

REPORT N° 01

PROPOSED INSTALLATION OF SULPHUR DIOXIDE ABATEMENT EQUIPMENT AT POLOKWANE SMELTER

DRAFT SOCIAL IMPACT ASSESSMENT REPORT

PUBLIC

MAY 2017

PROPOSED INSTALLATION OF SULPHUR DIOXIDE ABATEMENT EQUIPMENT AT POLOKWANE SMELTER

DRAFT SOCIAL IMPACT ASSESSMENT REPORT

Anglo American Platinum Limited

Type of document (version)
Public

Project no: 31102

Date: May 2017

WSP | Parsons Brinckerhoff

199 Bryanston Drive

Bryanston

2191

Tel: +27 11 361 1392

Fax: +27 11 361 1381

www.wspgroup.com

www.pbworld.com

QUALITY MANAGEMENT

ISSUE/REVISION	FIRST ISSUE	REVISION 1	REVISION 2	REVISION 3
Remarks	Draft Report			
Date	May 2017			
Prepared by	Bathabile Msomi Hilary Konigkramer			
Signature				
Checked by	Anri Scheepers			
Signature				
Authorised by	Hilary Konigkramer			
Signature				
Project number	31102			
Report number	1			
File reference	W:\000 Projects\000 Environmental Services\ES - Live Projects\31102 - SO2 Abatement Project for Polokwane Smelter			

TABLE OF CONTENTS

1	INTRODUCTION.....	1
1.1	SCOPE AND OBJECTIVES OF THE STUDY	1
1.2	LEGISLATIVE FRAMEWORK	1
1.3	METHODOLOGY.....	3
1.4	ASSUMPTIONS AND LIMITATIONS	7
1.5	DECLARATION OF INDEPENDENCE.....	8
2	DESCRIPTION OF THE PROJECT.....	8
2.1	PROPOSED PROJECT DEVELOPMENT ACTIVITIES.....	9
2.2	PROJECT ALTERNATIVES	9
3	DESCRIPTION OF THE AFFECTED ENVIRONMENT	12
3.1	REGIONAL SOCIO-ECONOMIC OVERVIEW.....	12
3.2	LOCAL CONTEXT.....	14
3.3	LOCAL ECONOMIC ACTIVITIES	16
3.4	LOCAL COMMUNITIES.....	17
4	SOCIO-ECONOMIC POLICY AND PLANNING CONTEXT	20
4.1	NATIONAL POLICIES	20
4.2	PROVINCIAL POLICIES.....	21
4.3	DISTRICT AND LOCAL MUNICIPALITY POLICIES	21
5	FINDINGS.....	22
5.1	CURRENT LOCAL SOCIAL ISSUES.....	22
5.2	SOCIO-ECONOMIC IMPLICATIONS OF THE POLOKWANE SMELTER OPERATIONS	24
5.3	IDENTIFIED SOCIAL IMPACTS	25
5.4	IMPACT ASSESSMENT	27

6	KEY RECOMMENDATIONS	29
6.1	ENSURING LOCAL EMPLOYMENT AND PROCUREMENT	29
6.2	STAKEHOLDER COMMUNICATION.....	29
7	CONCLUSION	30

TABLES

TABLE 1:	INTERVIEW RECORD	4
TABLE 2:	DESCRIPTION OF LOCAL TOWNS AND COMMUNITIES.....	17
TABLE 3:	SUMMARY OF CONSTRUCTION PHASE IMPACTS.....	28
TABLE 4:	SUMMARY OF OPERATIONAL PHASE IMPACTS	28
TABLE 5:	SUMMARY OF NO-GO ALTERNATIVE IMPACTS.....	29

FIGURES

FIGURE 1:	LOCATION OF THE POLOKWANE SMELTER	2
FIGURE 2:	PROPOSED LAYOUT	10
FIGURE 3:	PROPOSED LAYOUT WITHIN THE SITE CONTEXT	11
FIGURE 4:	POPULATION GROUP FOR LIMPOPO PROVINCE AND CAPRICORN DISTRICT MUNICIPALITY (SOURCE: STATISTICS SOUTH AFRICA (2012)).....	12
FIGURE 5:	DOMINANT LANGUAGES WITHIN CAPRICORN DISTRICT MUNICIPALITY (SOURCE: STATISTICS SOUTH AFRICA (2012)).	13
FIGURE 6:	SETTLEMENT TYPE WITHIN THE CAPRICORN DISTRICT MUNICIPALITY (SOURCE: STATISTICS SOUTH AFRICA (2012)).	14
FIGURE 7:	SECTORAL CONTRIBUTION TO CAPRICORN DM ECONOMY (SOURCE: STATISTICS SOUTH AFRICA, 2012).....	14
FIGURE 8:	POPULATION GROUP FOR THE POLOKWANE LOCAL MUNICIPALITY (SOURCE: STATISTICS SOUTH AFRICA (2012))	15
FIGURE 9:	POLOKWANE LOCAL MUNICIPALITY POPULATION PYRAMID (STATISTICS SA, 2012).....	15
FIGURE 10:	AVERAGE HOUSEHOLD INCOME (SOURCE: STATISTICS SOUTH AFRICA, 2012).....	16
FIGURE 11:	LOCAL CONTEXT OF THE PROPOSED PROJECT (WSP GIS, 2017)	19

APPENDICES

- A P P E N D I X A E N G A G E M E N T R E C O R D S**
- A P P E N D I X B C V ' S O F S I A T E A M M E M B E R S**
- A P P E N D I X C I M P A C T A S S E S S M E N T M A T R I X**

1 INTRODUCTION

Anglo American Platinum Limited (AAP) propose to install Sulphur Dioxide (SO₂) abatement equipment at the Polokwane Smelter. The Polokwane Smelter is located approximately 12km south of the city of Polokwane (**Figure 1**) in the Limpopo Province. The installation of an efficient SO₂ removal system is required to ensure compliance with the National Environmental Management Air Quality Act (No. 39 of 2004) (NEM:AQA) Minimum Emission Standards (MES).

WSP | Parsons Brinckerhoff, Environment and Energy, Africa (WSP | Parsons Brinckerhoff) has been appointed to undertake a Scoping and Environmental Impact Report (EIR) process in order to facilitate the environmental approvals required for the proposed Polokwane Smelter SO₂ abatement project.

AAP have requested that WSP | Parsons Brinckerhoff undertake a Social Impact Assessment (SIA) to ensure that the potential impact of the proposed project on the social receiving environment is investigated and assessed in line with the objectives of the Anglo American Socio-Economic Assessment Toolbox (SEAT) procedure.

1.1 SCOPE AND OBJECTIVES OF THE STUDY

The scope of the SIA was to determine the potential positive and negative impacts of the proposed project and alternatives, including the option of not implementing the proposed project (no-go option), on the local and regional landscape. Direct, indirect and cumulative impacts of the proposed project in relation to current and proposed activities within the local area have been considered.

The SIA has achieved the following objectives:

- à Development of a social profile for the proposed project area through the description of the socio-economic receiving environment that may be affected by the proposed activity;
- à Engagement with representatives of key stakeholder groups;
- à Identification, description and assessment of the potential socio-economic impacts associated with the proposed project; and
- à Provision of mitigation measures and recommendations to enhance the socio-economic sustainability of all phases of the proposed project.

1.2 LEGISLATIVE FRAMEWORK

There is no legal framework in South Africa that governs SIA processes; however, a guideline for SIA is included in the *Western Cape Department of Environmental Affairs and Development Planning Guideline for Involving Social Assessment Specialists in EIA Processes* (Barbour, 2007).

The National Environmental Management Act (No. 107 of 1998), as amended (NEMA) 2014 EIA Regulations provides the general requirements for consultants compiling specialist reports or undertaking specialist processes.



Figure 1: Location of the Polokwane Smelter

In summary, a specialist must:

- à Be independent;
- à Have expertise in conducting the study, including knowledge of NEMA, the EIA Regulations and any relevant guidelines;
- à Perform the work in an objective manner, even if the findings are not favourable to the applicant;
- à Comply with all applicable legislation; and
- à Disclose to the applicant and competent authority all material information that may have the potential to influence:
 - < Any decision to be taken with respect of the application by the competent authority; or
 - < The objectivity of any report, plan or document to be prepared for submission to the competent authority.

1.3 METHODOLOGY

APPROACH

DEVELOPMENT OF SOCIAL PROFILE

In order to develop a social profile of the project area, WSP | Parsons Brinckerhoff undertook a desktop review of existing information on the area. The review included consideration of the following documents:

- à Statistics South Africa Census Data, 2011 census (published 2012);
- à Statistics South Africa Community Survey 2016;
- à Limpopo Spatial Development Framework 2015;
- à Mine Social and Labour Plan (SLP) Final Draft;
- à Capricorn District Municipality 2016/17 to 2020/21 Integrated Development Plan (IDP);
- à Polokwane Local Municipality Draft Integrated Development Plan (2017 - 2018);
- à Mmola, D. (2012) An assessment of the role played by the Polokwane Local Municipality in service delivery within Manthorwane Community of Limpopo Province, University of Limpopo

PRIMARY DATA COLLECTION

Primary data collection was deemed necessary to contribute to the understanding of the project area and the evaluation of the potential impacts of the proposed project.

A site visit was undertaken over a three-day period, from 10 to 12 May 2017. The purpose of the site visit was to obtain first-hand knowledge of the project site and the SIA study area. The fieldwork comprised observation of the project area and surrounding communities as well as interviews with key stakeholders.

Identification of surrounding local communities, spatial layout of communities and amenities, and surrounding land uses were observed during the site visit. The site visit did not include a visit to the Polokwane Smelter operational areas.

Interviews and meetings were conducted through a series of informal, open-ended questionnaires with key individuals identified at the outset to represent the local communities and authorities. The questionnaires were developed to guide discussion only rather than for rigorous implementation.

Individuals engaged with are outlined in **Table 1**, and notes of interviews held are provided in **Appendix A**.

Table 1: Interview Record

ORGANISATION	DESIGNATION	NAME	DATE	LOCATION
Ga-Maja Traditional Authority	Traditional Council	M Maja (Kgoši)	11 May 2017	Ga-Maja Traditional Offices
Reboile Community Trust	Board Chairman	Mr Serobi Maja	10 May 2017	Polokwane Gambling Board Office
Ga-Chuene forum	Chairperson	Mr Sinkie Mashapu	12 May 2017	Chuene Resort
Polokwane Local Municipality	Local Economic Development (LED)	Nare Maratola	11 May 2017	Polokwane Local Municipality Offices
	Ward 1	Cllr Abram Baloyi	10 May 2017	Polokwane Local Municipality Offices
	Ward 2	Cllr Josephine Maja	10 May 2017	Polokwane Local Municipality Offices
	Ward 6	Cllr Phoshoko Mapula	10 May 2017	Polokwane Local Municipality Offices
AAP	Social Performance Department	Nkhensani Baloyi	12 May 2017	Anglo Office

DATA ANALYSIS

The socio-economic issues were analysed from the information collected through the desktop and primary data collection phases. Potential positive and negative impacts associated with the proposed project were identified.

IMPACT ASSESSMENT METHODOLOGY

The EIA uses a methodological framework developed by WSP | Parsons Brinckerhoff to meet the combined requirements of international best practice and NEMA, 2014 EIA Regulations.

As required by the EIA Regulations, the determination and assessment of impacts will be based on the following criteria:

- à Nature of the Impact
- à Significance of the Impact
- à Consequence of the Impact
- à Extent of the impact
- à Duration of the Impact
- à Probability if the impact
- à Degree to which the impact:
 - < can be reversed;
 - < may cause irreplaceable loss of resources; and
 - < can be avoided, managed or mitigated.

