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ENVIRONMENTAL SCOPING REPORT
PROPOSED AGRICULTURE PROJECT FOR FARM ERHARDSHOF 575,
OTJOZONDJUPA REGION

PREPARED FOR



JULY 2020

TITLE AND APPROVAL PAGE

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EXECUTIVE SUMMARY

B2Gold Namibia Properties (Pty) Ltd intends to develop the Otjikoto Agricultural Project – an irrigation project in line with the closure plan of the Otjikoto Gold Mine. The proposed project will be located on the Farm Erhardshof 575, which is approximately 3 522ha in size. The total irrigation project size at the end of the final phase will be 135 hectares. The intention is to initially plant fodder for cattle and game, such as Katambora Rhodes grass as well as rotational grain crops, such as maize and wheat under two center pivots of 15ha each, to prove the concept of their agricultural development. The proof of concept will be started with an initial 15ha pivot being commissioned in October 2020 and followed later in the same growing season by the second 15ha pivot. If the concept proves feasible, other crops will also be investigated for future cultivation.

The proposed agricultural project will use center pivot irrigation systems being fed from three boreholes. No excess mine water is currently available for the project, but extra groundwater in storage will become available after closure of the mine, once mine dewatering stops. An estimated volume of 2.5 mil m³/a of irrigation water will be needed at peak production of the project as communicated to Environmental Compliance Consultancy (ECC) and all impact studies were conducted on this volume of water being abstracted.

The proposed project triggers an Environmental Impact Assessment (EIA) to be conducted, as stipulated in the Environmental Management Act, No. 7 of 2007 and its Regulations, in order to obtain an environmental clearance certificate. As such, a Scoping Report and Environmental Management Plan (EMP) will describe the detailed potential environmental impacts and conditions or commitments that will be adhered to by the proponent. The Scoping Report and EMP will be submitted to the competent authorities (Ministry of Environment, Forestry and Tourism (MEFT) and Ministry of Agriculture Water and Land Reform (MAWLR) as part of the decision-making process.

The project is projected to realize gross profits of 70% (N\$ 219 680.00 per annum in present value) for Katambora Rhodes grass production and 34% (N\$ 3 624 640.00 per annum in present value) for the maize / wheat production once fully ramped up to peak production. It will create more than 10 permanent jobs, contribute to the regional economy, contribute to national food security, establish a drought mitigation fodder bank and tie into the Greater Waterberg Partnership Park (GWPP) initiative. The GWPP is closely linked to the mine closure plan for Otjikoto Gold Mine to enable B2Gold to leave a long-term sustainable legacy in Namibia.

The most significant impact to be caused by this project is the impact on groundwater. A groundwater impact study was conducted by the mine to predict the impact of mine dewatering on the local groundwater levels. This study was further extended to incorporate the cumulative impact of the irrigation water abstraction combined with the mine dewatering. The resulting cone of depression from the cumulative impact would reach between 15km and 20km from the site, with a predicted reduction in groundwater level of 10m at the 15km mark. The planned abstraction volumes does not put the aquifer under stress, with adequate residual water in storage after abstraction, albeit at a deeper level in the system. Mitigation for the lowering of the water levels would be for the proponent to compensate for any damage caused to third parties and, at the proponent's cost, install alternative water supply where water supply to neighbors are disrupted. To ensure the cautionary principle is adhered to, the proponent will only start the project at a smaller scale, irrigating

30ha in total, to gather better monitoring data for more accurate impact predictions, before scaling up in a step-by-step manner to the final 135ha of irrigated land.

There is also potential impacts on bird life from the construction of an overhead power line. These are minor due to the short distance over which the powerline will run and the fact that it will follow already disturbed access ways. Normal collision prevention measures will be followed to mitigate these impacts.

This assessment has evaluated potential environmental impacts resulting from the proposed project and on the basis that the proponent starts small, and follow a step-by-step upscaling in project size, as more accurate predictions can be made from monitoring data, it is the opinion of ECC that an environmental clearance certificate could be issued, on further condition that the management and mitigation measures specified in the EMP are implemented and adhered to.

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DEFINITIONS AND ABBREVIATIONS

DEA	Directorate of Environmental Affairs
DoF	Department of Forestry
EAP	Environmental Assessment Practitioner
EC	Electrical Conductivity
ECC	Environmental Compliance Consultancy
EIA	Environmental Impact Assessment
EMA	Environmental Management Act
EMP	Environmental Management Plan
GWPP	Greater Waterberg Partnership Project
IFC	International Finance Cooperation
I&AP	Interested and affected parties
IUCN	International Union for Conservation of Nature
MAWLR	Ministry of Agriculture, Water and Land Reform
mbgl	Meters below ground level
mbwl	Meters below static water level
MEFT	Ministry of Environment, Forestry and Tourism
NNF	Namibia Nature Foundation

NDP5 Fifth National Development Plan

1 INTRODUCTION

1.1 BACKGROUND TO THE PROPOSED PROJECT

B2Gold Namibia Properties (Pty) Ltd (herein referred to as the proponent) intends to develop the Otjikoto Agricultural Project – an irrigation project in line with the Otjikoto Gold Mine closure plan. The proposed project will be located on Farm Erhardshof 575, which is approximately 3 522 hectares in size, and of which the total irrigated project size, at the end of the final phase will be 135 hectares. The farm is located east of the B1 road approximately 55 km from Otavi (Figure 1). The intention is to develop the irrigated area in a phased process, step-by-step as more information becomes available, initially planting fodder for cattle and high value game species in the form of Katambora Rhodes grass, as well as planting rotational grain crops in the form of maize and wheat. The first phase will be on only two fields of 15ha each, under center pivot irrigation, to test the project concept. This will start with a 15ha pivot being commissioned in October 2020 and followed by another 15ha pivot later in that season. If the concept proves viable, the further expansion phases will be implemented.

The proposed project will develop in four phases as described below:

- The first phase, year 1: 15ha starting October 2020, then expanding later that season to
- Phase 2 which is 30ha in total (adding 15ha) and if feasible expand to
- The third phase, year 2: 75ha (extra 45ha added, and
- The fourth phase, year 3: 135ha (another 60ha added).

The proposed agricultural project will implement a center pivot irrigation system, using three water supply boreholes connected to a pipeline for water supply. No water storage dam is planned. A 11kV overhead powerline will be constructed over a distance of approximately 8.1km from the B2Gold solar plant on the farm Wolfshag to Erhardshof for the operation of the pivots. Initial power supply will be from Cenored for the early phases.

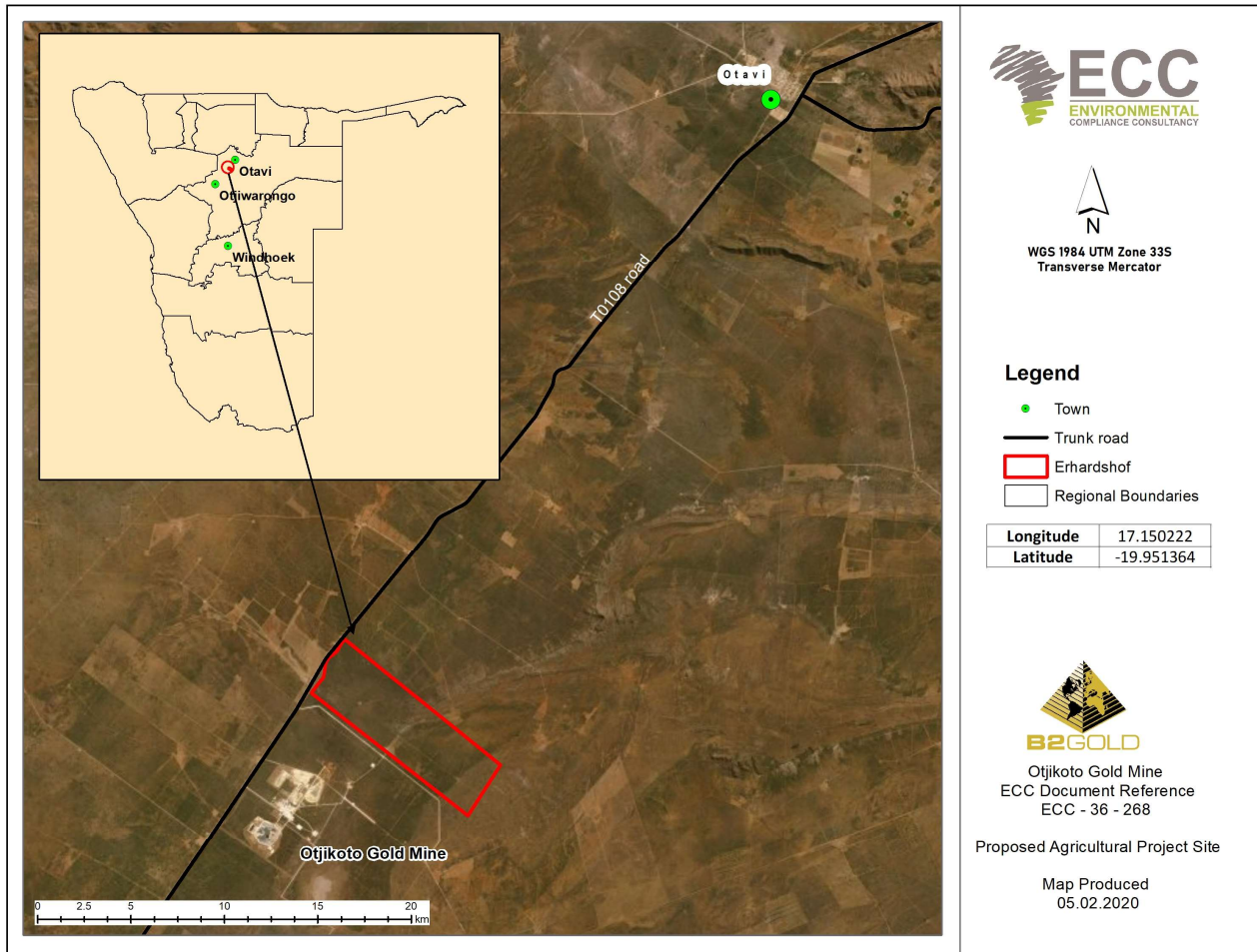


FIGURE 1 – A SATELLITE IMAGE INDICATING THE LOCATION OF THE PROPOSED AGRICULTURAL PROJECT SITE IN THE RED POLYGON

1.2 ENVIRONMENTAL LEGAL REQUIREMENTS

The Environmental Management Act, No. of 2007 (EMA) stipulates that an environmental clearance certificate is required to undertake listed activities (Table 1) under the Act and associated Regulations. The listed activities triggered by the proposed project are as follows:

TABLE 1 – LISTED ACTIVITIES TRIGGERED BY THE PROPOSED PROJECT

LISTED ACTIVITY	DESCRIPTION	PHYSICAL ACTIVITY TRIGGERING LISTED ACTIVITY
ENERGY GENERATION, TRANSMISSION AND STORAGE ACTIVITIES	1 b The construction of facilities for the transmission and supply of electricity	The proposed project will construct a 11kV overhead powerline
FORESTRY ACTIVITIES	4. The clearance of forest areas, deforestation, afforestation, timber harvesting or any other related activity that requires authorisation in terms of the Forest Act No. 12 of 2001 or any other law.	Vegetation clearing will occur at the proposed site.
WATER RESOURCE DEVELOPMENTS	8.1 Abstraction of ground or surface water for industrial or commercial purposes. 8.7 Irrigation schemes for agriculture excluding domestic irrigation.	The proposed project will require drilling of boreholes and abstraction of groundwater for irrigation. The proposed project is an irrigation scheme for agriculture.

The potential environmental and social effects are anticipated to be of minor significance, and those that may occur will be contained on the proposed site.

In accordance with the EMA, an Environmental Impact Assessment (EIA) of the proposed project is required, and a subsequent report must be submitted as part of the application for environmental clearance. It was agreed with MEFT that only submission of a Scoping Report will be adequate for the level of impacts anticipated for this project.

1.3 PURPOSE OF THIS REPORT AND TERMS OF REFERENCE

The purpose of this scoping report is to present the findings of the EIA process for the proposed Otjikoto Agricultural Project. The EIA process has been undertaken in accordance with the requirements of the EMA and the EIA Regulations, No. 30 of 2011, as gazetted. This report and appendices will be submitted to the Directorate of Water Resources Management at the Ministry of Agriculture, Water and Land Reform (MAWLR) and to the Directorate of Forestry (DoF) at the Ministry of Environment, Tourism and Forestry (MEFT) as well as the Directorate of Environmental Affairs (DEA) at MEFT for review as part of the environmental clearance certificate application. A water abstraction permit application has been submitted by the proponent to MAWLR.

This report has been prepared by Environmental Compliance Consultancy (ECC). ECC’s terms of reference for the assessment is strictly to address potential effects, whether positive or negative, and their relative significance, and explore alternatives for technical recommendations and identify appropriate mitigation measures for the proposed project.

The report has been prepared to provide information to authorities, the public and stakeholders to aid in the decision-making process for the proposed project. The objectives of this environmental scoping report are to:

- Provide a description of the proposed activity and the site on which the activity is to be undertaken, and the location of the activity on the site
- Provide a description of the environment that may be affected by the activity
- Identify the laws and guidelines that have been considered in the assessment and preparation of this report
- Provide details of the public consultation process
- Describe the need and desirability of the activity
- Provide a high level environmental and social impact assessment on any alternatives that were considered, and
- Report the assessment findings of identifying the significance of effects.

In addition to the environmental assessment, an Environmental Management Plan (EMP) (Appendix A) is also required under the EMA. An EMP has been developed to provide a management framework for the planning and implementation of development and operational activities so that potential environmental and social impacts are prevented, mitigated and minimised as far as reasonably practicable, and that statutory requirements and other legal obligations are fulfilled.

1.4 THE PROPONENT OF THE PROPOSED PROJECT

The contact details for the proponent of the proposed project is listed in Table 2.

TABLE 2 – PROPONENT DETAILS

CONTACT PERSON	POSTAL ADDRESS	EMAIL ADDRESS	TELEPHONE
Duane Rudman	P O Box 80363 Windhoek Namibia	drudman@b2gold.com	+264 81 233 3098

1.5 ENVIRONMENTAL CONSULTANCY

ECC, a Namibian consultancy registration number 2013/11401, has prepared this document on behalf of the proponent. ECC operates exclusively in the environmental, social, health and safety fields for clients across Southern Africa in the public and private sector.

ECC is independent of the proponent and has no vested or financial interest in the proposed project, except for fair remuneration of professional services rendered.

All compliance and regulatory requirements regarding this document should be forwarded by email or posted to the following address:

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1.6 REPORT STRUCTURE

The report is structured as per the content set out in TABLE 3.

TABLE 3 – A LIST OF ENVIRONMENTAL SCOPING REPORT SECTIONS

SECTION	TITLE	CONTENT
-	Executive Summary	Executive summary of the Environmental Scoping Report.
-	Acronyms	A list of acronyms used in the report.
1	Introduction	This section introduces the EIA and provides background information on the proposed project, proponent and purpose of the report.
2	Regulatory Framework	This chapter describes the Namibian environmental regulatory framework applicable to the project and how it has been considered in the assessment, the Scoping Report and EMP.
3	Approach to the EIA	This chapter presents the detailed methods and approach of the assessment applied to the EIA process.
4	Project Description	Presents the need of the project, the alternatives considered and a description of the proposed project and how the proposed project will be operated.
5	Environmental and Social Baseline	Presents information on the receiving environment that may be affected by the project.
6	Assessment findings and Mitigation	This chapter predicts the potential environmental and social impacts arising from the project, including residual impacts. This chapter also outlines the proposed management strategies and monitoring commitments to ensure the actual and potential impacts on the environment are minimised to “As Low As Reasonably Practicable.”
7	Environmental Management Plan	This chapter provides a short description of the EMP, to take pro-active action by addressing potential problems before they occur and outline mitigation measures for each impact.
8	Conclusions	Conclude the findings of the EIA.
9	References	A list of references used for compiling this report.
	Appendices A-E	A list of appendices attached to this report: <ul style="list-style-type: none"> - Appendix A: Environmental Management Plan - Appendix B: List of species - Appendix C: Water permit application - Appendix D: Evidence of public consultation - Appendix E: Non-Technical Summary - Appendix F: Site Notice

SECTION	TITLE	CONTENT
		<ul style="list-style-type: none">- Appendix G: Advertisements- Appendix H: Avifauna assessment- Appendix I: Groundwater assessment- Appendix J: Financial model summary- Appendix K: ECC CV

2 REGULATORY FRAMEWORK

This chapter outlines the regulatory framework applicable to the proposed Otjikoto Agricultural Project. TABLE 4 provides a list of applicable legislation and the relevance to the project.

TABLE 4 – A LIST OF LEGAL OBLIGATIONS THAT THE PROPONENT NEEDS TO COMPLY WITH

NATIONAL REGULATORY REGIME	SUMMARY	APPLICABILITY TO THE PROJECT
Namibian Constitution First Amendment Act 34 of 1998	<p>The Constitution of the Republic of Namibia, 1990 clearly defines the Country’s position in relation to sustainable development and environmental management. The Constitution states that the State will actively promote and maintain the welfare of the people by adopting policies aimed at the following:</p> <p><i>“Maintenance of ecosystems, essential ecological processes and biological diversity of Namibia and utilization of living natural resources on a sustainable basis for the benefit of all Namibians, both present, and future; in particular, the Government shall provide measures against the dumping or recycling of foreign nuclear and toxic waste on Namibian territory.”</i></p>	<p>The proposed project has taken this into consideration during the design phase. The proposed project will provide local jobs as well as Namibian grown produce for food security and sales to local markets thereby, supporting the local economy in various ways. Additionally, it will also contribute to biodiversity in terms of feed being produced for the Otjikoto reserve.</p>
Environmental Management Act, 2007 (Act No. 7 of 2007) and associated regulations, including the Environmental Impact Assessment Regulation, No. 30 of 2011	<p>The Act aims to promote sustainable management of the environment and the use of natural resources by establishing principles for decision-making on matters affecting the environment.</p> <p>It sets the principles of environmental management as well as the functions and powers of the Minister. The Act requires certain activities to obtain an environmental clearance certificate prior to project development. The Act states an EIA may be undertaken and submitted as part of the environmental clearance certificate application.</p> <p>The MEFT is responsible for the protection and management of Namibia’s natural environment. The Department of Environmental Affairs under the MEFT is responsible for the administration for the EIA process.</p>	<p>This environmental scoping report (and EMP) documents the findings of the environmental assessment undertaken for the proposed project, which will form part of the environmental clearance application. The assessment and report have been undertaken in line with the requirements under the Act and its regulations.</p>

NATIONAL REGULATORY REGIME	SUMMARY	APPLICABILITY TO THE PROJECT
<p>Water Act, No. 54 of 1956 Water Resources Management Act, No. 284 of 2004 Water Resources Management Act, No. 11 of 2013</p>	<p>These Acts provide for the control, conservation and use of water for domestic, agricultural, urban and industrial purposes; to make provision for the control, in certain respects, of the use of sea water for certain purposes; and for the control of certain activities on or in water in certain areas.</p> <p>The MAWLR Department of Water Affairs is responsible for administration of the Water Act.</p>	<p>The Act stipulates obligations to prevent pollution of water. The EMP sets out measures to avoid polluting the water environment.</p> <p>Whilst the 2013 Act is not enforced, it is best practice to adhere to the stipulations. A licence to abstract and use water has been applied for and awaits approval. Once issued, the proponent will comply to all conditions stipulated in the permit.</p>
<p>Soil Conservation Act, No. 76 of 1969 and the Soil Conservation Amendment Act, No. 38 of 1971</p>	<p>Makes provision for the prevention and control of soil erosion as well as the protection, improvement and the conservation of soil and vegetation.</p>	<p>Through vegetation removal there may be the risk of affecting soil quality. Irrigation can also increase soil salinity if not managed correctly. Measures will be taken to avoid this, which are set out in the EMP.</p>
<p>Forest Act, No. 12 of 2001 Forest Act Regulations 2015</p>	<p>Provides for the protection of the environment and the control and management of forest areas. The regulations have the following stipulations that may be relevant to the proposed project:</p> <ul style="list-style-type: none"> - Harvesting Licence is required to harvest forest produce; - Tree species and any vegetation within 100m from a watercourse may not be removed without a permit; - Provision for the protection of various plant species. This includes the proclamation of protected species of plants and the conditions under which these plants can be disturbed, conserved, or cultivated; and - Aerial spraying of arboricides is now a prohibited activity. 	<p>There will be some vegetation removal as part of the proposed project. Appropriate measures will be taken to ensure compliance with the Act.</p>
<p>Vision 2030</p>	<p>Vision 2030 sets out the nation's development programmes and strategies to achieve its national objectives. It sets out eight themes to realise the country's long-term vision.</p> <p>Vision 2030 states that the overall goal is to improve the quality of life of the Namibian people to a level in line with the developed world.</p>	<p>The planned project will meet the objectives of Vision 2030 and will contribute to the overall development of the country through continued employment opportunities.</p>

NATIONAL REGULATORY REGIME	SUMMARY	APPLICABILITY TO THE PROJECT
<p>The Fifth National Development Plan (NDP5)</p>	<p>NDP5 is the fifth in the series of seven five-year national development plans that outline the objectives and aspiration of Namibia’s long-term vision as expressed in Vision 2030. NDP5 is structured on the pillars of economic progression, social transformation, environmental sustainability and good governance. Under the social transformation pillar is the goal of improved education.</p>	<p>The planned project supports meeting the objectives of NDP5 by creating opportunities for employment to the nearby community and the Namibian nation.</p>

NATIONAL REGULATORY REGIME	SUMMARY	APPLICABILITY TO THE PROJECT
Namibian Agriculture Marketing and Trade Policy and Strategy 2011	This policy and strategy paper focus on domestic marketing and trade within the agricultural and agro-industrial sectors. The Agriculture Marketing and Trade Policy and Strategy is developed with the aim of contributing to the achievement of the agriculture sector's objectives as reflected in Vision 2030, NDP4 and the National Agriculture Policy in concert with other policies and strategies across the agricultural value chain.	The proposed project aims to improve and contribute to agricultural produce as per Vision 2030, NDP4 and the National Agriculture Policy.
Namibia Agriculture Policy 2015	This Policy provides a clear framework for all stakeholders in the Namibian agricultural sector to devise interventions that would enable them to make a concerted and meaningful contribution towards the sustainable development and growth of the agriculture sector in Namibia." As such, this Policy takes due cognisance of the relevant provisions of World Trade Organisation (WTO) Agreement, the Southern African Development Community (SADC) Protocol on Trade, the Southern African Customs Union Agreement (SACU), the Dar es Salaam Declaration of Agriculture on Food Security, the revived SADC Regional Indicative Strategic Development Plan (RISDP), the 2003 Comprehensive Africa Agriculture Development Programme (CAADP) and the 2014 AU Malabo Declaration, amongst others. The Namibia Agriculture Policy is aimed at contributing to increased agricultural production, agro-processing and marketing as well as to serve as an overarching policy in the agricultural sector.	The proposed project will take into account these requirements to ensure sustainability.
The Labour Act, No. 11 of 2007	The Labour Act gives effect to the constitutional commitment of Article 95 (11), to promote and maintain the welfare of the people. This Act is aimed at establishing a comprehensive labour law for all employees; to entrench fundamental labour rights and protections; to regulate basic terms and conditions of employment; and to ensure the health, safety and welfare of employees.	The proposed project will ensure to recruit Namibian citizens where available as well as comply with all health and safety standards.

