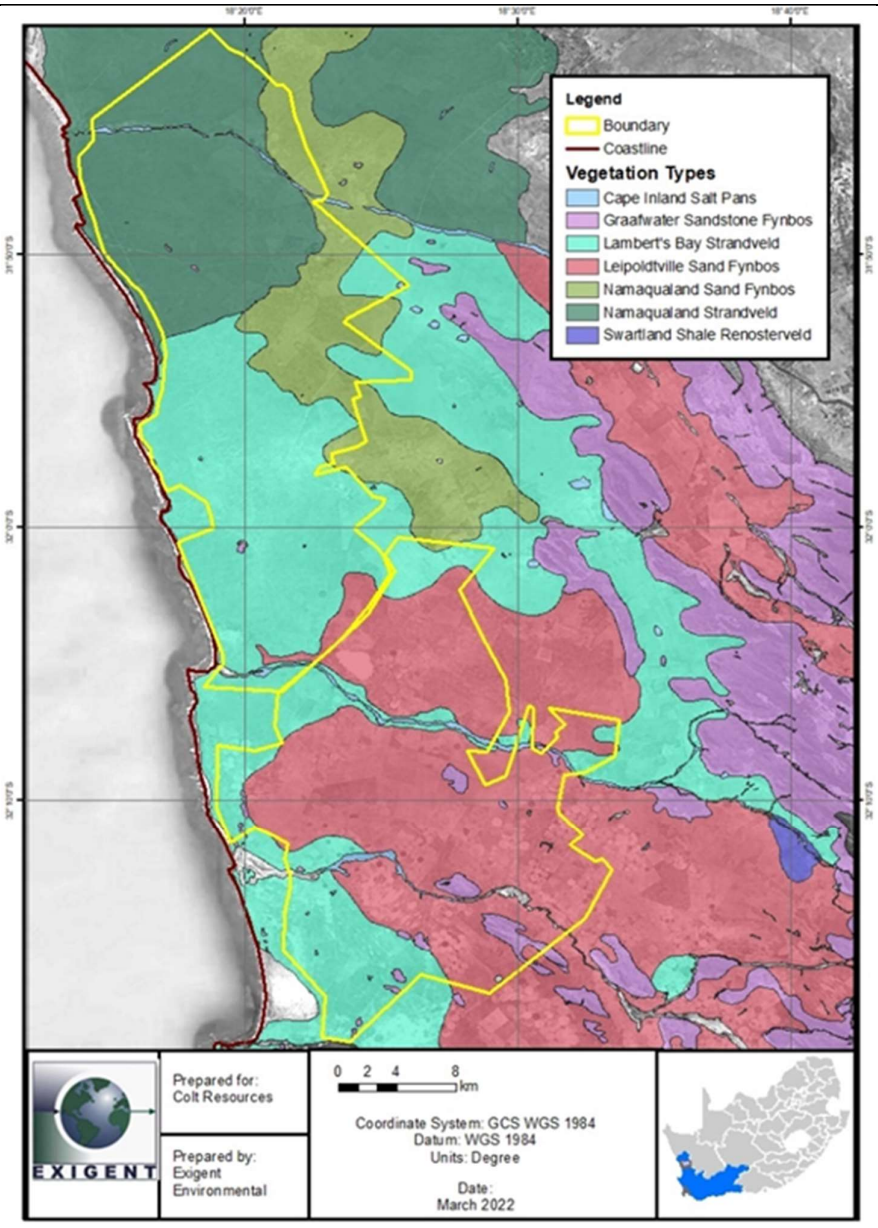


Figure 3-8. Western Cape Biodiversity Spatial Plan Vegetation classification of the area within close proximity to the proposed prospecting application.

Conservation Biodiversity Areas

The Western Cape Biodiversity Spatial Plan provides developers with biodiversity information to integrate it into their planning and decision making. The aim is ensuring that there is not a loss of habitat in the CBA areas, as these terrestrial and aquatic areas are important for biodiversity and ecosystem

functioning. CBAs are split into CBA1 which is in its natural condition and CBA2 which is likely to show potential degradation. Development in these areas must likely be avoided however mitigation measures can be put in place to reduce the impact the development may have.

The loss of habitat in CBA and ESA areas is unwanted and these areas must be noted as important. restoration of these areas is imperative to ensure that there's limited biodiversity loss. Buffers are placed within the CBA and CBA rivers have a buffer width of 100m, and the buffer from the coastal zone is 1km, this is to protect the ecosystems and maintain their ecological conditions, however the buffers may change on a case to case basis.

Approximately 37% of the Matzikama municipality is identified as CBA terrestrial and CBA Aquatic and 5% is protected ESA. The ESA amounts to approximately 11%, Other Natural Areas 35% and No Natural Remaining Areas and Urban Areas, 12% for the Matzikama municipality. Approximately 30% of the Cederberg municipality has been identified as a CBA terrestrial and CBA aquatic while 5% is already formally protected. The ESA amount to approximately 10%, Other Natural Areas 39% and No Natural Remaining Areas and Urban Areas, 16% for the Cederberg municipality.

Certain areas of the proposed site fall within the Critical Biodiversity Areas (CBA) (Figure 3-9). The northern corner of the proposed prospecting area is located within one of the National Protected Areas Expansion Strategy Focus Areas (NPAES) the Knersvlakte Hantam. The distribution of the CBA's and ESA's within the proposed prospecting area is located within the CBA terrestrial Area, and a few areas within the proposed prospecting area are located within an ESA area. Preliminary observations made during the desktop study that the land use of some of these CBA areas are primarily located in intensive agricultural lands. There are six Protected Areas and Nature Reserves surrounding and partially within the study area. These include the Aan de Klipheuvel, Bojaansklip Private Nature Reserve, Donkins Bay Private Nature Reserve, Doorspring Private Nature Reserve, Elands Bay State Forest and the Steenbolsfontein Private Nature Reserve (Figure 3-10).

Due to the large network of existing roads within these agricultural farms, it is anticipated that the impact during prospecting would be minimal and would not degrade the habitat type.

A similar observation was made by the ecological specialist (3 fixes biodiversity solutions, 2018) for the Jugo wind energy facility (2018) in terms of the 2010 NPAES mapping in comparison to actual verification of land use in 2018. Jugo (2018) provides a summary of the motivation for the NPAES, and questions the accuracy of the focus area delineated boundaries due to the base layers used for the NPAES being updated. Afzelia (2018) motivates that the NPAES delineations were based on 2006 VegMap layers, which has since then been revised.

Due to the updates to the vegetation data layers it is recommended that the verification of the CBA and NFEPA layers be conducted after the airborne geophysical survey has been completed and the areas identified for proceeding with the prospecting process has been identified. Should any other species of concern be identified by the ecologist, the proposed drilling grid layout should be amended.

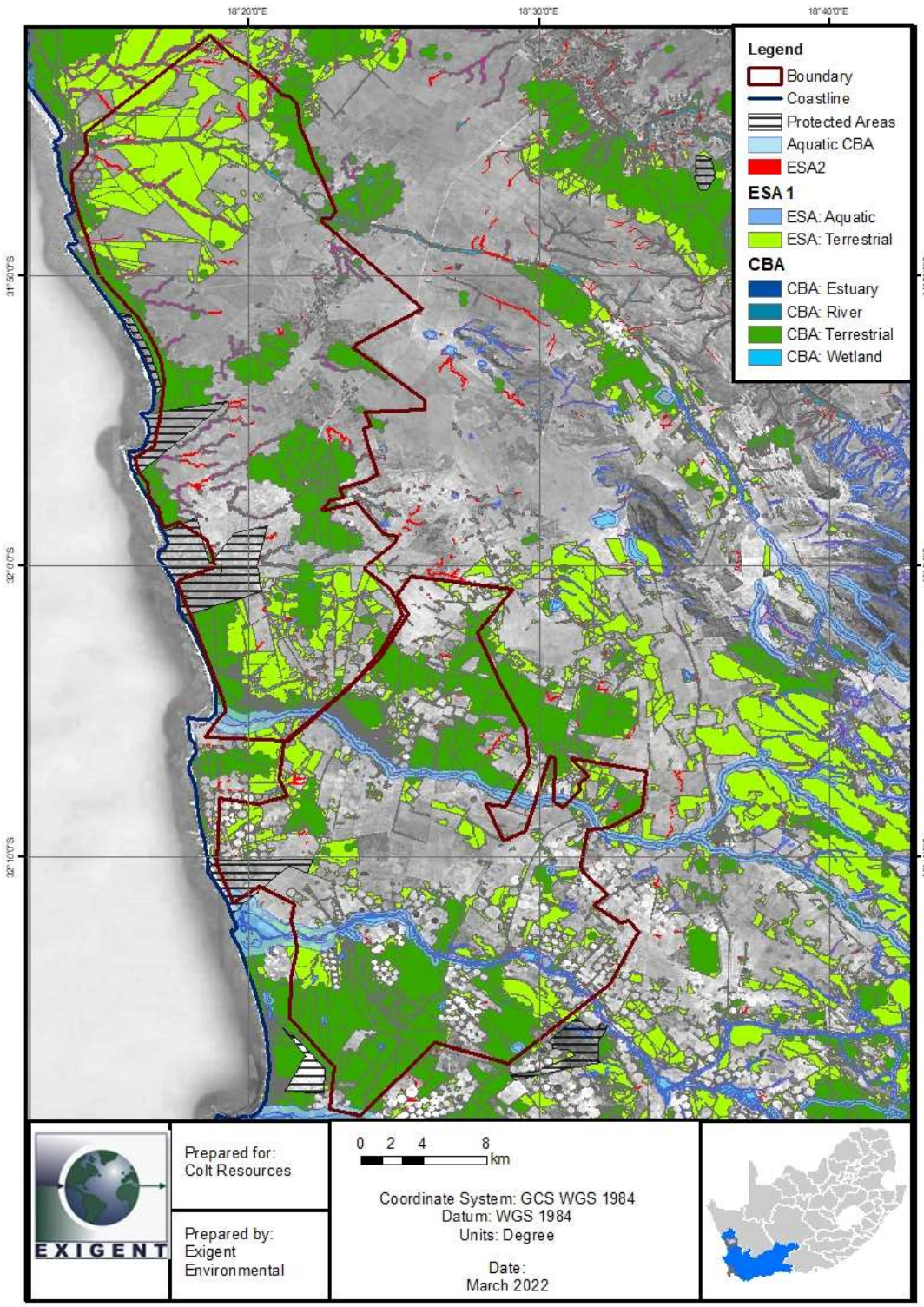


Figure 3-9. Western Cape Biodiversity Spatial Plan (2017) – CBA and ESA areas

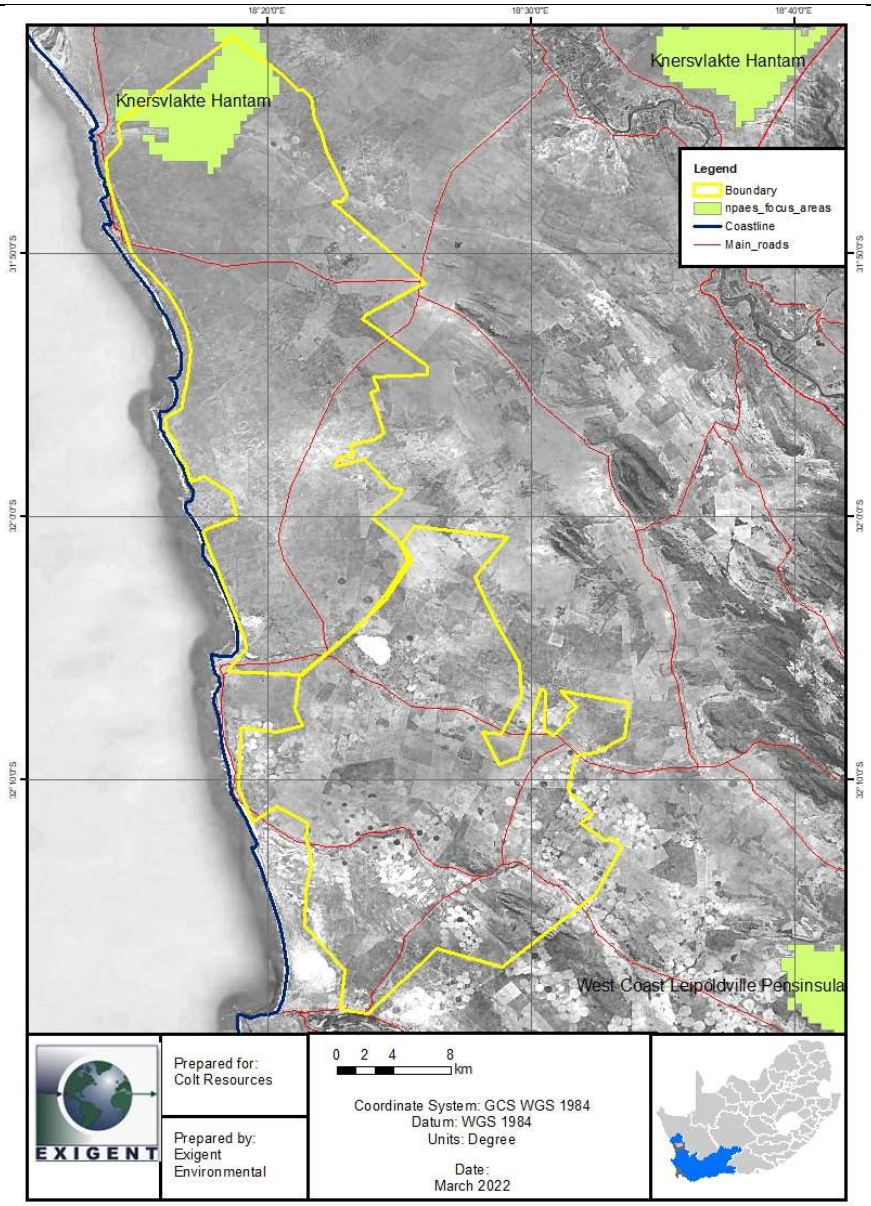


Figure 3-10. National Protected Areas Expansion Strategy Focus Areas (NPAES, 2010)

Succulent Karoo Ecosystem Plan (SKEP) vegetation classification

The SKEP programme was initiated in order to provide an overarching framework for conservation efforts within the Succulent Karoo Biome. This Biome is home to 6356 plant species, of which 40% are endemic and 17% are Red Data Listed (SKEP Biodiversity Technical Executive Summary Report 2018). As per the CSIR study for the proposed iNCA Wind Energy Farm project (CSIR 2011), three priority vegetation classification areas (Knersvlakte Limestone, Knersvlakte Quartz Fields and Knersvlakte Spiny Grasslands) are in proximity to the proposed prospecting area, however the proposed prospecting area

does not directly affect these priority areas. The CSIR study furthermore identified that Red Data Listed species and endemic species are likely to occur in intact areas of natural vegetation, or even in disturbed areas where succession has occurred. The MLM IDP identifies the study area as part of the Coastal Corridor and Endangered Sand Fynbos Triangle Bio-region.

The CLM identifies the study area as part of the Coastal Corridor (West coast intersected by Verlorenvlei, Wadrifsoutpan and Jakkalsvlei estuaries and containing the coastal villages of Elands Bay and Lamberts Bay), Southern Conservation Area (Southern coastal pain between Verlorenvlei and Langvlei rivers contains large areas of Endangered Sand and Sandstone Fynbos identified as Critical Biodiversity Areas (CBAs) as well as the Verlorenvlei Conservation Area) and the North West Agricultural Area (eparated by the Oliphant's River Corridor, the North Eastern plains containing most of the municipality's intensive agriculture).

Hydrology

According to the Freshwater Biodiversity Information System (FBIS) database, the proposed prospecting site falls within the quaternary catchments of E33H, G30H, G30G, G30F and G30E located within the Olifants/Doorn Water Management Area. This WMA falls under the primary drainage region E and the tertiary drainage regions G30 and F60 along the coastal plain, respectively north and south of the Olifants River estuary, covering a total area of 56 446 km^2.

This WMA is located on the west coast extending from about 100 km to 450 km north of Cape Town. This WMA includes one major river: the Olifants River, of which the Doring River (draining the Koue Bokkeveld and Doring areas) and the Sout River (draining the Knersvlakte) are the main tributaries, and covers the following dams: Bulshoek Dam (Olifants River), Clan William Dam (Olifants River) and the Karee Dam (Karee River) (DWAF, 2005).

There are two main water courses traversing the boundaries of the project site, which include:

- The *Sandlaagte River*, an east-west flowing Non-perennial River. The river falls under the Sandlaagte River Management Unit (RMU) and traverses the south-western boundary of the project site.
- The *Jakkals River*, a west to east flowing River forms part of the Olifants Doorn WMA. The river traverses the mid-section of the project site.
- The *Langvlei River*, a west to east flowing River forms part of the Olifants Doorn WMA. The river traverses the southern boundary of the project site.

The National Freshwater Ecosystems Priority Areas (NFEPA) used Water Source Areas (WSAs) to create a database that present various water and water related layers, including wetland delineation and vegetation data, catchment data, area of high groundwater recharge and water management areas using the criterion of the production of relatively large volumes of runoff which sustain lowland areas downstream. This work was then taken further in a study by the World Wide Fund for Nature – South Africa (WWF-SA) and the Council for Scientific and Industrial Research (CSIR) who identified 21 Strategic WSAs for surface water (SWSA-sw) which covered 8% of South Africa and supplied 50% of the mean

annual runoff. More recently, the Water Research Commission funded a study which identified water source areas for both ground and surface water resources (BGIS SANBI 2017). Strategic Water Source Areas (SWSAs) are now defined as areas of land that either:

(a) supply a disproportionate (i.e. relatively large) quantity of mean annual surface water runoff in relation to their size and so are considered nationally important; or

(b) have high groundwater recharge and where the groundwater forms a nationally important resource; or

(c) areas that meet both criteria (a) and (b). They include transboundary Water Source Areas that extend into Lesotho and Swaziland.