Following international best practice, additional criteria have been included to determine the significant effects. These include the consideration of the following:

- à Magnitude: to what extent environmental resources are going to be affected;
- à Sensitivity of the resource or receptor (rated as high, medium and low) by considering the importance of the receiving environment (international, national, regional, district and local), rarity of the receiving environment, benefits or services provided by the environmental resources and perception of the resource or receptor); and
- à Severity of the impact, measured by the importance of the consequences of change (high, medium, low, negligible) by considering inter alia magnitude, duration, intensity, likelihood, frequency and reversibility of the change.

It should be noted that the definitions given are for guidance only, and not all the definitions will apply to all of the environmental receptors and resources being assessed. Impact significance was assessed with and without mitigation measures in place.

METHODOLOGY

Impacts are assessed in terms of the following criteria:

- à The **nature**, a description of what causes the effect, what will be affected and how it will be affected

NATURE OR TYPE OF IMPACT	DEFINITION
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.
Direct	Impacts that arise directly from activities that form an integral part of the Project (e.g. new infrastructure).
Indirect	Impacts that arise indirectly from activities not explicitly forming part of the Project (e.g. noise changes due to changes in road or rail traffic resulting from the operation of Project).
Secondary	Secondary or induced impacts caused by a change in the Project environment (e.g. employment opportunities created by the supply chain requirements).
Cumulative	Impacts are those impacts arising from the combination of multiple impacts from existing projects, the Project and/or future projects.

- à The physical extent, wherein it is indicated whether:

SCORE	DESCRIPTION
1	the impact will be limited to the site;
2	the impact will be limited to the local area;
3	the impact will be limited to the region;
4	the impact will be national; or
5	the impact will be international;

à The duration, wherein it is indicated whether the lifetime of the impact will be:

SCORE	DESCRIPTION
1	of a very short duration (0 to 1 years)
2	of a short duration (2 to 5 years)
3	medium term (5–15 years)
4	long term (> 15 years)
5	Permanent

à The **magnitude of impact on ecological processes**, quantified on a scale from 0-10, where a score is assigned:

SCORE	DESCRIPTION
0	small and will have no effect on the environment.
2	minor and will not result in an impact on processes.
4	low and will cause a slight impact on processes.
6	moderate and will result in processes continuing but in a modified way.
8	high (processes are altered to the extent that they temporarily cease).
10	very high and results in complete destruction of patterns and permanent cessation of processes.

à The **probability of occurrence**, which describes the likelihood of the impact actually occurring. Probability is estimated on a scale where:

SCORE	DESCRIPTION
1	very improbable (probably will not happen).
2	improbable (some possibility, but low likelihood).
3	probable (distinct possibility).
4	highly probable (most likely).
5	definite (impact will occur regardless of any prevention measures).

à the **significance**, which is determined through a synthesis of the characteristics described above (refer formula below) and can be assessed as low, medium or high;

à the **status**, which is described as either positive, negative or neutral;

à the degree to which the impact can be reversed;

à the degree to which the impact may cause irreplaceable loss of resources; and

à the *degree* to which the impact can be mitigated.

The **significance** is determined by combining the criteria in the following formula:

$$S = (E+D+M)*P$$

S = Significance weighting

E = Extent

D = Duration

M = Magnitude

P = Probability

The **significance weightings** for each potential impact are as follows:

OVERALL SCORE	SIGNIFICANCE RATING	DESCRIPTION
< 30 points	Low	where this impact would not have a direct influence on the decision to develop in the area
31-60 points	Medium	where the impact could influence the decision to develop in the area unless it is effectively mitigated
> 60 points	High	where the impact must have an influence on the decision process to develop in the area

The impact significance without mitigation measures will be assessed with the design controls in place. Impacts without mitigation measures in place are not representative of the project's actual extent of impact, and are included to facilitate understanding of how and why mitigation measures were identified. The residual impact is what remains following the application of mitigation and management measures, and is thus the final level of impact associated with the development of the Project. Residual impacts also serve as the focus of management and monitoring activities during Project implementation to verify that actual impacts are the same as those predicted in this EIA Report.

1.4 ASSUMPTIONS AND LIMITATIONS

The following assumptions in respect of this study have been identified:

- à Census and municipal data used for baseline information is assumed to be reflective the current situation (e.g. employment, household services).
- à The primary data collected (i.e. issues raised) is assumed to be representative of the sentiments of the broader stakeholders and communities in the vicinity of the site;
- à It is assumed that the proposed project represents the most technically suitable option for reducing emissions from the Polokwane Smelter.

Study limitations include:

- à The SIA was undertaken within a short timeframe, which limited the level of engagement that could be achieved, including engaging with a wider variety of stakeholders. This potentially limits the specialist's understanding of the local social context.
- à Representatives of the Ga-Chuene Tribal Authority were contacted and a meeting requested, however this meeting request was denied. There appears to be a landowner dispute between the two tribal authorities in the area. The Ga-Chuene Tribal Authority representative advised that, due to their intention to legally challenge land ownership associated with the Polokwane Smelter, they were not able to meet with the SIA team.
- à A meeting was scheduled with the Local Economic Development (LED) Manager and the IDP Manager of the Polokwane Local Municipality. On arrival at the municipal offices, the SIA team was advised that neither of these representatives were available for the meeting. The team met with the LED Assistant Manager who made every effort to answer questions posed. The LED Assistant Manager did advised that feedback be received from the LED and IDP Managers; however, following numerous follow ups this feedback is still outstanding.
- à A meeting was held with the representative of the Reboile Community Trust, the organisation that represents the farming community within the immediate vicinity of the smelter. During the SIA fieldwork there was insufficient time available to contact and meet with the commercial farmers that operate in the area.

1.5 DECLARATION OF INDEPENDENCE

Hilary Konigkramer (Director at WSP | Parsons Brinckerhoff) is a qualified social scientist with a Bachelor of Social Science Honours in Environmental Management obtained from the University of Natal in 1998. She has over 15 years' experience as a consulting social and environmental scientist. Hilary was responsible of the overall execution of the SIA study and production of this SIA Report. She was support by both Bathabile Msomi (WSP | Parsons Brinckerhoff) and Danielle Sanderson (Envital):

- à Bathabile Msomi (Consultant at WSP | Parsons Brinckerhoff) is a qualified social scientist with an Honours in Social Science obtained from the University of KwaZulu-Natal in 2011. Bathabile undertook the desktop review and developed the social profile for the project area. She assisted with the SIA fieldwork in April 2017; was responsible for compiling the record of engagement and contributed to the compilation of the SIA Report.
- à Danielle Sanderson (sub-consultant: Envital) is a qualified social scientist with a Masters of Social Science in Environmental Management obtained from the University of KwaZulu-Natal in 2006. She has over 8 years' experience in undertaking socio-economic impact assessments. Danielle was responsible for planning and executing the fieldwork component of the project.

Curriculum vitae for the SIA team are included in **Appendix B**.

Hilary Konigkramer, responsible for undertaking the study, and Bathabile Msomi and Danielle Sanderson who provided support during the study, are independent and do not have a vested or financial interest in the proposed Polokwane Smelter SO₂ abatement project being approved or not.

2 DESCRIPTION OF THE PROJECT

Anglo American Platinum Limited (AAP) owns and operates three smelting complexes, namely Polokwane, Mortimer and Waterval. This project relates to the Polokwane Smelter which is located in the Limpopo Province.

The Polokwane Smelter is an existing metallurgical industrial furnace where sulphide concentrates are smelted. Wet concentrate is received and dried in a flash drier. The dry concentrate is smelted through an electric furnace, resulting in the recovery of platinum group metals (PGMs) and other base metals. The furnace matte is then tapped, cast and crushed. The resulting furnace slag is stockpiled at a dedicated slag storage facility. The furnace off-gas is currently cooled in a forced draft cooler (FDC) before entering a bag-house which de-dusts the off-gas. The off-gas is then vented into the atmosphere via a 150m stack which adheres to current environmental compliance standards.

The NEM:AQA requires that existing furnaces at metallurgical industries be operated with efficient SO₂ abatement systems by 2015, however Polokwane Smelter was given an extension until 2020. In order to comply with new South African legislation and associated more stringent emission standards, an SO₂ abatement system must be installed at the Polokwane Smelter.

The proposed strategy to reduce SO₂ to achieve the MES is the installation of a Wet Gas Sulphuric Acid (WSA) Plant that will convert the SO₂ contained in the off-gas into commercial-grade concentrated sulphuric acid (H₂SO₄). The exhaust from the WSA plant (containing reduced SO₂ concentrations) will be vented into the atmosphere, and the commercial grade sulphuric acid will be temporarily stored before being dispatched into the commercial market.

The area in which the WSA Plant and associated SO₂ abatement equipment (development) will be located is within the Polokwane Smelter complex.

2.1 PROPOSED PROJECT DEVELOPMENT ACTIVITIES

The proposed SO₂ abatement project will include the following activities:

- à Secondary Gas Cleaning including:
 - < Scrubber
 - < Gas cooling tower
 - < Wet electrostatic precipitator (WESP)
- à WSA Plant
- à Effluent Treatment Plant
- à Acid plant cooling water
- à Storage of acid (two tanks)
- à Upgrade of existing internal roads and additional new road construction

2.2 PROJECT ALTERNATIVES

SITE ALTERNATIVES

The development is located at the existing Polokwane Smelter because the technology needs to be installed and connected to the existing gas cleaning equipment. As the project is specifically targeted at achieving the legal compliance of the Polokwane Smelter, no site alternatives were considered.

DESIGN OR LAYOUT ALTERNATIVES

The Scoping Report (WSP | Parsons Brinckerhoff, 2017) outlines a number of layout alternatives that have been considered. The selection of the preferred layout for the proposed SO₂ abatement project (**Figure 2 and Figure 3**) was based on the following key design criteria:

- à The layout must be able to accommodate a future expansion that can accommodate another furnace (similar to existing) and hot gas cleaning section;
- à The existing plant would remain operational during construction of the new facilities;
- à The new acid storage facility is required to allow 20 days' storage for acid; and
- à The boundaries of the plant were based on the consideration of the following:
 - < Existing plant roads to the south of workshops; and
 - < Existing granulated slag conveyer leading to the slag dump.

THE "DO-NOTHING" ALTERNATIVE

The proposed project is necessary to ensure that the Polokwane Smelter complies with the proposed MES requirements for SO₂ by 2020. The proposed project will result in a reduction in SO₂ emissions and the associated positive impact on air quality that will not be realised if the no development option is pursued. Should the project not go ahead, no SO₂ abatement technology would be installed at Polokwane Smelter. This would result in the Polokwane Smelter not meeting the 2020 MES for SO₂. This would constitute a legal non-compliance that may result in legal action being taken against AAP and potentially the closure of the facility. Closure of the Polokwane Smelter would have significant economic implications of AAP and secondary socio-economic impacts such as the loss of employment and local economic benefits.