NATIONAL REGULATORY REGIME	SUMMARY	APPLICABILITY TO THE PROJECT
<p>National Heritage Act, No. 27 of 2004</p>	<p>This Act provides provisions for the protection and conservation of places and objects of heritage significance and the registration of such places and objects. The proposed project will ensure that if any archaeological or paleontological objects, as described in the Act, are found in the course of its construction, and operations that such findings be reported to the Ministry immediately. If necessary, the relevant permits must be obtained before disturbing or destroying any heritage sites.</p>	<p>There are no known archaeological sites at the proposed project location. A chance find procedure will be used to ensure heritage sites are managed correctly.</p>

2.1 PERMIT AND LICENCES

TABLE 5 below lists the permits and licenses that are potentially required for the proposed project.

TABLE 5 – A LIST OF PERMITS AND LICENSES THAT MAY BE REQUIRED FOR THE PROPOSED PROJECT

PERMITS/LICENCE	DESCRIPTION	PERMITTING AUTHORITY	CURRENT STATUS	DURATION
EIA and EMP Clearance Certificate	Environmental Policy and Environmental Management Act, No. 7 of 2007	Ministry of Environment Forestry and Tourism (MEFT)	To be applied for on completion of this EIA and EMP Report for Implementation stage of the project	Permit dependent
Water abstraction and discharge permits	Water Act, No. 54 of 1956 Water Resources Management Act, No. 284 of 2004 Water Resources Management Act, No. 11 of 2013	Ministry of Agriculture, water & Land Reform (MAWLR)	To apply prior to commencement of the project	Permit dependent
Removal, disturbances or destruction of bird eggs	Nature Conservation Ordinance 4, 1975	Nature Conservation Ordinance 4, 1975	To apply when required	N/A
Removal, destruction of indigenous trees, bushes or plants within 100 yards of stream or watercourse	Forestry Act, No. 12 of 2001	Ministry of Environment Forestry and Tourism (MEFT)		N/A
Discarding or disposing of used oil Petroleum	Petroleum Products and Energy Act 13 of 1990	Ministry of Mines and Energy (MME)		N/A

2.2 WORLD BANK STANDARDS

B2Gold Namibia Properties (Pty) Ltd complies with all Namibian legislation, and where legislation is lacking will align with international best practice procedures, i.e. the International Finance Corporation (IFC) Performance Standards.

The IFC is a member of the World Bank Group and is the largest global development institution focusing on the private sector in developing countries. Its standards have become a global benchmark for environmental and social performance. They form the basis for the Equator Principles (IFC, 2013), a voluntary environmental and social risk-management framework used by 77 financial institutions worldwide. It is a set of guidelines for evaluating social and environmental risks in project finance activities.

3 APPROACH TO THE IMPACT ASSESSMENT

3.1 PURPOSE OF THE ENVIRONMENTAL IMPACT ASSESSMENT

The aim of this assessment is to determine which impacts are likely to be significant (the main focus of the assessment); scope the available data and any gaps which need to be filled; determine the spatial and temporal scope; and identify and describe the assessment methodology.

Scoping of the EIA was undertaken by the EIA team. The scope of the assessment was determined through undertaking a preliminary assessment of the proposed project against the receiving environment through a desk-top review of available site-specific literature.

3.2 THE ASSESSMENT PROCESS

The EIA methodology applied to this EIA has been developed using the IFC standards and models, in particular Performance Standard 1, 'Assessment and management of environmental and social risks and impacts' (International Finance Corporation, 2012) (International Finance Corporation, 2017), Namibian Draft Procedures and Guidance for EIA and EMP (Republic of Namibia, 2008); international and national best practice; and over 25 years of combined EIA experience.

This impact assessment is a formal process in which the potential effects of the project on the biophysical, social and economic environments are identified, assessed and reported, so that the significance of potential impacts can be taken into account when considering whether to grant approval, consent or support for the proposed project.

Final mitigation measures and recommendations are based on the cumulative experience of the consulting team and the client, taking into consideration the potential environmental and social impacts. The process followed through the basic assessment is illustrated in FIGURE 2 and detailed further in the following sections.

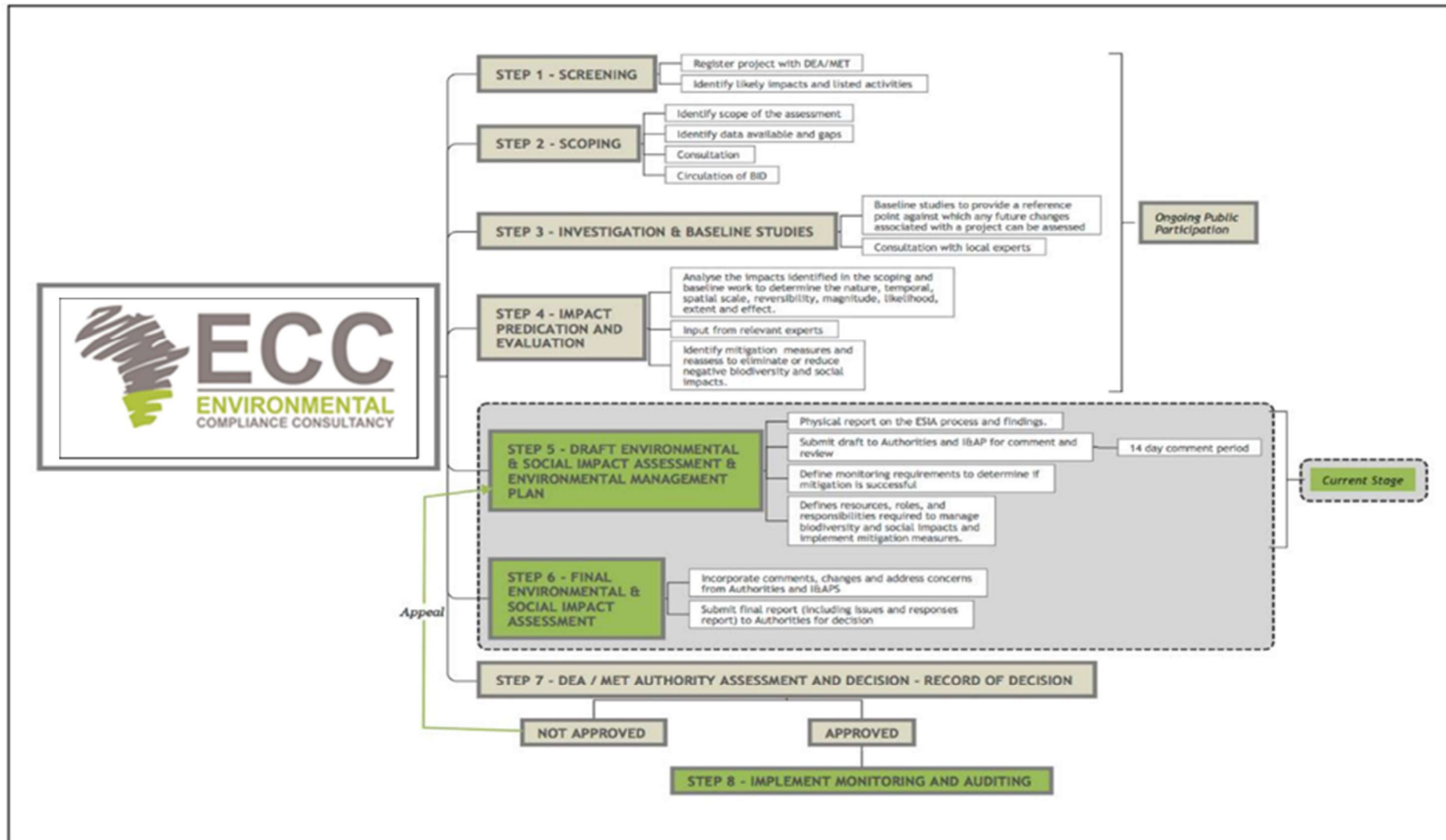


FIGURE 2 - A DIAGRAM DEPICTING ECC'S EIA AND SCOPING PROCESS

3.3 METHODOLOGY FOR THE IMPACT ASSESSMENTS

ECC's methodology for environmental impact assessments was used and is based on models for environmental and social impact assessments set out by the IFC Principal 1 'Assessment and management of environmental and social risks and impacts. Furthermore, the impact assessment for the proposed project was undertaken in accordance with Namibian legal requirements.

Desktop studies on the national database were undertaken as part of the scoping stage to get information relating to the current status of the receiving environment. This provides a baseline where changes that occur as a result of the proposed project can be measured.

The environmental and social topics that may be affected by the proposed project are described in this section. The baseline focuses on receptors which could be affected by the proposed project.

3.4 SCREENING OF THE PROPOSED PROJECT

The first stages in the EIA process is to undertake a screening exercise to determine whether the project triggers any listed activity under the Environmental Management Act, No. 7 of 2007 and associated Regulations, and if any potentially significant impacts could arise from the project as they are assessed. The location, scale and duration of project activities will be considered against the receiving environment.

The screening phase of the project is a preliminary analysis to determine ways which the project may interact with the biophysical, social, and economic environment. Impacts that are identified as potentially significant during the screening and scoping phase are taken forward for further assessment in the EIA process.

3.4.1 BASELINE STUDIES

Baseline studies are undertaken as part of the scoping stage, which involves collecting all pertinent information from the current status of the receiving environment. This provides a baseline where changes that occur as a result of the proposed project can be measured.

For the proposed project, baseline information was obtained through a desk-based study, focussing on environmental receptors that could be affected by the proposed project. The baseline is presented from Section 5.

3.4.2 IMPACT PREDICTION AND EVALUATION

The key stage of the EIA process is the impact prediction and evaluation stage. This stage is the process of bringing together project characteristics with the baseline environmental characteristics and ensuring all potentially significant environmental and social impacts are identified and assessed. It is an iterative process that commences at project inception to the final design and project implementation. The impact prediction and evaluation stage were undertaken in December 2019 – February 2020, and the findings of the assessment are presented in Section 5.

Impact prediction and evaluation involves predicting the possible changes to the environment as a result of the proposed project. The recognized methodology was applied to determine the magnitude of impact and whether the impact was considered significant and thus warrant further investigation. The assessment considers all stages of the project's life cycle that is scoped into the assessment and are presented in this report. It is an iterative process that commences at project inception and runs through to the final design and project implementation (development and operations).

3.5 EIA DETERMINATION OF SIGNIFICANCE

The evaluation and identification of the environmental and social impacts require the assessment of the project characteristics against the baseline characteristics, ensuring all potentially significant impacts are identified and assessed. The significance of an impact is determined by taking into consideration the combination of the sensitivity and importance/value of environmental and social receptors that may be affected by the proposed project, the nature and characteristics of the impact, and the magnitude of potential change. The magnitude of change (the impact) is the identifiable changes to the existing environment, which may be negligible, low, minor, moderate, high, or very high; temporary/short term, long-term or permanent; and either beneficial or adverse (Figure 3).

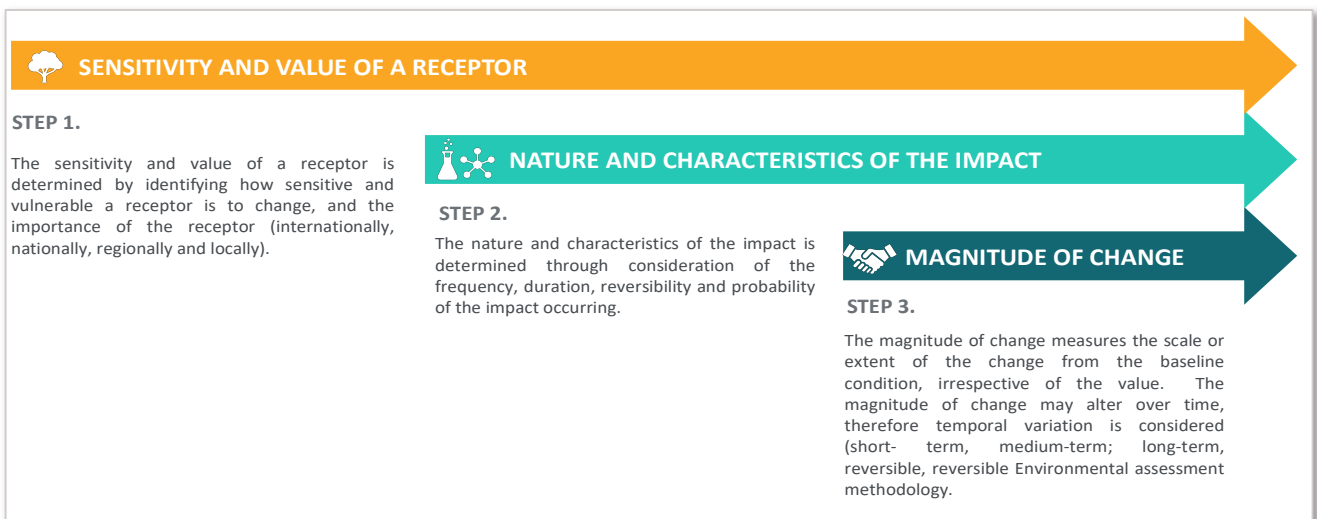


FIGURE 3 - DETERMINATION OF SIGNIFICANCE

Tables 6 to 14 provide a set of terms for the description and thresholds used in determining impact significance.

TABLE 6 – TERMS DESCRIBING THE NATURE OF AN IMPACT

NATURE	
Term	Description
Beneficial (Positive)	An impact that is considered to represent an improvement on the baseline or introduces a positive change.
Adverse (Negative)	An impact that is considered to represent an adverse change from the baseline or introduces a new undesirable factor.

TABLE 7 – TERMS DESCRIBING THE TYPE OF IMPACT

TYPE	
Term	Description
Direct	Impacts causing an impact through direct interaction between a planned project activity and the receiving environment/receptors.
Indirect	Impacts that result from other activities that are encouraged to happen as a result / consequence of the Project. Associated with the project and may occur later or wider area.
Cumulative	Impacts that arise as a result of an impact and effect from the project interacting with those from another activity to create an additional impact and effect.

TABLE 8 – TERMS DESCRIBING THE REVERSIBILITY OF AN IMPACT

REVERSIBILITY	
Term	Description
Reversible	Impacts are reversible and recoverable in the future.
Partly Reversible	Some parts of the impact can be reversed while others remain.
Irreversible	Impacts which are not reversible and are permanent.

TABLE 9 – TERMS DESCRIBING THE MAGNITUDE OF CHANGE

MAGNITUDE OF CHANGE	
Term	Description
None / negligible	Very minor loss or detrimental alteration to one (or maybe more) characteristic, feature or element; or Very minor benefit to, or positive addition of, one (or maybe more) characteristic, feature or element.
Low / Minor	Some measurable change in attributes, quality or vulnerability; minor loss of, or alteration to, one (or maybe more) key characteristic, feature or element; or Minor benefit to, or addition of, one (or maybe more) key characteristic, feature or element; some beneficial effect on attribute quality or a reduced risk of a negative effect occurring.
Moderate	Loss of resource, but not adversely affecting its integrity; partial loss of/damage to key characteristics, features or elements; or Benefit to, or addition of, key characteristics, features or elements; improvements of attribute quality.
High / Major	Loss of resource, and quality and integrity of resource; severe damage to key characteristics, features or elements; or Large scale or major improvement of resources quality; extensive restoration or enhancement; major improvement of attribute quality.
Very high / unknown	Loss of resource, significantly affecting the long-term quality and integrity of a resource; irreparable damage or loss of key characteristics, features or elements; or the magnitude is too great to quantify as it is unknown.

TABLE 10 – TERMS DESCRIBING THE DURATION OF AN IMPACT

DURATION	
Term	Description
Temporary	Transient; a period of less than 1 year
Short term	Impacts that are likely to last for the duration of the activity causing the impact and are recoverable (1-5 years).
Medium term	Impacts that are likely to continue after the activity causing the impact and are recoverable (5-15 years).
Long term	Impacts that are likely to last far beyond the end of the activity causing the damage (greater than 15 years with impact ceasing after decommissioning of the project).
Permanent	Permanent.

TABLE 11 – TERMS DESCRIBING THE SCALE OF CHANGE

SCALE OF CHANGE - EXTENT / GEOGRAPHIC SCALE	
Term	Description
On-site	Impacts that are limited to the boundaries of the proposed project site.
Local	Impacts that occur in the local area of influence, including around the proposed site and within the wider community.
Regional	Impacts that affect a receptor that is regionally important by virtue of scale, designation, quality or rarity.

National	Impacts that affect a receptor that is nationally important by virtue of scale, designation, quality or rarity.
International	Impacts that affect a receptor that is internationally important by virtue of scale, designation, quality or rarity.

TABLE 12 – TERMS DESCRIBING THE PROBABILITY OF CHANGE OCCURRING

PROBABILITY	
Term	Description
Improbably (Rare)	The event may occur in exceptional circumstances yet, rarely occurs in the industry. The event could occur once every 100 years.
Low probability (Unlikely)	The event has happened elsewhere yet, is unlikely to occur. The event could occur once every 10 years.
Medium Probability (Possible)	The event could occur under some circumstances. The event could occur once every 5 years.
High Probability (Likely)	The event is expected to occur. The event could occur twice per year.
Definite (Almost certain)	The event will occur. The event could occur once per month.

TABLE 13 – TERMS DESCRIBING SIGNIFICANCE OF AN IMPACT

SIGNIFICANCE OF IMPACT	DESCRIPTION
Low – Major (Beneficial) All scores	Impacts are beneficial to the environment and society.
Low (negative) 0 - 25	Impacts are considered to be local factors that are unlikely to be critical to decision-making.
Minor (negative) 25 - 50	Impacts are considered to be important factors but are unlikely to be key decision-making factors. The impact will be experienced, but the impact magnitude is sufficiently small (with and without mitigation) and well within accepted standards, and/or the receptor is of low sensitivity/value. Impacts are considered to be short-term, reversible and/or localized in extent.
Moderate (negative) 50 - 75	Impacts are considered within acceptable limits and standards. Impacts are long-term, but reversible and/or have regional significance. These are generally (but not exclusively) associated with sites and features of national importance and resources/features that are unique and which, if lost, cannot be replaced or relocated.
Major (negative) 75 - 100	Impacts are considered to be key factors in the decision-making process that may have an impact of major significance, or large magnitude impacts occur to highly valued/sensitive resource/receptors. Impacts are expected to be permanent and non- reversible on a national scale and/or have international significance or result in a legislative non- compliance.

TABLE 14- TERMS DESCRIBING SENSITIVITY AND VALUE OF A RECEPTOR

SENSITIVITY AND VALUE	DESCRIPTION
Low	Of value, importance or rarity on a local scale; and/or not particularly sensitive to change or has considerable capacity to accommodate a change.
Medium	Of value, importance or rarity on a regional scale, and with limited potential for substitution; and/or moderate sensitivity to change, or moderate capacity to accommodate a change.
High	Of value, importance or rarity on an international and national scale, and with very limited potential for substitution; and/or very sensitive to change or has little capacity to accommodate a change.

TABLE 15– A MATRIX INDICATING THE METHOD FOR DETERMINING THE SIGNIFICANCE OF AN IMPACT

			Significance of Impact				
			Low	Minor (2)	Moderate (3)	Major (4)	
Sensitivity	Biophysical A biophysical receptor that is protected under legislation or international conventions (CITES) listed as rare, threatened or endangered IUCN species. Highly valued/sensitive resource/receptors	Social Those affected people/communities will not be able to adapt to changes or continue to maintain-pre impact livelihoods.	High (3)	Minor (3)	Moderate (6)	Major (9)	Major (12)
	Of value, importance or rarity on a regional scale, and with limited potential for substitution; and/or Not protected or listed (globally) but may be a rare or threatened species in country; with little resilience to ecosystem changes, important to ecosystem functions, or one under threat or population declining.	Able to adapt with some difficulty and maintain pre-impact status but only with a degree of support	Medium (2)	Low (2)	Minor (4)	Moderate (6)	Major (8)
	Not protected or listed as common / abundant; or not critical to other ecosystems functions	Those affected are able to adapt with relative ease and maintain pre-impact status. There is no perceptible change to people's livelihood.	Low (1)	Low (1)	Low (2)	Minor (3)	Moderate (4)

To ensure the beneficial impacts are brought out in the assessment, green has been applied to highlight the different type of impact. The description for each level of significance presented in TABLE 15 was also followed when determining the level of significance of a beneficial impact.

The significance of impacts has been derived by applying the identified thresholds for receptor sensitivity and magnitude of change, as well as the definition of significance. Moderate and major adverse impacts are considered as significant. The following thresholds were therefore used to double check the assessment of significance had been applied appropriately; a significant impact would meet at least one of the following criteria:

- It exceeds widely recognized levels of acceptable change.
- It threatens or enhances the viability or integrity of a receptor or receptor group of concern; and
- It is likely to be material to the ultimate decision about whether or not the environmental clearance certificate is granted.

3.6 MITIGATION

Mitigation comprises a hierarchy of measures ranging from preventative environmental impacts by avoidance, to measures that provide opportunities for environmental enhancement. The mitigation hierarchy is avoidance; reduction at source; reduction at receptor level; repairing and correcting; compensation; remediation; and enhancement.

Mitigation measures can be split into three distinct categories, broadly defined as:

1. Actions undertaken by the EIA process that influence the design process, through implementing design measures that would entirely avoid or eliminate an impact or modifying the design through the inclusion of environmental features to reduce the magnitude of change. These are considered as embedded mitigation.
2. Standard practices and other best practice measures for avoiding and minimizing environmental impacts. These are considered as good practice measures.
3. Specified additional measures or follow-up action to be implemented to further reduce adverse impacts that remain after the incorporation of embedded mitigation. These are considered as additional mitigation.

The EIA is an iterative process whereby the outcomes of the environmental assessments inform the project. Considerable mitigation has been built into the proposed project as potentially significant adverse environmental impacts have been identified and design changes have been identified to overcome or reduce them. The EMP (Appendix A) provides the good practice measures and specified additional measures or follow-up action.

Embedded mitigation and good practice mitigation have been taken into account in the assessment. Additional mitigation measures have been identified when the significance of impact requires it and causes the impact to be further reduced. Where additional mitigation has been identified, a final assessment of the significance of impacts (residual impacts) was carried out taking into consideration the additional mitigation.

3.7 EIA CONSULTATION

Public participation and consultation are a requirement in terms of in section 21 of the EMA and its regulations for a project that requires an environmental clearance certificate. Consultation is a compulsory and critical component in the EIA process, aimed at achieving transparent decision-making and can provide many benefits.

The objectives of the stakeholder engagement process are to:

- Provide information on the project: introduce the overall concept and plan
- Clarify responsibility and regulating authorities
- Listen to and understand community issues, concerns and questions
- Explain the process of the EIA and timeframes involved, and
- Establish a platform for ongoing consultation.

3.7.1 NON-TECHNICAL SUMMARY

The Non-Technical Summary (NTS) presents a high-level description of the proposed project; sets out the EIA process and states when and how consultation is undertaken. The contact details for further enquiries are made available to all registered I&APS and the NTS can be found in Appendix E

3.7.2 NEWSPAPER ADVERTISEMENTS

Notices regarding the proposed project and associated activities were circulated in two newspapers namely.