Based on the BGIS SANBI SWSAs database (2017) the study area is strategically important at a sub-national level for groundwater for South Africa.

Present Ecological State of a river presents the extent to which it has changed from the reference or near pristine condition (Category A) towards a highly impacted system where there has been an extensive loss of natural habit and biota, as well as ecosystem functioning (Category E). The revised national Present Ecological Score (PES) includes aspects of functional importance, direct and indirect impacts, EI (Ecological Importance), and ES (Ecological Sensitivity). Table 3-12 presents the PES states of the Sandlaagte and Olifants rivers (DWS 2014). A PES of D indicates a state of 'largely modified' and E of 'critically modified'.

Table 3-12. PES of the rivers within the study area

Sub-quaternary Catchment Number	Present Ecological State	Ecological Importance Ecological Sensitivity
6629 Olifants	D	Moderate High
6765 Sandlaagte	E	Moderate Very High

Surface water

The study area falls within four quaternary catchments, namely E33H, G30H, G30G, G30F and G30E. These catchments are located within the Olifants Doorn Water Management Area (WMA). The quarterly catchment falls within the Olifants Doorn and Berg catchment. . The Olifants/Doorn Internal Perspective Strategic Document (2005) explains that this catchment derives its name from the main river draining it, namely the Olifants River. The word "Doorn", an archaic form of Doring, was added to the WMA name to distinguish it from the many other "Olifants" rivers in the country as the Olifants River's main tributary, in this catchment, is the Doring River. This WMA is bounded in the west by the Atlantic Ocean, and its eastern boundary lies along the Great Escarpment divide between the Great Karoo and the western branch of the Fynbos biome. The major river in the WMA is the Olifants River, of which the Doring River (draining the Koue Bokkeveld and Doring area) and the Sout River (draining the Knersvlakte) are the main tributaries.

This strategic document furthermore recognises that the major water user of the area is irrigated agriculture, which sustains the economy of the area and provides most of the employment opportunities. Parts of the WMA have high conservation value, including some of the river reaches and the Olifants River estuary. Two wetland types within the proposed prospecting area, namely the Cape Inland Salt Pans and the Cape Freshwater wetlands (NFEPA (2012), WCBSP (2016).

Aquifer Classification, Aquifer Vulnerability and Aquifer Susceptibility

The proposed prospecting area straddles all three aquifer classification systems, the northern and central portions of the study area are classified as a Poor aquifer region which is a low to negligible yielding aquifer system of moderate to poor water quality, the northern coastal portions of the study site classify as a Minor aquifer region which is a moderately-yielding aquifer system of variable water quality, whilst the southern portions of the study area are classified as a Major aquifer region which is a high-yielding system of good water quality. The proposed prospecting area also straddles all three (3No.) aquifer vulnerability classification systems, the northern and central portions of the study area are classified as a Least vulnerable aquifer region which is only vulnerable to conservative pollutants in the long term when continuously discharged or leached, the southern portions of the study area classify as a Moderately vulnerable aquifer region which is vulnerable to some pollutants, but only when continuously discharged or leached, there are isolated occurrences of Most vulnerable aquifer regions (in the vicinity of Elands Bay and Lamberts Bay), which is vulnerable to many pollutants except those strongly absorbed or readily transformed in many pollution scenarios.

The Aquifer Susceptibility of the study area is classified as Low 1 to High 9 (poor to major aquifer region, with least to most vulnerability).

Groundwater

The Electrical Conductivity (EC) of water is a physical property which is widely used as an alternative to the chemical measuring of total dissolved solids (TDS), to determine water quality. Pure water has a low conductivity and an increase in conductivity generally reflects a decrease in water quality. The DWS National Groundwater Archive (NGA) shows that the reported Electrical Conductivity (EC) of the boreholes across the prospecting study area typically range between 13mS/m and 1971mS/m, the recommended Aesthetic Limit for South African National Standards (SANS) 241: 2015 Standards for Drinking Water is ≤170 mS/m and according to the WRC (1998), groundwater exceeding this represents saline conditions and is generally unacceptable for long-term drinking purposes. The South African Water Quality Guidelines for Aquatic Ecosystems – Volume 7 prepared by DWAF, however, does not specify a minimum Target Water Quality Range (TWQR) for Electrical Conductivity (EC). The DWS National Groundwater Archive (NGA) shows that the recorded pH levels of the boreholes across the prospecting study area typically ranges between 3.5 and 8.2, the recommended limit for the South African National Standards (SANS) 241: 2015 Standards for Drinking Water ranges between 5.0 to 9.7.

Shallow Aquifers

A shallow water table (such as the Sandlaagte, Jakkals and Langvlei Rivers) are typically associated with surface drainage features such as rivers, streams, wetlands, pans and dams, together with the flood plains and low-lying areas associated with them.

Deep Aquifers

The unconsolidated, Quaternary-age sediments are considered inter-granular aquifers, with groundwater storage and movement occurring within the interconnected pore spaces between the sand grains. Groundwater Recharge Potential to the underlying inter-granular aquifers is anticipated to be Low across the study area.

Water Source Areas

The NFEPA used Water Source Areas (WSAs) to create a database that presents various water and water-related layers, including wetland delineations and vegetation data, catchment data, area of high groundwater recharge and water management areas using the criterion of the production of relatively large volumes of runoff which sustain lowland areas downstream. This work was then taken further in a study by the World Wide Fund for Nature – South Africa (WWF-SA) and the Council for Scientific and Industrial Research (CSIR) who identified 21 Strategic WSAs for surface water (SWSA-sw) which covered 8% of South Africa and supplied 50% of the mean annual runoff. More recently, the Water Research Commission (WRC) funded a study that identified water source areas for both ground and surface water resources (BGIS SANBI, 2017). Strategic Water Source Areas (SWSAs) are now defined as areas of land that either:

(a) supply a disproportionate (i.e. relatively large) quantity of mean annual surface water runoff in relation to their size and so are considered nationally important, or

(b) have high groundwater recharge and where the groundwater forms a nationally important resource, or

(c) areas that meet both criteria (a) and (b). They include transboundary Water Source Areas that extend into Lesotho and Swaziland.

Hydrocensus

Eleven borehole records occur across the proposed prosecting site and approximately fifty borehole records occur within a 5 km radius of the site. However, some of these records may be duplicates.

The locations of these boreholes within a 5km radius, and occurring on the site, are shown on the Figure 3-11. From this available data from the eleven boreholes located on the prosecting site, the following was derived:

- BH Elevations Ranged From : 120m to 240m
- Water Levels Ranged From : 32.45m bgl* to 164.59m bgl
- Water Strike Levels Ranged From 61m bgl* to 164m bgl

- Blow Yields Ranged From : 0.0002 l/sec to 13 l/sec
- Electrical Conductivity : 190 mS/m to 370 mS/m

* *below ground level*

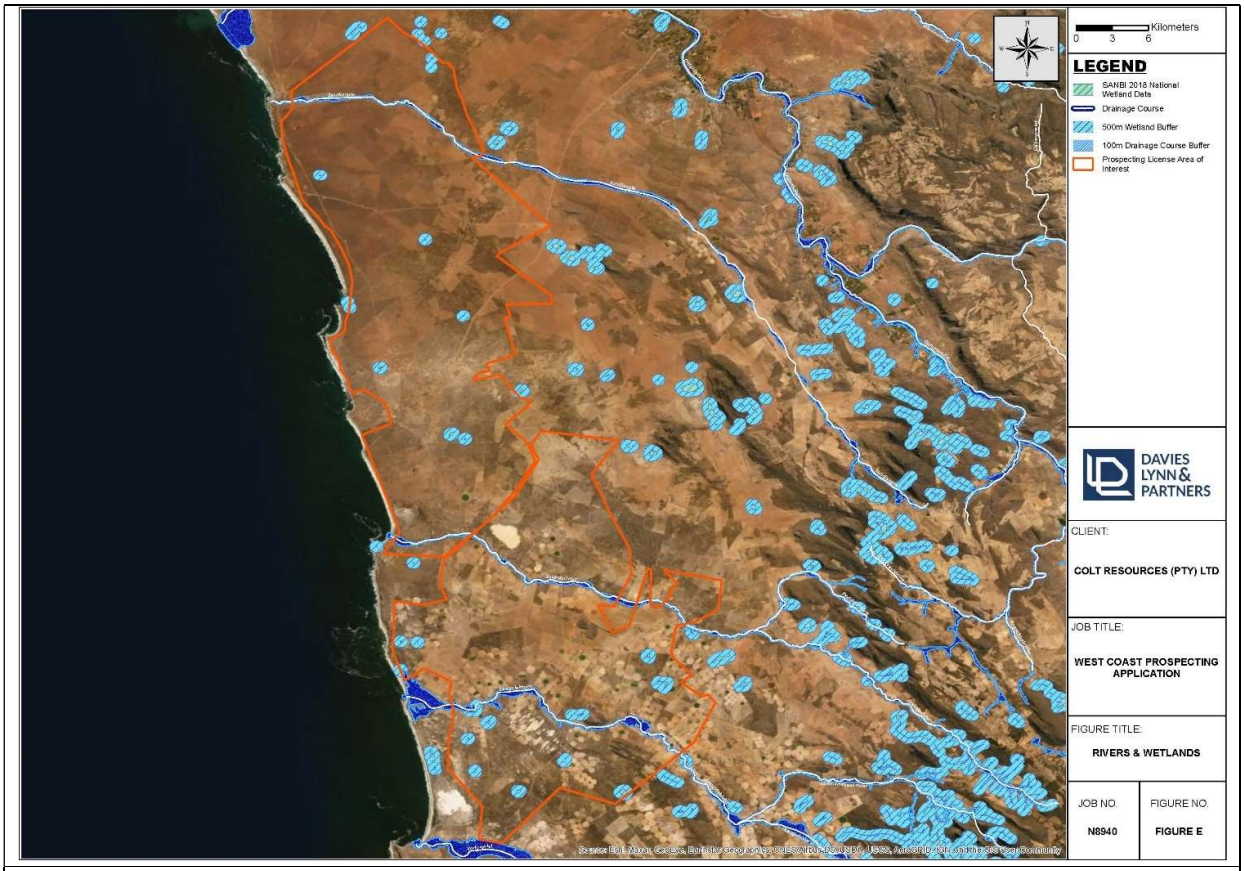


Figure 3-11. Location of boreholes within 5km of the study area and within the study area.

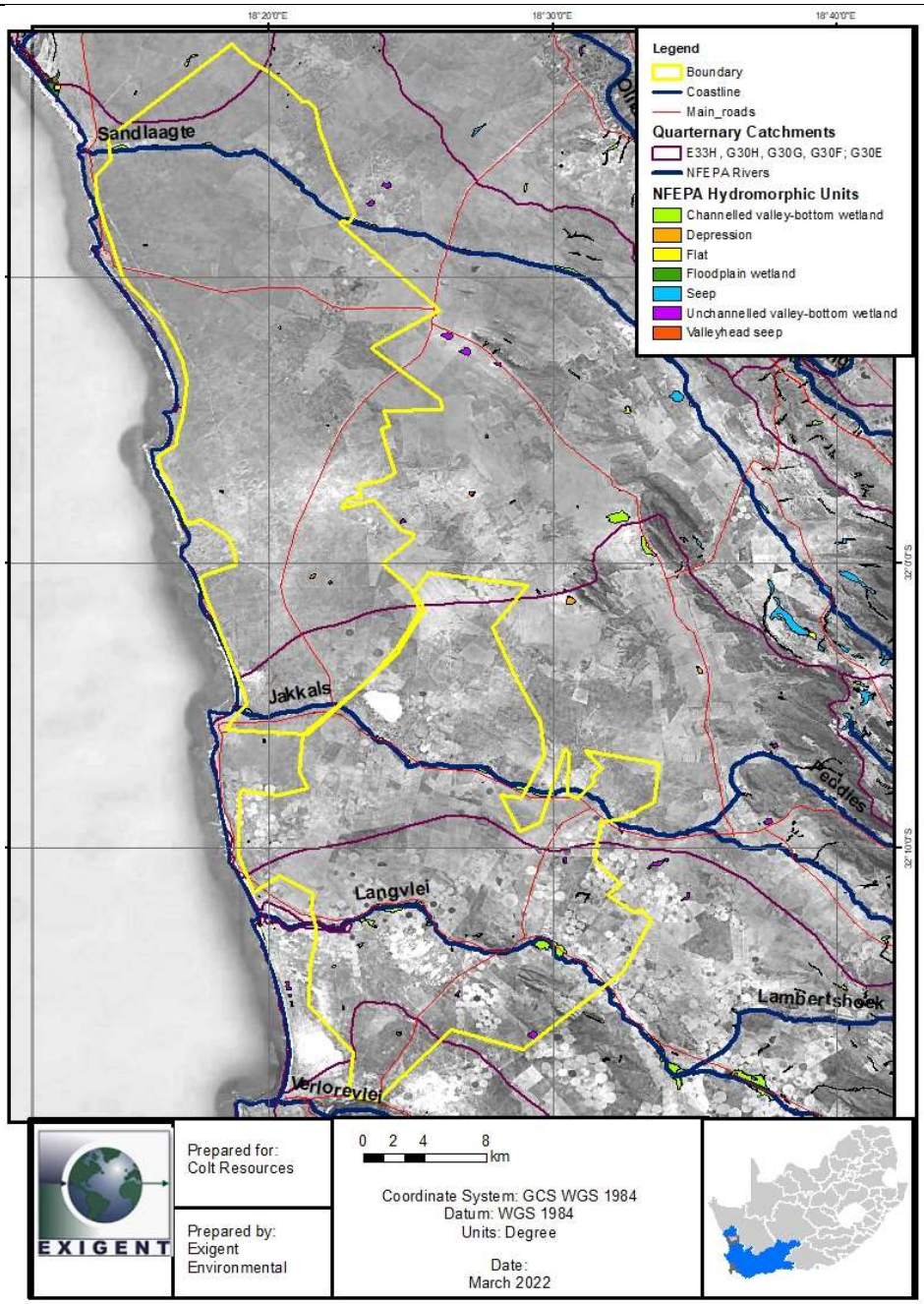


Figure 3-12. Hydrology of the area surrounding the proposed prospecting project.

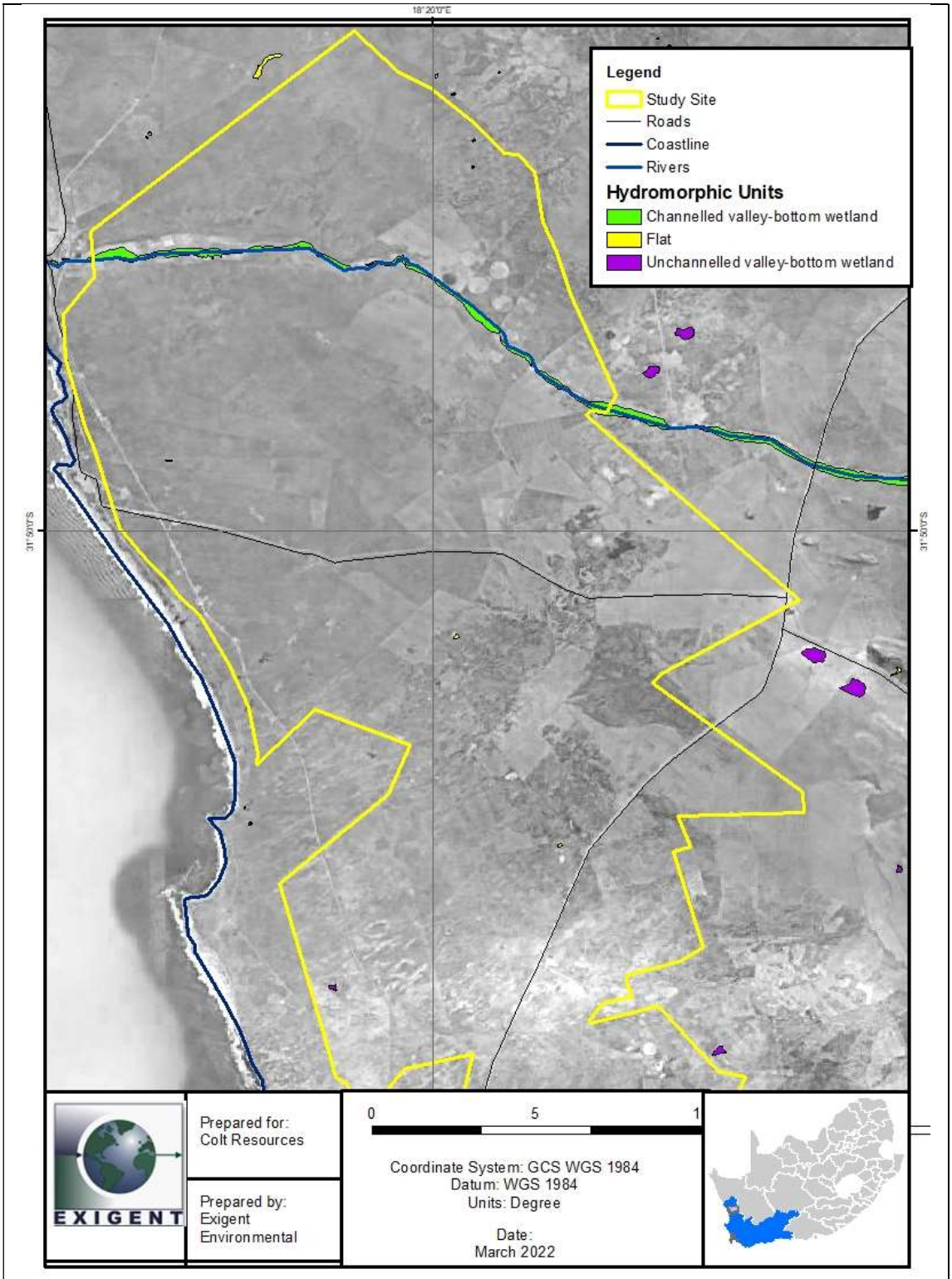


Figure 3-13. Hydrology of the area surrounding the proposed prospecting project zoomed in upper area.