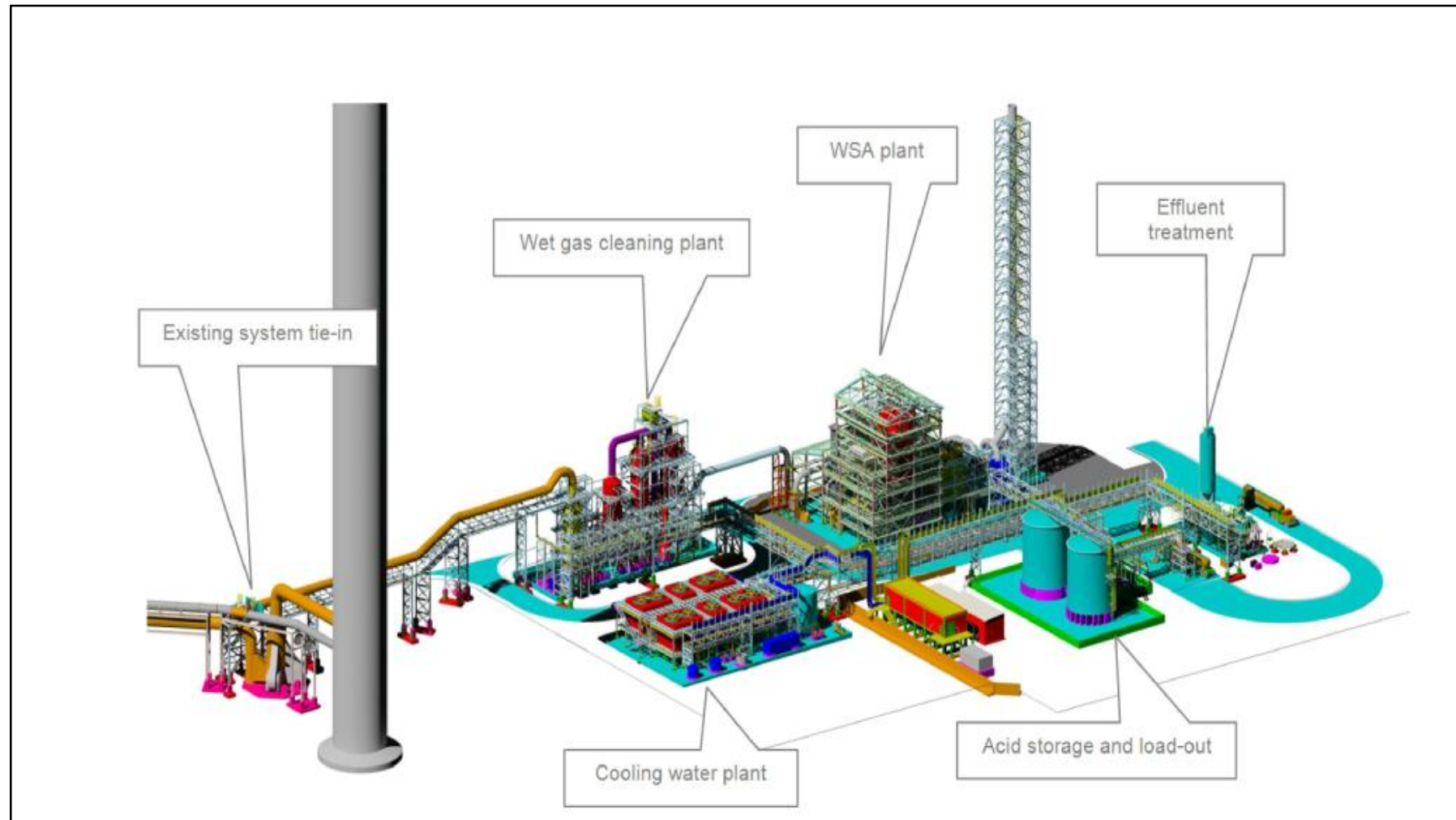


Figure 2: Proposed Layout



Figure 3: Proposed Layout within the Site Context

3 DESCRIPTION OF THE AFFECTED ENVIRONMENT

3.1 REGIONAL SOCIO-ECONOMIC OVERVIEW

The Polokwane Smelter is located off the R37 to Burgersfort, in the Eastern Limb of the Bushveld Igneous Complex approximately 12km south of the city of Polokwane (**Figure 1**) within the Limpopo Province.

LIMPOPO PROVINCE

Limpopo is the northernmost province of South Africa and shares international borders with three countries namely Botswana, Zimbabwe and Mozambique. On its southern edge, Limpopo shares borders with Mpumalanga, Gauteng and the North West Provinces. The Limpopo province has five district municipalities and covers and 125 754 km² making it the fifth largest province in South Africa. The population of Limpopo (5.7 million people) accounted for 10% of South Africa's population in 2014 and currently sits at 5.8 million people in 2016 (Limpopo Community Survey, 2016). The Black African group (97.3%) (**Figure 4**) dominates the population of the province followed by the White group (Statistics SA, 2012).

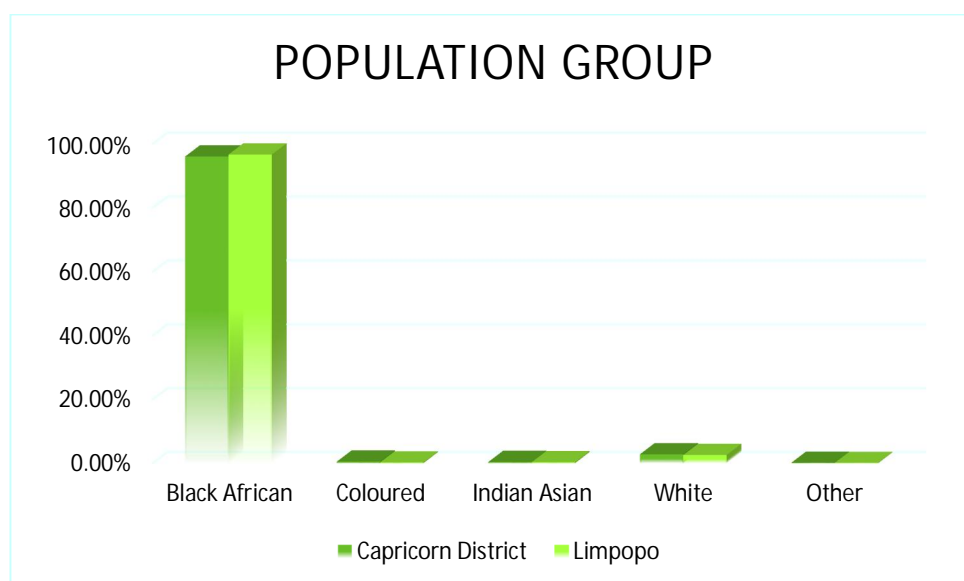


Figure 4: Population Group for Limpopo Province and Capricorn District Municipality (Source: Statistics South Africa (2012)).

The Limpopo Province is essentially rural with no large cities except for Polokwane. Limpopo has the largest number of residents in the former “homeland” areas in the country and is characterised by high levels of poverty. According to Statistics South Africa, Limpopo has the highest level of poverty of any South African province, with 79% of the population living below the national poverty line. Limpopo is thus associated with a high out-migration of the people to urban areas and to other provinces to seek employment opportunities (Provincial Review 2016). The province is a developing region and is dominated by the primary economic sectors. Limpopo accounted for 24%

of national mining output, 7% of national agriculture, 6% of national construction and 2% of national manufacturing. (Limpopo Provincial Review, 2016).

Limpopo is also known as the “garden of South Africa” and produces the majority of South Africa’s mangoes, papayas, avocados, potatoes and tomatoes. The province also produces tea, citrus, bananas, and litchis. While Limpopo is one of South Africa’s poorest provinces, it is rich in wildlife and has a thriving tourism industry. It is home to the Mapungubwe Cultural Landscape, one of the country’s eight World Heritage sites. Approximately 80% of South Africa’s game hunting industry is found in Limpopo Province.

CAPRICORN DISTRICT MUNICIPALITY

The Capricorn District Municipality is situated at the centre of Limpopo and comprises of four local municipalities (Blouberg, Lepelle-Nkumpi, Molemole and Polokwane). It covers an area of approximately 21 705km² and has population density of 71 people per square metre. The population is estimated to be 1 261 463 people with Back African group (96.07%) being the largest population (**Figure 4**) and Sepedi (83.67%) being the most spoken language (**Figure 5**) (Statistics SA, 2012). Urban areas within the district municipality account for 24,84%, and traditional areas make up 72,39% and farms cover 2,78% (**Figure 6**) (Statistics SA, 2012).

The district is situated at the core of economic development in the Limpopo Province and includes the capital of the province, the City of Polokwane. The N1 and various major provincial roads pass through the district municipal area from Gauteng to Zimbabwe and the rest of Africa. The dominant economic sectors in 2014 were Community Services (33.0%), Finance (20.8%), and Trade (21.6%). The Agricultural sector contributed the least to the economy at 1.9% (**Figure 7**).

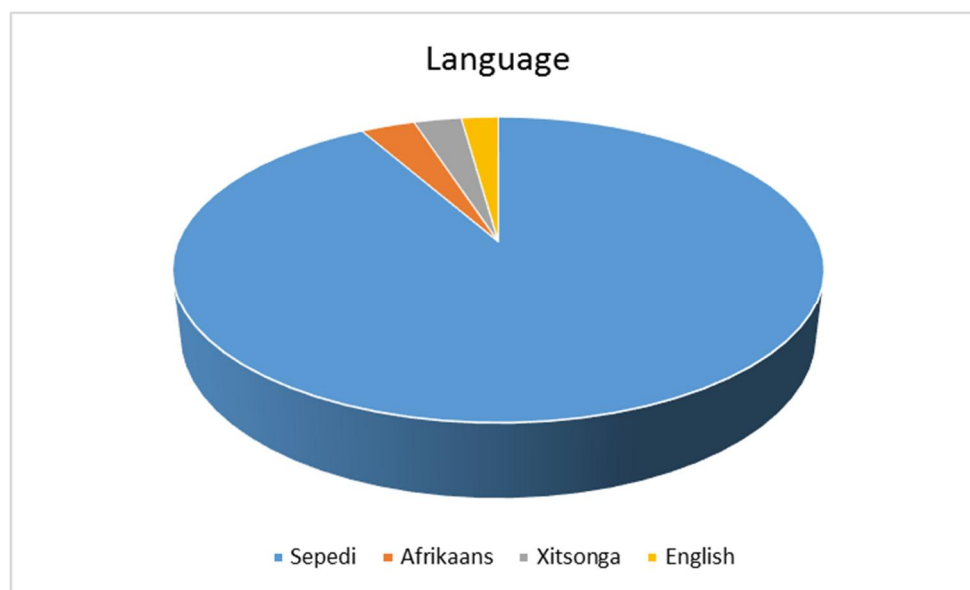


Figure 5: Dominant languages within Capricorn District Municipality (Source: Statistics South Africa (2012)).

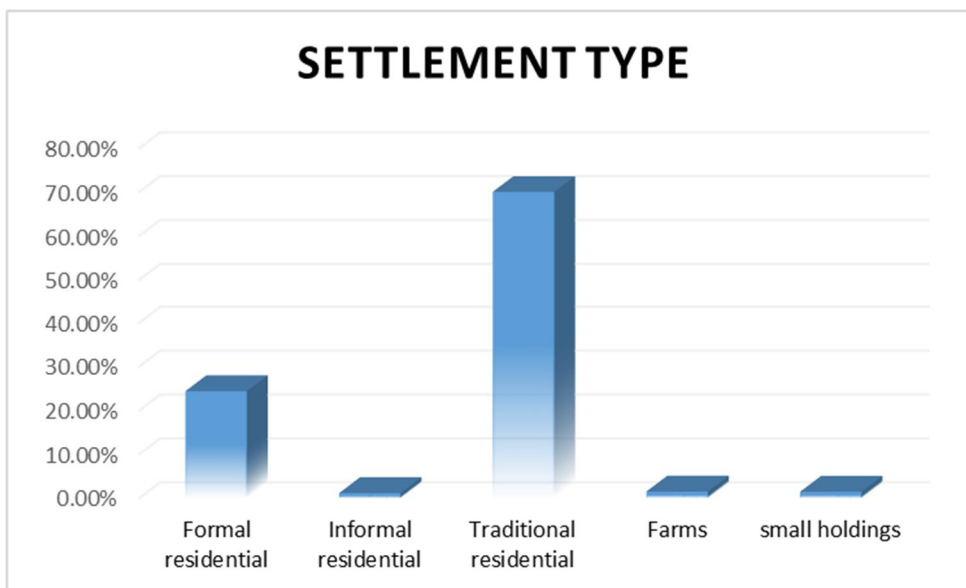


Figure 6: Settlement Type within the Capricorn District Municipality (Source: Statistics South Africa (2012)).