- The Namibian – on the 27th February and 5th March 2020

- Informante – on the 27th February and 5th March 2020.

The purpose of this was to commence the consultation process and enable I&APs to register an interest with the project. The adverts can be found in Appendix G

3.7.3 SITE NOTICES

A site notice ensures neighbouring properties and stakeholders are made aware of the proposed project. The notices were set up in the vicinity of the proposed project as illustrated in Appendix F.

3.7.4 CONSULTATION FEEDBACK

Some farmers expressed concerns that the water table will be damaged/depleted by the proposed project. To enable a constructive dialogue regarding the significant impacts identified, a meeting with key stakeholders were held on 5 June 2020 and notes from the meeting is available in Appendix D. Follow-up information was sent to stakeholders and the draft Scoping Report and EMP was available for public comment from 21 July 2020. All concerns raised during the public comment period is listed in Appendix D.

Only one farmer supports the project. All other farmers that commented oppose the project and object to the clearance certificate being issued, based on their opinion that the water table will be lowered too much and their water supply will be affected, despite the proponent's commitment to ensure their alternative water supply and compensation for damages. One comment also described the financial model as being unrealistic and the high gross profits predicted for the grass crops as impossible.

4 PROJECT DESCRIPTION

4.1 NEED FOR THE PROPOSED PROJECT

The fifth National Development Policy (NDP5) lists five game changers that aim to move Namibia from a reactive, input-based economy towards a proactive, high performing economy. One of these game changers are *'increasing productivity in agriculture, especially for smallholder farmers.'* The agricultural sector contributes approximately 3.8% to the Gross Domestic Product (GDP). In 2015, Namibia imported about 76%, 98% and 91% of its demand for maize, millet and wheat respectively; therefore, the productivity of small, medium and large-scale farms needs to be maximised to support the Namibian economy and ensure food security for all (Namibia Statistics Agency, 2017).

Current mine closure requirements in Namibia focus exclusively on bio-physical aspects, e.g. stabilisation of pit walls, dumps and tailings dams and revegetation of disturbed sites. However, international best practice also recognises the need for socio-economic closure, namely working to make the land on which the mining took place as productive as possible after mining, and creating alternative new jobs to compensate for the jobs lost with mine closure. To be effective in all aspects of mine closure, planning and investment should start during the life of mine, and not be left for the end.

B2Gold is committed to achieving the highest levels of international best practice and has therefore begun early mine closure planning and investment to achieve the highest possible success levels. Part of this planning is a proof of concept focused on job creation, creating additional revenue streams for the area, and addressing food and fodder security in keeping with Government's development objectives (B2Gold, 2020).

As such B2Gold has made funding available to prove the concept of low intensity crop irrigation, utilising the most modern and water efficient technology. If successful, the project can be upscaled and replicated by other farmers in the area. The magnitude of this, however, will be determined by regulatory approvals the availability of water in different areas, and soil types (B2Gold, 2020).

Post mine closure job creation is critical to a successful process and this project is one of the initiatives which seeks to create new economic activities, and consequently employment opportunities. Food security and fodder for high value animal species is part of a bigger regional initiative which (if it materialises as it should) is estimated to employ upwards of 1000 people. Thereby substituting the lost jobs at the end of the life of mine (B2Gold, 2020).

The initial proof of concept pivots will focus on utilising crops which are applicable to a greater cooperative project referred to as the Greater Waterberg Partnership Project (GWPP). B2Gold has committed significant funds to the seeding of this broader initiative that focuses on assisting farmers and creating employment within the area. It is important to note that the agricultural trial is a component of a far larger project and not a stand-alone business. As such the crops of Katambora Rhodes Grass and White dent Maize, rotating with Wheat, have been selected (B2Gold, 2020).

Katambora Rhodes Grass has been identified primarily as a fodder bank to cushion the effects of drought and climate change. The plant is root knot resistant which enables it to become an important rotational crop for breaking pest cycles in other crops and provide a highly nutritious food source for wildlife and livestock. It has vigorous growth characteristics with a very well-developed root system. Tillering capabilities help it to hold the soil profile together and increase water infiltration. The plant has a high crude protein value (+18%) on a dry mass basis and very good digestibility for animals. The grass has the ability to grow on lower fertility soils and can withstand soil / moisture variations and periodic water logging, as well as having moderate frost tolerance. It is an ideal fodder crop for this area and to our knowledge has never been tested in the region (B2Gold, 2020).

The Namibian University of Science and Technology (NUST) are project partners and will be part to the trials and data collection. Opportunities will be made widely available for research students who wish to become involved in the agricultural sector. B2Gold Namibia has already facilitated a partnership between NUST and Oxford University in the United Kingdom, which focuses on the possible utilisation of succulent species for the production of both protein for human consumption and animal feed as a by-product. To this end the company has made a small section of experimental land available and hosts both organisations on the B2Gold properties and research centre (B2Gold, 2020).

Excess production of Katambora Rhodes Grass could be sold to neighbouring districts or made available to communities in desperate need as B2Gold Namibia has done in the past with the Ondundu rural communities. This was simply indigenous grass that was cut and baled and then transported to the struggling community (B2Gold, 2020).

A detailed financial model was developed for the project by B2Gold (detailed table is in Appendix J) using expected yields with product prices of: 300 bales/ha at N\$ 70/bale; 10t/ha at N\$ 5 000/t and 7t/ha at N\$5 430/t for Katambora Rhodes grass, maize and wheat respectively. The following features for the first three years of production are highlighted:

- Expected gross profit will be 38% at N\$ 99 180.00 for the Katambora Rhodes grass and 14% at N\$ 153 630.00 for the maize / wheat rotation in year one (two 15ha pivots)

- Expected gross profit will be 60% at N\$ 187 680.00 for the Katambora Rhodes grass and 22% at N\$ 989 970.00 for the maize / wheat rotation in year two (five 15ha pivots)
- Expected gross profit will be 70% at N\$ 219 680.00 for the Katambora Rhodes grass and 28% at N\$ 2 698 840.00 for the maize / wheat rotation in year three (nine 15ha pivots)

The gross profits after initial production ramp-up and once the cropping system is running on the full rotational production cycle, are predicted to be 70% (N\$ 219 680.00 per annum) for Katambora Rhodes grass and 34% (N\$ 3 624 640.00 per annum) for the maize / wheat production (B2Gold, 2020).

The selected maize and wheat are of the very latest varieties available. They are not genetically modified but come from plant breeding programs in South Africa which aim to both maximise production and optimise water use. Food security in the area is of concern and aligns with the Government’s strategy of creating resilience to the economy of the region. Coupled with this is the close proximity of the project to the Otavi grain silos for marketing and storage. The land under the pivots will be utilised optimally by growing both a summer and a winter crop (B2Gold, 2020).

This is a science-based project which will be approached in a step by step and pragmatic fashion. It is not for the profit of B2Gold Namibia, but is integral to a bigger project aimed at improving economic activity of the region and creating job opportunities; particularly after the mine has closed. Surrounding farmers, local communities and partner institutions will be kept apprised of project outcomes with the intention that over the medium term many of them become partners of the GWPP (B2Gold, 2020).

The benefits associated with the agriculture project are summarised in TABLE 16.

TABLE 16 – A LIST OF BENEFITS OF THE PROJECT

DIRECT	INDIRECT
<ul style="list-style-type: none"> - Employment creation - Increase in agricultural skills - Technological development in the agricultural sector - Increase in livestock/game feed security - Increased agricultural activities and subsequent improved agricultural production and productivity - Improved food security and nutritional status of the beneficiaries and of the country as a result of the increase in the quantity of food produced once the project becomes operational, and - Reduced food imports and savings on the foreign exchange due to increase in local production. 	<ul style="list-style-type: none"> - Diversification of land use activities and income - Added products to agricultural processing industries for potential growth - Economic growth and development of the Otjozondjupa Region after mine closure - Improved land conditions due to improved land and water management and conservation activities - Improved water supply development - Enhanced livestock grazing as a result of alternative feed supplies causing increased soil conservation, and - Improved soil and water conditions resulting in enhanced land conditions.

4.2 ALTERNATIVES CONSIDERED

No alternatives for the use of this groundwater resource were studied. The suggested grain crops are generally grown in Namibia and will contribute to food security and gross domestic product as shown by the financial model.

Alternative water supply from excess mine dewatering water was investigated, but proved to not be feasible, since all dewatering water from mining operations are fully utilised in the beneficiation plant on the mine. No feasible surface water supply exists for the project area; therefore, the proposed groundwater use will be the only feasible alternative.

If the project does not proceed the status quo is maintained in the short term. The status of the environmental resources neither improves nor worsens since the state of the resources is not interfered with at all. However, the implementation of this project has benefits as given in Section 4.1 above, especially as part of the mine closure plan for Otjikoto Mine. The 'No Alternative' has various negative impacts for the long-term post mine closure scenario of the mine, including potential fodder shortage for game animals in the GWPP and greater loss of job opportunities after mine closure.

4.3 PROPOSED PROJECT ACTIVITIES

4.3.1 PROJECT DEVELOPMENT PHASE

The development of the agricultural project will include the following:

- The proposed project will require vegetation removal/de-bushing of up to 200Fcenroedha
- Three boreholes varying from a depth of 126 to 114m were drilled to supply water to the center pivot systems (refer to FIGURE 4). The tested combined yield for the boreholes is 5 040m³/day. The planned use will be at an abstraction rate of 6 912m³/day at peak production
- Construction of approximately 600m of 180mm pipeline from each borehole to the pivots
- Construction of 9 center pivots of 15ha each (only two pivots of 15ha each for 2020/21 season) with power supply routes of approximately 600m long
- Construction of extra sheds on the farm
- Construction of a standard 1.3m high, 5 strand fence and the operational area at Erhardshof will be enclosed with a 2.5m security fence to safeguard all infrastructure, and
- Construction of a 11kV powerline, extending from the existing solar plant located on the mine to the boreholes (approximately 8km long) as seen in FIGURE 5. An initial powerline from the Cenored distribution line will be built during the initial proof of concept phase.

The entire project will utilize material that includes, poles, electrical conductors, fence wire, sand, stone, soil, cement, pipes, pumps and bricks purchased locally.

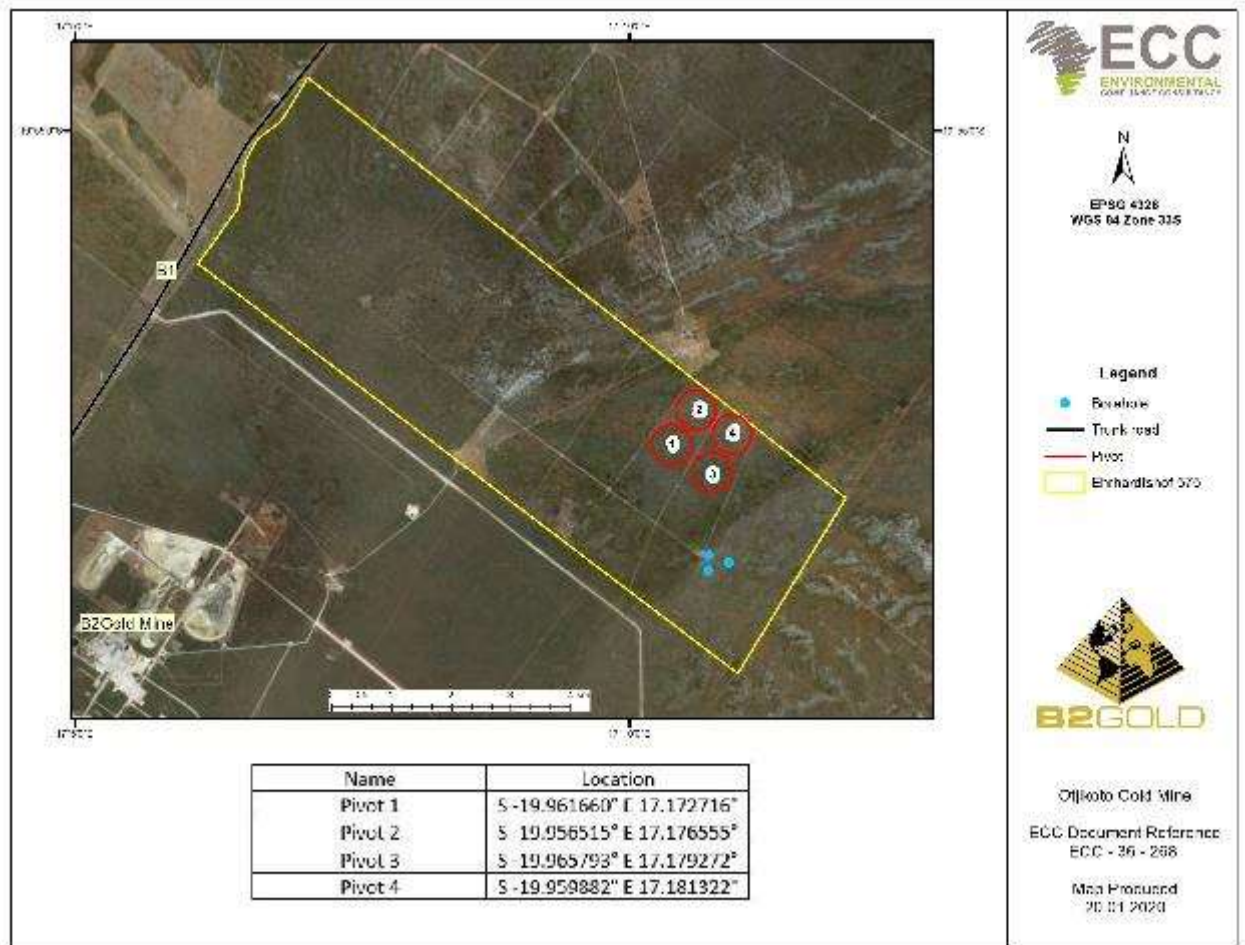


FIGURE 4 – A SATELLITE IMAGE SHOWING THE BOREHOLE LOCATIONS AND SOME OF THE PLANNED LOCATIONS FOR THE CENTRE PIVOTS FOR THE PROPOSED PROJECT

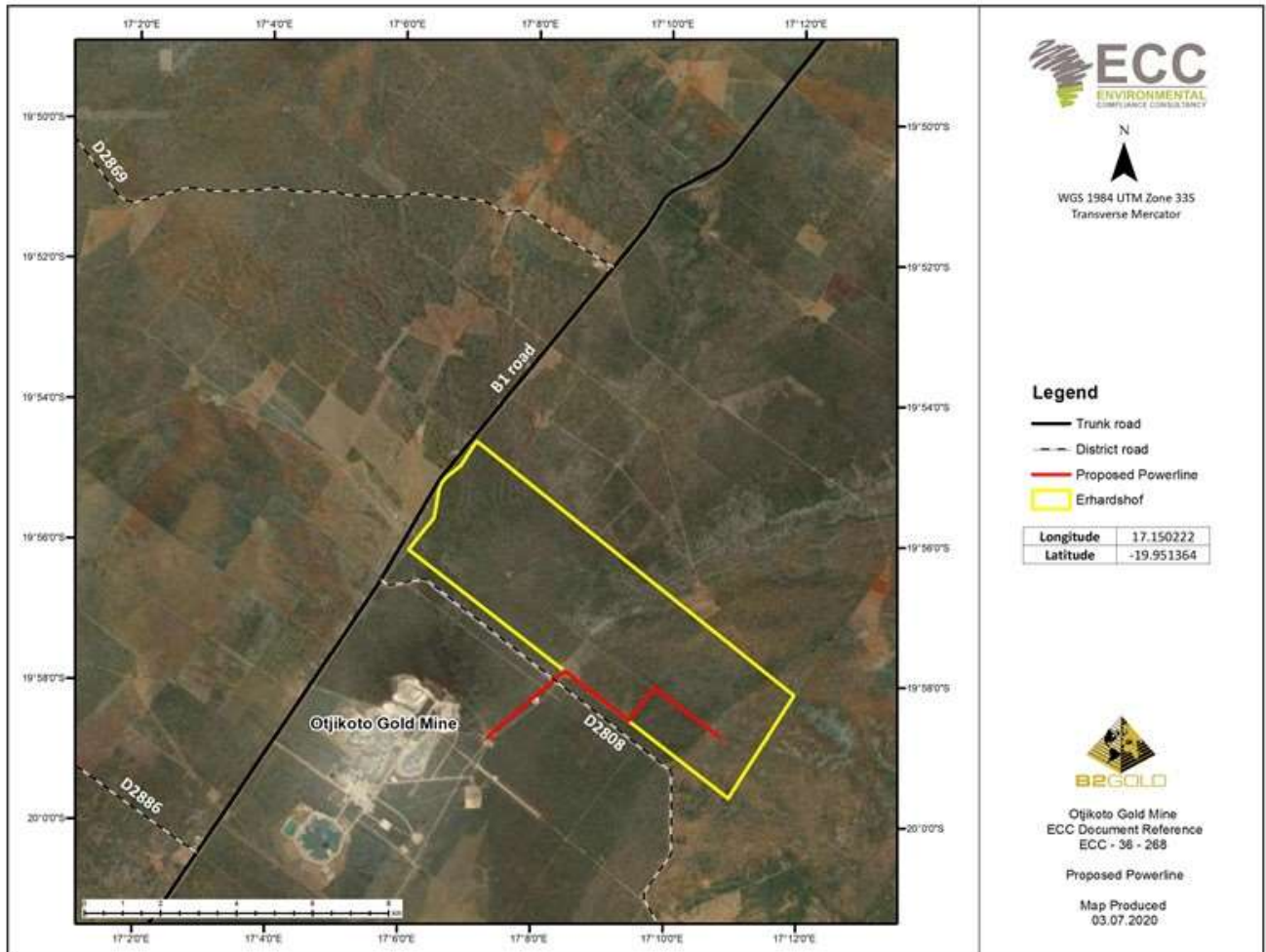


FIGURE 5 – A SATELLITE IMAGE SHOWING THE PROPOSED POWERLINE ROUTE FROM B2GOLD MINE SITE TO FARM ERHARDSHOF PIVOTS

Vegetation will be mechanically cleared with a bulldozer for fields to be available for the project. Biomass removed by this operation will be utilized by a contractor. Pipelines and center pivots will be constructed on the cleared land by a local contractor. Correctly sized submersible pumps will be installed in the three boreholes to feed directly to the center pivots. Fencing will be erected around the fields to ensure easier management of livestock, preventing damage to the crops planted on-site. Sheds for storing bales and machinery will be constructed.

Powerlines will consist of Intermediate poles used on the straight sections of the powerline and strain poles at the ends and angles in the powerline route. The powerline structure will be a standard horizontal line post, with single wooden poles around 9.2 m high, span length 120 m and ground clearance at midspan of 5.1-5.3m high. The intermediate poles do not have stay wires. Three conductors are suspended, one above the other, each resting on an insulator. Each pole is earthed by means of a galvanised wire running vertically from the ground to the top of the pole. The strain pole structures will have two stay wires in-line and three stay wires for angle strains, where the line changes direction.

The proposed project will create approximately ten new jobs during the project development phase till peak production, with most employment opportunities reserved for Namibians in line with the proponent's local

recruitment policy. On-site accommodation might be provided i.e. one-bedroom brick house. If deemed necessary, staff will be transported by bus to and from either Otavi or Otjiwarongo (B2Gold, 2020).

Delivery of agriculture material and equipment will require heavy transport vehicles, but no abnormal vehicles are expected. The typical material and equipment to be transported would include sand, stone, cement, bricks, pipes, bulldozer, tractors, ploughs, mowers, etc. Transport vehicles are to make use of the existing roads to the site and must comply with the Namibian transport legislation.

4.3.2 OPERATIONS

The operational phase will require approximately ten staff members, which will include the general farm workers, drivers/implement operators, irrigation technicians and workshop staff.

The following production regime will be followed:

- Seedbed preparation at end September with planting of maize and grass from 10 October
- Cutting and bailing grass as it becomes ready for cutting
- Drying off of maize from beginning April – stop all irrigation of grass and maize
- Seedbed preparation end April for wheat on the same fields that had maize on them
- Planting wheat in May
- Drying off of wheat in August
- Repeat of the above cycle. Only 15ha of grass will be cultivated every year with grains planted on 15ha, 60ha and 120ha in years one, two and three respectively. From year four the grains will always occupy 120ha

Diesel powered machinery will be used for tilling, planting, harvesting cutting and baling, while electricity will drive the pumps and pivots. Bales will be stored on-site while all grain will be removed to the Otavi silos for processing.

4.3.3 WATER SOURCE

The Water Act, No. 54 of 1956 governs the use of water resources in Namibia and is the enforceable legislation for water-related matters. The Water Resources Management Act, No. 11 of 2013, passed, but pending regulations (not currently enforced), provides an improved framework for managing water resources based on the principles of integrated water resource management. While not currently enforced, it is considered to be best practice to adhere to the act while ensuring compliance to the Water Act of 1956 is maintained.

Water will be sourced from three boreholes on the Farm Erhardshof 575 (Figure 4). The volume of water to be used per year at full production is approximately 2.5mil cubic meters. The proponent is in the process of applying for abstraction permits, as required in terms of the Water Act. The permit application has been submitted and the forms can be seen in Appendix C.

4.3.4 BIOMASS MATERIAL

The site will be ripped to a depth of 1m to remove all roots after de-bushing. As a result of clearing the land, a substantial volume of woody biomass will be produced. The intention is for this to be used for bioenergy production by a contractor – firewood or charcoal. All remaining material including stover waste will be incorporated into the soil profile mechanically to increase the organic matter. Where excess stover exists, it will be baled and stored as part of the fodder bank.

4.3.5 PROJECT SCHEDULE

The project is expected to commence in November 2020, once all approvals have been given. An area of approximately 200ha will be de-bushed eventually, starting with 80ha in 2020. The pivots and associated powerlines, pumps, pipelines, etc. will be installed from September to October 2020. The project is earmarked to expand to the final 135ha of irrigated land in future, based on performance and monitoring data gathered in the first growing seasons.

5 ENVIRONMENTAL AND SOCIAL BASELINE

5.1 SOCIO-ECONOMIC ENVIRONMENT

The Otjozondjupa Region is spatially one of the bigger regions of Namibia and is located in the northern half of the country, bordering the Khomas and Omaheke Regions in the south, the Erongo and Kunene Regions in the west and the Oshikoto, Kavango-West and Kavango-East Regions in the north. In the east the region stretches along the international border with Botswana. One of Namibia's national parks, the Waterberg Plateau Park is located in the region.

The economy of the Otjozondjupa Region is predominantly agriculture-based. Extensive livestock farming forms the livelihood of many people, and is one of the reasons for the low intensity land use over much of the 105 460 km² that the region covers. Large parts of the region are covered by freehold and communal farms, mainly used for cattle farming. Guest farms and hunting farms are also common. On both freehold and communal land, bush encroachment decreased the carrying capacity of the farms markedly over the last four decades. The invader bush is managed in several ways, one of which is the production of charcoal for local markets and export. The use of arboricides for control of bush encroachment is also common.