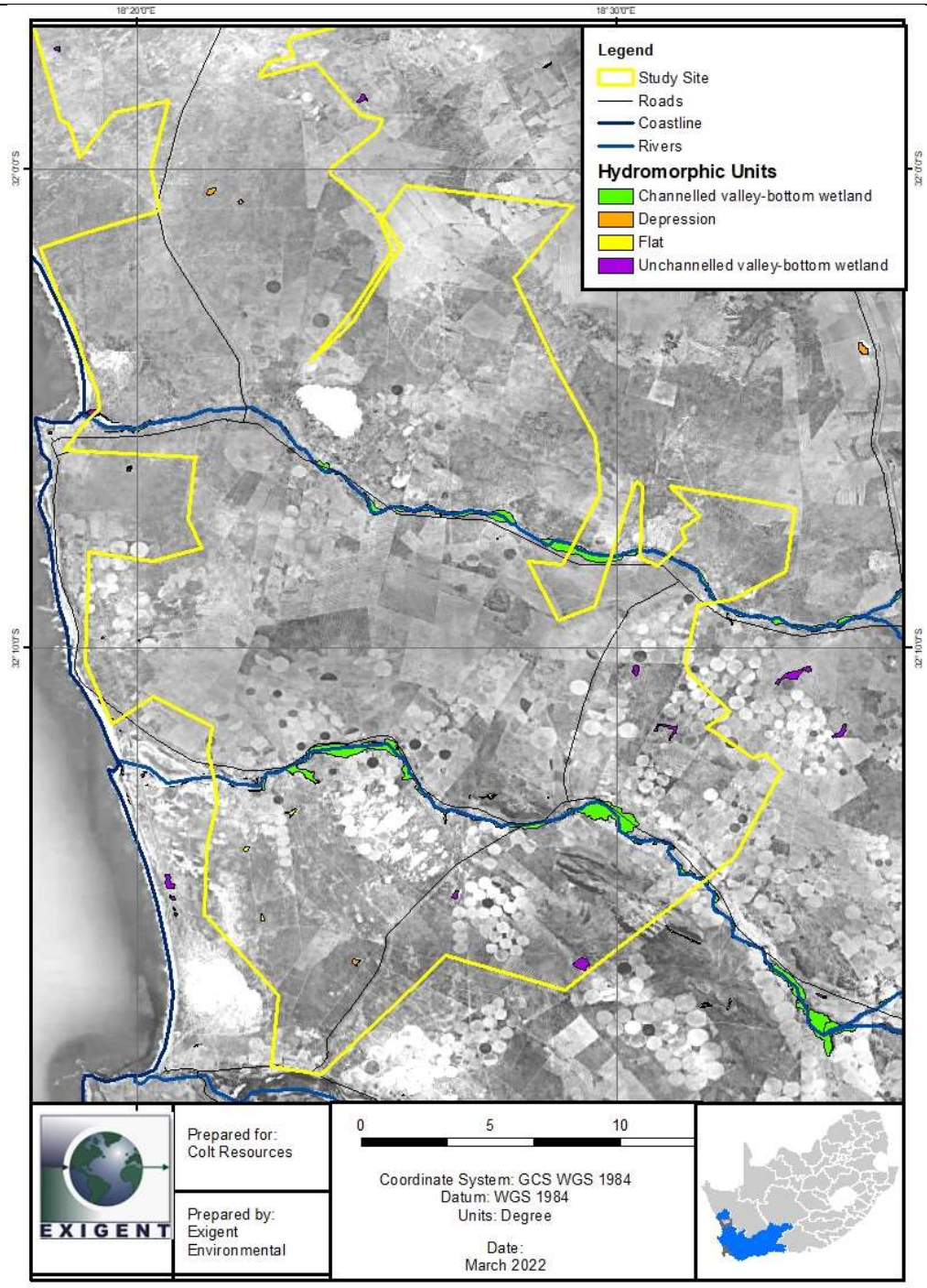


Figure 3-14. Hydrology of the area surrounding the proposed prospecting project lower area.

Groundwater Quality

The Electrical Conductivity (EC) of water is a physical property which is widely used as an alternative to the chemical measuring of total dissolved solids (TDS), to determine water quality. Pure water has a low conductivity and an increase in conductivity generally reflects a decrease in water quality. The DWS National Groundwater Archive (NGA) shows that the reported Electrical Conductivity (EC) of the boreholes across the prospecting study area typically range between 13mS/m and 1971mS/m, the recommended Aesthetic Limit for South African National Standards (SANS) 241: 2015 Standards for Drinking Water is ≤170 mS/m and according to the WRC (1998), groundwater exceeding this represents saline conditions and is generally unacceptable for long-term drinking purposes. The South African Water Quality Guidelines for Aquatic Ecosystems – Volume 7 prepared by DWAF, however, does not specify a minimum Target Water Quality Range (TWQR) for Electrical Conductivity (EC). The DWS National Groundwater Archive (NGA) shows that the recorded pH levels of the boreholes across the prospecting study area typically ranges between 3.5 and 8.2, the recommended limit for the South African National Standards (SANS) 241: 2015 Standards for Drinking Water ranges between 5.0 to 9.7.

Socio-economic

District Municipality IDP

According to the WCDM's Integrated Development Plan (IDP) (Review 2, May 2019), as updated for the 2017-2022 period, the census of 2018 indicated that a total population of 450 610 people reside in the municipality's jurisdiction. According to the IDP (May 2019), the WCDM will have a population growth of 2.8 per cent average annual growth over the 2017-2022 period. The age distribution population composition per age is expressed in the IDP as a dependency ratio which indicates which are part of the workforce (15-65) and who are depending on the workforce (children and seniors). The higher the dependency ratio means a greater pressure on the small productive population, therefore leading to higher pressure on the social system. When comparing these statistics between 2011 and 2019, it indicates a considerable increase in the dependency ratio from 45,9 (2011) to 51,2 (2019), and projected to 51,6 (2024).

Local Municipality IDP

According to the WCDM IDP the MLM has a population of 71 403 and the May 2020 Amended MM SDF stated a growth rate of 1,56% (Approved amendment to the SDF for the MM, 2020). The largest contributing sector to the GDP was identified as agriculture, forestry and fishing (23,7%), followed by wholesale, retail, catering and accommodation (16,2%) and manufacturing (13,3%). One of the key socio-economic priorities was identified as increase in unemployment (mainly from the drought in the agricultural sector).

Climate change

The MLM IDP (May 2020) states that certain landscapes provide resilience to climate change and need to be protected. Of these landscapes, only some occur in the study area, such as the topographically diverse areas (contains important altitudinal and climate gradients which are important for climate change adaption as well as ensuring a range of micro-climates are protected), river corridors (which provide

important connectivity in arid environments) and south facing slopes (which provide refuge habitats). Although the river corridors and south facing slopes are limited within the study area, they do occur.

The MLM concludes that they are of the opinion that together with the impact of climate change that the climate pattern is changing and that is it very likely that the Municipal area will never experience rainfall such as it received in the past (MLM 2020).

The MLM further states that renewable energy projects e.g. solar and wind farms, needs to be promoted in strategic areas to reduce our current dependence on Fossil fuels and also reduce our carbon footprint.

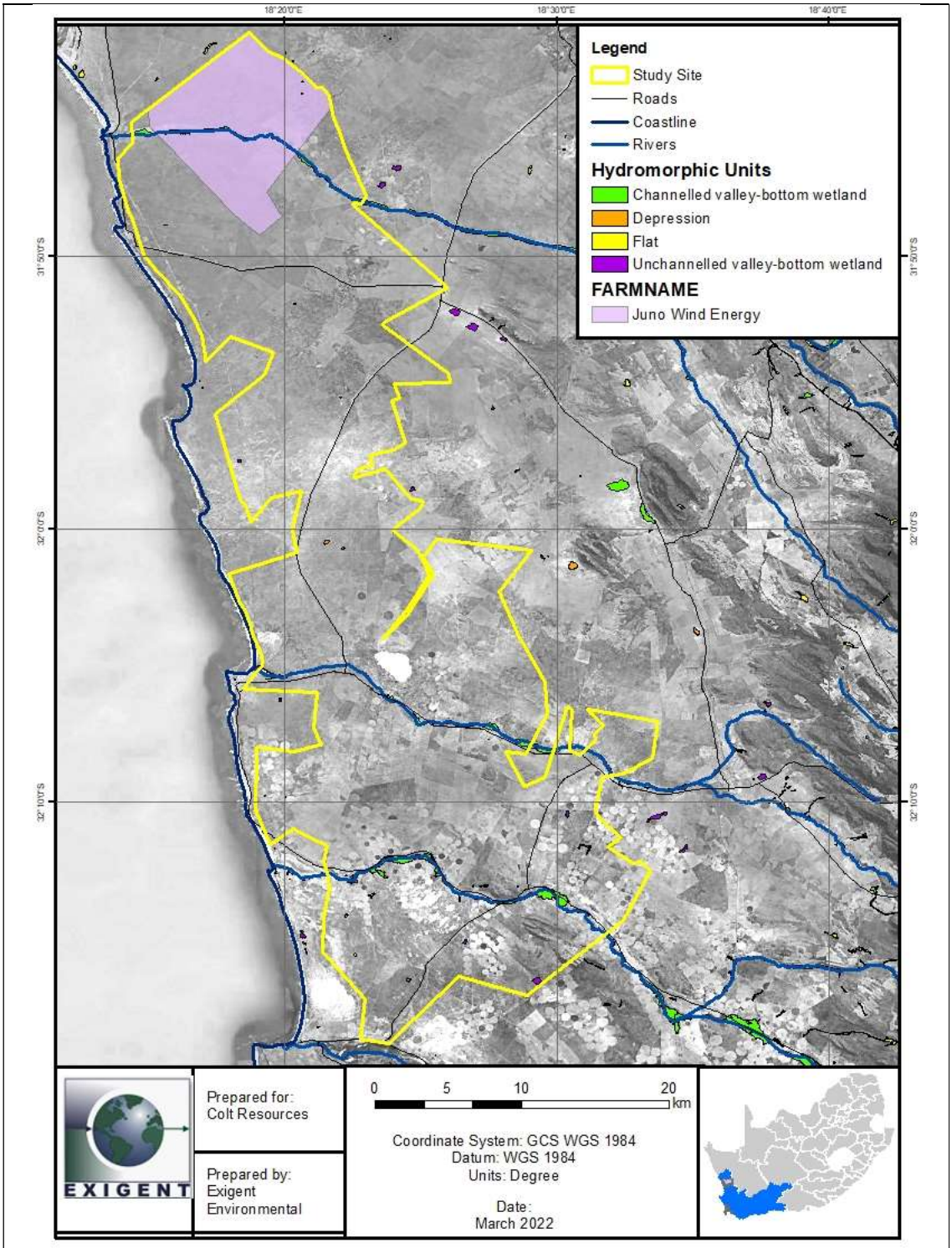


Figure 3-15. Approved renewable energy projects within the study area

Sense of place

The study area is located in a sparsely populated municipal area in an arid environment. The MLM IDP indicated Vredendal as the Leader Town due to it being an economic hub of the region.

b) Description of the current land uses

Matzikama has grown to become an important agricultural sector in the Western Cape, supplying vegetables, raisins, wine, table grapes, processed products and other fruit, while aquaculture, especially abalone farming on the Matzikama coast at Doringbaai, is increasing

Rooibos tea is the areas' most famous export but fruit like citrus are also grown on some farms. The highest winery in South Africa is found in the Cederberge namely Cederberg Winery .Photos included below indicates the rural setting of the proposed prospecting application (Table 3-13).

Saltbush (*Atriplex nummularia*) is a valuable source of food in arid and semi-arid regions, especially where the soils are saline and alkaline. Once *Atriplex nummularia* has grown to its full potential it can be grazed by sheep especially during dry conditions. It also helps with binding sand dunes. It is tolerant of salty coastal winds once it has fully established and is used as a wind shelter and a windbreak which reduces the impact of wind erosion on areas that have fragile and eroded soils. This Saltbush can be seen throughout the fields of barley in the area.

Table 3-13. Photos of the study area

There are currently the Juno wind farms approved within the study area, as indicated in Figure 3-15. It is recognised that the windfarm has authorisations in place for construction. It is therefore required that the future planning and feasibility of each project and detail location of turbines would need to be discussed with the Independent Power Producer (IPP) responsible for each project. Meetings were held with AMDA (Appendix D6.1).

c) Description of specific environmental features and infrastructure on the site

The vegetation types and conservation significance, heritage significant areas as well as hydrological aspects to consider, has been described in detail in Section 3 (h) iv 1(a) of this report. The current infrastructure is limited to farm roads on the private farms.

d) Environmental and current land use map

(Show all environmental, and current land use features)

Figure 3-7, Figure 3-15 and Figure 3-6 indicates the various aspects to consider during the prospecting project assessment, including vegetation types, current land use and heritage aspects, and the combination thereof on Figure 3-16. This figure also includes the proposed buffers around sensitive features.

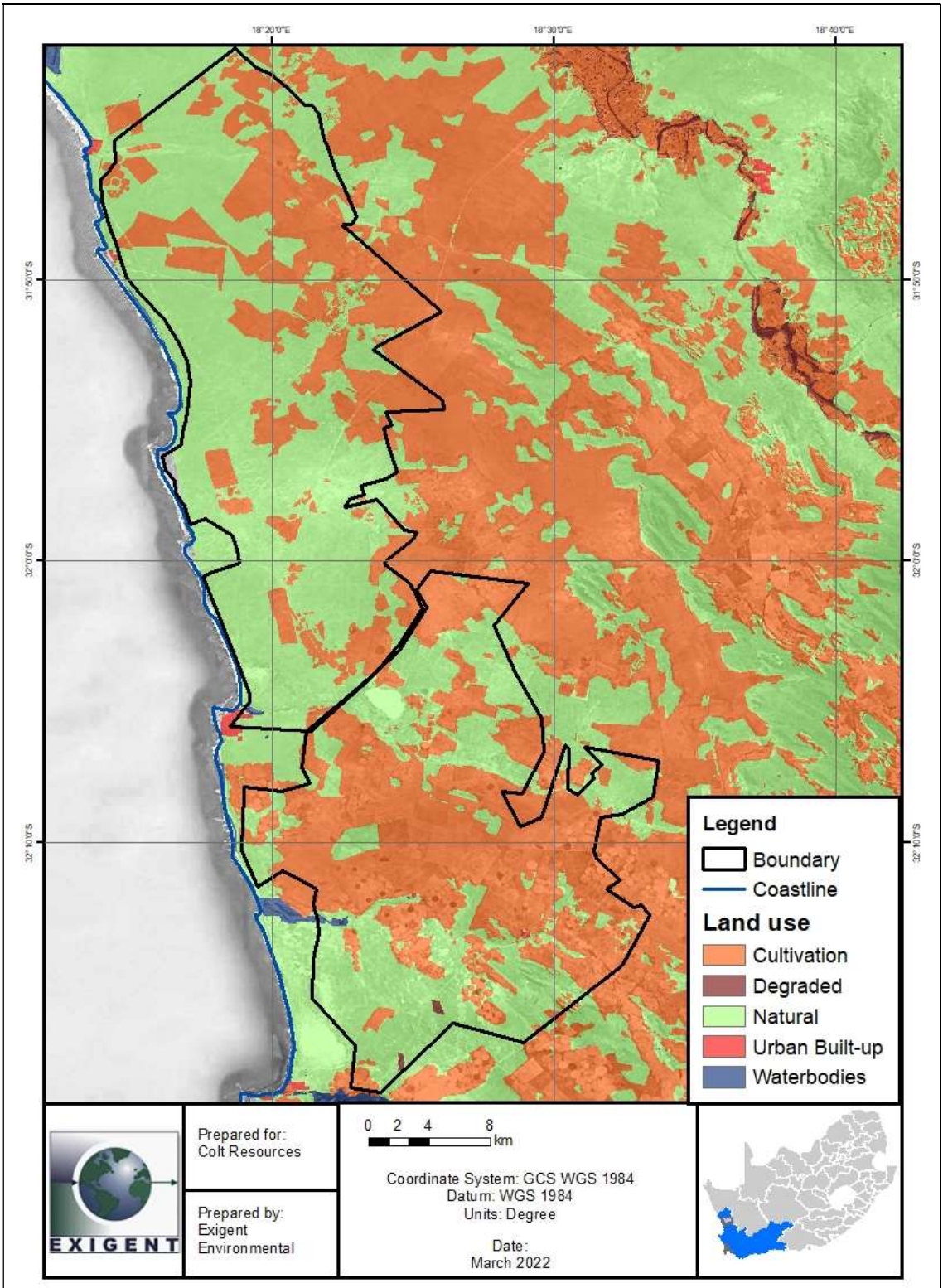


Figure 3-16. Current land use and environmental features.

v. Impacts and risks identified including the nature, significance, consequence, extent, duration and probability of the impacts, including the degree to which these impacts

(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. Please indicate the extent to which they can be reversed, the extent to which they may cause irreplaceable loss of resources, and can be avoided, managed or mitigated).

Various resources were consulted during this assessment process, including input from the landowners and other I&APS, specialists and other academic resources. During the assessment process, various following potential negative and positive impacts were identified.

The phasing of the project will be confined to a single operational phase, being referred to as the *prospecting phase*, as the rehabilitation and removal of all equipment will occur immediately after the borehole sample has been collected.