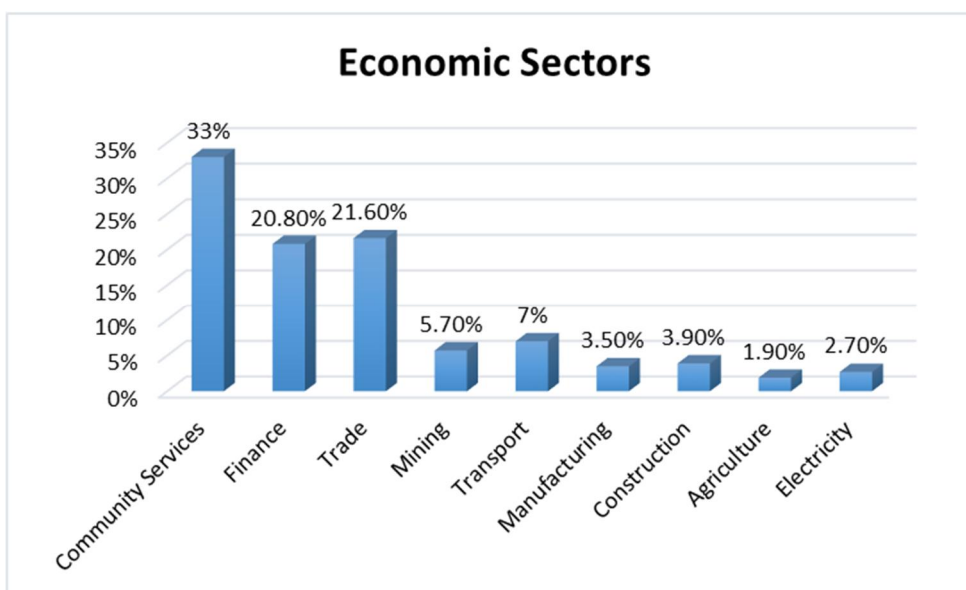


Figure 7: Sectoral Contribution to Capricorn DM Economy (Source: Statistics South Africa, 2012).

3.2

LOCAL CONTEXT

POLOKWANE LOCAL MUNICIPALITY

The proposed project is located within ward 2 of the Polokwane Local Municipality. Polokwane municipality accounts for 3% of Limpopo's total surface area and covers an area of 3 766km². It serves as the economic hub of the Limpopo Province and has the highest population density (167 persons per square metre) in the Capricorn District. According to Statistics SA (2016) the population sits at 797 127 people and is dominated by the Black African (92.9%) population (**Figure 8**) followed by Whites (5.2%) (Statistics SA, 2012). The majority of the population speak Sepedi as their first language (78.7%) followed by Afrikaans (5.3%). The population comprises of 52 % females and 48% males and has a dependency ratio of 54.3% (**Figure 9**) (Statistics South Africa, 2012).

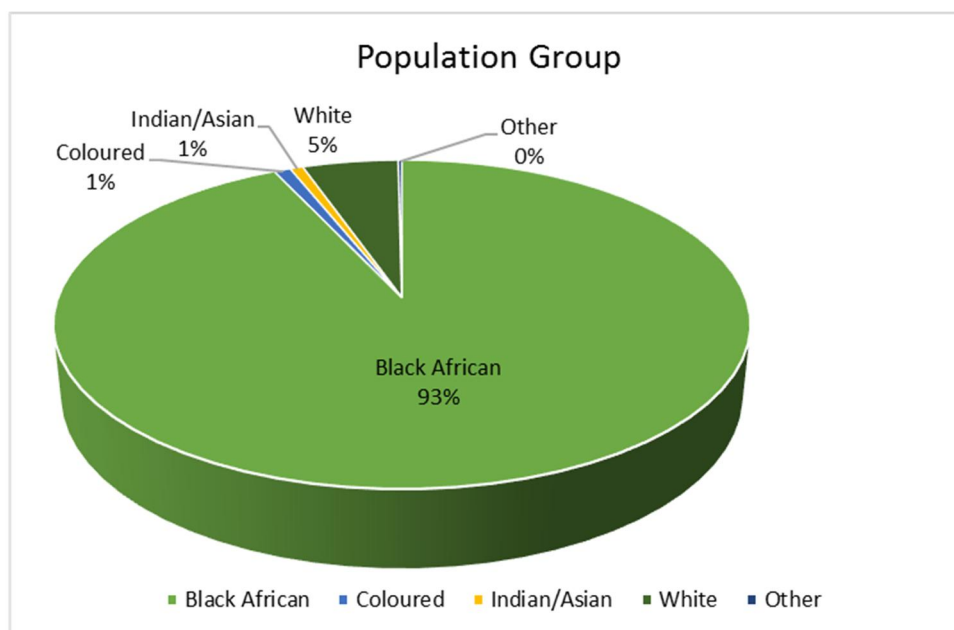


Figure 8: Population Group for the Polokwane Local Municipality (Source: Statistics South Africa (2012))

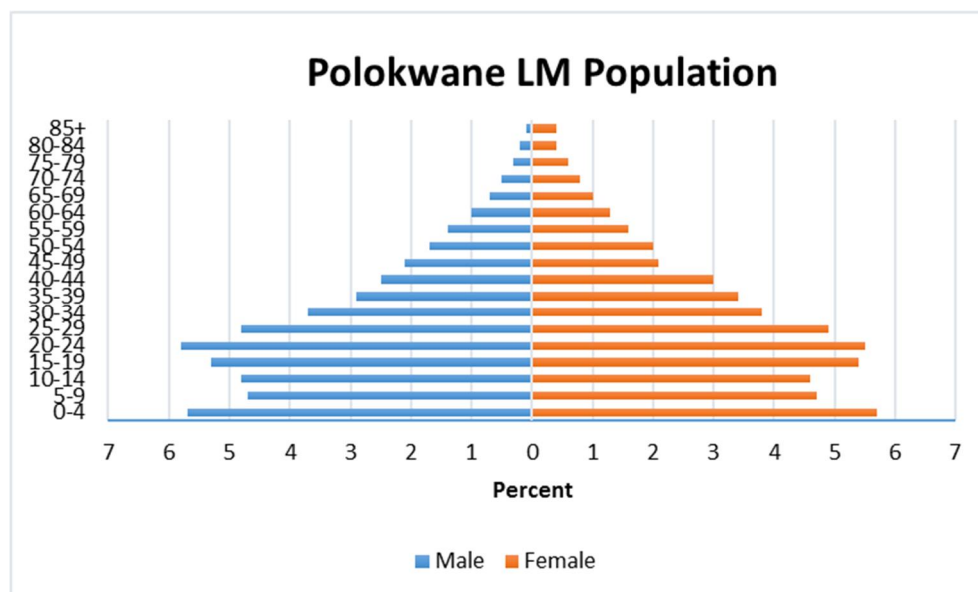


Figure 9: Polokwane Local Municipality Population Pyramid (Statistics SA, 2012)

Polokwane Municipality is predominantly rural and vast land is under traditional authority. The majority of the population live within traditional/ tribal areas (55.8%) which is mostly unplanned and 41% live in urban areas (Statistics South Africa, 2012). As a result, the local service levels in rural areas are poor in comparison to urban areas. Access to electricity is good with 83% of the households having access to electricity for lighting, 70.9% for cooking and 60.8% for heating. Water service provision is fairly good with 82.7% of the households have potable water provided by the municipality and other water service providers, and 9.7% is sourced from boreholes. Sanitation levels are poor with 51, 5% of households still utilising pit toilets and 41, 1% of households being connected to a sewer system (Statistics South Africa, 2012).

Polokwane municipality has a fairly good educational profile considering it largely comprises of rural areas. At least 33, 9% of the population have completed their matric and 13, 6% having a higher education. The education levels and skills training are key determinants of the income levels with 30.71% having no source of income and 35.36% earning between R1 - R 1 600 (**Figure 10**) therefore making income inequality high.

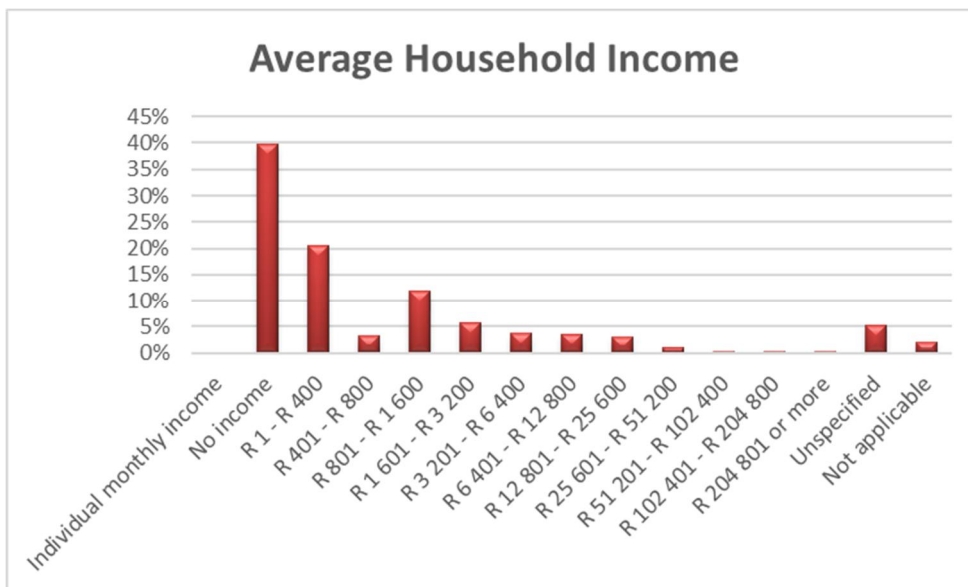


Figure 10: Average Household Income (Source: Statistics South Africa, 2012)

Unemployment levels within the local municipality are very high with 42% of the unemployed being the youth (Statistics South Africa, 2016). Majority of the areas have no or a very small economic base and function as dormitory settlements. Many of the residents are therefore dependant on subsistence agriculture and/or from money sent home from family members working as migrants in metropolitan areas (primarily Gauteng Province). The main economic sectors within Polokwane Local Municipality are Community Services (32%), Finance (23%) and Trade (18.3%) (Statistics South Africa, 2012).

3.3 LOCAL ECONOMIC ACTIVITIES

Polokwane Local Municipality is the dominant municipal economy within the Capricorn District. It is also the largest municipal economy within Limpopo Province. The major contributor to the municipal economy is the community services sector, which is responsible for 32% of the value of contribution. It incorporates a wide range of activities from economic development, infrastructure and community upliftment projects.

MINING

Mining is the smallest contributor to the economy of the Polokwane Municipality and only contributes 4.2% (Polokwane IDP, 2017).