5.1.1 DEMOGRAPHIC PROFILE

Namibia is one of the least densely populated countries in the world (3.2people/km²), with an estimated population of 2.5 million people in 2020. The population growth rate is estimated at 2%, slightly lower than most African countries. It is estimated that 60% of the population falls in the age group 15 – 64, and 36% of the total population is younger than 15. Since 2005 there is a steady improvement in life expectancy, currently estimated at 65 years. In 2018 it was estimated that 50% of all Namibians are urbanized (retrieved from www.worldpopulationreview.com). The last national census was conducted in 2011 and counted 2.1 million Namibians (Namibian Statistics Agency, 2011).

Namibia is divided in 14 regions, subdivided by 121 constituencies. Each region has a regional council, elected during regional elections per constituency. Towns are governed through local authorities, in the form of municipalities.

Otjiwarongo is the capital and also the largest town of the Otjozondjupa Region. Many of the region's head offices are located in the town. Other towns of the region are Grootfontein, Otavi, Okahandja and Okakarara. In 2011 54% of all people living in the Otjozondjupa Region reside in an urban setting (Namibian Statistics Agency, 2011), indicating the relative dominance of rural-based agriculture as source of employment.

The population density of the Otjozondjupa Region is much lower than the national average and the current total population of the region is projected at 160 100 people (retrieved from www.citypopulation.de). In 2011 the population of Otjiwarongo was 28 249 people and with a growth rate of 3.0%. The current estimated population is more than 35 000 residents. Otjiherero is the most widely spoken language in the region.

The presence of the Otjikoto Project of B2Gold has brought employment and skills development at the local and regional level, which had a knock-on effect in terms of reducing income inequality, increasing job creation and economic growth in Otjiwarongo, and in the Otjozondjupa Region. There is good reason to believe that the mine has significantly influenced the demographics of the Otjozondjupa Region, and more particularly Otjiwarongo by means of regional immigration since the last national census in 2011. As the regional capital Otjiwarongo has seen several new government offices establishing here during the last few years, closely coupled to the recent growth in economic activity and increase in population size.

5.1.2 EMPLOYMENT

Otjozondjupa's labour force participation rate was more than 76.8%, compared to the average of 71.2% for Namibia. Hereof, more than half of the people were employed in the private sector and about one-quarter by the state. Agriculture is the economic sector with the most employees – about 30%, while 40% of those employed fell in the occupational group of general labourers and other unskilled occupations. Wages and salaries represented the income source of 61.7% of households (Namibian Statistics Agency, 2018). As a whole the region was marked by low education levels, which affected employability and prevented many households to earn a higher income. The unemployment rate in the Otjozondjupa region is 36.1%, while the unemployment rate for people between 15 and 34 years of age was 47.4% in 2018, slightly higher than the national average of 46.1% (Namibian Statistics Agency, 2018).

5.1.3 CULTURAL HERITAGE

A review of the National Heritage Council database was conducted, and no known heritage sites were identified in the project area. No indication of the possible existence of such sites were found during the site visit by the author. In cases where heritage sites are discovered during bush clearing, a chance find procedure will be used to document and manage the site.

5.1.4 CLIMATE AND TOPOGRAPHY

In general, Namibia can be described as a country with an arid environment, which receives approximately 300 days of sunshine per annum.

The Otjikoto Agricultural Project is in an area that receives about 350 – 450 mm of rain per year, with a variation coefficient of about 30%, meaning that rainfall is fairly unpredictable. Rainfall events are limited to the summer months, mainly between December and March, in the form of sudden thunderstorms, often associated with heavy downpours. Evaporation is approximately 2 000 mm per year. Relative humidity is low, rarely exceeding 20% in winter, but may reach 85% in summer before or after thunderstorms. Maximum temperatures average around 32 – 34°C, mainly recorded during the afternoons between December and February, while minimum temperatures are around 4 – 6°C and are normally recorded during nights in June and July. Occasional frost can occur (Mendelsohn J., 2002).

The dominant wind direction is from the east and north-east, with average speeds of around 1.7 meter per second (FIGURE 6) (Iowa State University, 2020). The topography of the area is flat, varying between 1 593m and 1 462m above mean sea level as indicated in FIGURE 7 (Namibia Statistics Agency, 2014).

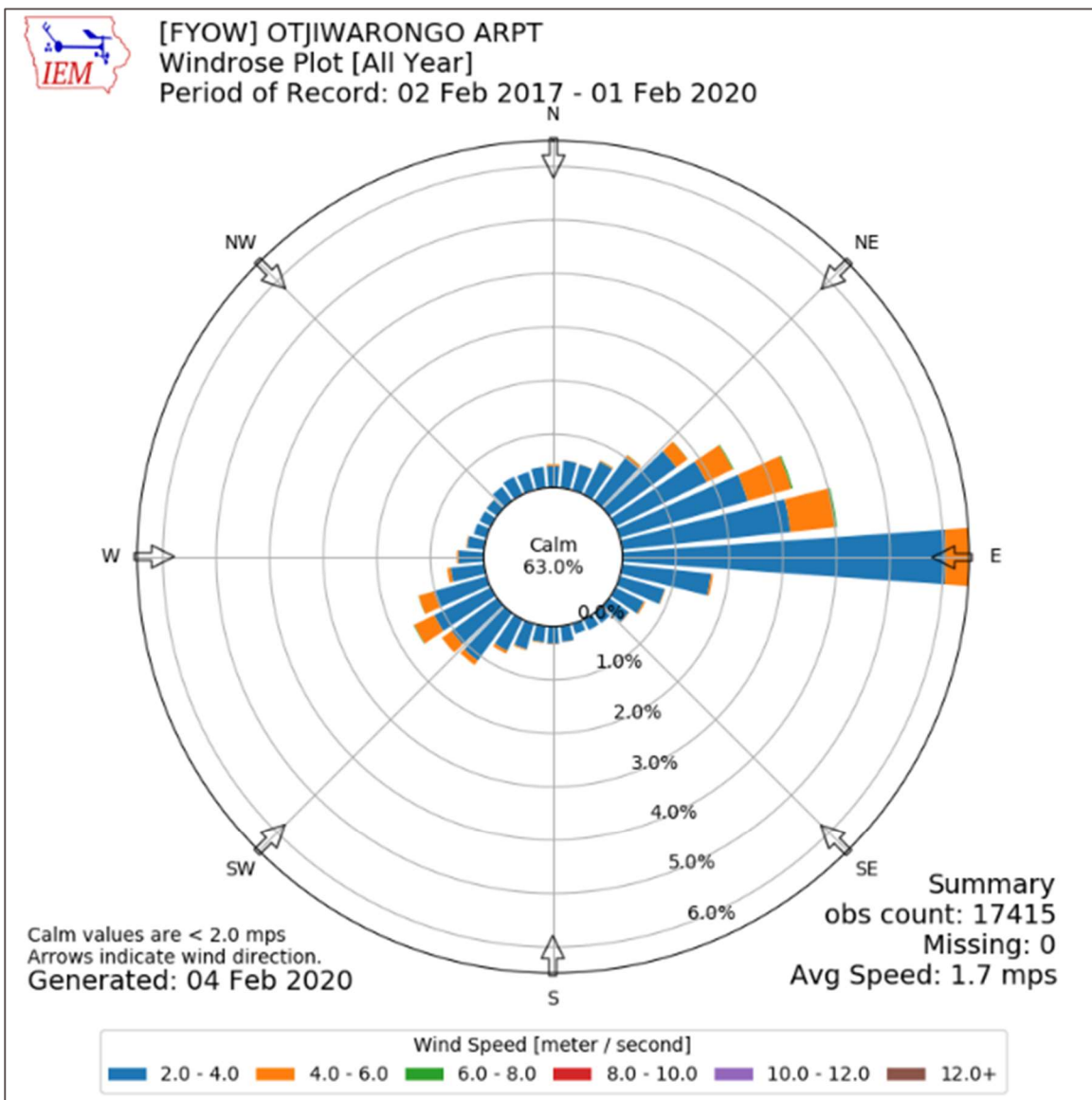


FIGURE 6 – A WINDROSE INDICATING WIND DIRECTION IN THE AREA OF THE PROPOSED PROJECT (IOWA STATE UNIVERSITY, 2020)

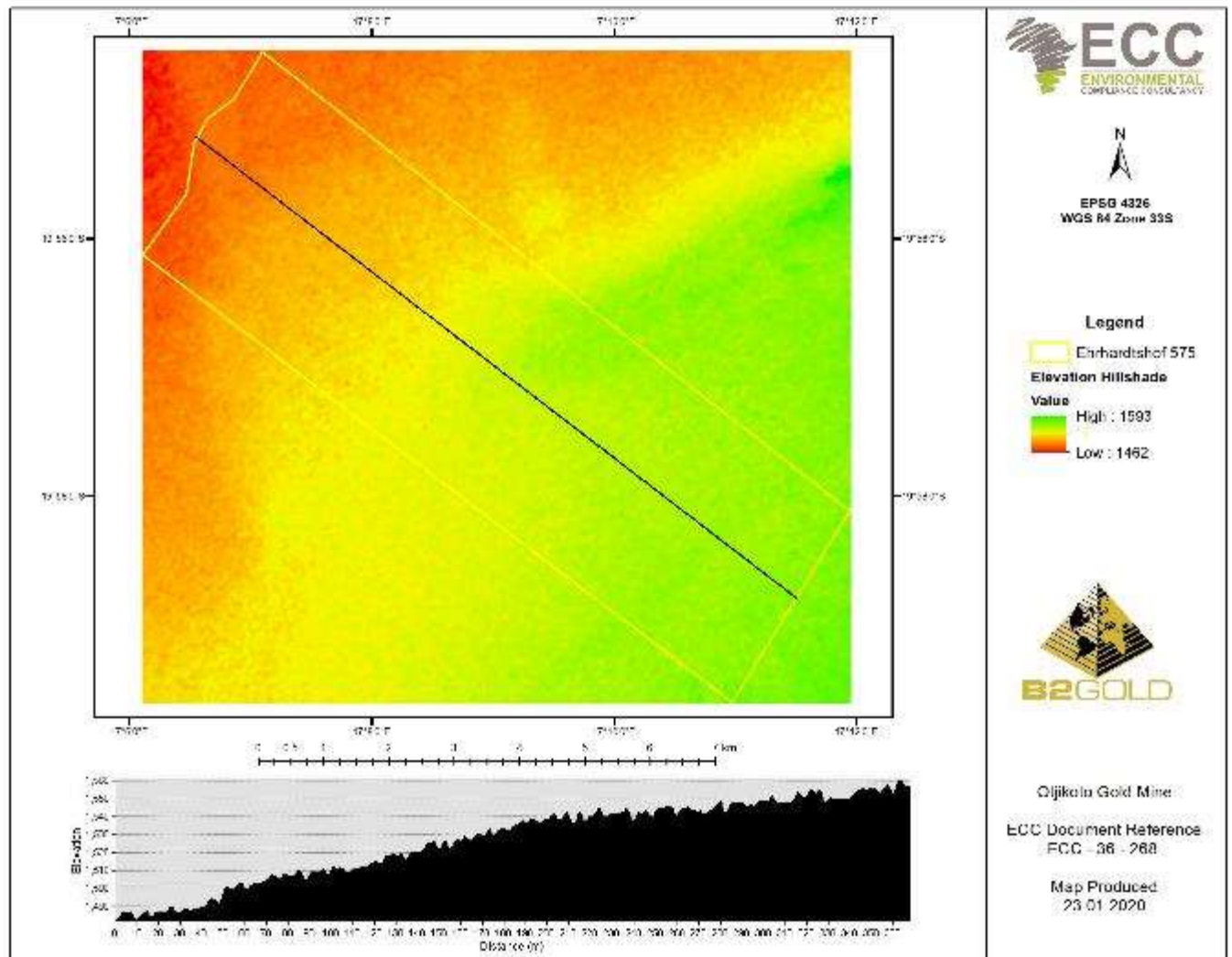


FIGURE 7 – A MAP INDICATING THE TOPOGRAPHY/ELEVATION CHANGES OF THE PROPOSED PROJECT AREA, WITH A SECTION ALONG THE BLACK LINE (ADAPTED FROM NAMIBIA STATISTICS AGENCY, 2014)

5.2 VEGETATION AND SOIL

Vegetation in the region near the site comprises thorn bush and highland savannah (Tree-and-shrub savannah biome), dominated by thorny Acacia species and grasses (FIGURE 8). The vegetation cover alternates between relatively dense grassy and herbaceous vegetation, with small patches of woody vegetation and areas with a higher shrub coverage. Woody vegetation becomes dominant along the riverbeds, while the plains and foothills of the mountains tend to be more open with some bush encroachment (Jurgens, Schmiedel, & Hoffman, 2010).

The general area has a thin soil cover (sand) and supports a thorn bush savannah. The soil is susceptible to erosion during the rainy season (Jurgens, Schmiedel, & Hoffman, 2010). The soil type in the area is dominated by combisols and lithic leptosols in the north western part of the farm (FIGURE 9).

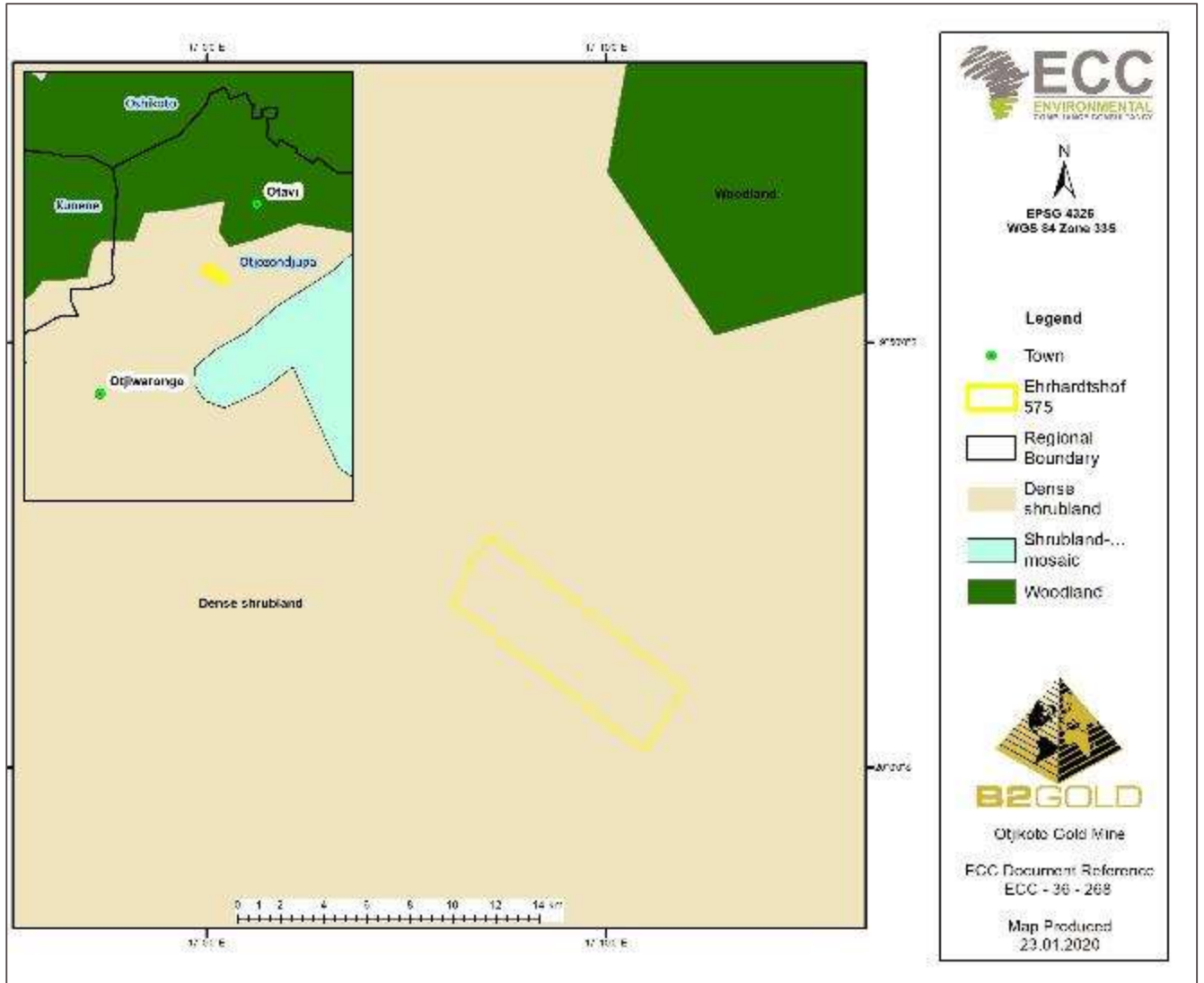


FIGURE 8 – A MAP INDICATING THE VEGETATION STRUCTURE ACROSS THE PROPOSED PROJECT (ADAPTED FROM NAMIBIA STATISTICS AGENCY, 2014)

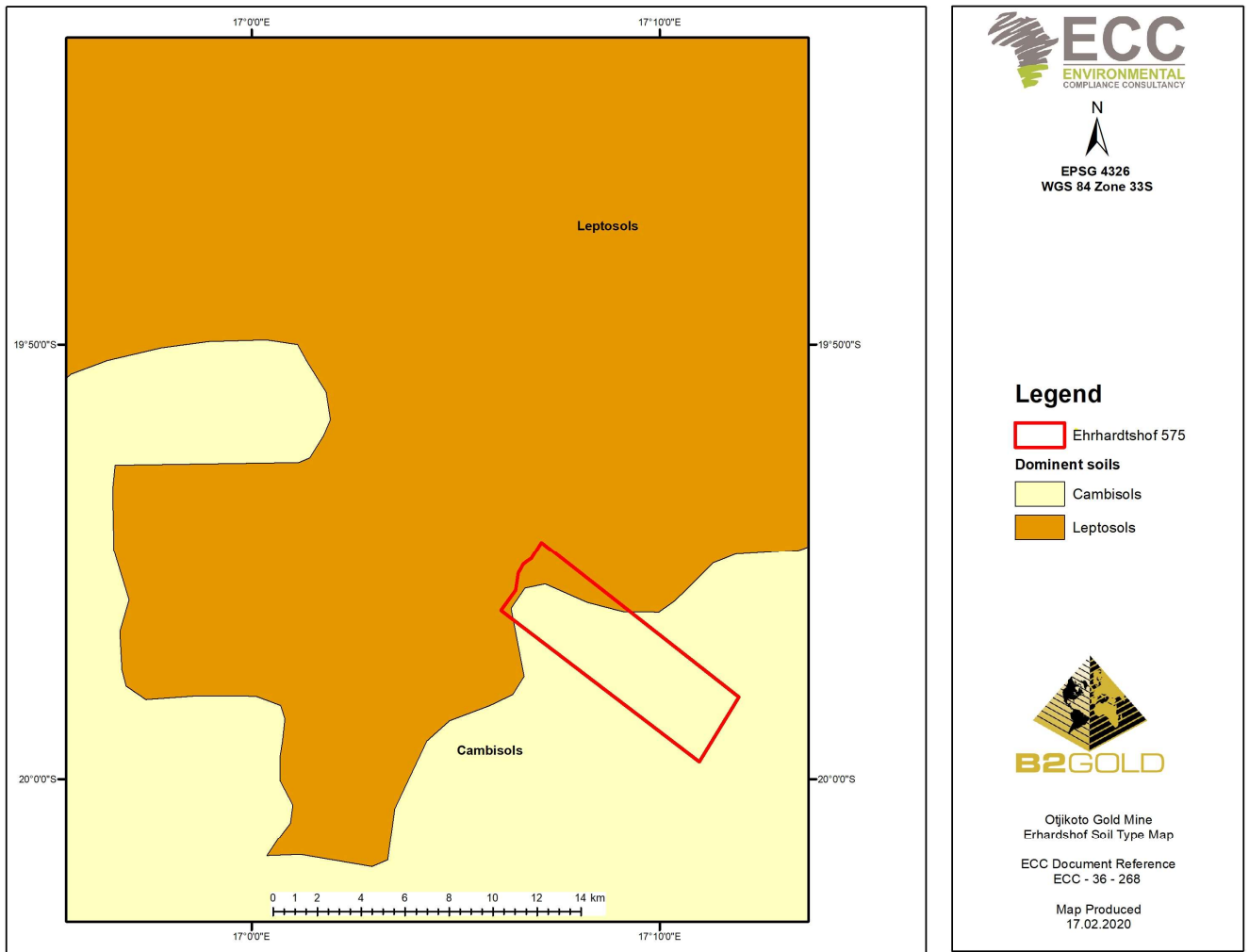


FIGURE 9 – A MAP INDICATING THE SOIL TYPES OF THE PROPOSED PROJECT (ADAPTED FROM NAMIBIA STATISTICS AGENCY, 2014)

5.3 FAUNA SPECIES

Overall terrestrial biodiversity of the western part of the Otjozondjupa Region ranges from medium to high. The number of mammal species ranges between 61 and 75; the number of bird species is between 171 and 200; with 71 to 80 reptile species; 12 to 15 frog species; and 12 to 13 scorpion species that could be expected (Mendelsohn et al, 2002). On a local scale it is expected that diversity increases with the increase in habitats, which is closely coupled to shelter, food and water availability as well as migration routes. Elevation and drainage channel play a prominent role in this regard and is directly related to the increase in terrestrial diversity.

The site has very low habitat diversity and is dominated by severe bush encroachment, which gives rise to a very low occurrence of faunal diversity.

5.4 AVIFAUNA DIVERSITY

A relatively high diversity of bird species has been recorded in the study area and surrounds, with a total of 217 species, or 32% of the 676 species currently recorded in Namibia; however, the birdlife of the area is not well documented in parts. The field trip for the bird study also took place under drought conditions, when the bird diversity observed was fairly low. To address these limitations, data from several sources were combined for an overall checklist.

The study area falls within the Tree-and-shrub Savanna biome, with heavily bush-encroached Thornbush Shrubland, dominated by Acacia tree and bush species. Three main avifauna habitats in the area include farmland on the plains; (mainly ephemeral) aquatic habitats; and the agricultural irrigated habitats that will be created. On farmland, larger trees (mainly *Acacia luederitzii*) provide nesting habitats for large raptors, including at least eight known active nests for White-backed Vultures; the more open habitats are used by Kori Bustard; and accessible watering points are used by many kinds of birds. The group of aquatic habitats includes a system of shallow ephemeral pans, and earth dams, that are reported to hold water regularly during the rainy season, when many water birds may move into the area. On the adjacent B2Gold Mine property, a large ephemeral pan on the nature reserve section is also reported to hold water during the rainy season, while a large (perennial) sewage pond and tailings dam are situated on or near the main entrance road to the mine; these habitats also attract a variety of water birds (Scott & Scott, 2020).

The checklist includes 18 species (9% of the total) that are threatened in Namibia (and comprising 25% of the 71 species on the Namibian Red Data List); eleven of the 18 species are also Globally Threatened. In particular, the adjacent Waterberg area is well known for its populations of several species of threatened vultures and other raptors. Satellite tracking data indicate that Cape Vultures (now rare) have regularly visited the study area in the past and perched/roosted on the existing 220 kV Gerus-Otjikoto power line in the past, a behaviour that could increase the risk of collisions on power lines (Scott & Scott, 2020). An avifauna baseline assessment for the 11 kV distribution power line for the proposed Otjikoto agricultural project, Otjiwarongo has been conducted (refer to Appendix H) for more information.