Three desktop specialist studies were undertaken during the assessment phase to provide detail information re the site sensitivities and propose buffer zones to be excluded during the prospecting phase. The specialist studies, namely Ecological (including wetlands), Heritage Impact Assessment and Water Resources Assessment are included in Appendix D.

vi. Methodology used in determining and ranking the nature, significance, consequences, extent, duration and probability of potential environmental impacts and risks;

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

Table 3-16 provides a summary of the potential impacts for the construction and operational phases (grouped together as the 'prospecting' phase).

Table 3-14. Criteria by which impacts were assessed.

<table>
<tr><th>ASPECT</th><th>IMPACT RATING</th></tr>
<tr><td colspan="2">Status of the impact:
A statement of whether the impact is positive (a benefit), negative (a cost), or neutral.</td></tr>
<tr><td>Direct impacts</td><td>Impacts that are caused directly by the activity and generally occur at the same time and at the place of the activity. These impacts are usually associated with the construction, operation or maintenance of an activity and are generally obvious and quantifiable.</td></tr>
<tr><td>Indirect impacts</td><td>Impacts of an activity are indirect or induced changes that may occur as a result of the activity. These types of impacts include all the potential impacts that do not manifest immediately when the activity is undertaken or which occur at a different place as a result of the activity.</td></tr>
<tr><td>Cumulative impacts</td><td>Cumulative impacts are impacts that result from the incremental impact of the proposed activity on a common resource when added to the impacts of other past, present or reasonably foreseeable future activities. Cumulative impacts can occur from the collective impacts of individual minor actions over a period of time and can include both direct and indirect impacts.</td></tr>
<tr><td colspan="2">Nature of the impact:
The evaluation of the nature is impact specific. Most negative impacts will remain negative, however, after mitigation, significance should reduce:
• Positive.
• Negative.</td></tr>
<tr><td colspan="2">Extent:
A description of whether the impact would occur on a scale limited to within the study area (local), limited to within 5 km of the study area (area); on a regional scale i.e. Matzikama Local Municipality & Western Cape (region); or would occur at a national or international scale.

<table>
<tr><td>Local</td><td>1</td></tr>
<tr><td>Area</td><td>2</td></tr>
<tr><td>Region</td><td>3</td></tr>
<tr><td>National</td><td>4</td></tr>
<tr><td>International</td><td>5</td></tr>
</table>
</td></tr>
</table>

ASPECT	IMPACT RATING

Duration:

A prediction of whether the duration of the impact would be Immediate and once-off (less than one month), more than once, but short term (less than one year), regular, medium term (1 to 5 years), Long term (6 to 15 years), Project life/permanent (> 15 years, with the impact ceasing after the operational life of the development, or should be considered as permanent).

Immediate	1
Short term	2
Medium term	3
Long term	4
Project life/permanent	5

Severity (extent +duration + intensity)

Intensity: This provides an order of magnitude of whether or not the intensity (magnitude/size/frequency) of the impact would be negligible, low, medium, high or very high. This is based on the following aspects:

- an assessment of the reversibility of the impact (permanent loss of resources, or impact is reversible after project life);
- whether or not the aspect is controversial;
- an assessment of the irreplaceability of the resource loss caused by the activity (whether the project will destroy the resources which are easily replaceable, or the project will destroy resources which are irreplaceable and cannot be replaced);
- the level of alteration to the natural systems, processes or systems.

Negligible	The impact does not affect physical, biophysical or socio-economic functions and processes.	1
Low/potential harmful	The impact has limited impacts on physical, biophysical or socio-economic functions and processes.	2
Medium/slightly harmful	The impact has an effect on physical, biophysical and socio-economic functions and processes, but in such a way that these processes can still continue to function albeit in a modified fashion.	3
High/Harmful	Where the physical, bio-physical and socio-economic functions and processes are impacted on in such a way as to cause them to temporarily or permanently cease.	4
Very high/Disastrous	Where the physical, bio-physical and socio-economic functions and processes are highly impacted on in such a way as to cause them to permanently cease.	5

Incidence (frequency + probability)

Frequency: This provides a description of any repetitive, continuous or time-linked characteristics of the impact: Once Off (occurring any time during construction or operation); Intermittent (occurring from time to time, without specific periodicity); Periodic (occurring at more or less regular intervals); Continuous (without interruption).

ASPECT	IMPACT RATING	
Once Off	Once	1
Rare	1/5 to 1/10 years	2
Frequent	Once a year	3
Very frequent	Once a month	4
Continuous	≥ Once a day/ per shift	5

Probability of occurrence: A description of the chance that consequences of that selected level of severity could occur during the exposure.

Highly unlikely	The probability of the impact occurring is highly unlikely due to its design or historic experience.	1
Improbable	The probability of the impact occurring is low due to its design or historic experience.	2
Probable	There is a distinct probability of the impact occurring	3
Almost certain	It is most likely that the impact will occur	4
Definite	The impact will occur regardless of any prevention measures	5

Risk rating

The risk rating is calculated based on input from the above assessments. The incidence of occurrence is calculated by adding the Extent of the impact to the duration of the impact. The Severity of the impact is calculated based on input from the extent of the impact, the duration and the intensity.

Risk = Severity (extent + duration + intensity) x Incidence (frequency + probability)

Significance: The significance of the risk based on the identified impacts has been expressed qualitatively as follows:

- **low** – the impact is of little importance/insignificant, but may/may not require minimal management
- **medium** - the impact is important, management is required to reduce negative impacts to acceptable levels.
- **high** - the impact is of great importance, negative impacts could render development options or the entire project unacceptable if they cannot be reduced to acceptable levels and/or if they are not balanced by significant positive impacts, management of negative impacts is essential.

Low risk	0 – 50
Medium risk	51 – 100
High risk	101 - 150

vii. 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)

From the onset of the project, the Colt Resources policies dictated that all sensitive areas should be assessed and excluded from prospecting. Therefore, during the assessment phase, these aspects were identified and the relevant buffers applied, to be indicated on a final layout plan which excludes the sensitive areas from future planning of prospecting.

viii. 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).\

The comments received to date have been captured in Appendix D4 and a topic-specific summary is presented in Table 3-10. Section 3 (l) refers to the identified impacts and mitigation measures after the assessment phase.

ix. Motivation where no alternative sites were considered.

Refer to Section 3 ix.

x. Statement motivating the alternative development location within the overall site.

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

As stated in Section 3 (h) vii the initial project scope included the identification and exclusion of sensitive areas and their buffers. Therefore, the specialist studies conducted a desktop assessment of the full proposed prospecting areas, and the sensitive areas and their buffers have been excluded from the proposed prospecting area. The same assessment was conducted by the ecologist and hydrology teams and these buffers have been applied to the final proposed prospecting layout.

i) Full description of the process undertaken to identify, assess and rank the impacts and risks the activity will impose on the preferred site (In respect of the final site layout plan) through the life of the activity.

(Including (i) a description of all environmental issues and risks that were identified during the environmental impact assessment process and (ii) an assessment of the significance of each issue and risk and an indication of the extent to which the issue and risk could be avoided or addressed by the adoption of mitigation measures.)

The HIA consisted of identification of analysing historical maps and searched on the SAHRIS database for previous studies. The outcome of the study was that the general area is very sensitive to archaeological sites covering the last 1.5million years. The more significant sites would be concentrated around the rock, and many buildings older than 60years, and several may date to the 19th century. These buildings will have historical middens as well as cemeteries. A 100m buffer was indicated around these sites. This study is attached as Appendix C1 to this report.

The Ecological Assessment identified sensitive habitat types and specific sensitive aquatic features and proposed a buffer around them to exclusion of prospecting activities. The Biodiversity study is attached as Appendix C2 to this report.

The same assessing and identification of exclusion zones, principles were identified during the Water resource assessment (attached as Appendix D3).

These assessments included aspects such as legal requirements, the nature of the proposed activity and well as the nature of the receiving environment.

The assessment methodology of the impacts is described in detail in Section 3 (h) vi.

j) Methodology in assessing potential impacts

The impacts of the proposed development and each alternative were assessed according to the criteria in Table 3-14 and will include the degree to which these impacts can be reversed, may cause irreplaceable loss of resources and can be avoided, managed or mitigated.

Table 3-15 indicates the key impacts identified. These have been evaluated according to the risk assessment methodology indicated above.

Table 3-15. Impact assessment (prospecting phase) for the proposed prospecting application.

Aspect	Activity	Nature	Project phase	Type	Severity			Incidence		R
					Extent	Duration	Intensity	Frequency	Probability	E
Ecological Impacts – Impact on vegetation in terrestrial habitat										
Vegetation plays an important role in the functioning of ecosystems, as well as maintaining biological processes in the soil, reducing the loss of topsoil and nutrients and recycling of nutrients. The removal of the natural vegetation will result in the loss of /impact on habitat for various faunal and floral species.	Drilling and access to drill sites.	Negative	Prospecting	Direct	Local	Short term	High	Once-off	Highly unlikely	2
	Comments/Mitigation: • Clearance of indigenous vegetation must be kept to a minimum. • Topsoil is to be removed separately to subsoil and be safely stockpiled for use in rehabilitation of the drilling hole. • Progress of vegetation establishment must be monitored regularly by environmental member of the team, with slow recovery and integrity, as well as physical stability. • No indigenous vegetation may be collected or used for firewood. • If any plants of high conservation value are found, the drilling location should be altered to not impact on the high co • Where clearing is required for access roads, vegetation should be brush-cut rather than cleared to speed re-establis									
Ecological Impacts – Impact on wetland habitat										
There are two types of wetlands occurring in the study area, namely Cape inland Salt Pans and Cape Lowland Freshwater wetlands. These areas have been protected by a 500m buffer.	Drilling and access to drill sites.	Negative	Prospecting	Direct	Local	Medium term	High	Once-off	Highly unlikely	2
	Comments/Mitigation: • All prospecting drilling sites must be located outside the 500m buffers of all wetlands. • No rubble may be temporarily stockpiled or dumped within the wetlands.									
Ecological Impacts - Potential loss of species of concern										
The habitat types occurring within the proposed prospecting study area include several species of concern.	Drilling and access to drill sites.	Negative	Prospecting	Direct	Local	Project life	Very high	Once-off	Improbable	1
	Comments/Mitigation: • After the initial airborne geophysical survey has been completed and target areas for drilling defined, an ecologist wi order to identify areas that would need to be validated on site prior to commencing drilling' • Should any other species of concern be identified by the ecologist, the proposed drilling grid layout should be amend									

Aspect	Activity	Nature	Project phase	Type	Severity			Incidence		Risk class		
					Extent	Duration	Intensity	Frequency	Probability	Before mitigation		After mitigation
Ecological Impacts - Potential impact on ecological corridors and conservation areas												
The site overlaps with CBA areas as well as a NPAES focus area. Should drilling areas not be successfully rehabilitated, it could impact on the ecological status of the area.	Drilling and access to drill sites.	Negative	Prospecting	Direct	National	Short term	High	Frequent	Definite	72	**MEDIUM**	**LOW**
	Comments/Mitigation: • After the initial airborne geophysical survey has been completed and target areas for drilling defined, an ecologist will overlay these areas on the sensitivity map (Figure 3-18) in order to identify areas that would need to be validated on site prior to commencing drilling' • Should any other species of concern be identified by the ecologist, the proposed drilling grid layout should be amended.											
Ecological Impacts - Infestation of alien invasive species												
The disturbance of the natural vegetation by the proposed activities may aid exotic species to invade.	Drilling and access to drill sites.	Negative	Prospecting	Direct	Local	**Medium term**	**Low**	**Once-off**	**Probable**	**28**	**LOW**	**LOW**
	Comments/Mitigation: • Monitoring should be put in place to review vegetation growth of the impacted areas after prospecting. • Successful re-vegetation is crucial to stabilise soils and limit infestation by invasive alien plant species. • Rehabilitation should be undertaken immediately after prospecting has been completed at the drill site.											
Hydrological impacts - Groundwater												
Existing boreholes within the prospecting area may create conduits of flow to the groundwater unless sealed. Localised spillages of oils from machinery leaching to groundwater causing contamination.	Drilling and access to drill sites impacting on existing boreholes.	Negative	Prospecting	Direct	Area	**Medium**	**High**	**Once-off**	**Probable**	**36**	**LOW**	**LOW**
	Oil spills from machinery	Negative	Prospecting	Direct	Area	**Medium**	**High**	**Once-off**	**Probable**	**36**	**LOW**	**LOW**
	Mitigation/Comments: • No washing of vehicles shall be allowed outside demarcated areas. The bays will be clearly demarcated and will not be allowed to contaminate any surface runoff. • Sufficient areas shall be provided for the maintenance and washing of vehicles. • Refuelling of vehicles will only be allowed in designated areas. • All drilling equipment shall be parked in a demarcated area Drip trays shall be used when equipment is not used for some time.											

Aspect	Activity	Nature	Project phase	Type	Severity			Incidence		Risk class	
					Extent	Duration	Intensity	Frequency	Probability	Before mitigation	After mitigation
	• On surface bulk storage of hydrocarbons must be situated in a dedicated area which will include a bund or a drain where necessary to contain any spillages during the use, loading and off-loading of the material. • Bund areas shall contain 110% of the stored volume • Bund areas must be impermeable • Bund areas must have a facility such as a valve/sump to drain or remove clean stormwater. • Contaminated water shall be pumped into a container for removal by an approved service provider. • Regular inspections shall be carried out to ensure the integrity of the bundwalls. • All preventative servicing of earth moving equipment and vehicles shall be undertaken off site. • Runoff from this area shall be contained. • Spill kits shall be made available and all personnel shall be trained on how to use the kits and training records shall be made available on request.										
Hydrological Impacts – Surface water											
• Vegetation impacted at drilling sites may result in erosion. • Potential deterioration in water quality due to the potential accidental spillages of hazardous substances. • Increase in silt load in runoff due to site clearing, grubbing and the removal of topsoil from the footprint area associated with the drill sites. • Debris from poor handling of materials and/or waste impacting on watercourses, resulting in flow impediment and pollution. • Contaminated dirty water runoff to surrounding areas resulting in	Sedimentation and erosion due to vegetation impacted	Negative	Prospecting	Direct	Area	Short term	High	Once-off	Probable	32	**LOW**	**LOW**
	Deterioration of water quality	Negative	Prospecting	Direct	Area	Medium term	High	Once-off	Probable	36	**LOW**	**LOW**
	Debris ending in watercourses	Negative	Prospecting	Direct	Area	Short term	High	Once-off	Probable	32	**LOW**	**LOW**
	Contaminated dirty water run-off	Negative	Prospecting	Direct	Area	Medium term	High	Once-off	Probable	36	**LOW**	**LOW**
	Increase in surface runoff	Negative	Prospecting	Direct	Area	Medium term	High	Once-off	Probable	36	**LOW**	**LOW**

Aspect	Activity	Nature	Project phase	Type	Severity			Incidence		Risk class	
					Extent	Duration	Intensity	Frequency	Probability	Before mitigation	After mitigation
the impact on local surface water quality. • Increase of surface runoff and potentially contaminated water that needs to be maintained in the areas where site clearing occurred.	**Comments/Mitigation:** • Topsoil and subsoil should be stockpiled separately, to not impact on areas outside the servitude. • During rehabilitation, prompt and progressive reinstatement of impacted areas is required. The topsoil layer is to be replaced on top during reinstatement. • Checks must be carried out at regular intervals to identify areas where erosion is occurring. • Remedial action, including the rehabilitation of eroded areas and, where necessary, the relocation of the paths causing erosion, is to be undertaken.										
Hydrological and ecological impacts – Change to aquatic habitat (watercourses and wetlands)											
• Localised changes to the aquatic habitat as a result of impact on vegetation during drilling. • Increased runoff due to topsoil removal and vegetation impacts leading to possible erosion and sedimentation of wetland and riparian resources.	Changes in aquatic habitat	Negative	Prospecting	Direct	Area	Short term	High	Once-off	Probable	32	**LOW**	**LOW**
	Comments/Mitigation: • Adequate stormwater management must be incorporated into the design of the project in order to prevent erosion and the associated sedimentation of the aquatic system. • No prospecting activities shall be allowed within 500 m of wetlands and/or riparian zones without consent from the DWS. • No vehicles will be allowed to indiscriminately drive through the riparian areas or within the active stream channels. • All disturbed areas must be re-vegetated with indigenous species. • All prospecting materials must be kept out of the wetlands and riparian areas; and • All vehicles must be regularly inspected for leaks. Re-fuelling must take place outside the project area, on a sealed surface area to prevent ingress of hydrocarbons into topsoil and aquatic ecosystems.										
Heritage impacts -Impacts on archaeological artefacts											
No national monuments, battlefields, or historical cemeteries are known to occur in the study area. There were significant sites observed on the various maps. Extant buildings need to be assessed for the vernacular architectural value.	All activities	Negative	Prospecting	Direct	Local	Immediate	Low	Rare	Probable	15	**LOW**	**LOW**
	Comments/Mitigation: • 100m buffer should be placed around all noted sites, rock outcrops • Should any potential areas of significance be identified by a suitably qualified archaeologist and palaeontologist after the initial airborne geophysical survey has been completed and target areas for drilling defined, these areas will be excluded from future drilling grid layout. • All drilling results must include the occurrence of marine shell (depth below surface and depth of deposit) to assist the location of subsurface shell middens.										
General nuisance - Dust											
The proposed prospecting activities are noisy and will create dust. Waste will be generated during the	All activities	Negative	Prospecting	Direct	Area	Medium term	Medium	Continuous	Definite	60	**MEDIUM**	**LOW**
	Comments/Mitigation:										

Aspect	Activity	Nature	Project phase	Type	Severity			Incidence		Risk class	
					Extent	Duration	Intensity	Frequency	Probability	Before mitigation	After mitigation
prospecting phase, after which there will be no additional waste generated.	• Rehabilitation of the natural vegetation of the impacted areas must be done immediately in order to prevent dust generated by the excavation activities from dispersing. • It is critical to use existing roads and cleared areas for drilling areas and access, to limit the nuisance of dust. • Excessive liberation of dust must be controlled by the use of dust-allaying agents.										
Socio-economic impact –job opportunities											
A number of temporary employment and skills development opportunities will be created. These opportunities will be of short-term duration and will be limited to the prospecting requirements of the Contractor, however skills can be transferred which may be used during further opportunities.	Creation of job opportunities	Positive	Prospecting	Direct	Region	Medium term	Medium	Continuous	Definite	63	**MEDIUM**	**MEDIUM**
	Loss of job opportunities	Negative	Prospecting	Direct	Area	Medium term	Low	Rare	Improbable	36	**LOW**	**LOW**
	Comments/Mitigation: • The contractor must use local labour to ensure the affected community get the most benefit from the job opportunities. • Training must be provided to local labourers in order to perform more specialised jobs. • Impacts need to be managed to ensure limited loss of economic opportunities due to nuisance factors such as dust.										
Socio-economic impact – Impact on servitudes and other infrastructure											
Various landowners and stakeholders have mentioned existing approved land uses such as approved wind farms, servitudes, and proposed new infrastructure.	All proposed land uses	Positive	Prospecting	Direct	Region	Medium term	High	Continuous	Definite	90	**MEDIUM**	**LOW**
	Comments/Mitigation: • Should the EA of the prospecting application be positive, COLT RESOURCES will contact all landowners and potential affected parties in terms of existing servitudes, land use rights such as wind farms, and proposed future activities in order to ascertain the additional areas to be excluded/avoided temporarily during prospecting. • It is important to obtain updated information on an ongoing basis, as the prospecting planning is for a period of 5-years, during which several land use changes can occur.										