TOURISM

The climate and the strategic location of the city give it an intermediate comparative advantage in tourism. The municipality is strategically located with good road connectivity with national and provincial road networks. It is a gateway for both Southern African and East African tourist markets. Polokwane Game Reserve covers an area of 3 250 hectares and is one of the largest municipal reserves in South Africa.

AGRICULTURE

Agriculture plays a vital role in the economy and contributes around 4.8% of the economic activity in Polokwane. Polokwane's farmers produce 60 000 tons of onions, generating R50 million per, but import all of their agricultural inputs comprising 65% of production value. Polokwane has 41 687 agricultural households and livestock production (40.3%) being the most dominant type of agricultural activity (Statistics South Africa, 2012). The agricultural potential for the Polokwane local municipality is however low due to the low availability of irrigation water.

3.4 LOCAL COMMUNITIES

The communities associated with the Polokwane smelter can be found as far at 70km from the site, due to historical forced resettlement (Anglo SEAT, 2016). **Figure 2** provides an overview of the study area, relevant communities, and significant communities outside of the study area. The SIA study has focused on communities within a 20km radius of the proposed project to allow for a focussed assessment of the local context. The communities described in **Table 2** have been identified through the SEAT Report (Anglo, 2016) and through the field work conducted during the SIA.

The closest urban centre is the city of Polokwane located approximately 12km north of the Polokwane Smelter. The neighbouring land use entirely farm land, owned by private farmers and one community trust (Reboile Community Trust). The nearest farmhouse is <1.25 km away from the Polokwane Smelter. The remaining potentially affected communities comprise enclaves of rural residential houses under the traditional land tenure of two key Traditional Authorities namely the Ga-Maja and Ga-Chuene Traditional Authorities. **Figure 11** provides an overview of these areas, and the grouping of a number of small communities under each of the respective traditional authorities.

Table 2: Description of local towns and communities

TYPE	TOWN / COMMUNITY	DESCRIPTION
City	Polokwane	Polokwane has a total population of 130 028 people and 43 846 households. Dominant population group is the Black African (74,4%) followed by White (18,2%). The land use is 99,9% urban and 0.1% farm area. Education levels are very high with 32.3% having obtained a higher education. Water and Sanitation services are good with 84,5% houses connected to flush toilets and 70,2% having piped water inside dwelling (Stats South Africa, 2012).
Rural - Farming	General farm lands	The areas immediate adjacent to the smelter are comprised of rural farm lands, mainly used for cattle and game farming. Scattered farm houses and farm operational structures are found within these areas, connected by gravel roads
	Palmietfontein	Palmietfontein is located 4km north of the smelter on the R37 road. It is comprised of mixed used including farming, residential and small-scale commercial (e.g. brick manufacturing).
	Elmadal Agricultural Holdings	Elmadal is located 9 km north-west of the site, and has a total population of 825 people and 362 households. Settlement types are farms Formal dwellings 97.2%. Majority of the population (44%) earn an income within R9601 –R 19 600 (Stats South Africa, 2012).
Rural – Traditional (Group 1)	Matobole	Matobole is located 14.4km south east of the smelter and covers an area of 2,89km ² with a total population of 2566 people. The land is under traditional authority and comprises of 624 households. Water and sanitation services are very poor with 0.5% houses having flush toilets connected to municipal sewer. Only 0.9% households have piped water inside their dwellings (Stats South Africa, 2012).
	Ga-Mmakata	Ga-Mmakata village is approximately 17km south east of the smelter.

TYPE	TOWN / COMMUNITY	DESCRIPTION
	Ga Thaba	GaThaba has a total population of 3042 people and a population density of 1350 people/km ² . Tenure is under traditional authority with 94.1% of formal dwellings. Water and sanitation services are very poor with 0% houses having flush toilets connected to sewer. Only 0.9% have piped water inside dwellings (Stats South Africa, 2012).
	Mphogodiba	Mphogodiba has a total population of 447 people and a population density of 131 people/km ² . Tenure is under traditional authority. Water and sanitation services are very poor with 0% houses having flush toilets connected to sewer. Only 1.9% have piped water inside dwellings. Income levels are very low with 32.7% having no income. Therefore high number of grant dependent households (Stats South Africa, 2012).
Rural – Traditional (Group 2)	Ga- Maja	Ga-Maja is approximately 17km south of the smelter has a total population of 8 053 people and a population density of 587 people/km ² . Tenure is under traditional authority of which 41% is urban and 55.8% traditional dwellings. Farm areas make up 3.2% of the community. Household income is fair with 20.8% earning between R0 - R4, 800 (Stats South Africa, 2012).
Rural – Traditional (Group 3)	Ga-Chuene	Ga-Chuene is located 17km south of the smelter with a total population of 5 488 people. It is densely populated (1097 people/km ²) and has a total of 1265 households. Tenure is under traditional authority with 90.3% formal dwellings. The average household income is low with 24.1% earning between R0 - R4, 800 (Stats SA, 2012). Sanitation system in place are VIP toilets (61, 7%) and 14,2% having none (Stats South Africa, 2012).
	Ga-Tshwene	Ga-Tshwene is located approximately 19.9km south of the smelter. It comprises of 555 households and a total population of 2117 people. Tenure is under traditional authority and comprises of 94.*% formal dwellings. Water and sanitation are a challenge with 2% having piped water inside dwellings and 2.7% have flush toilets connected to sewerage (Statistics South Africa, 2012).
Rural – Traditional (Group 4)	Manthorwane	Manthorwane Village is located 13,6km east of the smelter. It comprises of an informal settlement area. There are very limited services and infrastructure (Mmola, 2012).

The site has good road access with the R37 located to the west of the mine and the national N1 road is 11.6km northwest of the site. The surrounding land uses are mainly mining and agricultural activities.

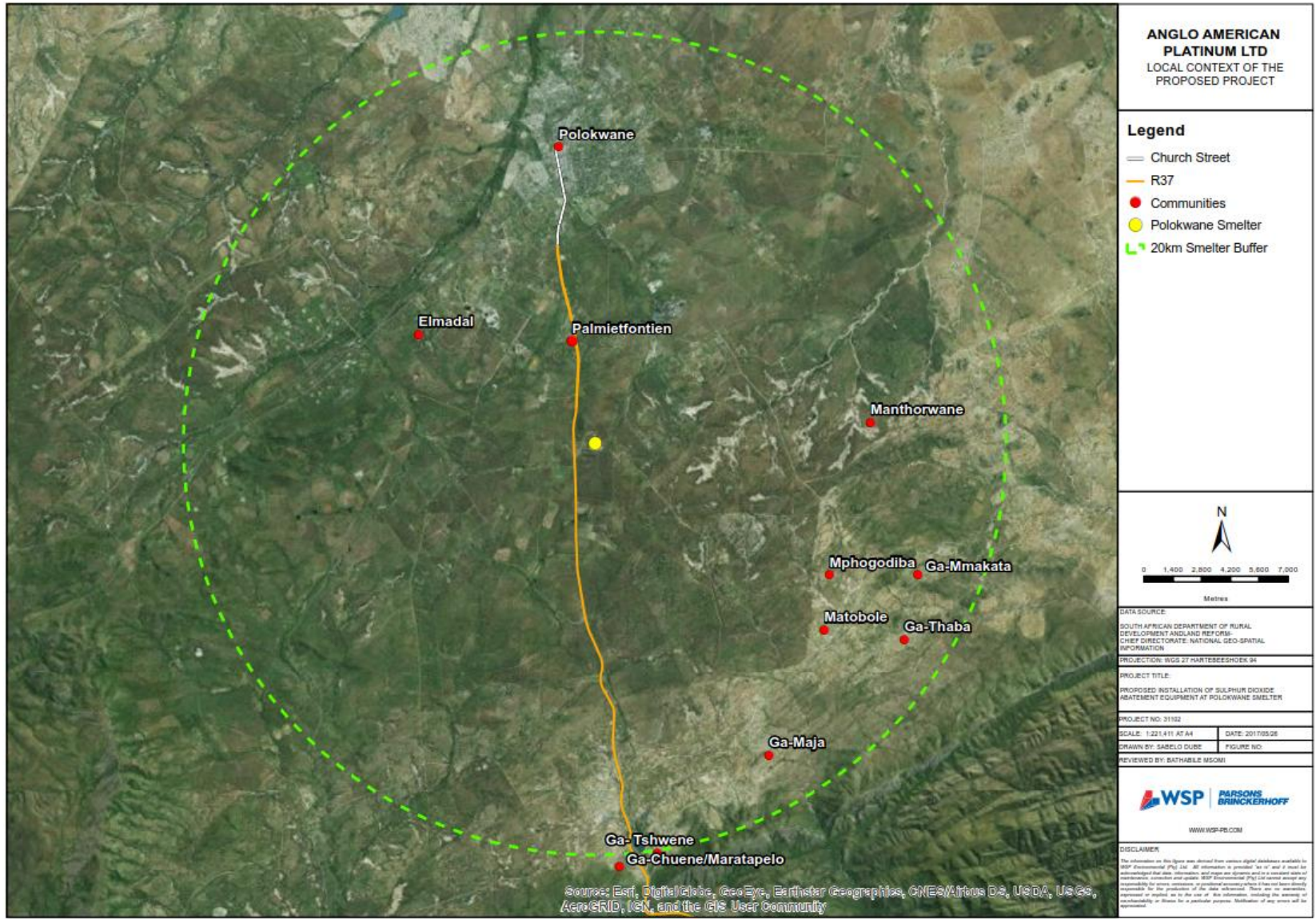


Figure 11: Local context of the proposed project (WSP GIS, 2017)

4 SOCIO-ECONOMIC POLICY AND PLANNING CONTEXT

4.1 NATIONAL POLICIES

BROAD BASED BLACK SOCIO-ECONOMIC EMPOWERMENT CHARTER FOR SOUTH AFRICAN MINING INDUSTRY

The Amended Broad-Based Socio-Economic Empowerment Charter for South African Mining Industry (2010) (Mining Charter) falls within the ambit of the MPRDA, and aims to promote the policy objectives of this piece of legislation. The need to have a common goal of promoting equitable socio-economic development and redress historical issues related to the mining sector under apartheid underpins the Mining Charter.

The Mining Charter was launched in 2002, and amended in 2010. The main aim of the Mining Charter is to facilitate the sustainable transformation and development of South Africa's mining industry. A review process was initiated in 2015 to align the Charter with the provisions of the Broad Based Black Economic Empowerment (BBBEE) Act 2003. The Draft Reviewed Broad Based Black Socio-Economic Empowerment Charter for the South African Mining and Minerals Industry was published for comment in April 2016.

BBBEE means a viable economic empowerment of all black people, in particular women, workers, youth, people with disabilities and people living in rural areas through integrated economic strategies.

The objectives of the Mining Charter are:

- a) To promote equitable access to the nation's mineral resources to all the people of South Africa;
- b) To substantially and meaningfully expand opportunities for black people to enter the mining and minerals industry and to benefit from the exploitation of the nation's mineral resources;
- c) To utilise and expand the existing skills base for the empowerment of Historically Disadvantaged South Africans (HDSA's) and to serve the community;
- d) To promote employment and advance the social and economic welfare of Mine communities and major labour sending areas;
- e) To promote beneficiation of South Africa's mineral commodities; and
- f) Promote sustainable development and growth of the mining industry.

The Mining Charter aims to address historical inequalities and create a sustainable mining industry for the future. It introduces the notion of sustainable development and social license to operate in terms of environmental, health and safety performance.