5.5 SITE GEOLOGY

The Otjikoto Agricultural Project area is predominantly underlain by lithologies belonging to the Neoproterozoic Swakop Group of the Damara Orogen (FIGURE 10.) Swakop Subgroup strata underlie the

project area comprising mica schists of the Kuiseb Formation, marble of the Karibib Formation intruded by Salem Suite granites (AGES, 2012). Most of the region is covered by a thick layer of calcrete, transported sand (Kalahari Group) and soil (B2Gold Corp. Otjikoto Gold Project, 2013).

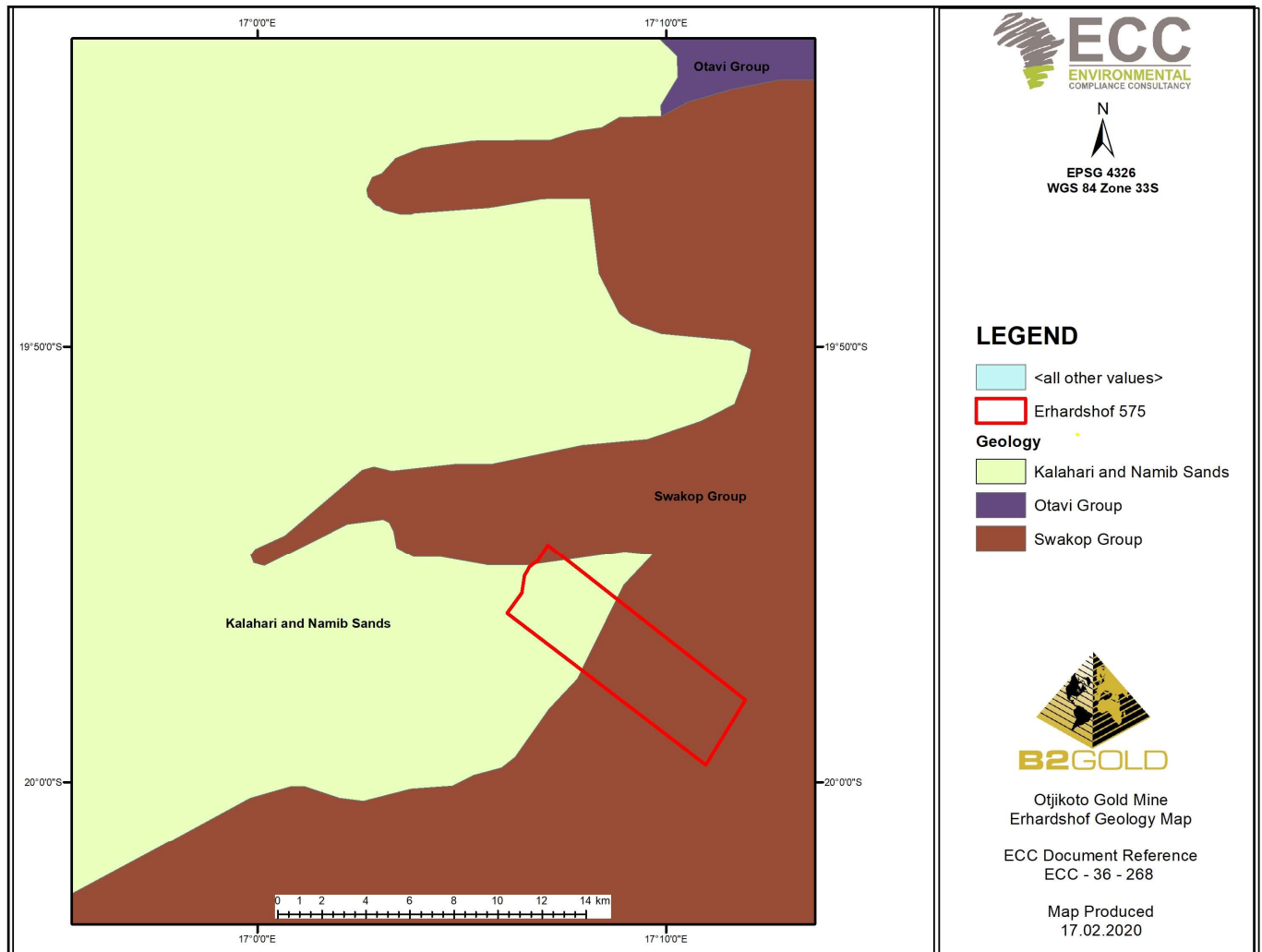


FIGURE 10 – A MAP INDICATING THE GEOLOGY OF THE PROPOSED PROJECT (ADAPTED FROM NAMIBIA STATISTICS AGENCY, 2014)

5.6 SURFACE WATER AND GROUNDWATER

The Otjiwarongo Marble Aquifer (OMA) is situated approximately 10 km to the south west of the site and partially on Roebersfarm and supplies water to the Omarassa Otjiwarongo Water Scheme that supplies water to the town of Otjiwarongo (AGES, 2012).

The dominant lithology in this aquifer is marble and undifferentiated calcareous units and schists (Seimons 1989 as cited in AGES, 2012). Water in the Otjiwarongo Marble Aquifer is contained in solution cavities and fissures in the marbles. According to the report (AGES, 2012) the area is situated on the eastern margin of the Platveld Basin of which the dominant geology consists of quartz-biotite schists as well as calcitic and

dolomitic marble. This aquifer is also a sole source groundwater unit as groundwater is the only option for farmers. The approximate average yield of boreholes in the study area is 175 m³/d (Seimons 1989, AGES, 2008 as cited in AGES, 2012).

5.6.1 PLATVELD BASIN

The Platveld Basin and is considered to be part of the main recharge area from where the groundwater flow is directed towards the basin centre. In FIGURE 11 the groundwater contours in depths to water levels are illustrated. The interpolation of water levels and groundwater head contouring was done using data gathered from a borehole data set used in the Platveld study of Department of Water Affairs (DWA), and water level measurements conducted by AGES and SLR Namibia during hydrocensus activities in the years 2008 and 2011, respectively (BiWAC (SLR) as cited in AGES, 2012).

The aquifer system of the study area consists of three major units: The marbles of the Karibib Formation, the surrounding and underlying quartz biotite and graphitic schists of the Okonguarri Formation and the calcrete layer on top of the Okonguarri Formation. The marbles of the Karibib Formation are strati-graphically and structurally embedded within the quartz-biotite and graphitic schists of the Okonguarri and Kuiseb Formations. This implies that the marble and the evolved groundwater system are enclosed and bordered by relatively impervious rock units with decisive different geological and hydrogeological characteristics. As illustrated by dense groundwater contour lines in FIGURE 11. The gradient is relatively steep on either side of the B1 main road from Otjiwarongo to Otavi, where less permeable rock types occur. The flow gradient is flat within the Karibib Marble aquifer, indicating continuous aquifer conditions and higher permeabilities, also confirmed by test pumping results. Groundwater flow within the Karibib Marble aquifer is predominantly from north-east to the south-west, parallel to the strike of the marble outcrop. In the biotite and graphitic schists, the flow is directed with a steep gradient across the geological strikes in a north-western direction towards the Platveld basin centre. In general, deep water levels can be found in the marbles located in the north-eastern part of the proposed model domain due to high topographical elevations (BiWAC (SLR) as cited in AGES, 2012).

The surface run-off in the area drains to the west and north-west as can be seen in Figure 12.

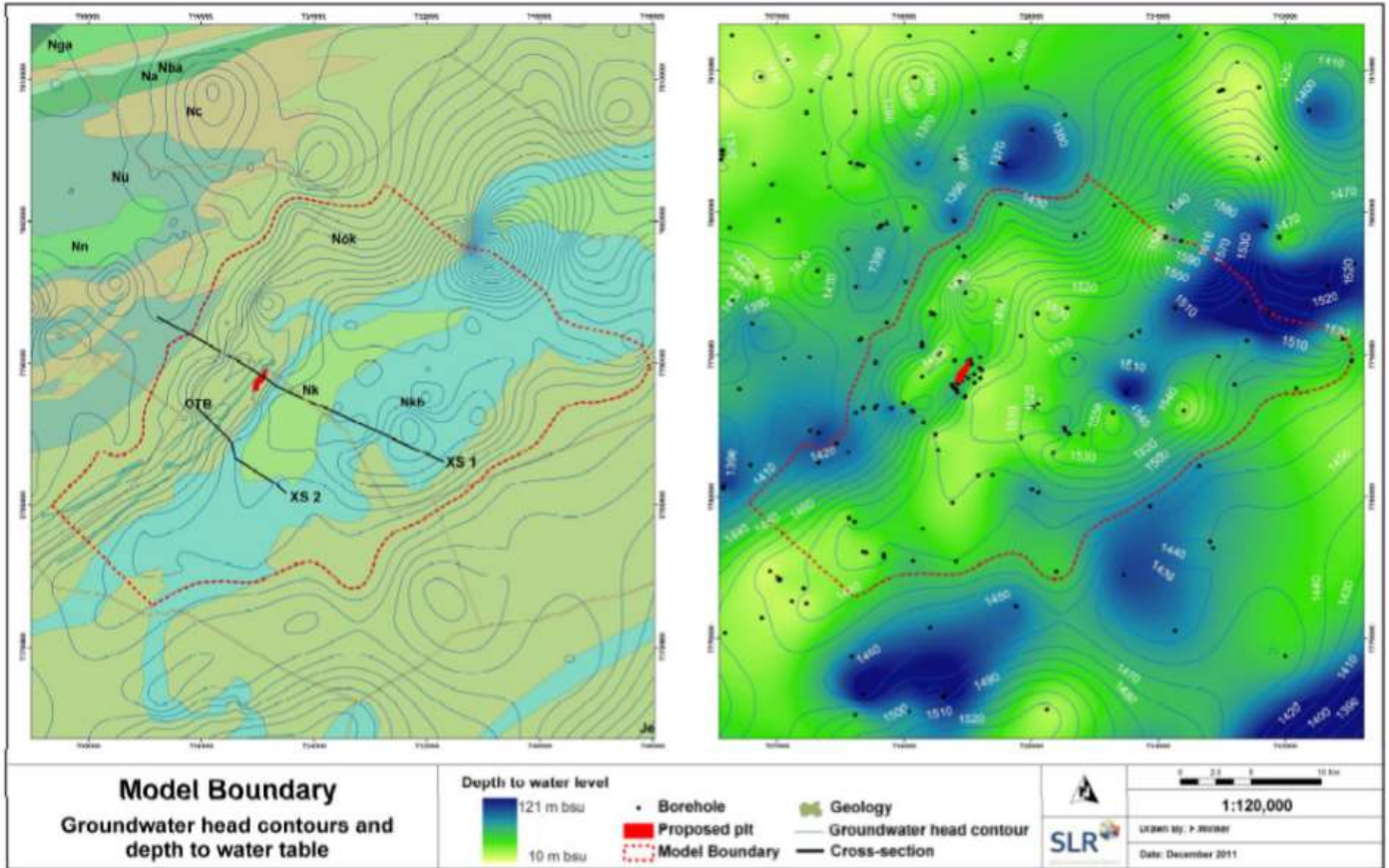


FIGURE 11 – GROUNDWATER CONTOURS AND DEPTH TO GROUNDWATER (BIWAC (SLR) IN AGES, 2012)

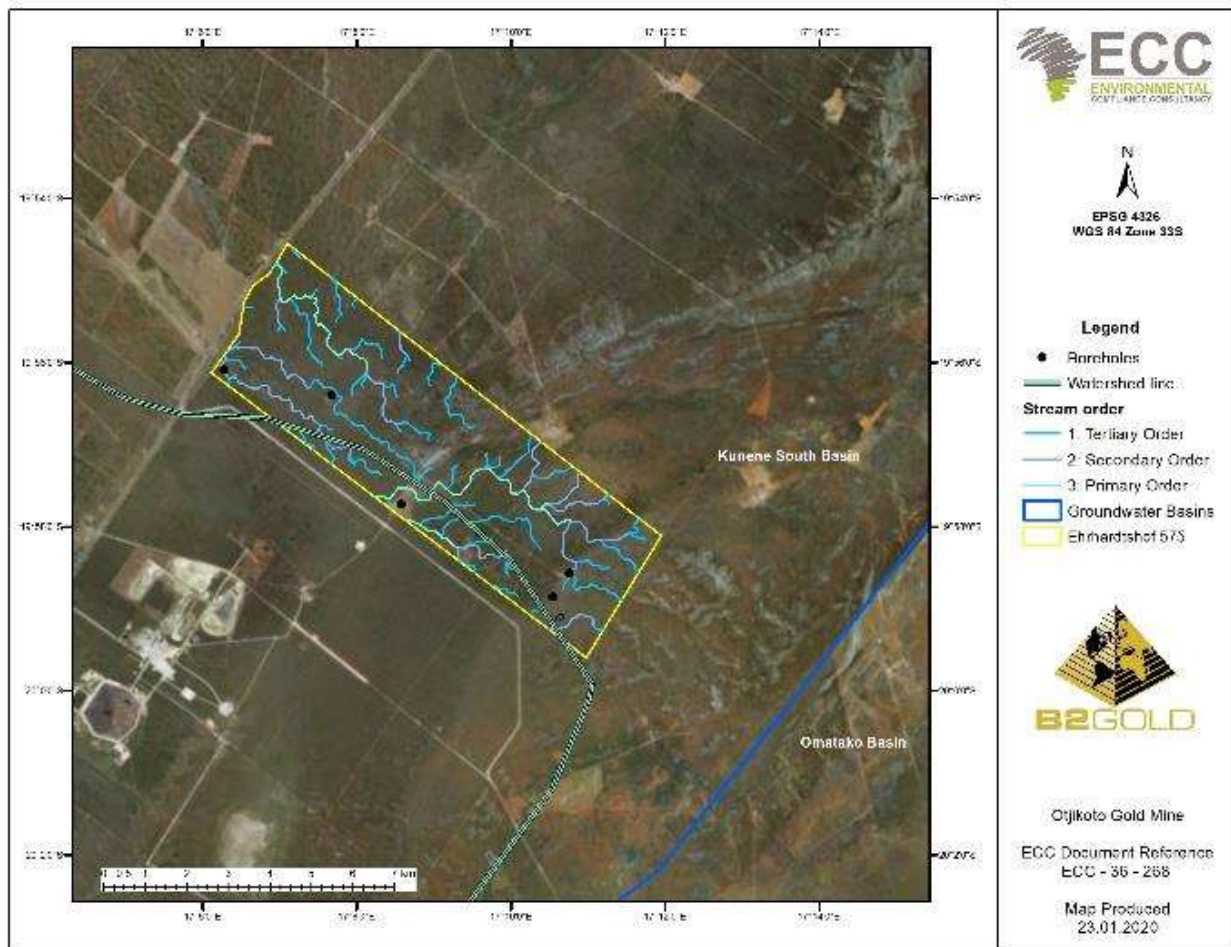


FIGURE 12– A SATELLITE IMAGE SHOWING THE HYDROLOGY OF THE PROPOSED AREA (ADAPTED FROM NAMIBIA STATISTICS AGENCY, 2014)

5.6.2 GROUNDWATER MODEL UPDATE

Due to the Otjikoto Gold Mine currently expanding into an underground mining section and its associated dewatering impacts that will have a cumulative impact together with abstraction of groundwater for the irrigation project, an update of the local and regional groundwater models were done. Itasca Africa did the updates on the model using the most recent groundwater monitoring data from the mine. A summary of the technical note by Itasca Africa follows. The full note can be viewed in Appendix I.

The following important information applies to the underground development and the groundwater model development for the irrigation project:

- The proposed cumulative abstraction rate from the irrigation scheme was reported at 2.5 million m³/a (6 912 m³/d) at any given moment. For the purpose of this assessment it was assumed that each borehole can yield 27 L/s
- It was assumed that the irrigation scheme will extend over a 10-year period for the initial assessment and can be updated for longer periods once more information is available

- The boreholes were drilled into the Karibib Marble, dolostone and lime formations, which is a prominent major aquifer system that supplies most of the groundwater to surrounding groundwater users
- Current pit dewatering at the B2Gold mine includes abstraction from one borehole PD01 at 150m³/Hr which maintains the groundwater level at 130 to 140 meters below ground level (mbgl) (approximately 1 350 meters above sea level (mamsl)). The abstraction is mainly from the underlying marble although hydraulic connectivity between the mine marbles and the Karabib marble formation can occur
- The total future underground mine development will include an area of approximately 10ha and ranging in depth from 1 263 mamsl at the northern boundary to 1 135 mamsl towards the southern boundary. The underground development will reach a maximum depth of approximately 380mbgl. The model considers a maximum depth of 655mbgl as a conservative approach
- The proposed underground development will extend over a period of 6 years which includes the entrance and decline development for the first 21 months.

5.6.2.1. AQUIFER TESTING AND PARAMETERS

The irrigation boreholes are situated approximately 8 km east of the B2Gold mining area. The required abstraction rate from these holes for the irrigation scheme was reported at 2.5 million m³/a (6 912 m³/d). Drillers reports indicated that they were drilled in marble formation and blow yields range between 80 m³/Hr to 200 m³/Hr.

The average depth of the boreholes is 122mbgl and the average static water levels from these holes is 25 mbgl. Assuming that the test pump inlet was installed at 100mbgl, then the average available drawdown for abstraction is 75m. Abstraction for the pump tests took place at an average rate of 1 680m³/d. The total cumulative abstraction for the individual pump test is 5 040m³/d. This implies that the pump tests were conducted at 73% of the required yield and as they were not pumped simultaneously the overlapping impact between boreholes must be taken into consideration.

The average pump test duration was 80 hours after which an average drawdown of 36m was reached which implies that 48% of available drawdown was reached after approximately 3.5 days of abstraction at 70% of the required abstraction rate. The average recovery was 8.9m deeper than the pre-test static water level. Estimated average hydraulic conductivities from the pump test analysis is 0.7m/d for the marble, dolostone, lime formations of the Karibib.

The total abstraction rates from all the abstraction boreholes at the mine as monitored for 2019 are 8 017.8 m³/d with the maximum abstraction rate measured at the main dewatering borehole, PD01, abstracting 2 368.9 m³/d.

The pump test results showed that BH03 had a longer period to deplete wellbore storage and also had a more stable matrix flow than BH02 and BH01. BH01 did not recover at all and BH02 and BH03 recovered over a 33-hour period.

5.6.2.2. IRRIGATION BOREHOLE WATER QUALITY

Samples were collected from the recently drilled irrigation boreholes and compared to the hydrochemistry of the mine concession boreholes. The majority of the hydrochemical parameters are comparable between

the Karibib boreholes, Okonguarri boreholes and the irrigation boreholes. Both the pH and Electrical Conductivity (EC) of the irrigation boreholes are similar to the Okonguarri and Karibib boreholes, however the Karibib and Okonguarri boreholes have higher mean concentrations for sulphate, chloride and nitrate. Whereas the irrigation boreholes have higher mean concentrations for calcium and fluoride.

The major cations and anions (in %meq/L) for the Okonguarri, Karibib and Irrigation borehole samples are plotted on a Piper diagram as shown in the Figure 13 below. A piper diagram is used to classify the samples in terms of their chemical signature and identify mixing between different sources and changes in composition along flow paths. Both the Karibib and irrigation boreholes plot on the left-hand side of the piper diagram, with the dominant cation and anions being Ca and HCO₃ respectively. Whereas the Okonguarri boreholes plot in various fields on the piper diagram, with 2 trends developing. The first trend is towards the upper apex of the diagram, which is indicative of mining activity due to an increase in concentration of salts (sulphate, chloride, etc). The second trend is towards the lower apex of the diagram, which is indicative of natural ion exchange within older deeper groundwater in the Okonguarri formation. Thus, it is largely suspected that the irrigation boreholes are abstracting water from the Karibib marble, as these samples have a similar chemical signature to the samples collected from the Karibib boreholes.

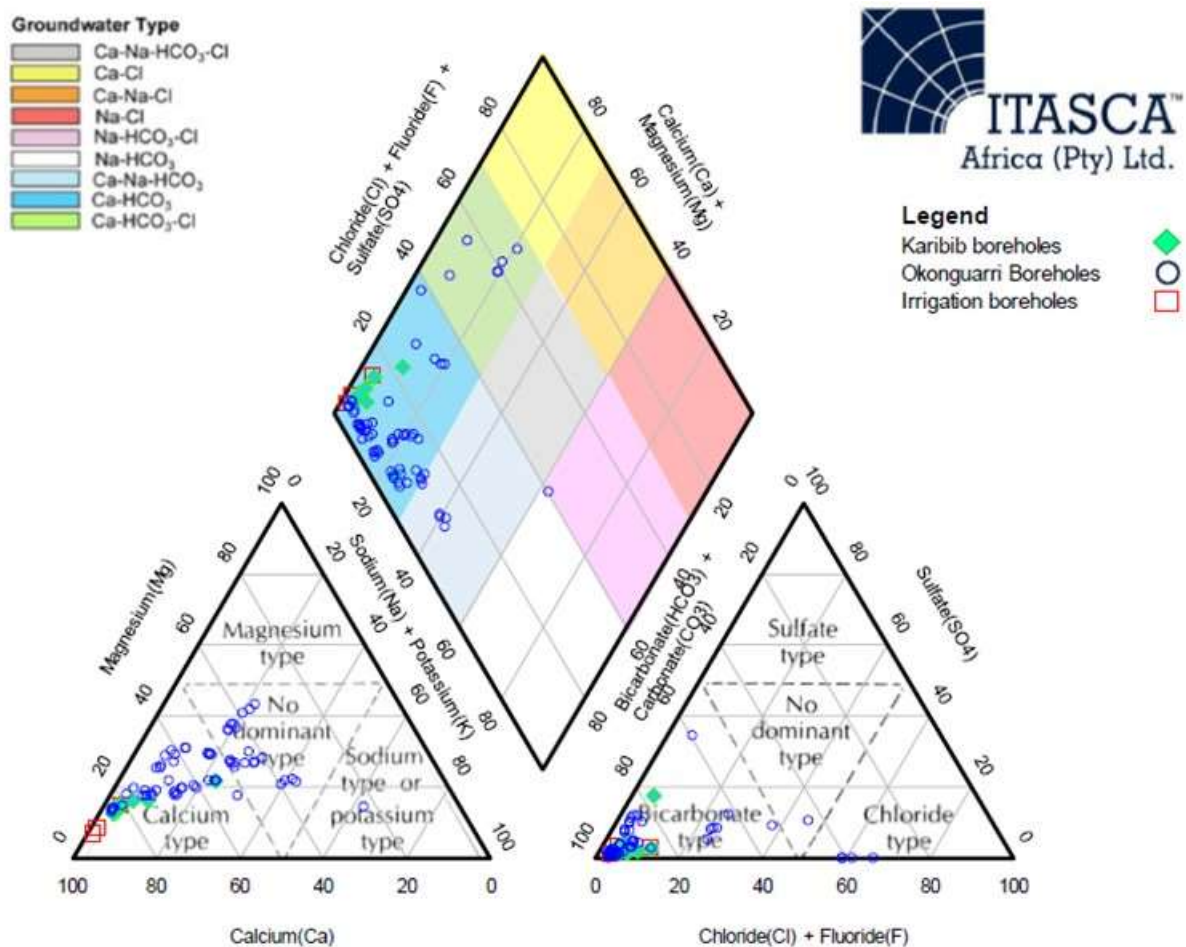


FIGURE 13 – A PIPER DIAGRAM OF THE OKONGUARRI, KARIBIB AND IRRIGATION BOREHOLES (ITASCA, 2020)

5.6.2.3. MODEL CALIBRATION

The steady state flow calibration was conducted with model input parameters, mainly permeability and recharge, to obtain a good fit with recently measured aquifer properties, including groundwater levels from monitoring points. Recharge were increased for calibration purposes and the hydraulic conductivity were kept the same as the 2018 model input to obtain precision from the simulated water levels and representing the real aquifer conditions prior to any mining activities.