Table 3-16. Summary of the possible impacts of the prospecting phase.

	Impact	Status	Extent	Duration	Intensity	Frequency	Probability	Significance without mitigation		
Ecology	Impact on vegetation and terrestrial habitat	Negative	2	1	4	1	2	21	**LOW**	**LOW**
	Impact on wetlands	Negative	2	1	4	1	2	21	**LOW**	**LOW**
	Potential loss of species of concern	Negative	2	1	3	3	4	42	**LOW**	**LOW**
	Potential impact on ecological corridors and conservation areas	Negative	4	2	3	3	5	72	**MEDIUM**	**LOW**
	Infestation of alien invasive species	Negative	2	3	2	1	3	28	**LOW**	**LOW**
Hydrology Groundwater	Drilling and access to drill sites impacting on existing boreholes.	Negative	2	3	4	1	3	36	LOW	LOW
	Oil spills	Negative	2	3	4	1	3	36	LOW	LOW
Hydrology surface water	Sedimentation and erosion due to vegetation impacted	Negative	2	2	4	1	3	32	LOW	LOW
	Deterioration of water quality	Negative	2	3	4	1	3	36	LOW	LOW
	Debris ending in watercourses	Negative	2	2	4	1	3	32	LOW	LOW
	Contaminated dirty water run-off	Negative	2	3	4	1	3	36	LOW	LOW
	Increase in surface runoff	Negative	2	3	4	1	3	36	LOW	LOW
Hydrology- wetland and aquatic habitat	Changes in aquatic habitat	Negative	2	2	4	1	3	32	LOW	LOW
	Increase in surface runoff	Negative	2	2	4	1	3	32	LOW	LOW
Heritage	Impacts on archaeological artefacts	Negative	1	1	1	2	3	15	LOW	LOW
General nuisance	Dust	Negative	1	2	3	5	5	60	**MEDIUM**	**LOW**
Socio-economic	Creation of job opportunities	Positive	2	3	2	4	5	63	**MEDIUM**	**MEDIUM**
	Loss of job opportunities	Negative	2	5	2	1	3	36	**LOW**	**LOW**
	Impact on servitudes and other infrastructure	Negative	2	3	4	5	5	90	**MEDIUM**	**LOW**

k) Assessment of Impacts and Risks

In terms of the identification of issues and associated impacts for the proposed project, the following should be noted:

- The issues have been identified by the EAP team, the proponent, landowners and I&APs;
- A broad definition of the "environment" is considered, which includes the natural (biotic and abiotic), social, cultural, economic and built environments;
- Certain issues and associated impacts have been identified as potentially occurring, but their occurrence is not definite. However, they need to be identified to inform decision-making and to enable the relevant parties to proactively address them should they occur, or prevent them from occurring;
- Both negative and positive impacts[6] are identified and described.

The following desktop specialist studies were included in the assessment:

- Water Resource Assessment;
- Heritage Impact Assessment; and
- Ecological and Wetland Assessment.

The Specialist Studies required to assess potentially significant impacts identified during the BAR are included as Appendix D. These studies were undertaken by independent professionals regarded as specialists in their specific disciplines. The requirements for specialist reports stipulated in Appendix 6 of the GNR326 of 2017, as amended, of NEMA have been complied with.

l) Mitigation and Management Actions

An EMPr (Part B of this Draft BAR) has been prepared in accordance with Appendix 4 of the R326 of 2017, as amended, of NEMA and includes the following:

- Details and expertise of the person who prepared the EMPr.
- Information on any proposed management or mitigation measures that was taken to address the environmental impacts that have been identified in the final BAR, including environmental impacts or objectives in respect of planning and design, prospecting activities, operation or undertaking of the activity, rehabilitation of the environment, and closure (where relevant).
- A detailed description of the aspects of the activity that are covered by the Final EMPr.
- An identification of the persons who will be responsible for the implementation of the measures.
- Where appropriate, time periods within which the measures contemplated in the Final EMPr must be implemented.
- Proposed mechanisms for monitoring compliance with the EMPr and reporting thereon.

It is confirmed that the requirement to describe the aspects of the activity that are covered by the draft environmental management programme is already included in PART B, section (1)(h).

[6] An environmental impact, whether adverse or beneficial, is defined as a change to the environment.

m) Assessment of each identified potentially significant impact and risk

The assessment of each identified potentially significant impact and risk have been identified in Table 3-15.

n) Summary of specialist reports.

(This summary must be completed if any specialist reports informed the impact assessment and final site layout process and must be in the following tabular form):

Table 3-17. Specialist study recommendations.

LIST OF STUDIES UNDERTAKEN	RECOMMENDATIONS OF SPECIALIST REPORTS	SPECIALIST RECOMMENDATIONS THAT HAVE BEEN INCLUDED IN THE EIA REPORT (Mark with an X where applicable)	REFERENCE TO APPLICABLE SECTION OF REPORT WHERE SPECIALIST RECOMMENDATIONS HAVE BEEN INCLUDED.
Heritage Assessment	A 100m buffer of exclusion around sites of cultural and heritage significance in order to protect the potential subsurface deposits.	X	Section 3 (h) – (n) Table 3-15 to Table 3-17.
Ecological Assessment	Proposed drilling sites within the Medium sensitivity zones would need to be verified/assessed on site by an ecologist after the initial airborne geophysical survey has been completed and target areas for drilling defined. The ecologist will overlay these areas on the sensitivity map in order to identify areas that would need to be validated on site prior to commencing drilling' Should any other species of concern be identified by the ecologist, the proposed drilling grid layout should be amended. Buffers have been proposed around other sensitive features such as 100m around rivers and 500m around wetlands.	X	Section 3 (h) – (n) Table 3-15 to Table 3-17.
Water Resource Assessment	Prospecting activities to remain outside the 500m buffer for wetlands and 100m for watercourses.	X	Section 3 (h) – (n) Table 3-15 to Table 3-17.

As per the findings of the DEFF screening tool a number of studies have been proposed. Table 3-18 includes the assessment of the identified specialist studies.

Table 3-18. Analysis of the specialist assessments proposed by the screening tool and the EAPs comments on the applicability thereof.

<table>
<tr><th>Proposed Assessment</th><th>Sensitivity in the screening tool ORIGINAL</th><th>Sensitivity in the screening tool E1</th><th>Sensitivity in the screening tool E2</th><th>Sensitivity in the screening tool E3</th><th>EAP's comments on findings of the screening tool</th><th>Section of this report</th></tr>
<tr><td>Agricultural Impact Theme</td><td>Medium</td><td>Medium</td><td>Medium</td><td>High</td><td>It is understood that the proposed prospecting area is currently largely an agricultural land use. Prospecting activities will only impact on a small extent and only for a short-term. Based on the proposed rehabilitation and closure plan, it is anticipated that the proposed prospecting activities will not impact on the agricultural potential of the farms.</td><td>N/A</td></tr>
<tr><td>Aquatic Biodiversity Theme</td><td>Very High</td><td>Very High</td><td>Very High</td><td>Very High</td><td>The following habitat types has been identified by the Screening tool (Appendix E). The wetlands, rivers and aquatic CBA areas have been identified in the sensitivity mapping and excluded from proposed prospecting, including the proposed buffer areas.

<table><tr><th>Sensitivity</th><th>Feature(s)</th></tr><tr><td>Very High</td><td>Aquatic CBAs</td></tr><tr><td>Very High</td><td>Rivers</td></tr><tr><td>Very High</td><td>Strategic water source area</td></tr><tr><td>Very High</td><td>Wetlands and Estuaries</td></tr></table></td><td>Section 3 iv1a)
Appendix C2
Appendix C3</td></tr>
<tr><td>Terrestrial Biodiversity Impact Assessment</td><td>Very High</td><td>Very High</td><td>Very High</td><td>Very High</td><td>The findings of the Ecological and Wetland Specialist Assessment includes sensitivity aspects in terms of plant species. The distribution of these habitats is included in the specialist study. Habitat of very high sensitivity listed in the Screening report (Appendix E) includes the following, and have been acknowledged in the Ecological and wetland specialist study:

<table><tr><th>Sensitivity</th><th>Feature(s)</th></tr><tr><td>Very High</td><td>Ecological Support Area 2</td></tr><tr><td>Very High</td><td>Ecological Support Area 1</td></tr></table></td><td>Section 3 iv1a)
Appendix C2
Appendix C3</td></tr>
</table>

<table>
<tr><th>Proposed Assessment</th><th>Sensitivity in the screening tool ORIGINAL</th><th>Sensitivity in the screening tool E1</th><th>Sensitivity in the screening tool E2</th><th>Sensitivity in the screening tool E3</th><th>EAP's comments on findings of the screening tool</th><th>Section of this report</th></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td><table>
<tr><td>Very High</td><td>Critical Biodiversity Area 2</td></tr>
<tr><td>Very High</td><td>Critical Biodiversity Area 1</td></tr>
<tr><td>Very High</td><td>Doorspring Private Nature Reserve</td></tr>
<tr><td>Very High</td><td>Zeven Puts Private Nature Reserve</td></tr>
<tr><td>Very High</td><td>Soopjeshoogte Private Nature Reserve</td></tr>
<tr><td>Very High</td><td>Vulnerable ecosystem</td></tr>
</table></td><td></td></tr>
<tr><td>Animal Species Theme</td><td>High</td><td>High</td><td>High</td><td>High</td><td>As per the screening report, the following species are of concern might utilise the proposed prospecting farms. The habitat of birds and invertebrates will not be impacted by the proposed prospecting activities as per the mitigation measures and project planning, e.g. only use existing roads.

<table>
<tr><th>Sensitivity</th><th>Feature(s)</th></tr>
<tr><td>High</td><td>Sensitive species 13</td></tr>
<tr><td>High</td><td>Aves-Circus maurus</td></tr>
<tr><td>High</td><td>Aves-Neotis ludwigii</td></tr>
<tr><td>High</td><td>Aves-Sagittarius serpentarius</td></tr>
<tr><td>High</td><td>Aves-Circus ranivorus</td></tr>
<tr><td>Medium</td><td>Invertebrate-Pachysoma aesculapius</td></tr>
<tr><td>Medium</td><td>Invertebrate-Pachysoma glentoni</td></tr>
<tr><td>Medium</td><td>Invertebrate-Brinckiella mauerbergerorum</td></tr>
<tr><td>Medium</td><td>Invertebrate-Brinckiella aptera</td></tr>
<tr><td>Medium</td><td>Invertebrate-Bullacris obliqua</td></tr>
<tr><td>Medium</td><td>Aves-Circus ranivorus</td></tr>
<tr><td>Medium</td><td>Aves-Circus maurus</td></tr>
<tr><td>Medium</td><td>Aves-Neotis ludwigii</td></tr>
</table></td><td>Section 4 i) a) Appendix C2</td></tr>
<tr><td>Archaeological and Cultural Heritage Theme</td><td>Very High</td><td>Very High</td><td>Very High</td><td>Very High</td><td>Recommendations of the Heritage Impact Assessment has been implemented. It includes 100m buffer zones around potential heritage site of significance.</td><td>Section 4 i) a) Appendix C1</td></tr>
</table>

<table>
<tr><th>Proposed Assessment</th><th>Sensitivity in the screening tool ORIGINAL</th><th>Sensitivity in the screening tool E1</th><th>Sensitivity in the screening tool E2</th><th>Sensitivity in the screening tool E3</th><th>EAP's comments on findings of the screening tool</th><th>Section of this report</th></tr>
<tr><td>Civil Aviation Theme</td><td>High</td><td>High</td><td>High</td><td>High</td><td>The north-eastern portion of the proposed prospecting area is within 8km of the Lutzville Airport. The prospecting activities will have no influence on the airport.</td><td>N/A</td></tr>
<tr><td>Palaeontological Impact Assessment</td><td>High</td><td>High</td><td>High</td><td>High</td><td>The findings of the Palaeontological aspects included in the Heritage study provide an indication towards the sensitivity of the proposed prospecting farms based.</td><td>Section 4 i) a)
Appendix C1</td></tr>
<tr><td>Plant Species Theme</td><td>Very High</td><td>Medium Sensitivity</td><td>Very High</td><td>Very High</td><td>The findings of the Ecological and Wetland Specialist Assessment includes sensitivity aspects in terms of plant species. The distribution of these species is included in the specialist study. All the species listed are of medium sensitivity. Species of concern listed in the Screening report includes the following:

<table>
<tr><th>Sensitivity</th><th>Feature(s)</th></tr>
<tr><td>Medium</td><td>Ruschia bipapillata</td></tr>
<tr><td>Medium</td><td>Ruschia densiflora</td></tr>
<tr><td>Medium</td><td>Otholobium incanum</td></tr>
<tr><td>Medium</td><td>Otholobium venustum</td></tr>
<tr><td>Medium</td><td>Sensitive species 225</td></tr>
<tr><td>Medium</td><td>Wahlenbergia umbellata</td></tr>
<tr><td>Medium</td><td>Chaenostoma multiramosum</td></tr>
<tr><td>Medium</td><td>Manulea pillansii</td></tr>
<tr><td>Medium</td><td>Selago heterotricha</td></tr>
<tr><td>Medium</td><td>Sensitive species 1245</td></tr>
<tr><td>Medium</td><td>Romulea sinispinosensis</td></tr>
<tr><td>Medium</td><td>Ferraria densepunctulata</td></tr>
<tr><td>Medium</td><td>Empodium veratrifolium</td></tr>
<tr><td>Medium</td><td>Hermannia procumbens subsp. myrrhifolia</td></tr>
<tr><td>Medium</td><td>Sensitive species 446</td></tr>
<tr><td>Medium</td><td>Sensitive species 203</td></tr>
<tr><td>Medium</td><td>Galenia crystallina var. maritima</td></tr>
<tr><td>Medium</td><td>Felicia josephinae</td></tr>
<tr><td>Medium</td><td>Cotula eckloniana</td></tr>
</table></td><td>Section 4 i) a)
Appendix C2</td></tr>
</table>

Proposed Assessment	Sensitivity in the screening tool ORIGINAL	Sensitivity in the screening tool E1	Sensitivity in the screening tool E2	Sensitivity in the screening tool E3	EAP's comments on findings of the screening tool	Section of this report
					Medium *Athanasia sertulifera* Medium *Leucoptera nodosa* Medium *Oncosiphon schlechteri* Medium *Macrostylis crassifolia* Medium *Sensitive species 1156* Medium *Argyrolobium velutinum* Medium *Aspalathus obtusata* Medium *Leucospermum rodolentum* Medium *Lachnaea grandiflora* Medium *Helichrysum dunense* Medium *Muraltia obovata* Medium *Zostera capensis* Medium *Caesia sabulosa* Very High Sensitive species 578	
Noise Theme	No rating was presented				The prospecting activities will have limited noise impact in a very localised area for a short-term.	N/A
Radioactivity	No rating was presented				The prospecting activities will have limited radiation impact due to the small size of the samples.	N/A

i. Heritage Impact Assessment

The heritage assessment (Appendix C1) for the proposed development was done by Umlando: Archaeological Surveys and Heritage Management in March 2022.

1. Initial Desktop Assessment

The desktop heritage survey of the project study area (Umlando) indicated Early and Middle Stone Age sites tend to be in the open and represented by scatters of stone tools. The Late Stone Age is also represented in these scatters however the more well-preserved sites occur in the shelters and overhangs that dot the landscape. There appears to be a dramatic increase in human activity between 3 000 and 4 000 years ago, where large (shellfish) megamiddens occur.

These decreased slightly between 3 000 and 2 000 years ago. Approximately 2000 years ago the first KhoeKhoe herders arrived in the western Cape. The interactions between the hunter-gatherers and herders have resulted in many debates (and thesis) in academia. The two sides are referred to the Isolationists and Revisionists, where the former sees two distinct groups on the landscape, while the latter argues that they formed one social group. This is a broad summary of the arguments.