Mine communities form an integral part of the mining development. There needs to be meaningful contribution towards community development in order to comply with the principles of the social license to operate. The mining company is required to conduct an assessment to determine the

developmental needs of the mining communities. Companies must identify projects that are within the communities' needs in collaboration with the relevant communities.

4.2 PROVINCIAL POLICIES

LIMPOMPO DEVELOPMENT PLAN (2015 – 2019)

The Limpopo Development Plan LDP strives for economic development and transformation to enable the province to address challenges such as poverty, inequality and unemployment. The provincial objectives are the following;

- à Create decent employment through inclusive economic growth and sustainable livelihoods
- à Improve the quality of life of citizens
- à Prioritise social protection and social investment
- à Promote vibrant and equitable sustainable rural communities
- à Raise the effectiveness and efficiency of a developmental public service
- à Ensure sustainable development

The proposed development will improve the quality of living for communities within and near Anglo operations which will be in line with Outcome 10 (Environmental Protection) of the MTSF.

SPATIAL DEVELOPMENT FRAMEWORK

The Limpopo SPDF has developed secondary objectives pertaining to the Environmental aspects and Agricultural potential of soils, namely:

- à To ensure that resources in the province are used to their fullest potential in promoting, protecting and managing a sustainable environment;
- à To include information contained in available databases to assist with decision making at strategic and project level assist in decision-making;
- à To identify areas with high, moderate and low environmental sensitivity in order to assist with the correct placement of proposed developments from a strategic perspective;
- à To ensure that environmental issues are identified and adequately addressed from the early planning phases and mitigated to an acceptable level; and
- à To determine the environmental approach and studies needed for proposed developments in the different sensitivity areas.

4.3 DISTRICT AND LOCAL MUNICIPALITY POLICIES

CAPRICORN DISTRICT MUNICIPALITY INTEGRATED DEVELOPMENT PLAN (2017 – 2021)

The Capricorn District Municipality Integrated Development Plan has the following five key strategic organisational objectives:

- à To provide sustainable basic services and infrastructure development;
- à To improve spatial development and environmental management;
- à To enhance financial viability and management;
- à To enhance conditions for economic growth and job creation; and

à To increase the capacity of the district to deliver its mandate.

Environmental management and environmental compliance with environmental legislation are priority areas for the district. The SO₂ Abatement project objectives are to ensure compliance with South African Emission Standards which will align with the objectives of the district municipality.

POLOKWANE LOCAL MUNICIPALITY DRAFT INTEGRATED DEVELOPMENT PLAN (2017 - 2018)

The Department of Economic Development, Environment and Tourism has a strategic mandate to help promote economic development and growth in the province. The DEDET has the following strategic objectives:

- à Job creation within a sustainable environment
- à Ensure a healthy and fair trade
- à A preferred eco-tourism destination
- à Sustainable environmental management
- à Increase in productive investment
- à Thriving enterprises in all sector

The Polokwane Smelter currently contributes to poor air quality with its high levels of SO₂. The proposed SO₂ abatement technology will reduce the SO₂ emissions from the smelter operations thus improving the air quality hence, a sustainable management of the environment.

5

FINDINGS

5.1 CURRENT LOCAL SOCIAL ISSUES

Various current social and socio-economic issues exist within the Polokwane Local Municipality. These include the current social, cultural and political landscape and the existing mining activities. An overview of these issues, as identified through the SIA process, is provided below. Note that the high level description may not necessarily cover all potential issues of concern to local communities

UNEMPLOYMENT

The unemployment rate within the Polokwane Local Municipality is 32,4% which is high compared with the national employment rate of 25.4% (Statistics SA, 2016). Limpopo province is one of the most underprivileged and poor provinces in the country (Statistics SA, 2012). The dominant employment sector in the area is community services and retail. A number of the skilled population is employed in Johannesburg and other provinces (Polokwane LED, 2017). Temporary employment opportunities are created through the Expanded Public Works Programme (EPWP) and these normally last for six months to ensure that other community members are given an opportunity. The high unemployment rate results in a reliance on government grants as the sole form of income for a large proportion of the population (20, 8%) (Ga-Maja, 2017). Only a small portion of the communities are involved in small scale agriculture due to lack of water availability and infrastructure for irrigation. One of the key aspects raised during the SIA study was that rural communities are seeking skills development, and specifically in transferrable skills (e.g. welding, brickmaking) and entrepreneurship.

WATER RESOURCES

Polokwane Local Municipality sources its water from several dams within the municipality, as well as a limited number of boreholes. Challenges in the municipality mostly relate to a lack of water resources and lack of infrastructure. The rural nature of the surrounding villages' means that there is minimal or no water infrastructure in place. The rural communities are dependent on groundwater resources thus utilise boreholes. Concerns are raised in the Polokwane IDP relating to potential contamination of groundwater sources due to the extensive use of pit latrines in rural areas. Constraints on the municipality to provide services include absent or degraded infrastructure, service delivery challenges as a result of socio-political conflict.

The Limpopo Province is generally considered a water-scarce region, but water was not raised as a significant concern during the SIA study. Interviewees did, however, acknowledge that most rural communities did not have access to piped water, and relied on boreholes.

LACK OF SERVICE PROVISION

Polokwane Local Municipality is predominantly rural and a large proportion of the population reside outside of urban areas. The lack of basic and social services within these areas is a constraint to quality of life and socio-economic development within rural communities. Key issues raised during the SIA fieldwork, in addition to water services, were backlogs of sanitation, poor road infrastructure and maintenance, and a limited accessibility to healthcare services.

Within the Ga-Chuene and Ga-Maja region south of the site (Groups 1, 2 and 3 in **Table 2**), there is only one clinic which is shared by 13 villages (+/-19 000 people). Individuals have to walk, or pay for a lift to travel, significant distances to obtain health services. This places a significant constraint on the health and wellbeing of these communities, and is especially challenging to pregnant women and in emergency situations. HIV/AIDS and other poverty related diseases also place pressure on the clinic which has staff and resource constraints. The only provincial hospital is in Polokwane, which is approximately a substantial distance from most rural communities (e.g. 45km away (pers. comm. Ga-Maja Traditional Council, 2017)).

There is a lack of adequate sanitation facilities within the rural areas of the municipality. A majority of these communities depend on groundwater from boreholes, which are often situated in close proximity to pit latrines thus increasing the risk of groundwater contamination. This poses a serious health risk for rural communities.

SOCIAL CONFLICT

Polokwane city is the administrative capital of Polokwane Local Municipality, which is predominantly rural and mainly comprises of tribal communities and leadership. Tribal authority areas cover over 55% of the local municipal area.

The SIA highlighted a wide range of social, economic and political issues within and between the local communities. This included lack of equitable distribution of economic development, lack of meaningful engagement with all parties, and accusations of nepotism. The role of historical forced resettlement and unequal distribution of development contribute to current social unease. There is, however, little physical evidence of this conflict, as communities appear to remain fairly stable, and few recent protests and civil action has been recorded.

The working relationship between the traditional authorities and ward councillors was noted, during the SIA study, to be weak. This is due to limited communication between the municipality and rural communities, and has resulted in perceived and actual political and social conflicts. For example, it was indicated during the interview process that not all tribal authorities are engaged with in terms of municipal planning and development processes, and are often unaware, or not properly informed, of planned projects (Ga-Maja Tribal Authority, 2017).

The issue of employment appears to be the central issue for rural communities, and they view large organisations, such as Anglo American, as being central to supplying local employment. An apparent lack of engagement by employers and municipalities and biased allocation of employment and development opportunities is perceived by local community representatives as indicators of corruption, leading to social discontent.

5.2 SOCIO-ECONOMIC IMPLICATIONS OF THE POLOKWANE SMELTER OPERATIONS

EMPLOYMENT, LOCAL ECONOMIC DEVELOPMENT AND UPLIFTMENT

The Polokwane smelter employs approximately 1000 people from Limpopo and the surrounding provinces. This has a positive impact on the local, regional and national economy through increased purchasing power and local economic benefits. It was however noted during the SIA discussions that majority of the employees are not from the nearby villages. A majority of the local communities have no line of communication with the smelter regarding employment opportunities. There are less than 3 representatives from the Ga-Chuene who are permanently employed at the Smelter (pers. comm. Mr S Mashapu, 2017).

The Polokwane Smelter has contributed to the improvement of sanitation in partnership with the municipality by building VIP toilets in Thogwaneng (located within Ga-Chuene Tribal Authority area). The following projects are linked to AAP (pers. comm. N Baloyi [AAP], 2017):

- à Reboile cattle farming project;
- à Renovated schools in the Ga-Chuene community;
- à R10.7 million was set aside to upgrade the water reticulation system at Solomondale; and
- à Clinic at Ga-Mashashane.

SOCIAL CONFLICT

The operations at the Polokwane Smelter has contributed to discontent within a number of local communities. Interviews conducted during the SIA indicated the following issues (perceived or actual) continue to contribute to this challenge:

- 1) A lack of a formal communication channels (specifically relating to AAP operations) with traditional and community leadership.
- 2) A lack of representation of communities on forums (municipal and business)
- 3) The biased awarding of projects or job opportunities (which has resulted in tension between the communities)
- 4) Biased business partnerships and negotiations by Anglo with certain community members or groups, and not others.

The Ga-Maja community, for example, indicated that there are no formal lines of communications with AAP, and that they are not made aware of opportunities or developments within their own communities often until after it has happened.

Ga-Chuene communities protested in 2014 against lack of employment opportunities at the Smelter, which resulted in the formation of a forum in 2015 for representation of these communities. This forum was set up specifically to encourage communication between AAP and Ga-Chuene community representatives. This forum therefore does not seem to adequately encompass all communities, leading to further social dissatisfaction. This has secondary implications for communities, for example a recent water reticulation project by Anglo has been forced to stop due

to community dissatisfaction with the appointed contractor, and resulting in continued lack of infrastructure. A similar issues was noted during the SIA with a new sports facility being developed by AAP, has not moved ahead due to lack of interest by the contractor.

The underlying political and social tensions serve to further disrupt community development. These may be the result of historical political issues, but are easily aggravated by poor stakeholder engagement.

AIR QUALITY

The operational activities at the Polokwane Smelter contribute to poor ambient air quality in the Polokwane area. The smelter has been identified as a sources of SO₂ emissions with a medium significance impact to the ambient air quality. During the SIA discussions it was highlighted that the emissions/smoke from the smelter was a concern for many of the communities as they did not know what it contains (Ga-Maja, 2017). 2017. The air quality impacts are most significant are the communities that will be resettled back onto the land.

AGRICULTURAL DAMAGE

It was noted during the SIA fieldwork by the manager of the neighbouring farm, Reboile Community Trust, that since the commencement of operations at the smelter in 2003 there has been a decline in the productivity of the farm (pers. comm. Mr S Maja, 2017). It was stated that over the past ten years, three issues have become significant problems for the farm, all of which are believed to be a direct result of emissions from the smelter under prevailing wind conditions, namely:

- (1) Loss of a significant number of cattle due to contaminated surface water;
- (2) Considerable loss of grazing capacity due to loss of grass over a large area of the farm; and
- (3) Severely and rapidly rusting of fences resulting in the need to replace this infrastructure at various sections of the farm.

According to the Reboile Community Trust representative, Mr S Maja, the above issues were raised with AAP, and as a result waste and air quality sampling was undertaken at the farm by AAP. The farm manager was advised by AAP to put a chemical in the water to improve the water quality and the loss of cattle ceased.