The measured field hydraulic head observations compared to topographical elevation indicates a 68% correlation implying a dynamic aquifer system which is probably due to the dewatering and abstraction from both the mine and surrounding groundwater users in this area. The water levels in and around the mine site indicates deeper water levels at lower elevation, which indicates the effect of dewatering from the mine. The steady state conditions were reached when the measured hydraulic head and simulated hydraulic head correlated at 64% and mean absolute error measured at 23m.

The groundwater balance indicated that roughly 34 600 m³/d are coming in from recharge to the aquifer systems. The positive flux assigned to the Stockpile and Waste Rock Dump facilities also contribute around 48m³/d to the aquifer systems. When abstraction from the current mine boreholes and the surrounding groundwater users (assumed to be 864m³/d) are taken into account, then at least 25 800m³/d are still in storage in the groundwater system.

5.6.2.4. SCENARIO SIMULATIONS

The scenario simulations were conducted in steady state to ensure the worst case in terms of impacts due to abstraction from the irrigation boreholes as well as the future underground mine development. The steady state conditions also ensured model stability due to the limited dimensions of the model domain and the dynamic nature of the marble aquifer that could create drawdown over a regional area.

5.6.2.5. GROUNDWATER MODEL RESULTS

Four scenario simulations were run in the model: Only abstraction from the underground mine; abstraction from the underground mine plus abstraction at 2.5mil m³/a for irrigation; abstraction from the underground mine plus 0.95mil m³/a abstraction for irrigation (30%) of the planned abstraction rate; and abstraction from the underground mine plus 20% of the planned abstraction rate for irrigation. The following was found:

- The current mine dewatering drawdown impact extends roughly 2km around the mining area with and increased extent towards the south of 4km. The maximum drawdown depth is estimated at 179 meters below static water level (mbwl). An estimated 25 800m³/d is still available in storage taking into account abstraction from mine dewatering (8 017m³/d) and abstraction from the surrounding groundwater users (864m³/d). The recharge coming into the system was estimated at 34 600m³/d.
- The future underground mine development could have a drawdown impact extending roughly 3km to 6 km and reach a depth of between 150mbgl to 170mbgl. An estimated 16 650m³/d of groundwater is abstracted from the mine borehole for water supply to the mine. The remaining available rate in storage is 17 100m³/d. These results indicate that although the aquifer system may not be stressed, the drawdown impact may influence some of the surrounding groundwater users.
- If irrigation takes place at the required 2.5 million m³/a in conjunction with the underground mining operations then the drawdown impact will be far reaching with increased extension (up to 12 km)

towards the east of the abstraction areas. The drawdown depth estimated at the irrigation boreholes can drop to 120mbgl, which is assumed to be the pump installation depth. The remaining available groundwater in storage was estimated at 10 700m³/d which would imply that the aquifer is still not under stress; however, the impact zone could affect the surrounding groundwater users.

- Abstraction at 30% of the required rate (0.95 million m³/a) will reduce the drawdown impact by almost half the distance and drawdown depth will only reach approximately 50mbgl, which is safer in terms of pump installation depth at 100mbgl is considered. The remaining rate in storage were estimated at 14 750m³/d. This observation implies a more sustainable approach to groundwater abstraction; however, some groundwater users could still be impacted.
- Abstracting at 20 % of the required irrigation rate (0.5 million m³/d) will reduce the drawdown impact to 6 km and ensure at least 15 950m³/d remains in storage. The maximum drawdown depth reaches 30mbgl at the irrigation boreholes.

5.6.2.6. MINEDW COMPARATIVE SIMULATIONS

An additional predictive simulation was undertaken in transient state using the MINEDW numerical groundwater model developed and updated in 2019 for comparison with the FEFLOW model results. The predictive simulation was undertaken to evaluate the cumulative drawdown resulting from the pit and underground workings dewatering as well as the pumping boreholes including the proposed agricultural irrigation boreholes.

The results can be observed in Figure 14 and show that the drawdown will extend further than the 2019 results (purple contours) and result in a drop in the water levels around the pits and underground development by a maximum of approximately 340m in December 2026. The drawdown at the agricultural irrigation boreholes is predicted to be a maximum of approximately 26m by the end of mining in December 2026. The resulting drawdown contours extends to 15 km towards the south west and could extend up to 20 km eastwards.

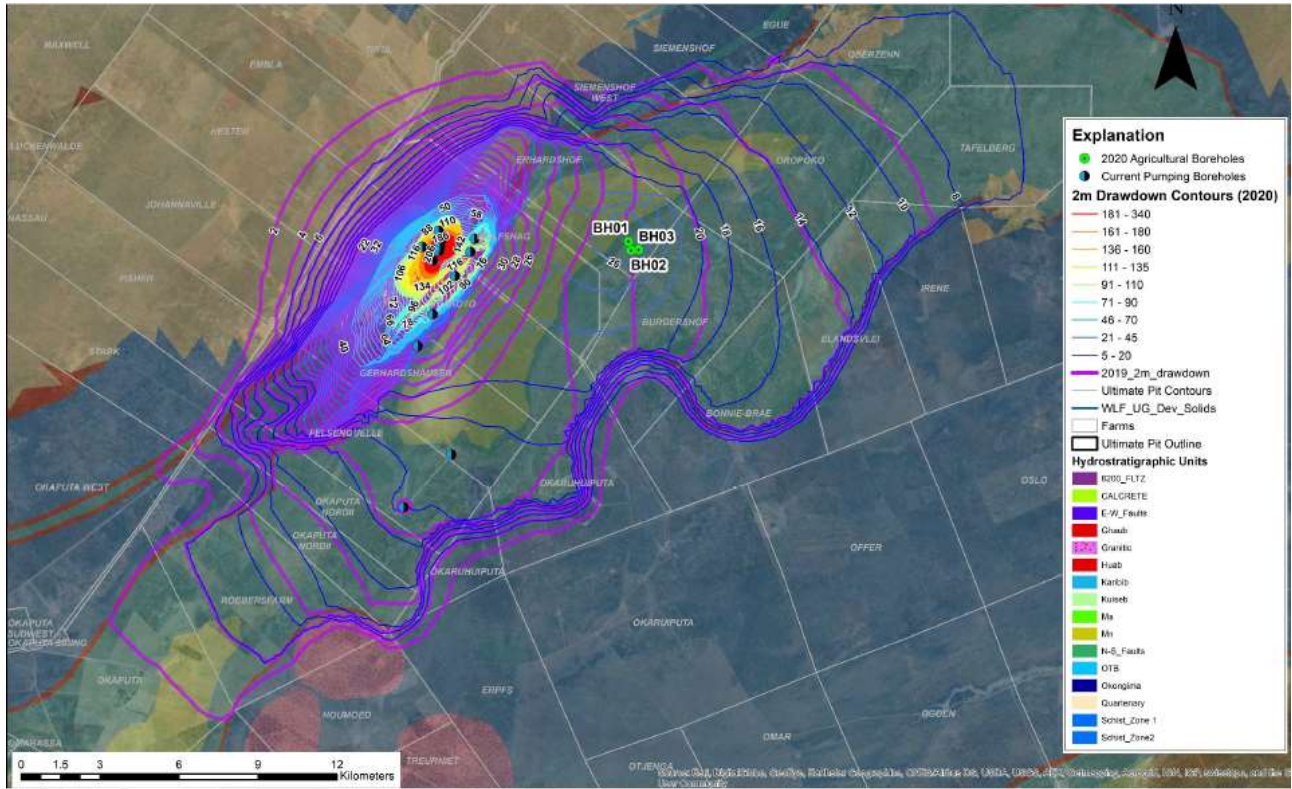


FIGURE 14 – A SATELLITE IMAGE OVERLAIN BY THE GROUNDWATER DRAWDOWN CONTOURS FOR ABSTRACTION OF THE IRRIGATION WATER AND MINE DEWATERING OF THE UNDERGROUND SECTION (ITASCA, 2020)

The MINEDW results are within the same order as the FEFLOW results in terms of the extent of drawdown contours and serves to validate the presented results.

6 ASSESSMENT FINDINGS AND MITIGATION

6.1 SCOPING ASSESSMENT FINDINGS

When undertaking the scoping exercise, the design of the proposed project and best practice measures were considered to ensure the likely significant effects and any required additional mitigation measures, were identified. The following topics were considered during the scoping phase:

- Surface water and groundwater
- Soils and geology
- Landscape
- Socioeconomics
- Ecology (fauna & flora)
- Cultural Heritage and Palaeontology resources

Table 18 sets out the findings of the scoping assessment phase. Activities that could be the source of an impact have been listed, followed by receptors that could be affected and then the potential effect/s. The pathway between the source and the receptor has been identified where both are present. Where an activity and/or receptor have not been identified, an impact is unlikely, thus no further assessment or justification provided. Where the activity, receptor, and pathway have been identified, a justification has been provided documenting if further assessment is required or not required.

6.1.1 IMPACTS NOT CONSIDERED AS SIGNIFICANT

As a result of an iterative development process, mitigation has been incorporated and embedded into the project, thereby designing out potential environmental and social impacts or reducing the potential impact so that it is not significant. Best practice has also played a role in avoiding or reducing potential impacts. The EMP provides best practice measures, management, and monitoring for all impacts.

Impacts that have been assessed as not being significant are summarised in Table 17 and not discussed further.

TABLE 17 – A LIST OF IMPACTS NOT CONSIDERED SIGNIFICANT FOR THE OTJIKOTO AGRICULTURAL PROJECT

ENVIRONMENT OR SOCIAL TOPIC	POTENTIAL IMPACT	SUMMARY OF ASSESSMENT FINDINGS
Cultural heritage	Potential to uncover heritage remains during project activities.	Findings are unlikely as the site has been studied and known heritage sites are already mapped and protected for the project area. The site also has a chance find procedure in place; in the very unlikely event a heritage item is discovered, this procedure will be followed.
Climate change – adaptation	The project will definitely be impacted on by changes in climatic conditions. Such changes will include increased drought intensity and severity as well intermittent flooding.	The proposed project could be affected by climate change only in the long term. Should there be no rainfall for extended periods in the area and drought prevails over the area, groundwater recharge is lower, making available water for the agricultural project less. Model updates for the groundwater

ENVIRONMENT OR SOCIAL TOPIC	POTENTIAL IMPACT	SUMMARY OF ASSESSMENT FINDINGS
		system will give more details on potential impacts, though it currently will be insignificant and very little reliable climate change model data is available for these models to be a value.
Air quality	Potential for significant air quality impacts are low.	Impacts will be similar to those for current farming practices in the area.
Noise	Noise impacts will not be significant.	Impacts will be similar to those for current farming practices in the area.
Visual	No significant visual impacts are expected.	The site will be screened from observation by bush and trees on all sides.

TABLE 18 – A LIST OF THE FINDINGS OF THE SCOPING ASSESSMENT

DESCRIPTION OF ACTIVITY	RECEPTOR	DESCRIPTION OF IMPACTS	NATURE OF IMPACT	VALUE AND SENSITIVITY	SIGNIFICANCE OF IMPACT	MITIGATION MEASURES	Residual impact
Vegetation clearing for construction of pipelines, power lines, etc.	Terrestrial ecology and biodiversity	Increase in clearing of vegetation through the process of expanding land for irrigation agriculture can cause loss of habitat and is likely to lead to loss of biodiversity	Adverse (Negative) Direct Reversible Moderate Short term Onsite	Moderate (negative) 50 - 75	Moderate (6)	<ul style="list-style-type: none"> - The unnecessary clearing of vegetation, particularly of indigenous trees needs to be avoided - Avoid sensitive ecological areas - Where possible, buffer the special, sensitive and ecologically important habitats 	Low (2)

DESCRIPTION OF ACTIVITY	RECEPTOR	DESCRIPTION OF IMPACTS	NATURE OF IMPACT	VALUE AND SENSITIVITY	SIGNIFICANCE OF IMPACT	MITIGATION MEASURES	Residual impact
Construction of the 11 kV powerline	Terrestrial ecology and biodiversity such as avifauna	Physical disturbance of birds and habitat destruction/modification Potential bird fatalities	Adverse (Negative) Direct Reversible High / Major Short term On-site Local	Major (negative) 76 - 100	Major (8)	<ul style="list-style-type: none"> - Before construction starts (or burying of the power line), the proposed power line route should be inspected for any signs of bird nesting activity - The unnecessary destruction of habitat (including large trees) or degradation of the environment, including sensitive habitats such as water points and ephemeral pan areas, should be avoided - Ongoing awareness should be promoted about the value of biodiversity and the negative impacts of disturbance, especially to breeding birds, and of poaching and road mortalities. At the same time, the need for reporting power line incidents should be stressed, and reporting procedures clarified - Anti-poaching measures should be strictly enforced, with zero tolerance, and this should be emphasised during induction to contractors; offenders should be prosecuted 	Minor (4)

DESCRIPTION OF ACTIVITY	RECEPTOR	DESCRIPTION OF IMPACTS	NATURE OF IMPACT	VALUE AND SENSITIVITY	SIGNIFICANCE OF IMPACT	MITIGATION MEASURES	Residual impact
Construction of the 11 kV powerline	Terrestrial ecology and biodiversity such as avifauna	Collision of birds on power line structures	Adverse (Negative) Direct Reversible High / Major Short term On-site	Major (negative) 76 - 100	Major (8)	<ul style="list-style-type: none"> - Proactive marking of the entire length of the power line is recommended in order to increase visibility to birds - At least the top conductor should be marked, along the full length of each span. Should monitoring indicate sections of power line that remain problematic in terms of repeated incidents, further mitigation should be investigated - The marking distance between devices should be 5-10 m, with offset designs/colours - At this stage no nocturnally visible marking is recommended, but it should become mandatory should monitoring results indicate the necessity (e.g. repeat collisions of nocturnal fliers such as flamingos or grebes). The need for fitting additional mitigation for collisions on stay wires (e.g. with vibration dampers) or on any other structures should likewise be based on monitoring results 	Minor (4)

DESCRIPTION OF ACTIVITY	RECEPTOR	DESCRIPTION OF IMPACTS	NATURE OF IMPACT	VALUE AND SENSITIVITY	SIGNIFICANCE OF IMPACT	MITIGATION MEASURES	Residual impact
Abstraction of groundwater	Groundwater resource	- Drawdown of groundwater level could impact neighboring groundwater users	Adverse (Negative) Direct Reversible Major Medium term Local	Major (negative) 76 - 100	Major (8)	<ul style="list-style-type: none"> - Start the project on smaller scale and increase step-by-step with good monitoring - Improve water use efficiency by producing high value crops for volumes of water abstracted and using water efficient irrigation systems - Supply neighbouring farmers with alternative water supply if impacts reduce their water availability – develop specific action plans for trigger values indicated by monitoring - A drop in groundwater level of more than 5m on a neighbouring farm and not recovering after the following rainy season, should trigger action from the proponent - Update the existing hydrocensus to ensure correct farms have monitoring boreholes - Update the groundwater model to a transient model with new monitoring data 	Minor (4)
Increased disturbance of soil	Soil	- The increased run-off water erosion and subsequently gully formation	Adverse (Negative) Direct Reversible Minor Medium term Local	Moderate (negative) 50 - 75	Moderate (4)	<ul style="list-style-type: none"> - Construction of contour bunds to reduce erosion where needed - Implementation of zero till agricultural practices 	Low (2)

DESCRIPTION OF ACTIVITY	RECEPTOR	DESCRIPTION OF IMPACTS	NATURE OF IMPACT	VALUE AND SENSITIVITY	SIGNIFICANCE OF IMPACT	MITIGATION MEASURES	Residual impact
Generation of waste e.g. Stover from agricultural produce, empty fertilizer bags, etc.	Environment	- Value addition of agricultural produce will result in generation of both solid waste and wastewater which may have negative impacts unless effectively managed.	Adverse (Negative) Direct Reversible Moderate Short term Local	Minor (negative) 26 - 50	Minor (3)	<ul style="list-style-type: none"> - Put in place appropriate waste management mechanisms for both solid waste and wastewater - Ensure wastewater produced from agricultural activities is properly managed - Waste storage sites should be established on site where paper, plastic and wire should be kept - The collected solid waste should be disposed at an approved waste site for the mine, after being collected by an agreed contractor - Ensure maximum re-use of the excavated materials and biomass 	Low (2)
Agricultural activity can cause pollution of groundwater and surface water	Water Quality	- The use of fertilizers and pesticides due to the nature of the crops and the quality of the soil could lead to contamination	Adverse Direct Partly Reversible Moderate Short Term Local	Minor (negative) 26 - 50	Minor (3)	<ul style="list-style-type: none"> - Proper design of the irrigation scheduling considering the nature of the soil - Increase organic material in the soil to improve the infiltration rate and water holding capacity - Availability of spillage clean-up kits for chemical spills - Ensure proper storage of fertiliser and pesticides - Education of staff on dangers of pesticides and proper handling of chemicals - Monitor irrigation water quality - Monitor groundwater quality 	Low (2)

DESCRIPTION OF ACTIVITY	RECEPTOR	DESCRIPTION OF IMPACTS	NATURE OF IMPACT	VALUE AND SENSITIVITY	SIGNIFICANCE OF IMPACT	MITIGATION MEASURES	Residual impact
Fertigation with liquid fertilizers	Groundwater	- Spillage or breakage of fertilizer containers	Adverse Direct Partly Reversible Moderate Short Term Local	Minor (negative) 26 - 50	Minor (3)	- Routine inspection and maintenance of fertiliser holding facility - Availability of spillage clean-up kits for chemical spills	Low (2)
Agricultural production	Socio Economic	- The proposed project will create employment opportunities	Beneficial (Positive) Direct Reversible Minor Short Term Local	Minor (positive)	Beneficial Low	- Inform the communities about employment opportunities and required skills - Prioritise job opportunity to Namibian citizens - Maximise local employment and local business opportunities - Enhance the use of local labour and local skills as far as reasonably possible - Ensure that goods and services are sourced from the local and regional suppliers	Beneficial Low
Procurement of goods and services	Socio Economic	- Sourcing of goods and services from local or regional business could increase economic benefits	Beneficial (Positive) Direct Reversible Minor Short Term Local	Minor (positive)	Beneficial Low	- Provide opportunities to local and regional enterprise to participate in the tender process - Where possible, procurement of goods and services should be from the local or regional businesses	Beneficial Low

The anticipated activities would most likely be localised and would not fundamentally alter the surrounding surface environment, thus not be considered as a significant in effect. The only area where uncertainty remained during the scoping phase was the potential effect on groundwater resources on the

surrounding farmers due to the proposed activities. Further consideration of the potential effects on groundwater was therefore undertaken and is presented in the next section.

6.1.2 FURTHER CONSIDERATION: IMPACTS OF GROUNDWATER

The following recommendations were made by Itasca in their groundwater assessment for the project:

- An updated hydrocensus needs to be conducted to evaluate the approximate groundwater use, rate and volume which will aid in better understanding of the dynamic groundwater system and quantify the model calibration better
- Abstraction at full required rate while the underground mine is dewatering will impact the surrounding groundwater users. The aquifer; however, could sustain the abstraction from both the mine and the irrigation scheme considering a constant recharge component. This might be different when real time dependent recharge is applied according to the different seasons
- It is recommended that the irrigation abstraction rate be reduced to at least 20% to 30% of the proposed abstraction rate to sustain the aquifer system and ensure the pump depth inlet is not reached in the irrigation boreholes, as well as to reduce the drawdown impact on the surrounding groundwater users
- The additional irrigation makeup water could be sourced from the underground mine dewatering if the mine water requirements only uses a portion of the total volume being dewatered
- The surrounding groundwater users that are likely to be impacted, could also be supplied with water from mining and irrigation abstraction. The required rate from the surrounding groundwater users may only be a fraction of the total being abstracted from the mine and irrigation scheme
- The different irrigation options in terms of pump cycles and different irrigation seasons need to be modelled in transient state with time dependent recharge to the groundwater system
- The model updates need to be accompanied by a detailed water balance to evaluate the different options to accommodate all the groundwater users as well as the mine and irrigation scheme
- An effective monitoring program need to be applied during irrigation abstraction to collect data for future model updates and water balances and to implement timely mitigation prior to impacts created by drawdown from abstraction. The monitoring program should form part of the B2Gold mining monitoring program and focus on taking regular water level readings, especially at Erhardshof, and nearby surrounding groundwater users.

Based on these recommendations the proponents have reduced the initial proof of concept first season phase of the project to only 30ha of irrigated land (half of the original plan). B2Gold also re-evaluated its mine water balance to see if any excess mine water can be supplied to the irrigation project. All calculations for future mine dewatering and water demand in the mine's processing plant showed that no excess water will be available for the irrigation project.

7 ENVIRONMENTAL MANAGEMENT PLAN

The EMP for the proposed project is presented in Appendix A. It provides detailed environmental management options to ensure the impacts of the proposed project are avoided, minimised or mitigated. An EMP is a tool used to take pro-active action by addressing potential problems before they occur. This should limit the corrective measures needed during project execution, although additional mitigation measures might be included if unforeseen events force the proponents to address these.

The management measures should be adhered to during all stages of the project activities. All persons involved in the proposed activities should be made aware of the measures outlined in the EMP to ensure activities are conducted in an environmentally responsible manner.

The objectives of the EMP are:

- To include all components of the project
- To prescribe the best practicable control methods to lessen the environmental impacts associated with the project
- To monitor and audit the performance of operational personnel in applying such controls, and
- To ensure that appropriate environmental training is provided to responsible operational personnel.

8 CONCLUSIONS AND RECOMMENDATIONS

The environmental assessment that was undertaken for the planned project followed ECC's EIA Methodology to identify if there is potential for significant impacts to occur as a result of the planned project.

Based on the findings of the assessment and taking into consideration the overall potential adverse impacts, mitigation measures and the potential beneficial impacts, ECC believes the long-term benefits of the proposed project outweigh the adverse impacts. In addition, the proposed project will bring about increased agricultural production, local job opportunities, drought resilience, and by linking up to the Otjikoto Mine's mine closure plan and the GWPP, improve the positive post closure impact of the mine on the local economy.

The biggest impact of the project will be in groundwater. Based on the recommendations of the groundwater specialist, it is strongly recommended that the following be implemented:

- Conduct an updated hydrocensus
- Initial abstraction to be reduced to a small volume for the proof of concept phase during which time appropriate monitoring is done to get the necessary data for updating the transient groundwater model. The updated model results should then be used for future development planning and ensuring increased abstraction is done in a proven, sustainable manner
- Planning for the use of more water after mine closure, when mine dewatering ceases, rather than causing impacts on neighbouring farms with current planned abstraction rates
- Ensure that adequate capacity is in place to supply neighbouring farms with water, should they be impacted by the groundwater drawdown. This must include an action plan with trigger level values for actions to be taken as monitoring shows reduced water levels

- Implementation of effective groundwater monitoring to ensure early detection of negative impacts and gathering meaningful data for future groundwater model updates. This should include siting and drilling of proper groundwater monitoring boreholes in the area.