The arrival of European colonisers in the Cape in 1652 started another interaction. By 1680s Simon van der Stel and company was passing through this area on trips to Namaqualand. Shortly thereafter the West Coast was regularly traversed by European settlers resulting in small pox epidemics that decimated indigenous populations and leaving open lands that were then colonised.

No national monuments, battlefields, or historical cemeteries are known to occur in the study area. There were significant sites observed on the various maps. Extant buildings need to be assessed for the vernacular architectural value.

Several Archaeological and heritage impact assessments have been undertaken outside of the study. These surveys located Early, Middle and Late Stone Age sites of which most occur in the open. The sites consist of the following:

- Deflation hollows with a variety of stone tools
- Shell middens
- Rock outcrops:
    - Shelters/caves with archaeological deposit
    - Used as raw material source
    - Rock art
    - Hides/wind breaks (for hunting or domestic)
- Historical buildings
    - Farmsteads
    - Farm labourer' houses
    - Family and farm labourers' graves

Previous systematic surveys in the general area indicate that there will be a high number of archaeological sites within the study area. Several of these would require sampling and/or excavations.

These sites would also have human graves that would be of high significance. An example of the density of sites can be seen at R028 (or Soutpansklipheuwel). Mannhire (2010) surveyed this area and recorded 103 sites and/or artefact scatters around the rock outcrop. The concentration of sites around these outcrops suggests that other outcrops could have a similar concentration.

Rock outcrops tend to have overhangs, caves or shelters that would have archaeological deposits. The area in front of the outcrops could also be used as living areas, such as the KhoeKhoe sites in Vredendal. These could be of high significance and would require archaeological excavations. The rock outcrops are also a raw materials source for Stone Age people and they would include quarrying and manufacturing sites.

A Deeds Office search of some of the original farms indicate that the oldest farm dates to 1843; however, older farms do exist in the general area. The farm buildings and/or ruins would require sampling and/or excavations. These would be mostly of medium significance. The existing buildings would need to be assessed by an architect historian to determine their vernacular significance. Leasing or buying of the land tended to occur shortly after the land was surveyed.

Summary of Findings

The more significant sites would be concentrated around the rock outcrops; however, shell middens are very likely to occur closer to the sea. The desktop study indicated that there are many buildings older than 60 years, and several may date to the 19th century. These buildings will have historical middens as well as cemeteries.

A 100m buffer around these sites/areas so that subsurface deposits are not affected.

The palaeontological significance for most of this area is mostly of low significance. However, Palaeontological beaches may occur. This will only be exposed by drilling activity initially. Thus all core samples with marine shell should be noted as these can be used to plot archaeological and palaeontological sites. A general site survey should be undertaken to ground truth certain areas noted in the HIA, especially the “area of interest”.

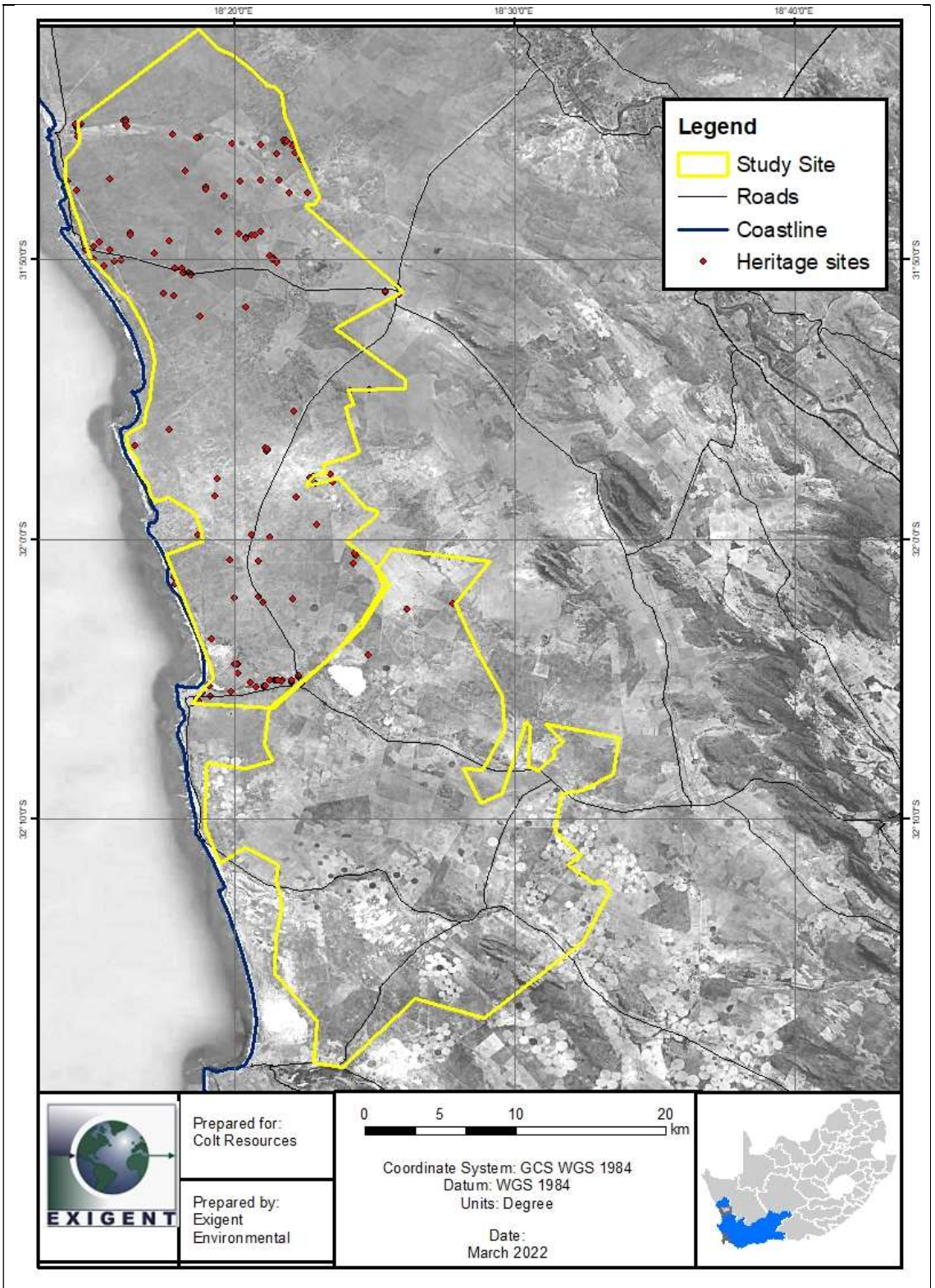


Figure 3-17. Heritage sensitive areas and 100m buffer

ii. Ecological Assessment (including wetlands)

The summary of the ecological assessment has been included in Section 3 iv) 1 a).

iii. Water resources Assessment

The summary of the ecological assessment has been included in Section 3 iv) 1 a).

o) Environmental impact statement

i. Summary of the key findings of the environmental impact assessment;

The environmental issues associated with the proposed prospecting has been assessed in Section 3 v). These impacts have been guided by the findings of the various specialist studies as summarised in Section 3 iv) 1 a).

Due to the impacts occurring mainly during the drilling phase and rehabilitation will occur immediately after drilling, the impacts have been grouped together into a 'prospecting' phase.

The prospecting phase will consist of desktop planning, identification of proposed borehole locations, prospecting drilling. The Site Camp will be established at an existing house or office premises. The remaining of the prospecting phase activities will occur off-site.

The main negative impacts of the proposed prospecting application were the impact on the sensitive vegetation habitat, potential loss of heritage artefacts, dust and other nuisance aspects during prospecting, infestation of alien invasive species, as well as the potential impact of lack of adequate rehabilitation after decommissioning.

These impacts can be mitigated during the prospecting phase using predefined controls that has been proposed by the specialists and implementation of the buffers as recommended by the specialists. These areas and their buffers will therefore be excluded from the prospecting study area as specified in the EMPr.

Linked to this is a definite need for the implementation of a detail rehabilitation programme specifically relating to the sensitive nature of the study area. Through the implementation of proposed mitigation measures, negative impacts will be limited.

There are currently three wind farms approved within the study area, which are in different phases of approval and implementation. However, the future planning of each wind farm project and detail location of turbines would need to be discussed with the Independent Power Producer (IPP) responsible for each project in order to agree on the way forward in terms of prospecting on those areas.

ii. Final Site Map

(Provide a map at an appropriate scale which superimposes the proposed overall activity and its associated structures and infrastructure on the environmental sensitivities of the preferred site indicating any areas that should be avoided, including buffers.)

The majority of the site consists of Namaqualand Strandveld and Namaqualand Sand Fynbos, considered to be of moderate sensitivity. It is expected that the prospecting in these areas would be of moderate to low significance. A large portion of the site has been subjected to agricultural activities the past, and or

currently, which has altered the ecosystem. Linked to these areas are the planting of saltbush in extensive areas. Some sections of these areas have recovered, however large portions thereof are still being commercially farmed for barley and other crops. These areas are considered of low ecological significance and prospecting within these areas would be of low impact.

The medium significance areas are those classified as CBA and within the NPAES areas. Recommendations have been made that after the initial airborne geophysical survey has been completed and target areas for drilling defined, an ecologist will overlay these areas on the sensitivity map in order to identify areas that would need to be validated on site prior to commencing drilling. Should any other species of concern be identified by the ecologist, the proposed drilling grid layout should be amended.

The wetlands, river and their respective 500m and 100m buffers have been considered high sensitivity which should not be impacted during prospecting. All prospecting activities should remain outside these areas.

The sites of potential heritage significance and their 100m buffers has been included

Figure 3-18 indicates the extent of the ecological and heritage significance areas and their buffers within the proposed prospecting area.

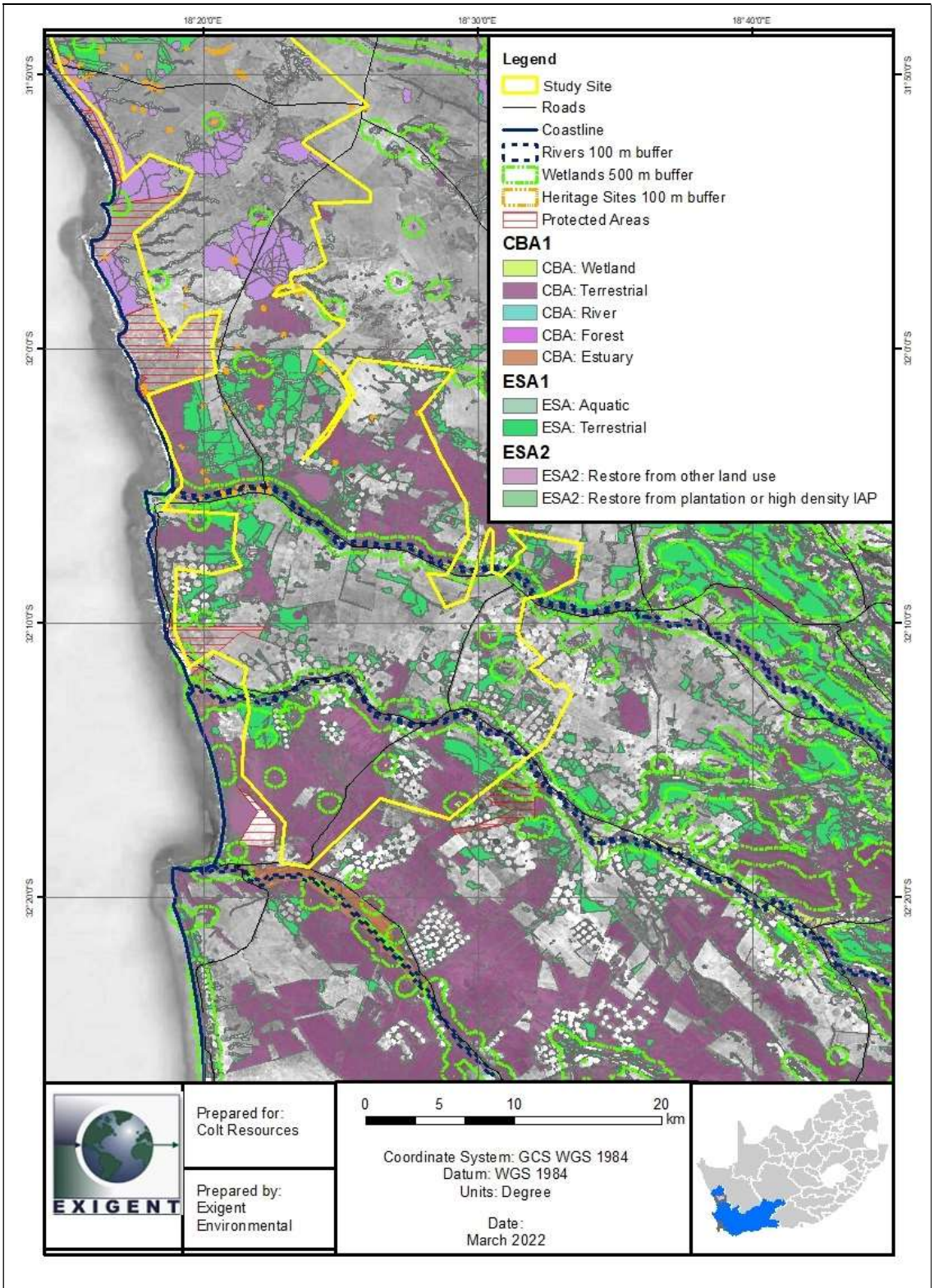


Figure 3-18. Combined sensitivity map including buffers

iii. Summary of the positive and negative impacts and risks of the proposed activity and identified alternatives

Section 3 n) iii) describes the positive and negative impacts of the prospecting activity, and the combination thereof is depicted on Figure 3-19.

Figure 3-19 includes the proposed prospecting plan after consideration of the positive and negative impacts.

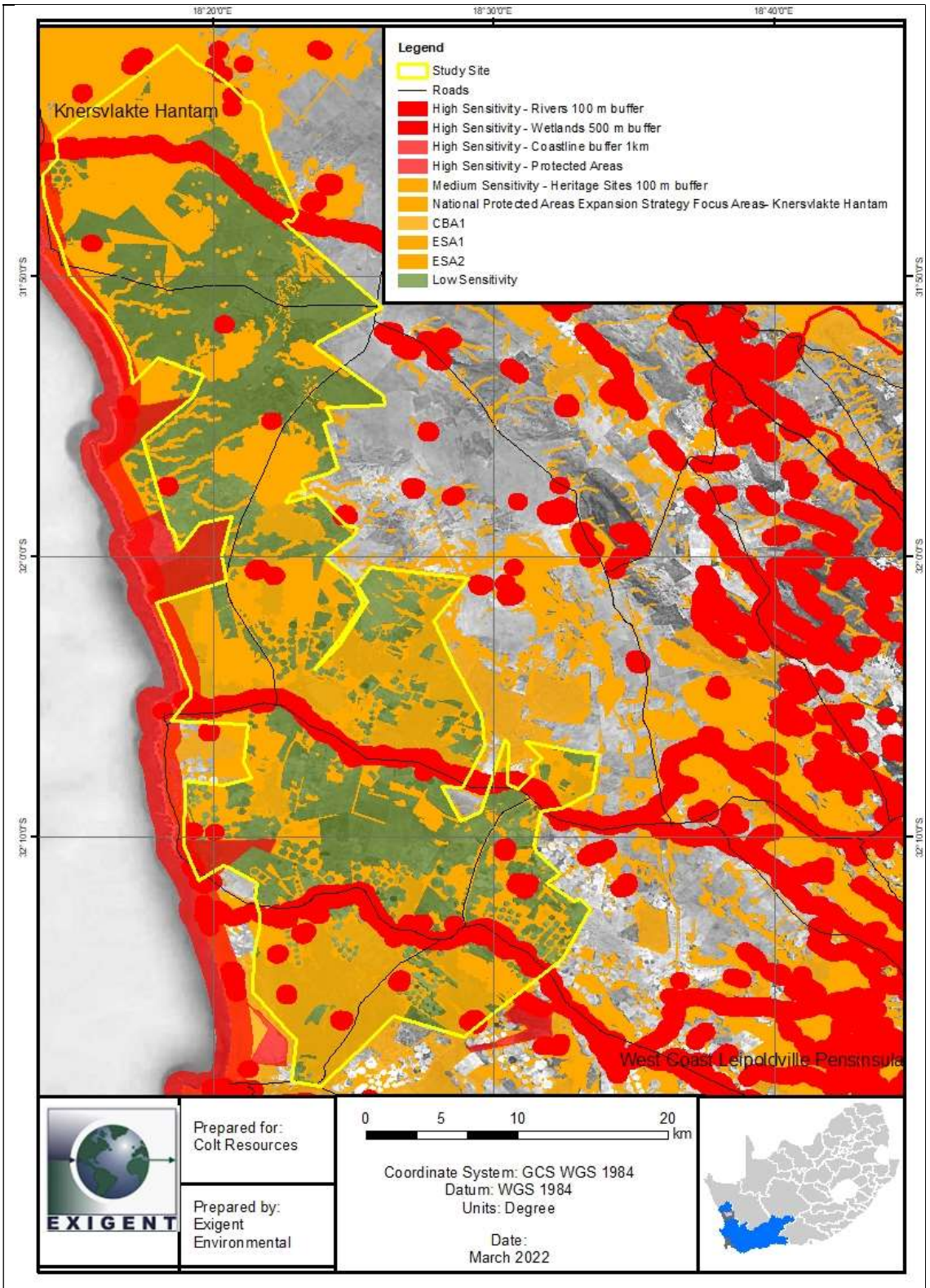


Figure 3-19. Composite plan indicating no-go areas

p) Proposed impact management objectives and the impact management outcomes for inclusion in the EMPr;

(Based on the assessment and where applicable the recommendations from specialist reports, the recording of proposed impact management objectives, and the impact management outcomes for the development for inclusion in the EMPr as well as for inclusion as conditions of authorisation.)