An air quality sampler is still present near the farm operations building, however, the manager is not aware of any other tests having being conducted, and the damage to grass and fences continues to be a problem.

5.3 IDENTIFIED SOCIAL IMPACTS

During the SIA fieldwork, stakeholders were asked whether they had any particular concerns relating to the proposed Polokwane Smelter SO₂ abatement project. The Polokwane Local Municipality, Ga-Maja Tribal Authority and community representatives voiced their support for the project because it will result in an improvement in local air quality. Other stakeholders engaged with did not have any specific concerns in respect of the proposed project. No significant potential social and socio-economic impacts were identified in respect of the proposed Polokwane Smelter SO₂. A summary of the potential impacts associated with the proposed project and with the no-go alternative are provided below.

CONSTRUCTION PHASE

EMPLOYMENT OPPORTUNITIES

During the construction phase it is anticipated that approximately 250 skilled and unskilled employment opportunities will be generated. The employment opportunities will not be full time and will vary over the during the construction phase, up to the estimated maximum of 250 individuals.

The majority of the employment opportunities are likely to be associated with contractors appointed to construct the proposed facility and associated infrastructure. It is anticipated, due to the nature of the project, that the installation of plant and equipment is likely to be implemented by specialist contractors. As contractors tend to use their own staff, the potential for new opportunities are limited. Potential employment opportunities for locals during the construction phase will be limited to unskilled opportunities and would only materialise should appointed contractor require additional short-term labour. The high unemployment rate (40%) indicates that the generation of local employment opportunities will have an impact on the local population, and it will be possible to source unskilled labour from the population living within the towns and communities within the Polokwane Local Municipality. Employment for previously disadvantaged people could contribute to social upliftment and poverty alleviation.

The project is unlikely to generate significant interest from outside of the local area as such the influx of jobseekers in response to the project, during the construction phase, is considered improbable.

LOCAL ECONOMIC DEVELOPMENT OPPORTUNITIES

The local economic development opportunities associated with the construction phase are likely to be limited to the following:

- à Use of local contractors for construction phase activities;
- à Sourcing of construction phase materials, such as metal sheeting and cement, locally; and
- à The increase in demand for locally procured construction materials may result in an increase in job opportunities.

NUISANCE FROM NOISE, DUST AND TRAFFIC DISBURBANCES

The construction of the proposed project is likely to result in a number of localised disturbances including the generation of dust, noise and traffic. As the proposed project site is located within the existing Polokwane Smelter operational area, it is unlikely that noise and dust impacts will extend beyond the existing boundary. In addition, there are no communities or settlements located within close proximity to the proposed site. The Environmental Management Programme (EMPr) will include mitigation measures to reduce dust and noise generation during the construction phase in order to adequately mitigate the potential nuisance and ensure there is limited impact on social receptors.

Traffic impacts during the construction phase will be limited to the movement of construction materials to the site and limited site clearing associated with proposed road construction (within the facility boundary). Appropriate mitigation measures to reduce traffic impacts associated with traffic movements in and out of the area will be included in the EMPr.

OPERATIONAL PHASE

RETENTION OF EXISTING EMPLOYEES

The proposed project will not generate many additional employment opportunities during the operational phase. It is foreseen that approximately three new operators, and potentially additional maintenance staff, will be required to support the new plant. The proposed project will ensure that the facility meets the legal requirements associated with the MES. The proposed project will therefore ensure the continued operation of the Polokwane Smelter, thereby securing the continued employment of current staff at this facility.

IMPROVEMENT IN AIR QUALITY

The operational phase of the proposed project will result in an improvement in the ambient air quality in the vicinity of the Polokwane Smelter. The primary driver for the proposed SO₂ abatement project is to ensure that the SO₂ emissions from the smelter are reduced in order to facilitate adherence to the 2020 MES. This reduction in emissions will improve the air quality in the areas surrounding the site.

NO-GO ALTERNATIVE

LOST OPPORTUNITY TO IMPROVE AIR QUALITY

The primary driver for the proposed Polokwane Smelter SO₂ abatement project is to ensure that the facility meets the 2020 MES. Should the project not be implemented this would represent a lost opportunity to improve ambient air quality by a reduction in SO₂ emissions.

POTENTIAL RISK OF CLOSURE

In the event that the proposed SO₂ abatement project does not go ahead, the facility will not be able to meet the 2020 MES for SO₂. This legal non-compliance may result in legal action being taken against AAP and the potential temporary or permanent closure of the facility. Closure of the Polokwane Smelter would have significant implications on AAP and would result in the loss of employment and local economic benefits.

5.4 IMPACT ASSESSMENT

This section provides a summary of the impact assessment of the identified potential social impacts discussed in **Section 5.3** in respect of the various project phases and the no-go alternative. The full assessment matrix is attached in **Appendix C**.

CONSTRUCTION PHASE

No significant socio-economic implications are anticipated during the construction phase of the proposed Polokwane Smelter SO₂ abatement project.

The positive impacts associated with the construction phase are the potential for employment and economic development opportunities, both of which are considered to be of low significance. There are a number of recommendations that can enhance of these impacts including appointment of local contractors and use of local labour as far as possible; and use of local suppliers and manufacturers.

The potential negative impacts are limited to minor nuisance factors such as noise, dust and traffic disturbances, all of which can be adequately addressed through the implementation of the EMPr.

Table 3 provides a summary of the significance of the potential social impacts associated with the construction phase of the proposed SO₂ abatement project.

Table 3: Summary of Construction Phase Impacts

POTENTIAL IMPACT	SIGNIFICANCE WITHOUT MITIGATION	SIGNIFICANCE WITH MITIGATION
Employment opportunities	Low (positive impact)	Medium (positive impact)
Local economic development opportunities	Low (positive impact)	Medium (positive impact)
Nuisance from noise, dust and traffic disturbances	Low (negative impact)	Low (negative impact)

OPERATIONAL PHASE

No significant socio-economic impacts associated with the operational phase of the proposed project have been identified.

Whilst the operational phase of the proposed project will not result in many new employment opportunities, it will ensure that existing jobs are retained at the Polokwane Smelter. Should the project not be implemented the facility is at risk of potential closure.

The proposed SO₂ project will contribute positively by improving the ambient air quality for the surrounding communities and contribute towards the combating of climate change.

Table 4 provides a summary of the significance of the potential social impacts associated with the operational phase of the proposed SO₂ abatement project.

Table 4: Summary of Operational Phase Impacts

POTENTIAL IMPACT	SIGNIFICANCE WITHOUT MITIGATION	SIGNIFICANCE WITH MITIGATION
Retention of existing employees and creation of 3 new opportunities	Low (positive impact)	Low (positive impact)
Improvement in ambient air quality	Medium (positive impact)	Medium (positive impact)

NO-GO ALTERNATIVE

In the event that the proposed Polokwane Smelter SO₂ abatement project does not go ahead, the following socio-economic implications are anticipated:

- à Lost opportunity to improve ambient air quality (due to a reduction in SO₂ emissions).
- à The Polokwane Smelter will not be able to meet the 2020 MES for SO₂. This legal non-compliance may result in legal action being taken against AAP and potentially the closure of the facility. Closure of the Polokwane Smelter would have significant implications on AAP and would result in the loss of employment and local economic benefits.

Table 5 provides a summary of the significance of the potential social impacts associated with the no-go alternative.

Table 5: Summary of No-Go Alternative Impacts

POTENTIAL IMPACT	SIGNIFICANCE WITHOUT MITIGATION
Lost opportunity to improve ambient air quality	Medium (negative impact)
Potential risk of closure (resulting in loss of employment and local economic benefits)	Medium (negative impact)

6 KEY RECOMMENDATIONS

The proposed Polokwane Smelter SO₂ abatement project is not anticipated to result in any significant socio-economic impacts. Socio-economic recommendation in respect of the proposed project have been identified in order to enhance the potential benefits of the project. It is recommended that these measures, outlined below, are included in the EMP.

6.1 ENSURING LOCAL EMPLOYMENT AND PROCUREMENT

Should unskilled labour be required during the construction phase, this should be sourced from the local communities. This requirement must be specified within the contract signed by the contractor.

AAP is to ensure that any new or replacement employment and procurement opportunities maximise benefits to local communities. Currently, AAP has a local recruitment and procurement policy in place, which their contractors must adhere to and provide evidence thereof. This may be enhanced through consultation with local communities and leadership, as well as the Department of Labour. This engagement may include ascertaining the local skills levels and providing information on general and scarce skills needs, as well as procurement opportunities available at the AAP facility. This process would aim at encouraging local communities to develop skills for future employment at the Polokwane Smelter operations.

6.2 STAKEHOLDER COMMUNICATION

It is recommended that the existing stakeholder forums, as well as other community based engagement undertaken regularly by AAP, are maintained. AAP should review their engagement strategy to ensure that the various communities and stakeholder groups are well-represented and that regular and adequate communication is achieved with all relevant stakeholders. This will assist to mitigate potential social conflict arising from a breakdown in communication with some communities.

7 CONCLUSION

The SIA has not identified any negative social impacts that may result from the proposed Polokwane Smelter SO₂ abatement project. The project is an improvement project which will take place within the existing operational footprint of smelter operations. The operational phase social impacts identified are limited to positive impacts namely improved air quality and retention of existing employees through the continued operation of the facility.

There are a number of external social issues within the local communities, including dissatisfaction with basic and social service provision, high unemployment, crime, and cultural and community conflict. The proposed SO₂ abatement project itself will not exacerbate these issues.

It is recommended that AAP continue stakeholder engagement activities and look for opportunities to improve communication through existing forums or feedback mechanisms). This has the potential to contribute towards the mitigation of potential future disruptions and conflict.

Appendix A

ENGAGEMENT RECORDS

LOCAL COMMUNITY REPRESENTATIVES (REBIOLE TRUST)

Name: Mr Maja

Venue: Offices: Gambling Board Offices

Date: 10 May 2017

1. Community description:

1.1. How many people (approx.) live in community/ies?

There are no communities where the Anglo smelter is located. Communities were forcefully removed from this area. Members of the communities are approximately 40km to the North and 70km South and others scattered in other areas. The Rebiole Trust serves two communities. Rebiole and Ga-Maja

1.2. Is it made up of mostly formal or informal housing?

1.3. Is it mostly families or individuals?

1.4. Where do people in the communities come from? Limpopo or other areas / countries?

1.5. What languages are spoken in the community?

Sepedi

1.6. Where do most people from this community work /get income (mining, farming, business, other)?

People employed by shops in the town, community and government departments and small-scale farming.

1.7. What other (formal or informal) employment activities are people involved in (farms, shops, houses, other)?

Cattle farming (+/- 100 cattle) and small-scale subsistence farming. There is a Protea Project, which was initiated because of their natural occurrence in the area. However, it is not doing well because fields of the Protea's was burned down.

1.8. Do you know what the monthly income (range) per household/individual?

1.9. Describe land tenure within the local area and other land issues (eg land disputes, evictions, land claims)

Traditional community. Challenges of formally dividing land parcels. Land on which smelter is located was handed back to the community (forceful removals).

2. Key Issues

2.1. What is the level of basic services in the community (water, sanitation, electricity, health, education)?

Water challenge, deteriorating school infrastructure.

2.2. What are the current service related challenges in the area?

No water connections and dependent on boreholes.

2.3. What are the communities' key issues? Health, services, general

2.4. Is there any conflict within the community or with other communities? If so, what is this about?

3. Relationship with Anglo:

3.1. How would you describe your relationship with Anglo?

We have direct communication with Anglo. However various structures are in place.