The implementation of the EMP as an outcome of the impact assessment process would serve to minimise the impacts and risks associated with the proposed project in terms of the natural and social environment to an acceptable level. An environmental clearance certificate could be issued, on condition that the management and mitigation measures in the EMP are adhered to.

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APPENDIX A: ENVIRONMENTAL MANAGEMENT PLAN

APPENDIX B: LIST OF SPECIES

SPECIES	HABITAT TEXT
<i>Acacia erioloba</i> E.Mey.	
<i>Aptosimum decumbens</i> Schinz	
<i>Barleria mackenii</i> Hook.f.	Growing beside lake.
<i>Berchemia discolor</i> (Klotzsch) Hemsl.	
<i>Blepharis obmitrata</i> C.B.Clarke	Common weed.
<i>Boscia foetida</i> Schinz subsp. <i>foetida</i>	Calcrete.
<i>Cenchrus ciliaris</i> L.	Common in full sun in calcrete next to road.
<i>Chenopodium ambrosioides</i> L.	Growing on edge of lake.
<i>Clerodendrum ternatum</i> Schinz	
<i>Combretum hereroense</i> Schinz	
<i>Commiphora africana</i> (A.Rich.) Engl. var. <i>africana</i>	Calcrete.
<i>Commiphora tenuipetiolata</i> Engl.	Growing under <i>Acacia reficiens</i> and <i>A. luederitzii</i> .
<i>Corchorus asplenifolius</i> Burch.	Sand with surface lime
<i>Croton gratissimus</i> Burch. var. <i>subgratissimus</i> (Prain) Burt Davy	Dolomite mountains.
<i>Cynodon dactylon</i> (L.) Pers.	In full sun in calcrete depression next to road.
<i>Dichrostachys cinerea</i> (L.) Wight & Arn. subsp. <i>africana</i> Brenan & Brummitt var. <i>setulosa</i> (Welw. ex O	Common.
<i>Ehretia alba</i> Retief & A.E.van Wyk	Calcrete.
<i>Enneapogon cenchroides</i> (Licht. ex Roem. & Schult.) C.E.Hubb.	
<i>Eragrostis pilgeriana</i> Dinter ex Pilg.	Along roadside in full sun.
<i>Eragrostis rotifer</i> Rendle	Woodland.
<i>Eriocephalus luederitzianus</i> O.Hoffm.	
<i>Felicia clavipilosa</i> Grau subsp. <i>clavipilosa</i>	
<i>Ficus cordata</i> Thunb. subsp. <i>cordata</i>	

SPECIES	HABITAT TEXT
<i>Fingerhuthia africana</i> Lehm.	Occasional in calcrete depression along roadside in full sun.
<i>Flueggea virosa</i> (Roxb. ex Willd.) Voigt subsp. <i>virosa</i>	
<i>Gnidia polycephala</i> (C.A.Mey.) Gilg	
<i>Helichrysum cerastioides</i> DC. var. <i>aurosicum</i> Merxm. & A.Schreib.	Common.
<i>Helichrysum cerastioides</i> DC. var. <i>cerastioides</i>	Open sandy flats.
<i>Helinus integrifolius</i> (Lam.) Kuntze	Common.
<i>Heliotropium ciliatum</i> Kaplan	Common in full sun in calcrete along roadside.
<i>Heliotropium ovalifolium</i> Forssk.	Occasional in full sun in calcrete along roadside.
<i>Hibiscus caesius</i> Garcke var. <i>caesius</i>	Common. Full sun.
<i>Hiernia angolensis</i> S.Moore	Growing in calcrete-sandy soil. Semi-shade.
<i>Hyparrhenia hirta</i> (L.) Stapf	Common. Growing on gravel. Very disturbed along the road verge. Regularly graded.
<i>Ipomoea holubii</i> Baker	Occasional. Full sun.
<i>Ipomoea verbascoidea</i> Choisy	Occasional. Full sun.
<i>Lantana angolensis</i> Moldenke	Growing in thick woodbelt in partial shade. Limestone gravel.
<i>Limeum viscosum</i> (J.Gay) Fenzl subsp. <i>viscosum</i> var. <i>macrocarpum</i> Friedrich	Limestone pan.
<i>Listia marlothii</i> (Engl.) B.-E. van Wyk & Boatwr.	
<i>Lotononis curtii</i> Harms	Aristida veld, soil pH 7.0.
<i>Melhania virescens</i> (K.Schum.) K.Schum.	Common. Growing in calcrete.
<i>Melinis repens</i> (Willd.) Zizka subsp. <i>grandiflora</i> (Hochst.) Zizka	Irrigated land.
<i>Monechma divaricatum</i> (Nees) C.B.Clarke	Common. Growing in red sand with calcrete inclusions. Semi-shade.
<i>Nidorella resedifolia</i> DC. subsp. <i>resedifolia</i>	Occasional in full sun in calcrete along roadside.
<i>Ocimum filamentosum</i> Forssk.	Occasional in full sun in clacrete.

SPECIES	HABITAT TEXT
<i>Ornithoglossum calcicola</i> K.Krause & Dinter	Occasional to rare. On calcrete. Gravel road.
<i>Osteospermum muricatum</i> E.Mey. ex DC. subsp. <i>muricatum</i>	
<i>Otoptera burchellii</i> DC.	Common.
<i>Panicum novemnerve</i> Stapf	Irrigated land.
<i>Peltophorum africanum</i> Sond.	
<i>Pentarrhinum insipidum</i> E.Mey.	
<i>Petalidium englerianum</i> (Schinz) C.B.Clarke	Growing in gravel soil in recently burned open shrubland. Other: disturbed roadside. Common.
<i>Phyla nodiflora</i> (L.) Greene var. <i>nodiflora</i>	Dolomite mountains.
<i>Plicosepalus kalachariensis</i> (Schinz) Danser	
<i>Pogonarthria fleckii</i> (Hack.) Hack.	
<i>Polygala leptophylla</i> Burch. var. <i>armata</i> (Chodat) Paiva	Occasional in full sun in calcrete along roadside.
<i>Rhynchosia minima</i> (L.) DC. var. <i>minima</i>	Growing at margin of shrubbery.
<i>Rhynchosia minima</i> (L.) DC. var. <i>prostrata</i> (Harv.) Meikle	Common. Calcrete.
<i>Rottboellia cochinchinensis</i> (Lour.) Clayton	
<i>Schmidtia pappophoroides</i> Steud.	Occasional in full sun along roadside.
<i>Sclerocarya birrea</i> (A.Rich.) Hochst. subsp. <i>caffra</i> (Sond.) Kokwaro	
<i>Sida ovata</i> Forssk.	
<i>Solanum delagoense</i> Dunal	On top of dolomite hill.
<i>Solanum tettense</i> Klotzsch var. <i>renschii</i> (Vatke) A.E.Gonç.	
<i>Spirostachys africana</i> Sond.	
<i>Stapelia schinzii</i> A.Berger & Schltr. var. <i>schinzii</i>	Growing in shade of acacias. In the immediate vicinity both <i>Stapelia kwebensis</i> and <i>Stapelia schinzii</i> were observed.
<i>Stipagrostis hirtigluma</i> (Steud. ex Trin. & Rupr.) De Winter subsp. <i>patula</i> (Hack.) De Winter	Calcereous soil in open Acacia bush.

SPECIES	HABITAT TEXT
<i>Tapinanthus oleifolius</i> (J.C.Wendl.) Danser	Growing on <i>Grewia flava</i> . Calcrete.
<i>Tephrosia dregeana</i> E.Mey. var. <i>capillipes</i> (Welw. ex Baker) Torre	Growing along margin of shrub
<i>Tragia okanyua</i> Pax	
<i>Triaspis hypericoides</i> (DC.) Burch. subsp. <i>nelsonii</i> (Oliv.) Immelman	
<i>Trochomeria debilis</i> (Sond.) Hook.f.	Uncommon in calcrete in full sun.
<i>Tylosema esculentum</i> (Burch.) A.Schreib.	Common in restricted area of 20 x 200 m. Herero: 'Ombanui'. Nuts and tuber eaten.
<i>Urochloa oligotricha</i> (Fig. & De Not.) Henrard	
<i>Vigna unguiculata</i> (L.) Walp. subsp. <i>dekindtiana</i> (Harms) Verdc. var. <i>dekindtiana</i>	Growing at margin of shrubbery.

APPENDIX C: WATER PERMITS APPLICATION

FORM WA-002

FOR OFFICIAL USE ONLY

FILE REFERENCE NO.

DATE RECEIVED

CASE NO.

Postal address of applicant:

Title: Mr

Name: Duane Rudman

Address: Farm Erhardshof 575

PO Box 80363

Windhoek

Mobile/Telephone:0812333098

Fax: none

Area code:

Date: 13 January 2020

The Executive Director
Ministry of Agriculture, Water and Forestry
Private Bag 13193
WINDHOEK
9000

APPLICATION FOR A LICENCE TO UTILIZE A PROTECTED WATER SOURCE

1. This application is for authorization (**Delete which is not applicable**):
 - 1.1 ~~To utilize water forIrrigation.....
purposes from an **existing** water source or sources, which had already received a
licence or licences for use before, but where the licence(s) have lapsed.~~
 - 1.2 To utilize water for purposes
from an **existing** water source or sources in a subterranean Water Protected Area
which have not previously received a licence for use.
 - 1.3 To utilize water from a **newly planned** water source or sources in a subterranean
Water Protected Area for IRRIGATION purposes.
 - 1.4 To utilize water from a public stream/river bed for
purposes.
2. A completed application form is attached for your consideration.

SIGNATURE OF APPLICANT



APPLICATION FOR A LICENCE TO UTILIZE A PROTECTED WATER SOURCE

A. GENERAL INFORMATION

- Please note that failure to complete this application form properly may result in unnecessary delays. A farm map must be attached.
- The applicant must please furnish all the information requested, complete all items and indicate where the information is not relevant or unavailable.
- Failure to complete the application form properly may result in unnecessary delays.

1. PARTICULARS OF THE APPLICANT

(a) Title, surname and initials* Mr.Duane Rudman for B2Gold Property (Pty) Ltd

* ~~If not the registered owner, written proof of an agreement, lease, cession or other document to show authority to act, must be submitted.~~

* If a company or closed corporation or any other business operation, please supply particulars of the person authorised to make the application and submit a resolution to that effect.

2. PARTICULARS OF PROPERTY

- (a) Registered name and number of farm: Erhardshof # 575
- (b) Name of registered owner: B2Gold Property (Pty) Ltd
- (c) District: Grootfontein
- (d) Title Deed Number: T489/2014
- (e) Surface area of farm: 3490,3578(ha)
- (f) Information on current water allocation LICENCES must be given in **TABLE 1**.

TABLE 1: CURRENT WATER ALLOCATION LICENCES

LICENCE NUMBER	QUANTITY OF WATER ALLOCATED (m ³ /annum)
1.None	
2.None	

3

3.None	
TOTAL ALLOCATION:	

3. CURRENT WATER USE ON THE PROPERTY

The existing water use on the property is reflected in **TABLE 2**.

TABLE 2: PRESENT UTILIZATION OF WATER

TYPE OF USE	QUANTITY (m ³ /annum)
Domestic	2555
Stock drinking	70
Irrigation	None
Industrial	None
Other uses	None
TOTAL	

4. PARTICULARS OF EXISTING WATER SOURCES

Give details of all the existing sources of water on the property and what the water is used for. **TABLE 3** must be accompanied by a map of the farm or a diagram of the property on which the location of the sources of water are indicated by using symbols. The location of boreholes (give WW number if available), wells and dams must be shown as EB1 or EW1 or ED1 for existing boreholes, wells or dams

TABLE 3: PRESENT UTILIZATION OF WATER SOURCES

SOURCE	SYMBOL ON FARM MAP	SOURCE YIELD (m ³ /hour)	WATER USE (m ³ /ha/a)	AREA IRRIGATED (ha)
Boreholes (Number)	EB	What is the yield of each borehole?	How much water do you use on every ha in a year?	Total area irrigated by all boreholes
WW.....203737		Estimated 16cub	2625 cub per year	None at this stage
WW.....				
WW.....				
WW.....				
WW.....				
WW.....				
Wells	EW			
.....				
.....				
.....				
Dams	ED			
.....				
.....				
.....				

5. PARTICULARS OF EXISTING AREA UNDER IRRIGATION

The position and size of the existing and proposed area to be irrigated must also be clearly indicated on the farm map where the water sources are indicated, as well as the direction and distance of the farm from the nearest town.

TABLE 4: AREA UNDER IRRIGATION

CROPS CULTIVATED	AREA (ha)	DATE OF SOIL SAMPLE ANALYSIS	SOIL SAMPLE ANALYSIS RESULTS
.....Rhodes Katambora Grass.....	30	20 March 2019	Ph 7.1 / Conductivity 9.9/ Calcium carbonate ≤0.1 / Organic carbon 0.6 / Phosphorus 1 / Sodium 1 /Potassium 102 / Magn 41/ Calcium 477
.....Maize.....	30		
TOTAL	60		

6. PARTICULARS OF THE NEW WATER SOURCE(S)

TABLE 5: NEW WATER SOURCES (Complete only if you have drilled any new boreholes during the time of your existing LICENCE)

SOURCE	SYMBOL ON MAP	SOURCE YIELD (m ³ /a)	DEPTH DRILLED (m)	DEPTH TO WATER TABLE (m)	TYPE OF INSTALLATION
Boreholes No WW number					
.....BH1.....	BH1		126	29m	None
...BH2.....	BH2		140	Dry	None
.....BH3.....	BH3		126	26	None
...BH4.....	BH4		114	24	None
Wells					
.....					
.....					

6

.....					
-------	--	--	--	--	--

Particulars of Dam(s) (Complete only if you are using water from a dam; not a tank or reservoir)

Name of watercourse as indicated on map

Embankment type

Height of embankment m Full storage capacity of dam m³

If the full capacity of the dam is more than 20 000 m³, has the dam been authorised by the Department of Water Affairs ? Yes/No

Number of licence Date

7. PARTICULARS OF EXISTING AND PLANNED WATER INSTALLATIONS

Please provide particulars about the water installations in use.

TABLE 6: INFORMATION ABOUT WATER INSTALLATIONS (Not applicable in Karst Area)

SOURCE		IN RIVER (Yes or No)	DISTANCE FROM BANK OF RIVER (m)
SYMBOL(S) ON MAP	TYPE OF INSTALLATION		
.....
.....
.....
.....

- What is the **planned** annual irrigation water consumption applied for now264320.....m³/annum
- What is the **planned daily** water demand during peak periods9440.....m³/day-Week x 7 months
- During what period (months) of the year is the peak demandMay to August.....
- If a borehole or well is situated in a river bed or on a river bank, indicate the name of the river: (Not applicable in Karst Area)

8. PARTICULARS OF AREA EARMARKED FOR IRRIGATION

(Only applicable for new applications or if new land is being planned for irrigation)

- Intended date to start with (new) irrigation:October 2020.....
- Total **new** area to be irrigated: ..60...hectares (Not including area in Table 3)
- Will the whole area be irrigated right from the start? Yes/No
- If not, indicate area that will be irrigated initially: hectares

8

- (e) Water requirement for the initial **new area** to be irrigated: ...264320.... m³/annum
- (f) Water requirement for the total area to be irrigated:264320..... m³/annum
- (g) Crops to be cultivated:Rhodes Katambora Grass, Maize and wheat after Maize.....
- (h) Confirmation that a copy of the soil analyses is attached: Yes/No

9. PARTICULARS OF SOIL CLASSIFICATION

- (a) Date when the soil samples were analysed:20/03/2019.....
- (b) Indicate soil classification as per the analysis, with regard to the following:
 - (i) Type of soilLoamy sand..... (ii) Series
 -
 - (iii) Percentage clay9,6..... (iv) Effective Soil depth100.... cm
 - (v) TextureLoamy sand..... (vi) Colourred.....
- (c) Indicate the irrigability of the soil and any restrictions on the compatibility of the soil and the water. (Irrigation classification).
.....Infiltration rate very good and not prone to compaction.....
.....

10. CROPS TO BE CULTIVATED

Detail of the type of crops and the respective areas planned to be irrigated.

TABLE 7: CROP CULTIVATION DETAIL

TYPE OF CROP	AREA (ha)
.....Rhodes...Katambora.....Grass.....	...30.....
.....Maize.....	...30.....
.....Wheat...Rotational.....with.....Maize.....
.....
.....
.....

11. FEASIBILITY STUDY AND ENVIRONMENTAL STUDY

In order to authorise licences to utilize protected water sources to irrigate **twenty hectares** and more or abstract **200 000 m³/a** and more for irrigation, it is required that an appropriate feasibility study is done to show that the proposed irrigation project is economically feasible. An environmental assessment of the proposed project must be provided to show how the impact of the development on the environment will be managed and what affects it will have on neighbouring farms.

11.1 It is confirmed that a feasibility study for the project has been done and is submitted. Submitted to Consultant
Yes/No

11.2 It is confirmed that an environmental assessment has been done for the project and is submitted. Submitted to Consultant
Yes/No

12. FOR OFFICIAL USE

12.1 Department of Agriculture

Comments and recommendations by the Department of Agriculture. (In respect of the type of soil, the compatibility of soil and water, the suitability of the crops to be cultivated under irrigation on that type of soil, the reasonable water demand for the irrigation of those crops and the general viability of the project):

.....
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.....

12.2 Department of Water Affairs and Forestry

Comments and recommendations by the Department of Water Affairs and Forestry:

12.2.1 Hydrology Division (In respect of surface water sources)

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12.2.2 Geohydrology Division (In respect of groundwater sources)

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12.2.3 Water Environment Division (In respect of the environment)

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12.2.4 Planning Division (In respect of economic and water use)

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12.3 Advisory Water Board/Water Committee

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.....

12.4 Recommendation

The application is supported/not supported.

UNDER SECRETARY FOR WATER AFFAIRS AND FORESTRY

DATE:

The application is approved / rejected.

PERMANENT SECRETARY

DATE:

APPENDIX D: EVIDENCE OF PUBLIC CONSULTATION

Interested and Affected Stakeholders for Otjikoto Agricultural Project Inbox x

Emerita Ashipala <emerita@eccenvironment...> Feb 18, 2020, 4:35 PM
to Jessica, Stephan, bcc: automech, bcc: ppenkali, bcc: werelk, bcc: lucastsanib, bcc: rschr

Dear Stakeholders,

We are emailing you as you have been identified as potentially interested and or affected party for the proposed Otjikoto agricultural project on behalf of B2Gold Namibia Property (Pty) Ltd.

Environmental Compliance Consultancy (ECC) has been engaged by B2Gold Namibia Property (Pty) Ltd to undertake an environmental impact assessment for the proposed Otjikoto agricultural project. The proposed project is located on Farm Erhardshof 575, in the Otjozondjupa Region.

Kindly see attached letter and Non-Technical Summary for more information.

Should you be interested, and or wish to read or review our work and the assessment, you can register for the project on our website using the link below. Once registered you can scroll to the bottom of the page and a link will be provided to download the document. Environmental Compliance Consultancy provides this report for your comments, feedback and/or questions.

<https://eccenvironmental.com/projects/>

We would appreciate your feedback and or comments on or before the 11th March 2020 please.

Please do not hesitate to contact us should you have any questions.

On behalf of our team, many thanks and kind regards.

CONCERNS AND RESPONSES TABLE FROM THE PUBLIC FEEDBACK

I&AP / Stakeholder Comment Received	Stakeholder details	Response / Clarification
<ul style="list-style-type: none"> - The information used for the groundwater modelling is deficient for the farms to the north-east and the original hydrocensus never measured water levels on the farm Okaruhiiput. The model will not reflect the correct prediction for this farm without level measurements. - The financial model for the project is wrong and shows a lack of detail with the impossible gross profits indicated for the grass planting. Detailed breakdowns of the capital cost and repayments will be needed to properly evaluate the model. The current figures are not trusted to be achievable from my knowledge gained in a lifetime of agricultural experience in Namibia. 	<p>Mr A. J. Mouton</p> <p>Previous Owner of Okaruhiiput, Previous President of the NAU and retired farmer.</p> <p>andriesmou@gmail.com</p>	<p>The hydrocensus for the mining areas was updated and the lack of monitoring for the mentioned farm highlighted. The Mine is aware of the deficiency and will be addressing it.</p> <p>The Financial model will be updated with more reliable figures after the first season of production for the proof of concept phase.</p>
<ul style="list-style-type: none"> - I am not in favour of this Agriculture project. The water levels of the surrounding farms have already been affected by the working of the mine. A further water extraction for this project will lower the water levels even more. It may cause boreholes to become dry and then farming is impossible. 	<p>Mr P. Labuschagne</p> <p>Secretary: Platveld Farmers Association</p> <p>pwlab@iway.na</p>	<p>The concern is noted and the mine will only start on a very small scale to get better monitoring data for updating the groundwater model and understanding the impacts of potential higher abstraction rates better. Affected parties will be compensated and alternative water supply arranged.</p> <p>Your concern is noted and captured for inclusion in the submission report.</p>
<ul style="list-style-type: none"> - I am definitely NOT in favour of an agricultural/irrigation project of that size. - I am a direct neighbouring farm of B2Gold on the east side, farm Okaruhiiput 336. - My biggest concern is the influence and the lowering of our underground water level in this area. - Our boreholes in the area are not deeper than 100m and our water table level differ from 19 to 27m, My concern is that B2Gold pump at much deeper 	<p>Mr G. Steyn</p> <p>Owner: Farm Okaruhiiput</p> <p>Kilo40@afol.com.na</p>	<p>The concern is noted and the mine will only start irrigating on a very small scale to get better monitoring data for updating the groundwater model and understanding the impacts of potential higher abstraction rates better. Affected parties will be compensated and alternative water supply arranged.</p> <p>The trigger value suggested for the mine to start taking action is a drop in groundwater level of more than 5m with no recovery to the next season.</p>

I&AP / Stakeholder Comment Received	Stakeholder details	Response / Clarification
<p>levels so it will definitely influence our much more shallow waters.</p> <ul style="list-style-type: none"> - From time to time water samples were taken on my farm, but never the water table/level have been checked and monitored. - NS ! If the irrigation project proceeds and our water level drop severe at what stage <ul style="list-style-type: none"> o 1- will B2Gold stop the project o 2- and assist us 		<p>Your concern about lack of monitoring has been brought to the mine’s attention and a recent revisit and update of the hydrocensus for the area also highlighted this deficiency in monitoring. Mr A J Mouton has also made the same comment and has been captured in this report.</p> <p>Your concern is noted and captured for inclusion in the submission report.</p>
<ul style="list-style-type: none"> - We are not in favor of this agriculture project. Since the mine start operation, our bore holes suffer from decreased water levels. - Therefore subtraction of more water may resulted in greater risk of being operated efficiently as farmers. 	<p>Mr S. Van Wyk Owner: Farm Fisher vanwyk.wendy@yahoo.com</p>	<p>The concern is noted and the mine will only start on a very small scale to get better monitoring data for updating the groundwater model and understanding the impacts of potential higher abstraction rates better. Affected parties will be compensated and alternative water supply arranged.</p> <p>Your concern is noted and captured for inclusion in the submission report.</p>
<ul style="list-style-type: none"> - Farm Stark is not in favour of the proposed agricultural project. Our boreholes get nearly dry around October, especially the ones near B1 Highway. Mine dewatering and water abstraction for irrigation purposes are likely to affect water levels in the surrounding areas particularly around October and November. Let farming and mining live in an uneasy harmony. - The proposal to establish an agricultural project near B2Gold has reference. While food production is something to be welcomed the initiators of this particular project should be more transparent. Do they intend to grow vegetables or orchards! Whatever they intend doing, how large is the project and how much water they intent using. Will the water come from the mine de-watering or from boreholes. Currently how much water are they subtracting 	<p>Mr N. Angula Owner: Farm Stark oshikulonam@gmail.com</p>	<p>The concern is noted and the mine will only start on a very small scale to get better monitoring data for updating the groundwater model and understanding the impacts of potential higher abstraction rates better. Affected parties will be compensated and alternative water supply arranged.</p> <p>Your concern is noted and captured for inclusion in the submission report.</p>