The DBAR will be made available for comments and review as from 24 May 2022 till 24 June 2022. Comments received on the DBAR will be incorporated into the CRR and worked into the BAR before submitting the FBAR to the DMRE for decision-making. Section 3n) iii refers to the identified impact ratings and associated mitigation measures.

The sensitivity of the proposed project has been assessed by the respective specialist studies which have been undertaken. For the purpose of this BAR, the sensitivities in terms of the vegetation, wetlands, hydrology and heritage have been taken into consideration. The recommendations and conditions from the specialist studies has been included in the EMPR, and must be incorporated into all decision-making and design processes. The following sensitivities have been proposed for the respective reports:

- The current sensitivity of areas identified as CBA in the WCBSP should be verified in the field during marking of the proposed borehole drilling layout plan.
- A 500 m buffer should be placed around all wetlands and a 100m buffer should be placed around all watercourses.
- A 100m buffer should be placed around sensitive HIA areas.
- Should any potential areas of significance be identified by a suitably qualified archaeologist and palaeontologist after the initial airborne geophysical survey has been completed and target areas for drilling defined, these areas will be excluded from future drilling grid layout.
- All drilling results must include the occurrence of marine shell (depth below surface and depth of deposit) to assist the location of subsurface shell middens.

The EMPr is focussed on mitigation and management measures based on the final outcome of the assessment, including the recommendations from specialists.

q) Aspects for inclusion as conditions of Authorisation.

(Any aspects which must be made conditions of the Environmental Authorisation)

The EMPr should be binding to the Applicant, including the final sensitivity map (Figure 3-19).

There are currently three wind farms approved within the study area, which are in different phases of approval and implementation. However, the future planning of each wind farm project and detail location of turbines would need to be discussed with the Independent Power Producer (IPP) responsible for each project in order to agree on the way forward in terms of prospecting on those areas.

r) Description of any assumptions, uncertainties and gaps in knowledge.

(Which relate to the assessment and mitigation measures proposed)

To obtain a comprehensive understanding of the dynamics of the vegetation on the study area, as well as the status of endemic, rare or threatened species in any area, ecological assessments should always consider investigations at different time scales (across seasons/years) and through replication. However, due to time constraints, such long-term studies are not always feasible, in this instance a desktop study was conducted.

The key assumption for the HIA is that the existing geological maps and datasets used to assess site sensitivity are correct and reliable.

There is currently an approved wind farm (JUNO) within the study area. Further discussions with the developer, AMDA will be required in order to agree on the way forward in terms of prospecting on those areas.

s) Reasoned opinion as to whether the proposed activity should or should not be authorised

i. Reasons why the activity should be authorized or not.

The EAP is of the opinion that the proposed activity should be authorised. Correct procedures have been followed during the undertaking of this BAR and the associated PPP to date. The results in this report has been based on the input from the registered I&APs and specialist studies which have been conducted by independent specialists, based on their respective expertise.

The sensitivity of the proposed project has been assessed by the respective specialist studies which have been undertaken. For the purpose of this BAR, the sensitivities in terms of the vegetation, wetlands, hydrology and heritage have been taken into consideration. The recommendations and conditions from the specialist studies has been included in the EMPR, and must be incorporated into all decision-making and design processes. The following sensitivities have been proposed for the respective reports:

- The High significance areas are those classified as CBA, PA NPAES, NFEPA and the 1km coastline areas. Recommendations have been made that after the initial airborne geophysical survey has been completed and target areas for drilling defined.
- The wetlands with 500 m buffers and rivers and their respective 100m buffer have been considered high sensitivity which should not be impacted during prospecting. All prospecting activities should remain outside these areas.
- A 100m buffer should be placed around sensitive HIA areas as the

This draft BAR has been compiled in accordance with the EIA Regulations, as amended, for the activities triggered in the various listing notices (Listing Notice 1 – GNR 327 for listed activities 20 and 22 and Listing Notice 3 for listed activities 12).

The BAR will be made available for complete stakeholder engagement as it has been initiated from the outset of the project to ensure all stakeholders have been adequately and effectively consulted. The draft BAR will be made available for the public and stakeholder review for a period of 30 days. All comments

received and the issues raised during the public review period will be documented and addressed in the Comments and Responses Report (CRR) (Appendix D4), which at this stage includes the comments raised during the initial Public Registration Period.

The main negative impacts of the proposed prospecting application were the impact on the sensitive vegetation habitat, potential loss of heritage artefacts, dust and other nuisance aspects during prospecting, infestation of alien invasive species, as well as the potential impact of lack of adequate rehabilitation after decommissioning.

These impacts can be mitigated during the prospecting phase using predefined controls that has been proposed by the specialists and implementation of the buffers as recommended by the specialists. These areas and their buffers will therefore be excluded from the prospecting study area as specified in the EMPr.

Linked to this is a definite need for the implementation of a detail rehabilitation programme specifically relating to the sensitive nature of the study area. Through the implementation of proposed mitigation measures, negative impacts will be limited.

The existing impacts on the biophysical and social environments and the sensitivity of these environments has been assessed in this report, and it is recommended that the mitigation measures as presented in this BAR, the EMPr, the Heritage assessment, and ecological assessment and water resource assessments must comply with throughout the proposed development.

ii. Conditions that must be included in the authorisation

It is proposed that the following conditions be included in the EA:

- The EMPR must be legally binding to the prospecting phase of the project.
- Adhere to all buffer zones identified during this assessment, and ensure no drilling occurs within this area.
- Obtain all other permits and authorisations as may be required by other legislation.

t) Period for which the Environmental Authorisation is required.

It is requested that the EA be valid for a period of eight years.

u) Undertaking

(Confirm that the undertaking required to meet the requirements of this section is provided at the end of the EMPr and is applicable to both the Basic assessment report and the Environmental Management Programme report.)

Included in the EAP Affirmation.

v) Financial Provision

(State the amount that is required to both manage and rehabilitate the environment in respect of rehabilitation.)

An initial financial provision amount of R3 625 246.51 was calculated, which includes rehabilitation activities.

i. Explain how the aforesaid amount was derived.

As no structures will be built for prospecting and areas disturbed limited financial provision is required for the project. If the prospecting right is granted by the DMRE, regular audits are required in terms of GN R452 and annual rehabilitation will be evaluated to ensure correct rehabilitation has been undertaken at all areas as per Appendix 1 of these Regulations.

A breakdown of these initial financial costs is presented in Table 1-2 of the Part B EMPr.

ii. Confirm that this amount can be provided for from operating expenditure.

(Confirm that the amount, is anticipated to be an operating cost and is provided for as such in the Mining work programme, Financial and Technical Competence Report or Prospecting Work Programme as the case may be).

The overall funding for the prospecting work programme is approximately R 15 million. Work will be approved on a phase by phase basis, dependent on the results obtained i.e. although prospecting work may be provided for financially in the budget for a specific year, it will only take place if justified.

w) Specific Information required by the competent Authority

i. Compliance with the provisions of sections 24(4)(a) and (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:

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 an Appendix).

During the initial PPP consultation phase all relevant parties were consulted and given the opportunity to provide comments and raise concerns to be included in the assessment. This DBAR is now made available to these registered parties in order to provide them with an opportunity to comment on the detail aspects included in this report.

All comments raised to date has been included in the CRR in Appendix D4. After the EA has been obtained further contact will be made with the landowners prior to the next phase of prospecting. During these phases of execution, the consultation with the landowners will remain ongoing.

The response from the Land Claims commissioner is included in Appendix F3.

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 2.19.2 and confirm that the applicable mitigation is reflected in 2.5.3; 2.11.6.and 2.12.herein).

The full description of the Heritage assessment has been included in Section 3m) i).

Mitigation measures proposed in this report include that no drill site will be located within 100m of any identified heritage sites (which may occur during the prospecting programme) based on the desktop work underdone.

x) 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)**.

The alternative assessment is included in Section 3h) of this report.

This section of the report must consider all the known typical impacts of each of the activities (including those that could or should have been identified by knowledgeable persons) and not only those that were raised by registered interested and affected parties).

y) Conclusion

This DBAR was compiled as part of the application for the Environmental Authorisation process for the proposed prospecting application for Colt Resources (Pty) Ltd, the applicant. The information contained in this DBAR provides a comprehensive description of the need and desirability of the proposed prospecting application, specifically relating to sustainability in the economic, social and environmental spheres.

The sensitivities of the proposed project in terms of the vegetation, wetland, heritage and hydrology have been assessed by the respective specialist studies as well as review of available data and consultation with stakeholders and Interested and Affected Parties. The recommendations and conditions from the specialist studies has been included in the EMPR, and must be incorporated into all decision-making and design processes.

In terms of the vegetation and wetland specialist study, a 500m buffer has been included surrounding all desktop identified wetlands, a 100m buffer around all rivers, streams and hydrological features, and a 100m buffer around all heritage aspects. After the initial airborne geophysical survey has been completed and target areas for drilling defined, an ecologist will overlay these areas on the sensitivity map in order to identify areas that would need to be validated on site prior to commencing drilling. Should any other species of concern be identified by the ecologist, the proposed drilling grid layout should be amended. Should any potential areas of significance be identified by a suitably qualified archaeologist and palaeontologist after the initial airborne geophysical survey has been completed and target areas for drilling defined, these areas will be excluded from future drilling grid layout.

All drilling results must include the occurrence of marine shell (depth below surface and depth of deposit) to assist the location of subsurface shell middens.

The alternatives assessment of the project and study area is based on feasible project alternatives, in terms of allocated farms, geology, environmental sensitive areas and land use constraints such as servitudes. The activity alternatives included the options of utilising the full extent of the allocated farms, however these options would have detrimental impacts on the areas identified as sensitive and of importance, such as wetland and river areas, as well as servitudes, heritage areas and all related buffers.

The majority of the site consists of Namaqualand Strandveld and Namaqualand Sand Fynbos, considered to be of moderate sensitivity. It is expected that the prospecting in these areas would be of moderate to low significance. A large portion of the site has been subjected to agricultural activities the past, and or currently, which has altered the ecosystem. Linked to these areas are the planting of saltbush in extensive areas. Some sections of these areas have recovered, however large portions thereof are still being commercially farmed for barley and other crops. These areas are considered of low ecological significance and prospecting within these areas would be of low impact.

The medium significance areas are those classified as CBA and within the NPAES areas. Recommendations have been made that after the initial airborne geophysical survey has been completed and target areas for drilling defined, an ecologist will overlay these areas on the sensitivity map in order to identify areas that would need to be validated on site prior to commencing drilling. Should any other species of concern be identified by the ecologist, the proposed drilling grid layout should be amended.

The wetlands, river and their respective 500m and 100m buffers have been considered high sensitivity which should not be impacted during prospecting. All prospecting activities should remain outside these areas.

The Environmental Assessment Practitioner is of the opinion that the proposed preferred alternatives presented in this report are deemed as the preferred alternative due to the exclusion of sensitive and potential sensitive habitat and areas and their related buffers.

The Environmental Assessment Practitioner is of the opinion that due process has been followed during the undertaking of this Environmental Assessment process and associated public participation process to date.

PART B
ENVIRONMENTAL MANAGEMENT PROGRAMME REPORT

1. DRAFT ENVIRONMENTAL MANAGEMENT PROGRAMME.

a) Details of the EAP,

(Confirm that the requirement for the provision of the details and expertise of the EAP are already included in PART A, section 1(a) herein as required).

Confirmation that the details of the EAP is the same as provided in PART A 1a).

b) Description of the Aspects of the Activity

(Confirm that the requirement to describe the aspects of the activity that are covered by the draft environmental management programme is already included in PART A, section (1)(h) herein as required).

Confirmation that the aspects of the activity is the same as provided in PART A 1h).

c) Composite Map

(Provide a map **(Attached as an Appendix**) at an appropriate scale which superimposes the proposed activity, its associated structures, and infrastructure on the environmental sensitivities of the preferred site, indicating any areas that any areas that should be avoided, including buffers)

Refer to Appendix B.

d) Description of Impact management objectives including management statements

ii. Determination of closure objectives. (ensure that the closure objectives are informed by the type of environment described)

Closure objectives will include:

- Elimination of any safety risks associated with the impacted areas;
- Removal and/or rehabilitation of all pollution sources such as waste materials and spills;
- Establishment of rehabilitated areas to a state where no soil erosion may occur;
- Restoration of all disturbed areas and re-vegetation of these areas with indigenous plant species to restore the ecological function of the affected areas as far as practicable; and
- Elimination of all alien invasive plant species from the disturbed areas.

iii. Volumes and rate of water use required for the operation.

No water will be required during prospecting.

iv. Has a water use license has been applied for?

Consultation is ongoing with the CA for the regulation of the NWA, Department Water and Sanitation (DWS). A pre-application water use enquiry has been submitted to DWS via the E-WULAAS system (Ref number WU24141). During the pre-application meeting, DWS indicated that confirmation will be given in terms of water uses (Appendix F2).

v. Impacts to be mitigated in their respective phases

The phasing of the project will be confined to a single operational phase, being referred to as the *prospecting phase*, as the rehabilitation and removal of all equipment will occur immediately following after the borehole sample has been collected.

The impacts measures, outcomes and actions have been included in Table 1-1.

Table 1-1. Impact mitigation measures, outcomes and actions

Measures to rehabilitate the environment affected by the undertaking of any listed activity

As there is only a single phase within the project **(Prospecting)***, the phase column has been removed from the table below.*

ACTIVITIES	**SIZE AND SCALE of disturbance** (volumes, tonnages and hectares or m^2)	**MITIGATION MEASURES** (describe how each of the recommendations in herein will remedy the cause of pollution or degradation and migration of pollutants)	**COMPLIANCE WITH STANDARDS** (A description of how each of the recommendations herein will comply with any prescribed environmental management standards or practices that have been identified by Competent Authorities)	**TIME PERIOD FOR IMPLEMENTATION** Describe the time period when the measures in the environmental management programme must be implemented Measures must be implemented when required.
Clearing of / impact on vegetation, including wetland/aquatic habitat	Located further than 500m from all watercourses and 100m from all areas of heritage concern. Vegetation impacted at drilling sites may result in erosion.	Impact on indigenous vegetation must be kept to a minimum. Topsoil is to be removed separately to subsoil and be safely stockpiled for use in rehabilitation of the drilling hole. Progress of vegetation establishment must be monitored regularly by environmental member of the team, with slow recovery requiring intervention to ensure site recovery and integrity, as well as physical stability. If any plants of high conservation value are found, the drilling location should be altered to not impact on the high conservation value species. Where clearing is required for access roads, vegetation should be brush-cut rather than cleared to speed re-establishment during rehabilitation. No rubble may be temporarily stockpiled or dumped within the wetlands. Monitoring should be put in place to review vegetation growth of the impacted areas after prospecting, especially erosion prone areas.	Vegetation, clearance and stockpile handling must be done with industry best practice and standards. Compliance with all legislation, the Environmental Authorisation and the recommendations of the ecological specialist assessment is required. In accordance with environmental legislation (such as NWA), and the recommendations of the ecological specialist assessment is required.	Rehabilitation is to occur concurrently with prospecting activities.

ACTIVITIES	SIZE AND SCALE of disturbance (volumes, tonnages and hectares or m²)	MITIGATION MEASURES (describe how each of the recommendations in herein will remedy the cause of pollution or degradation and migration of pollutants)	COMPLIANCE WITH STANDARDS (A description of how each of the recommendations herein will comply with any prescribed environmental management standards or practices that have been identified by Competent Authorities)	TIME PERIOD FOR IMPLEMENTATION Describe the time period when the measures in the environmental management programme must be implemented Measures must be implemented when required.
Drilling of boreholes – impact on groundwater Existing boreholes within the prospecting area may create conduits of flow to the groundwater unless sealed.	Throughout prospecting area	No washing of vehicles shall be allowed outside demarcated areas. The bays will be clearly demarcated and will not be allowed to contaminate any surface runoff.	In accordance with environmental legislation (such as NWA), and the recommendations of the ecological specialist assessment is required. In accordance with best practice standards and guidelines.	All prospecting activities will be conducted, not closer than 500 m to the edge of a watercourses.
		Sufficient areas shall be provided for the maintenance and washing of vehicles.		
		All drilling equipment shall be parked in a demarcated area. Drip trays shall be used when equipment is not used for some time.		
		Contaminated water shall be pumped into a container for removal by an approved service provider.		
		Runoff from this area shall be contained.		
Drilling of boreholes - Impacts on archaeological artefacts	Throughout prospecting area	100m buffer must be placed around all noted sites, rock outcrops	In accordance with the Heritage specialist assessment and in turn the National Heritage Resources Act 25 of 1999 (NHRA).	Prior to prospecting, during prospecting.
		Should any potential areas of significance be identified by a suitably qualified archaeologist and palaeontologist after the initial airborne geophysical survey has been completed and target areas for drilling defined, these areas will be excluded from future drilling grid layout.		
		All drilling results must include the occurrence of marine shell (depth below surface and depth of deposit) to assist the location of subsurface shell middens		
Drilling of boreholes The proposed prospecting activities are noisy and will create dust.	Throughout prospecting area	Rehabilitation of the natural vegetation of the impacted areas must be done immediately to prevent dust generated by the excavation activities from dispersing.	In accordance with industry best practice and standards.	Prior to prospecting, during prospecting.