I&AP / Stakeholder Comment Received	Stakeholder details	Response / Clarification
<p>from boreholes for mining activities. Though we had good rains this year there is no guarantee that the next rain season shall be as good as this one.</p> <ul style="list-style-type: none"> - At the start of the mine the operators gave impression that they will get water from Kombat, however as the operations started they used borehole water for the mine operations. I trust this time around there will be openness and transparency. A public resource should be shared equitably to the benefit of every one regardless of financial power. 		
<ul style="list-style-type: none"> - I support this project with no objections at the moment. 	<p>Mr D. Botha Owner: Farm Elandsvlei odusa@iway.na +264 81 128 4844</p>	<p>Your support is noted.</p>
<ul style="list-style-type: none"> - I strongly oppose this project. I have drilled two boreholes at my own expense due to some of my boreholes having run dry. Boreholes of over 140m deep are dry. I also want to irrigate in future and want to know why the mine is not keeping their promises of giving their neighbors investment opportunities. - The mine have erected a game fence that have cut off the eland migration route over my farm. B2Gold are not welcome neighbours. 	<p>Mr P. Enkali Owner: Farm Orupoko ppenkali@gmail.com +264 81 124 2197</p>	<p>The concern is noted and the mine will only start on a very small scale to get better monitoring data for updating the groundwater model and understanding the impacts of potential higher abstraction rates better. Affected parties will be compensated and alternative water supply arranged. The mine has been informed of your issues with dry boreholes and they will follow-up with the updated hydrocensus to investigate the issue.</p> <p>The investment opportunities are not related to this project, but has been communicated to the mine.</p> <p>The issue about the eland were communicated to the mine, but does not affect this project.</p> <p>Your concern is noted and captured for inclusion in the submission report.</p>

I&AP / Stakeholder Comment Received	Stakeholder details	Response / Clarification
<p>- We do not agree with the high recharge rates for the marble aquifer mentioned in the meeting. We are updating the groundwater maps for Namibia as a project and the recharge maps will form part of this process. The model is probably not correct with the high numbers quoted at the meeting. We have not had a detailed look at the Itasca report yet.</p>	<p>Mr R. Amster Water Associates Namibia waterassociates@iway.na +264 81 475 3300</p>	<p>The groundwater model was updated twice since the meeting of 5 June. An extra two layers has been added in the model to represent the detailed geology of the area (specifically the less permeable Ghaup section) and the recharge figures were adapted to the available monitoring data. Recharge for the various rock formations are listed in Table 3-2 of the Itasca report. It varies from 1.46% to 3.07% of mean annual precipitation.</p>

APPENDIX E: NON-TECHNICAL SUMMARY



ECC-36-268-NTS-03-D

NON-TECHNICAL SUMMARY
PROPOSED OTJIKOTO AGRICULTURAL PROJECT, OTJOZONDJUPA
REGION, NAMIBIA

PREPARED FOR
B2GOLD NAMIBIA PROPERTY (PTY) LTD



FEBRUARY 2020

PO BOX 91193 Windhoek Namibia
Environmental Compliance Consultancy CC
CC/2013/11404

NON-TECHNICAL SUMMARY

PROPOSED OTJIKOTO AGRICULTURAL PROJECT ON FARM ERHARDSHOF 575

1 PURPOSE OF THIS DOCUMENT

The purpose of this Non-Technical Summary (NTS) is to provide interested and affected parties (I&APs) a background to the proposed project and to invite I&APs to register as part of the Environmental Impact Assessment (EIA) process. The proposed project is the Otjikoto Agricultural Project. Through registering, all I&APs will be kept informed throughout the EIA process, and a platform for participation will be provided to submit comments/recommendations pertaining to the project.

This NTS includes the following information:

- What is the proposed project and where is the project located?
- Why is the project deemed necessary, and what benefits, or adverse impacts are anticipated?
- What alternatives to the project have been considered and assessed?
- How does the EIA process work?
- The public participation process and how to become involved, and
- Next steps and the way forward.

2 DESCRIPTION OF THE PROPOSED PROJECT

2.1 BRIEF INTRODUCTION

Environmental Compliance Consultancy (ECC) has been engaged by B2Gold Namibia Property (Pty) Ltd (the proponent) to undertake an Environmental Impact Assessment (EIA) and an Environmental Management Plan (EMP) in terms of the Environmental Management Act No. 7 of 2007 and its Regulations. An application for an environmental clearance certificate will be submitted to the relevant competent authorities - the Ministry of Water, Agriculture and Forestry (MAWF) and the Ministry of Environment and Tourism (MET), as part of the decision-making process.

2.2 LOCATION

The proposed Otjikoto agricultural project will be located on Farm Erhardshof 575. The total project size at the end of the final phase will be 270 hectares. The

intention is to initially plant fodder for cattle such as *Rhodes Katombora* grass as well as rotational crops such as maize and wheat. Should the trial be successful additional crops could be considered.

The proposed project will be developed in phases subject to feasibility as described below,

- The first phase, year 1 - a trail of 60 ha
- The second phase, year 2 - 90ha; and
- The third phase, year 3 - 120 ha.

2.3 WHAT IS PROPOSED

B2Gold Namibia Property (Pty) Ltd is a world-class gold producer, a 90% owned subsidiary of B2Gold Corp. In Namibia, B2Gold owns the Otjikoto Gold Mine and extensive base metal concessions. The proposed agricultural project was initiated due to effects of drought in the country. The project aims to create a fodder bank to feed and sustain healthy herds of cattle during drought seasons.

2.4 OPERATION PHASE

The proposed agricultural project activities are low-impact and non-intrusive. The following are envisaged during the proposed project:

- Ground preparation including minor earthworks and levelling
- Construction of agricultural infrastructure e.g. fences, irrigation system, storage and preparation areas
- Vegetation clearing of the area that is to be used for agriculture. Agricultural area shall be restricted within the boundaries of Farm Erhardshof 575
- Pivot area will be debushed and ripped, and
- Construction of an overnight storage dam for water supply to pivots, and
- Construction of powerline and transmission of power.

2.5 WHY IS THE PROJECT NEEDED?

The purpose of the project is to utilize the resources available i.e. land, water and labour. This would increase the farm's financial turnover and create employment opportunities for the local community.

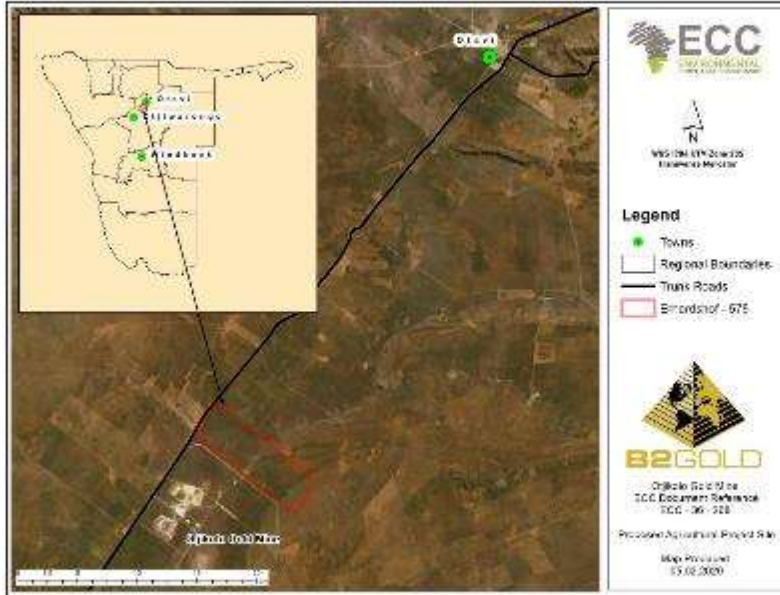


FIGURE 1 – A SATELLITE IMAGE INDICATING THE LOCATION OF THE PROPOSED DJIKOTO AGRICULTURAL PROJECT SITE

FEBRUARY 2020

ECC DOCUMENT CONTROL - ECC-36-268-NTS-05-D

PAGE 8 OF 8

2.6 POTENTIAL IMPACTS OF THE PROJECT

2.6.1 ENVIRONMENTAL AND SOCIO-ECONOMIC

Thus far the impacts of the proposed agricultural project are confined within the boundaries of the farm. Below is a list of possible impacts identified thus far:

- Drilling and abstraction of underground water for irrigation
- Possible water contamination of groundwater through the use of fertilizers and pesticides
- Conversion of virgin soil to agricultural soil, permanently removing flora for the affected area
- Creation of new employment opportunities to the local community

3 CONSIDERATION OF ALTERNATIVES

The best practice environmental assessment methodology calls for consideration and assessment of alternatives to a proposed project. No alternatives were examined throughout the EIA process.

4 THE ENVIRONMENTAL ASSESSMENT PROCESS

This EIA, conducted by ECC, is undertaken in terms of the Environmental Management Act, No. 7 of 2007 and its regulations. The process followed in this EIA is set out in the flowchart in FIGURE 2.

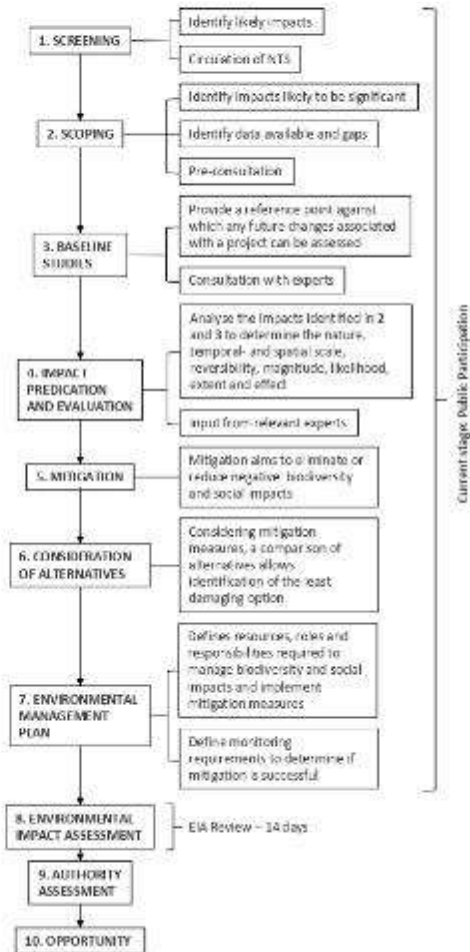


FIGURE 2 – FLOWCHART OF THE ENVIRONMENTAL ASSESSMENT PROCESS

4.1 SCREENING

A review of the proposed project screening findings against the listed activities was conducted; the findings of which are summarised below.

ENERGY GENERATION, TRANSMISSION AND STORAGE ACTIVITIES

1b. The transmission and supply of electricity

- The proposed project will construct a 11KV powerline.

FORESTRY ACTIVITIES

4. The clearance of forest areas, deforestation, afforestation, timber harvesting or any other related activity that requires authorisation in term of the Forest Act No. 12 of 2001 or any other law.

- Minor vegetation clearing will occur at the proposed site.

WATER RESOURCE DEVELOPMENTS

8.1 Abstraction of ground or surface water for industrial or commercial purposes.

- The proposed project will require drilling of boreholes and abstraction of groundwater for irrigation.

8.5 Construction of dams, reservoirs, levees and weirs.

- A 50mx50mx2m storage dam will be constructed.

8.7 Irrigation schemes for agriculture excluding domestic irrigation.

- The proposed project is an irrigation scheme for agriculture.

HAZADOUS SUBSTANCES TREATMENT, HANDLING AND STORAGE

9.4 The manufacturing, storage, handling or processing of hazardous substances defined in the Hazardous substances Ordinance, 1974.

- The proposed project will store approximately 5000litres of diesel fuel on-site.

The potential environmental and social effects are anticipated to be of minor significance, and those that may occur shall be contained on the proposed site.

4.2 SCOPING

Due to the nature and magnitude of the proposed project, and the implementation of best practice mitigation measures during the development phase, the effects on the environment and society are expected to be minimal and localised.

4.3 BASELINE STUDIES

For the proposed project, baseline information will be obtained through a desk-based study by focusing on the environmental receptors that could be affected by the proposed project. ECC will also engage with stakeholders, I&APs and the proponent to seek input into the assessment.

4.4 IMPACT ASSESSMENT

Impacts will be assessed using the ECC EIA methodology. The EIA will be conducted in terms of the Environmental Management Act, No.7 of 2007 and its Regulations. ECC's methodology for impact assessments was developed using (International Finance Corporation (IFC) standards in particular Performance Standard 1 'Assessment and management of environmental and social risks and impacts' and Namibian Draft Procedures and Guidance for EIA and EMP, including international and national best practice with over 25 years of combined EIA experience.

4.5 ENVIRONMENTAL MANAGEMENT PLAN

An EMP shall be developed for the proposed project setting out auditable management actions for B2Gold Namibia Property (Pty) Ltd to ensure careful and sustainable management measures are implemented for their activities with respect to the surrounding environment and community.

4.6 PUBLIC PARTICIPATION AND ADVERTISING

Public participation is an important part of the EIA process; it allows the public and other stakeholders to raise concerns or provide valuable local environmental knowledge that can benefit the assessment, in addition, it can aid the design process.

This project is currently at the scoping phase and the public participation phase.

At this phase ECC will perform the following:

- Identify key stakeholders, neighbours, authorities, environmental groups and interested or affected



- members of the public; hereafter referred to as I&APs:
- Distribute the NTS for the proposed project (this document)
 - Advertise the environmental application in two national newspapers
 - Place notices on-site at or near the boundary
 - If required host a public meeting to encourage stakeholder participation and engagement, and provide details of issues identified by the environmental practitioner, stakeholders, and I&APs
 - Record all comments of I&APs and present such comments, as well as responses provided by ECC, in the comments and responses report, which will be included in the scoping report that shall be submitted with the application, and
 - Circulate I&AP comments to the project team for consideration of project design.

Comments must be submitted in writing and can be emailed using the details in the contact us section below.

CONTACT US

We welcome any enquiries regarding this document and its content. Please contact:

Environmental Compliance Consultancy (ECC)

info@eccenvironmental.com

Tel: +264 81 6697 608

At ECC we make sure all information is easily accessible to the public.

Follow us online to be kept up to date:



APPENDIX F: SITE NOTICE





APPENDIX G: ADVERTS

12 Thursday 27 February 2020

BOTTOMLINE

THE NAMIBIAN



Lawrence Sampota

Zambezi needs N\$1 billion for green schemes

THE Zambezi region needs a N\$1 billion injection to finance green schemes to reduce Namibia's breadbasket, create employment and fight poverty.

This was the appeal by the region's governor, Lawrence Sampota, to central government and potential investors during an interview on Tuesday.

"You cannot go wrong in terms of agriculture in Zambezi," he said.

According to Sampota, 25 000 hectares have already been made available by various traditional authorities for agriculture.

The establishment of green schemes in the region is the governor's top priority for the 2019/2021 financial year.

"We have talked to the government and we are also trying to attract investors. We have more than 25 000 hectares given out by traditional authorities," he said.

So far, there is only one green scheme project, the Katutura Farm Project, which has failed to yield the desired results since its inception in 2009.

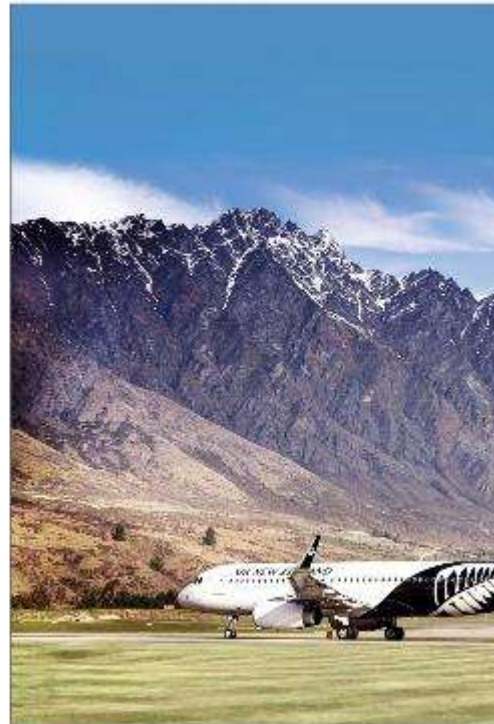
The other green scheme, which is being developed, is the Katutura Farm.

To have one green scheme 20 years after independence is a disappointment to inhabitants of Zambezi, whose region boasts enormous agricultural potential with good rainfall, underground water reservoirs and a perennial river, he added.

"We have been informing the ministry of agriculture and the National Planning Commission so start planning for these green schemes in the Zambezi region on all these hectares that I am informing you [about]. This region could be one of the breadbaskets of Namibia if properly looked out and can also be used to fight poverty and unemployment," he said.

So far, the government has 11 green scheme irrigation projects.

Katutura East is the green scheme capital of Namibia, with seven green schemes found in that region. Omashe, Hardap and Okavango regions have one green scheme each. — Namipa



FLYING BEDS ... Air New Zealand this week announced it will have flat beds in economy class for some of its long-haul flights, with plans to have such up and ready in a year or so to come. They say they have filed patent and trademark applications for

what it is calling the Economy Skyrest, which would contain six full-length sleep pods at 200cm long and 58cm wide each. The airline would still need to get the product certified with regulators before passengers can expect to climb into the in-air beds.

NOTICE OF ENVIRONMENTAL ASSESSMENT & PUBLIC PARTICIPATION PROCESS FOR THE OJIKANDA AGRICULTURAL PROJECT ON FARM BEMBAUSHOF 5/5, IN THE OTJIKONDARA REGION, NAMIBIA

Environmental Compliance Consultancy (ECC) hereby gives notice to the public that an application for an Environmental Clearance Certificate in accordance with the Environmental Management Act, 2002 will be made as per the following:

Applicant: Environmental Compliance Consultancy
Environmental Assessment Practitioner: Otjokondara Region, Namibia
Location: Otjokondara Region, Namibia

Project: Proposed Agricultural Project on Farm Bembaushof 5/5, in the Otjokondara Region, Namibia

Proposed activity: The proposed project at the end of the trial phase will be 270 hectares. The intent is to provide a platform for carry out an agro-ecological pilot project in an arid/semi-arid area to ensure food security.

The proposed project will be carried out in phases as indicated below and all stages to be completed by:

- 1st phase: 1st year: 1st to 1st of 1st year
- 2nd phase: 2nd year: 2nd to 2nd of 2nd year
- 3rd phase: 3rd year: 3rd to 3rd of 3rd year

Application for Environmental Clearance Certificate: In terms of the Environmental Management Act, 2002 (No. 2 of 2002), ECC on behalf of B2Gold Namibia Properties (Pty) Ltd is required to submit an application for Environmental Clearance to the Government and the Ministry of Environment and Forestry for the proposed activity.

How you can participate: ECC is conducting the environmental assessment and public participation process in accordance with the Act, intended and advisory public hearings and consultations are required to inform the project activities and to ensure that the interests of the community are taken into account.

Proposed Environmental Clearance Panel: A panel of 11 members will be appointed, the purpose of the review and comment panel is to comment on the proposed project and to provide the Minister responsible for environment on the project to ensure that all stages and processes are complete and approved in accordance with the Act.

Review Period: The review and comment period is valid from 27th February 2020 – 17th March 2020.

MEMBER OF THE BOARD OF THE Ministry of Environment and Forestry
 Environmental Compliance Consultancy
 101 Main Street, Windhoek
 Tel: +264 61 234 1111
 Fax: +264 61 234 1112
 Email: info@ecc.com.na
 Website: www.ecc.com.na

GRAPE ALLIANCE MANAGEMENT (NAMIBIA) (PVT) LTD

VACANCY

Payroll Administrator

Grape Alliance Management Namibia is an equal opportunity employer and leader in the production and export of table grapes. The company is located 50km north of the Namibian border post on the Orange River.

Reporting directly to the General Manager, the successful candidate will be responsible for all payroll functions in the group of companies, as well as the administration of all company tax documentation and import and export paperwork.

KEY RESULT AREAS:

- Proficiency in a payroll system
- Experience with multiple payroll processing
- Proficiency in a timekeeping system
- Demonstrating an understanding of payroll taxes
- Proven ability to communicate effectively with Senior Management
- Possessing some Human Resources experience
- Being proactive in Microsoft Office programs especially Excel
- Working knowledge of import and export taxation and claims

KEY PERFORMANCE INDICATORS:

- A thorough understanding of a company's business
- Working knowledge of personnel and corporate tax laws
- Demonstration of precision and excellent communication skills
- Ability to resolve any claims of accuracy
- Detail oriented
- Must have a minimum 3 years experience with HR payroll systems
- Must have a minimum 3 years experience with Great Payroll Administrator systems
- Must have a working knowledge when it comes to the submission and tracking of cross border taxation and assessment control

If you are a highly motivated and self-driven individual, kindly forward your CV to HR Controller / Senior HR Manager of hr@grapealliance.com.na

Closing date for applications: Friday 06 March 2020

Coronavirus hurts Zimbabwean tourism

THE restriction of people movements to and from China in the wake of the outbreak of the coronavirus, has negatively impacted Zimbabwe's tourism industry and small to medium enterprises.

Local media in Zimbabwe said due to the outbreak, entrepreneurs could not travel to China to import clothes, cellphones and vehicle spare parts for resale for fear of contracting the deadly virus.



Sim Tsetarabala

Chinese tourists have also significantly cut down foreign travel to and further spreading the virus which has killed more than 2700 people, mostly in mainland China. Over 7000 cases have been reported.

Earlier this month, it was reported that numerous Chinese sleep owners in Namibia who had travelled to their country for the

years outbreak had opted to stay there instead of returning to Windhoek's Chinatown, a vast complex of nearly 200 retail, wholesale, food and electronics outlets.

In one block of 90 shops, 20 stores have reportedly re-opened.

On Monday, Standard Bank donated N\$750 000 to China through its embassy in South Africa towards the fight against the virus.

"This disease, the epidemic has the ability to affect the entire world, so it is in our own interests to ensure its eradication. Secondly, and more importantly, as South Africa, we believe in showing solidarity with the Chinese people," the bank's chief executive officer, Sim Tsetarabala, said.

"This is not just a Chinese issue, it affects the entire world," he said.

— Namipa/ANA

APPENDIX H: AVIFAUNA ASSESSMENT

APPENDIX I: GROUNDWATER ASSESSMENT

APPENDIX J: FINANCIAL MODEL SUMMARY

APPENDIX K: ECC CVS