ACTIVITIES	SIZE AND SCALE of disturbance (volumes, tonnages and hectares or m²)	MITIGATION MEASURES (describe how each of the recommendations in herein will remedy the cause of pollution or degradation and migration of pollutants)	COMPLIANCE WITH STANDARDS (A description of how each of the recommendations herein will comply with any prescribed environmental management standards or practices that have been identified by Competent Authorities)	TIME PERIOD FOR IMPLEMENTATION Describe the time period when the measures in the environmental management programme must be implemented Measures must be implemented when required.
		It is critical to use existing roads and cleared areas for drilling areas and access, to limit the nuisance of dust.		
		Excessive liberation of dust must be controlled by the use of dust-allaying agents		
Socio-economic impact – job opportunities A number of temporary employment and skills development opportunities will be created during construction.	N/A	The contractor must use local labour to ensure the affected community get the most benefit from the job opportunities, where possible.	In accordance with industry best practice and standards.	These opportunities will be of short-term duration and will be limited to the prospecting requirements of the Contractor, however skills can be transferred which may be used during further opportunities.
		Training must be provided to local labourers in order to perform more specialised jobs.		
		Impacts need to be managed to ensure limited loss of economic opportunities due to nuisance factors such as dust.		
Drilling activities impacting on servitudes and other infrastructure Various landowners and stakeholders have mentioned existing approved land uses such as approved wind farms, servitudes, and proposed new infrastructure.	Throughout prospecting area	Should the EA of the prospecting application be positive, COLT RESOURCES will contact all landowners and potential affected parties in terms of existing servitudes, land use rights such as wind farms, and proposed future activities in order to ascertain the additional areas to be excluded/avoided temporarily during prospecting.	In accordance with industry best practice and standards as per RT consultation standards.	Prior to prospecting, during prospecting.
		It is important to obtain updated information on an ongoing basis, as the prospecting planning is for a period of 5-years, during which several land use changes can occur.		
Ablution Facilities	Chemical toilets will be provided as necessary, not closer than 100m to the edge of watercourses and 500m from wetlands.	Chemical toilets not to be located within 100 m from the edge of a watercourse.	In accordance with industry best practice and standards.	Ongoing during prospecting.
Dangerous Goods	Diesel and chemicals (dangerous goods) storage on site would not exceed cumulative total 30 m3.	Dangerous good storage areas not to be located within 100 m from the edge of a watercourse.	Fuels and chemicals to be stored in accordance with industry best practice and standards.	Ongoing during prospecting

ACTIVITIES	SIZE AND SCALE of disturbance (volumes, tonnages and hectares or m²)	MITIGATION MEASURES (describe how each of the recommendations in herein will remedy the cause of pollution or degradation and migration of pollutants)	COMPLIANCE WITH STANDARDS (A description of how each of the recommendations herein will comply with any prescribed environmental management standards or practices that have been identified by Competent Authorities)	TIME PERIOD FOR IMPLEMENTATION Describe the time period when the measures in the environmental management programme must be implemented Measures must be implemented when required.
	Located further than 500m from all watercourses and 100m from all areas of heritage concern.	Drainage around dangerous good storage areas to ensure that any spills and the substances used for cleaning up spills can be contained and prevented		
		An appropriate spill kit to be available and Emergency preparedness procedure to be in place.		
		Emergency contact details to be readily available.		
		Contaminated soil will be remediated or removed once the contamination has been controlled and disposed of at a suitably registered waste disposal site.		
		Remediation of contaminated areas to be carried out to the satisfaction of the DMRE Regional Manager.		
Waste Management	Located further than 500m from all watercourses and 100m from all areas of heritage concern.	All waste to be collected and stored in impervious covered bins or skips for removal to a waste disposal facility.	Waste disposal in line with Colt Resources waste disposal management policy.	Ongoing during prospecting
Water Management	Located further than 500m from all watercourses and 100m from all areas of heritage concern.	Water supply to be provided with water trucks/ or on a daily basis, where necessary.	All activities in line with Colt Resources standards.	Ongoing during prospecting
Decommissioning on completion of the drilling programme	Located further than 500m from all watercourses and 100m from all areas of heritage concern.	All equipment, structures and waste to be removed from site to	Colt Resources standards of leaving no impacts after prospecting.	Decommissioning on completion of the drilling programme
		Disturbed areas will be re-instated in accordance with the requirements of an approved EMP.		
		The site shall be seeded with a vegetation seed mix adapted to reflect the local indigenous flora, where necessary.		

ACTIVITIES	**SIZE AND SCALE of disturbance** (volumes, tonnages and hectares or m²)	**MITIGATION MEASURES** (describe how each of the recommendations in herein will remedy the cause of pollution or degradation and migration of pollutants)	**COMPLIANCE WITH STANDARDS** (A description of how each of the recommendations herein will comply with any prescribed environmental management standards or practices that have been identified by Competent Authorities)	**TIME PERIOD FOR IMPLEMENTATION** Describe the time period when the measures in the environmental management programme must be implemented Measures must be implemented when required.
		Erosion, alien vegetation invasions and the establishment of vegetation to be monitored.		
		Photographs of the sites after rehabilitation, shall be taken at the points used before and during the operations.		

e) Impact Management Outcomes

(A description of impact management outcomes, identifying the standard of impact management required for the aspects contemplated in paragraph ();

The impact management outcomes have been included in Table 1-1.

f) Impact Management Actions

(A description of impact management actions, identifying the manner in which the impact management objectives and outcomes contemplated in paragraphs (c) and (d) will be achieved).

The impact management actions have been included in Table 1-1.

g) Financial Provision

vi. Determination of the amount of Financial Provision.

a) Describe the closure objectives and the extent to which they have been aligned to the baseline environment described under the Regulation.

Closure objectives will include:

- Elimination of any safety risks associated with the impacted areas;
- Removal and/or rehabilitation of all pollution sources such as waste materials and spills;
- Establishment of rehabilitated areas to a state where no soil erosion may occur;
- Restoration of all disturbed areas and re-vegetation of these areas with indigenous plant species to restore the ecological function of the affected areas as far as practicable; and
- Elimination of all alien invasive plant species from the disturbed areas.

The vegetation of the proposed prospecting area has been defined in the baseline environment description and management measures includes rehabilitation and removal of alien species mitigation measures in the EMPr.

b) Confirm specifically that the environmental objectives in relation to closure have been consulted with landowner and interested and affected parties.

The aspects of closure have been included in the information provided to IAPs during the consultation documents and verbal discussions.

The total disturbed areas will be minimal due to the limited impact of borehole drilling and trenching. However, all disturbed areas will be cleared, and shaped to the match the surrounding topography, ripped, topsoil replaced, ameliorated and further reinstated in accordance with the pre-land use and land cover.

Closure objectives as described above will be met.

c) Provide a rehabilitation plan that describes and shows the scale and aerial extent of the main mining activities, including the anticipated mining area at the time of closure.

The rehabilitation plan is included in Table 1-2. The total disturbed areas will be minimal due to the use of existing roads.

Table 1-2. Rehabilitation plan and related financial cost component

ASPECT	REHABILITATION MEASURE	MONITORING FREQUENCY AND RESPONSIBILITY	FINANCIAL COST COMPONENT		
			Rate	Volume	Assumption
Removal of temporary structures used during the drilling on sites	• Completely remove all equipment, vehicles, rubble, signage, containers, temporary fixtures and any other temporary works from the drill site • Ensure that access roads which were used, are in the same condition as far as possible prior to the drilling.	Once-off, COLT RESOURCES after drilling has been completed at each site. COLT RESOURCES will be responsible.	N/A	N/A	Calculated as part pf the operational costs of the prospecting license programme. No additional costs allowed for financial closure. This will occur concurrently with the drilling programme, hence even if immediate closure is required, no costs will be involved.
Replacement of topsoil	• Replace the redistributed topsoil back into area of original removal as far as possible. • Do not replace topsoil from area infested with alien and invasive species. • Backfill the drilling holes with excavated material and or approved topsoil, thoroughly mixed with compost.	Once-off, COLT RESOURCES after drilling has been completed at each site. COLT RESOURCES will be responsible.	N/A	N/A	Calculated as part pf the operational costs of the prospecting license programme. No additional costs allowed for financial closure. This will occur concurrently with the drilling programme, hence even if immediate closure is required, no costs will be involved.
Erosion protection	• Protect all areas potentially susceptible to erosion resulting from prospecting activities. • Retain vegetation where possible and limit clearance of vegetation. Should area be cleared, only use brush-cut methods and not complete clearing. • Perform regular monitoring and maintenance of erosion susceptible areas until no risk.	After rehabilitation actions has been completed, and thereafter as indicated by the COLT RESOURCES environmental representative. COLT RESOURCES environmental representative will be responsible.	N/A	N/A	Calculated as part pf the operational costs of the prospecting license programme. No additional costs allowed for financial closure. This will occur concurrently with the drilling programme, hence even if immediate closure is required, financial provision as indicated in Table 1-3 below. .

ASPECT	REHABILITATION MEASURE	MONITORING FREQUENCY AND RESPONSIBILITY	FINANCIAL COST COMPONENT		
			Rate	Volume	Assumption
Vegetation clearing/Replanting	• At any of the sites being used for a longer period, such as storage areas, remove all emerging alien and invasive vegetation • Any other areas of impact • Consult with the Environmental representative with regards to revegetation of the disturbed areas.	After rehabilitation actions has been completed, and thereafter as indicated by the COLT RESOURCES environmental representative. COLT RESOURCES environmental representative will be responsible.	N/A	N/A	Calculated as part pf the operational costs of the prospecting license programme. No additional costs allowed for financial closure. This will occur concurrently with the drilling programme, hence even if immediate closure is required, financial provision as indicated in Table 1-3 below. .

Table 1-3. Financial provision calculations

No	Description	Unit	A Quantity	B Master rate (2022)	C Multiplication Factor	D Weighting Factor 1	E=A*B*C*D Amount (rands)
			Step 4.5	Step 4.3	Step 4.3	Step 4.4	
1	Dismantling of processing plant and related structures (including overland conveyors and powerlines)	m^3	0.00	R -	1.00	1.00	R -
2 (A)	Demolition of steel buildings and structures	m^2	0.00	R -	1.00	1.00	R -
2 (B)	Demolition of reinforced concrete buildings and structures	m^2	0.00	R -	1.00	1.00	R -
3	Rehabilitation of access roads	m^2	200.00	R 40.29	1.00	1.00	R 8 057.02
4(A)	Demolition and rehabilitation of electrified railway lines	m	0.00	R -	1.00	1.00	R -
4(B)	Demolition and rehabilitation of non-electrified railway lines	m	0.00	R -	1.00	1.00	R -
5	Demolition of housing and facilities	m^2	0.00	R -	1.00	1.00	R -
6	Opencast rehabilitation including final voids and ramps	ha	0.00	R -	0.04	1.00	R -
7	Sealing of shafts, adits and inclines	m^3	0.00	R -	1.00	1.00	R -
8 (A)	Rehabilitation of overburden and spoils	ha	0.00	R -	1.00	1.00	R -
8(B)	Rehabilitation of processing waste deposits and evaporation ponds (basic, salt-producing waste)	ha	0.00	R -	1.00	1.00	R -
8(C)	Rehabilitation of processing waste deposits and evaporation ponds (acidic, metal-rich waste)	ha	0.00	R -	1.00	1.00	R -
9	Rehabilitation of subsided areas	ha	0.00	R -	1.00	1.00	R -
10	General surface rehabilitation, including grassing of all denuded areas	ha	19.60	R 124 631.60	1.00	1.00	R 2 442 779.35
11	River diversions	ha	0.00	R -	1.00	1.00	R -
12	Fencing	ha	0.00	R -	1.00	1.00	R -
13	Water management (Separating clean and dirty water)	ha	0	R -	1.00	1.00	R -
14	2 to 3 years of maintenance and aftercare	Ha	0.2	R -	1.00	1.00	R -
15(A)	Specialist study - biomonitoring	Sum	0.2	R -	N/A	1.00	R -
						Sub Total 1	R 2 450 836.36
						(Sum of items 1 to 15 above)	
1	Preliminary and General	12.5% of Subtotal 1		**Weighting factor 2 (Step 4.4)**			R 1.00
							R 306 354.55
2	Administration and supervision costs	10 % of Subtotal 1					R 245 083.64
3	Engineering drawings and specifications	0 % of Subtotal 1					R -
4	Engineering and procurement of specialist work	0 % of Subtotal 1					R -
5	Development of a closure plan						R -
6	Final groundwater modelling	0 % of Subtotal 1					R -
						Sub Total 2	R 3 002 274.54
		(Subtotal 1 plus sum of management and administrative items, 1 to 6 above)					
7	Contingency	5.0 % of Subtotal 1					R 150 113.73
						Sub Total 3	R 3 152 388.27
						(Subtotal 2 plus contingency)	
						VAT (15 %)	R 472 858.24
						GRAND TOTAL	R 3 625 246.51
						(Subtotal 3 plus VAT)	

Note that this closure costing is allocated as follows over a 5 year period:	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
	R -	R 39 447 064.80	R 39 447 064.80	R 39 447 064.80	R 39 447 064.80

d) Explain why it can be confirmed that the rehabilitation plan is compatible with the closure objectives.

The rehabilitation plan focusses on the closure objectives which is that all disturbances such as drilling areas or access roads will be rehabilitated in accordance with the approved EMPr and rehabilitation plan when drilling is complete.

COLT RESOURCES is required to include the financial provision for the management of the rehabilitation and implementation of management and mitigation measures. The drilling Contractor will be provided with the EMPr and would need to meet its prospecting and closure objectives.

e) Calculate and state the quantum of the financial provision required to manage and rehabilitate the environment in accordance with the applicable guideline.

The quantum of the financial provision calculations is included Table 1-2. These annual rehabilitation costs must be updated annually in line with GN R452.

f) Confirm that the financial provision will be provided as determined.

The quantum of the financial provision calculations is included in Table 1-2. These annual rehabilitation costs must be updated annually in line with GN R452.

Mechanisms for monitoring compliance with and performance assessment against the environmental management programme and reporting thereon, including

g) Monitoring of Impact Management Actions
h) Monitoring and reporting frequency
i) Responsible persons
j) Time period for implementing impact management actions
k) Mechanism for monitoring compliance

Table 1-4. Monitoring compliance and performance assessment against EMPr

SOURCE ACTIVITY	IMPACTS REQUIRING MONITORING PROGRAMMES	FUNCTIONAL REQUIREMENTS FOR MONITORING	ROLES AND RESPONSIBILITIES (FOR THE EXECUTION OF THE MONITORING PROGRAMMES)	MONITORING AND REPORTING FREQUENCY and TIME PERIODS FOR IMPLEMENTING IMPACT MANAGEMENT ACTIONS
All drilling activities during prospecting	Includes noise, dust, habitat impacts, implementation of buffers – all included in the EMPR conditions	Monitor performance against environmental management measures applicable to prospecting contained in the EMPR.	Environmental representative of the prospecting team and external independent EAP	Monthly internal report during prospecting, as well as environmental performance audit to DMRE every two years.
Prospecting	Rehabilitation success	Photographs taken prior to the start of prospecting, during and after at regular intervals, at all areas subject to disturbance.	Environmental representative of the prospecting team	Monthly internal report, until rehabilitation has been classified as being successfully, based on the opinion of the Environmental representative of the prospecting team, based on site visit and photographic evidence. Environmental performance audit to DMRE every two years, reflecting on the rehabilitation success.

h) Indicate the frequency of the submission of the performance assessment/ environmental audit report.

The environmental performance assessments will be submitted on an annual basis to the DMRE. To ensure that the provisions of the EMPr are met.

i) Environmental Awareness Plan

Environmental awareness for the prospecting is addressed on three different levels:

- general induction
- environmental awareness training
- training on Environmental Hazards and Risks

At each of these levels there is an increase in the detail addressed in the training material and the material also becomes more job specific.

The general induction serves to introduce an employee to the company. Part of this induction programme covers environment and radiation related training, involving the introduction of personnel to the Safety Health and Environment (SHE) policy and its implications, relevant legislation, areas where radioactivity is encountered and the basic rules when entering contaminated areas, incident reporting, the roles of the environment/radiation specialist as well as the environmental management system

The environmental awareness training will include reference to the following:

- identified environmental risks during prospecting;
- Environmental Management Plans related to the specific risks;
- provisions and commitments contained in this section of the BAR;
- Incident identification and reporting.

Attendance registers must be kept of all awareness training sessions.

j) Manner in which the applicant intends to inform his or her employees of any environmental risk which may result from their work.

As stated above, the Environmental awareness Plan will include training courses will be provided to all personnel on site.

Attendance registers must be kept of all awareness training sessions. A copy of the register will be kept by COLT RESOURCES. New employees will need to be given the environmental training.

k) Manner in which risks will be dealt with in order to avoid pollution or the degradation of the environment.

The EMPr includes all relevant aspects dealing with environmental degradation during execution of the prospecting activities. These aspects will be included in the Environmental Awareness Training programme, which will be compulsory for all contractors and employees on site.

l) Specific information required by the Competent Authority

(Among others, confirm that the financial provision will be reviewed annually).

In the acceptance letter issued by DMRE, it was requested that in terms of Section 12d) of the MPRDA, the reports need to be uploaded to the SAMRAD system as well as submitted to DMRE in terms of Chapter 5 of Regulation 19(1) of NEMA. Furthermore, the DMRE requested that landowners, lawful occupiers and I&AP be included in the results of the consultation in the environmental reports in line with Regulation 41(2) read with Section 24J of NEMA.

Lastly, an application had to be lodged with DWSHS. A pre-application water use enquiry has been submitted to DWS submitted via the E-WULAAS system (Ref number WU24141). Further consultation is on-going.

2. UNDERTAKING

The EAP herewith confirms

- the correctness of the information provided in the reports **X**
- the inclusion of comments and inputs from stakeholders and I&APs ; **X**
- the inclusion of inputs and recommendations from the specialist reports where relevant; **X** and
- that the information provided by the EAP to interested and affected parties and any responses by the EAP to comments or inputs made by interested and affected. parties are correctly reflected herein. **X**

Signature of the environmental assessment practitioner:

Exigent Environmental

Name of company:

20 May 2022

Date:

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