3.2. Are there safety or environmental risks associated with Anglo's operations? If so, what are these? Can measures be taken to address these risks?

3.3. In general, is Anglo considered a good neighbour in the local area? Please provide reasons.

Good neighbours.

3.4. Have there been tension between local residents and the Anglo operation?

There were conflict during the awarding of the water reticulation tender project. But none at present.

3.5. Are local residents given access to Anglo services (schools, medical services etc.)?

4. Economy, livelihoods and labour force

4.1. What is the most common livelihood activity within the local area and why? Where do people work mostly?

People are mostly employed in town (Polokwane). Community and government departments.

4.2. What is the most sought after work in the local area and why?

4.3. Is there high unemployment in the community? To what extent? (i.e. how would they rate majority of the population: no cash income; low income, medium income, high income)

Very high unemployment.

4.4. What are the main skills in the local area?

4.5. What are the main skills gaps in the local area?

4.6. Do people still farm (veg/cattle) to support the families/households?

Yes.

4.7. How else do people get money? Is there a high reliance on social grants?

High dependence on social grants.

4.8. Are there certain times of the year that are more or less difficult (in relation to workload, food security, income, expenditure?) If so, who is affected most and why?

4.9. Does Anglo contribute to local communities and businesses? How?

A business forum is in place that engages with Anglo to look for business opportunities and empower community.

5. Health

5.1. What are the main health issues in the community? What do you think are the main reasons for these issues?

5.2. Describe health facilities, services and programmes in the local area and are these accessible to the majority?

Clinic at Naledi and Ga - Maja

5.3. To what extent are living conditions contributing to health conditions?

5.4. To what extent are traditional healers and medicines used in the local area, and are they used with or instead of medical practices?

5.5. Does is Anglo / local authority / other business help the community with health facilities?

6. Utilities, infrastructure and services

6.1. Is the Anglo operation affecting local infrastructure services (i.e. provision of services, damage of roads, subsidising new infrastructure, access to Anglo services etc.)

- Modern clinic was built in Naledi with funds from Platinum Amatlala
- Water reticulation project in Mashashane
- Fencing for home based care centre at Ga-Maga

- 6.2. What are the existing housing pressures in the local area? (is the adequate housing supply, what is the quality of existing available housing)?

Government has built houses however; we do not appreciate the RDP notion (very unsustainable). We want people to be able to build their own houses in order to eliminate demand for houses from government.

- 6.3. Is there access to safe drinking water? What is the primary source of water (e.g.: communal pumps, piped, wells, etc)?

There are no schools and no community on site.

- 6.4. Do the local community have access to electricity for light, heating and cooking?
- 6.5. Are there significant power outages within the local area? Are some communities / settlements more affected than others?
- 6.6. Is there a formal sewage system in place? If, so what type of system is in place (eg. Piped network, and treatment?)
- 6.7. Is there a formal waste collection system in place in the local area? If waste is not collected, what do local resident do with it?
- 6.8. Are there roads that need to be upgraded? Have any new roads been constructed / upgraded in the local area during the last 5 years?

7. Safety and Security

- 7.1. Do the Anglo operations cause any water, air, noise issues for local communities?
- 7.2. How safe is the local area? Are their safety issues within the local area? Are certain areas safer than others? Describe differences

Criminal activities are higher in the urban areas compared to the rural areas.

- 7.3. What type of security issues and criminal activities are most common? Is any of it associated with Anglo?
- 7.4. In the local area, is security provided by police, private security companies and / or criminal elements? Does it work?

8. Proposed Abatement Project

- 8.1. What do you understand about the proposed project?

No knowledge.

- 8.2. Has there been communication / consultation has been held with the TA in respect of the project, if so what has taken place?

None

- 8.3. Does the Community have any expectations for proposed project, in terms of how they see Anglo contributing to local communities through this project?
- 8.4. Do you feel the community have been given sufficient information about the project?
- 8.5. If no, what information would you like to receive from Anglo?
- 8.6. How do you think it will affect the community?

Air quality is a concern for people who will relocated back into the area. Therefore, improvement of the air quality would be an advantage.

9. Other relationships:

- 9.1. What is the community's association/relationship with the Local Municipality?

Used to engage with municipality in the past. However, they are no longer involved as land is private property. Currently have issue of trying to formally partition land. However, Municipality cannot intervene as land is private property.

9.2. What other community structures are there operating in/with the local communities – to raise issues, funding, NGOs, etc?

Sentahle Home Based Care Centre

Role of Rebiole

Played a role in obtaining land back for families who were forcefully removed in 1961. There are cemeteries on the property and these families will be returning to this area.

WARD COUNCILLOR

Name:	Cllr Phoshoko Mapula (Ward 6)
Date:	10 May 2017
Place:	Polokwane Local Municipality Offices

1. Community Issues / needs

1.1. What are the key challenges/issues and key needs (local social and economic) for the local communities around Polokwane?

- High Unemployment,
- Crime Housebreakings (not very high)
- Poor road conditions- There are some areas that still have gravel roads in poor condition

1.2. Do you know of any municipal (or Anglo) infrastructure and/or social services projects (current and proposed) being implemented to meet community needs?

2. Community Liaison:

2.1. What is the formal communications channels with the communities in your Ward – TA / other?

2.2. Have any community communication channels (e.g. community liaison forums) been established in the local area with Anglo or other? If so, what was their key function/purpose, and how often do they meet?

2.3. How successful have these been?

3. Relationship with Anglo:

3.1. What are the issues and concerns that communities have about Anglo's activities in the local area?

3.2. In general, is Anglo considered a good neighbour in the local area? Please provide reasons.

I do not have any knowledge, as I have never been involved. Maybe previous ward councillor has knowledge?

3.3. Are there safety or environmental risks associated with Anglo's operations? If so, what are these? Can measures be taken to address these risks?

3.4. Has there been tension between local residents and the Anglo operation?

3.5. Are many Anglo employees sourced from outside the area?

3.6. Are local residents given access to Anglo services (schools, medical services etc.)?

4. Economy, livelihoods and labour force

4.1. Where do most people work from communities in your ward?

Majority of the population are employed as teachers and nurses. Other are employed as contractual employees.

4.2. What is the most sought after job and skill in the local area and why?

4.3. What are the main skills gaps in the local area?

4.4. Is there high unemployment in the community? To what extent? (i.e. how would they rate majority of the population: no cash income; low income, medium income, high income)

Unemployment is very high.

4.5. What is the main source of income in the local area?

Employment and social grants.

4.6. Do people in the communities rely on traditional livelihoods/ subsistence agriculture?

4.7. To what extent households/people rely on grants?

Many people are dependent on grants (elderly and orphans)

5. Health

5.1. What are the main health issues in the community?

Not sure

5.2. What health facilities, services and programmes are there available to communities?

5.3. Are they easily accessible?

There is adequate access to health facilities. Hospital is not far.

5.4. What would you say are the main reasons for poor health in the local area

6. Utilities, infrastructure and services

6.1. Is the Anglo operation affecting local infrastructure services (i.e. provision of services, damage of roads, subsidising new infrastructure, access to Anglo services etc.)

6.2. What are the existing housing pressures in the local area? (is the adequate housing supply, what is the quality of existing available housing)?

6.3. Describe access to safe drinking water within the local area – what is the primary source of water (e.g.: communal pumps, piped, wells, etc)?

Water supply is a serious challenge. The source is the problem (where water is purchased). Service is not continuous and cuts off at times.

6.4. Do the local community have access to electricity for light, heating and cooking?

Electricity services are good.

6.5. Are there significant power outages within the local area? Are some communities / settlements more affected than others?

6.6. Is there a formal sewage system in place? If, so what type of system is in place (eg. Piped network, and treatment?)

Very poor sanitation services. There are some sections, which have not been allocated VIP toilets and utilise self-made pit toilets.

6.7. Is there a formal waste collection system in place in the local area? If waste is not collected, what do local resident do with it?

6.8. Have any new roads been constructed / upgraded in the local area during the last 5 years? Are there any plans to do this?

No

6.9. Describe land tenure within the local area and other land issues (eg land disputes, evictions, land claims)

Some areas are urban and others fall under traditional authority.

7. Nuisance Factors

7.1. What nuisance factors are most commonly raised amongst stakeholders in the local area?

7.2. Are there environmental impacts caused by Anglo's operation (eg. Water air, noise, etc)? Have complaints been lodged in respect of these

8. Safety and Security

8.1. How safe is the local area for the communities? Are their safety issues within the local area?

Crime is an issue but the levels are very low

8.2. Are certain areas safer than others? Describe differences

8.3. What type of security issues and criminal activities are most common? And why do you think this happens?

Housebreaking

8.4. In the local area, is security provided by police, private security companies and / or criminal elements?

8.5. Is there any social instability associated with the Anglo operations?

9. Local Business

9.1. There is a local Limpopo Consumer Coalition. What do they do? How are they involved with communities or communities with the Coalition?

There is a business forum but not operational.

WARD COUNCILLOR

Name:	Councillor Baloyi
Date:	10 May 2017
Place:	Polokwane Local Municipality Offices

1. Community Issues / needs

- 1.1. What are the key challenges/issues and key needs (local social and economic) for the local communities around Polokwane?
- 1.2. Do you know of any municipal (or Anglo) infrastructure and/or social services projects (current and proposed) being implemented to meet community needs?

2. Community Liaison:

- 2.1. What is the formal communications channels with the communities in your Ward – TA / other?
- 2.2. Have any community communication channels (e.g. community liaison forums) been established in the local area with Anglo or other? If so, what was their key function/purpose, and how often do they meet?

Meetings are through the IDP. No meetings have been planned to date. The previous councillor had formed a committee to assist communities in getting jobs. However, there was no handover from the old councillor to myself.

- 2.3. How successful have these been?

3. Relationship with Anglo:

- 3.1. What are the issues and concerns that communities have about Anglo's activities in the local area?

Anglo does not consult with the Ward councillor. I have been in the position for 9 months but have never interacted with the Smelter (whether it is hiring people). There were 65 bus drivers that were hired for six months from my village but I had no knowledge of this. Anglo needs to communicate with the local municipal representatives and also engage with communities.

- 3.2. In general, is Anglo considered a good neighbour in the local area? Please provide reasons.

No, communities do not benefit from the operations.

- 3.3. Are there safety or environmental risks associated with Anglo's operations? If so, what are these? Can measures be taken to address these risks?

- 3.4. Has there been tension between local residents and the Anglo operation?

There have been community unrests because the communities are angry.

- 3.5. Are many Anglo employees sourced from outside the area?

People from outside mainly obtain employment at the smelter. They appoint contractors from the North West.

- 3.6. Are local residents given access to Anglo services (schools, medical services etc.)?

4. Economy, livelihoods and labour force

- 4.1. Where do most people work from communities in your ward?

Not sure. I do have communication with Anglo.

- 4.2. What is the most sought after job and skill in the local area and why?

People would like to obtain welding skills, fixing of windows could benefit communities as we have had storms that damaged houses. There are lack of financial resources and support to open up opportunities.

4.3. What are the main skills gaps in the local area?

Low education levels within the area. Majority of people are from rural areas and are unskilled.

4.4. Is there high unemployment in the community? To what extent? (i.e. how would they rate majority of the population: no cash income; low income, medium income, high income)

High levels of unemployment. Population survives on grants.

4.5. What is the main source of income in the local area?

The EPWP programme allows for employment via municipal projects such as cutting of trees, drainage maintenance. These are temporary employment opportunities and last for six months then a new group is recruited.

4.6. Do people in the communities rely on traditional livelihoods/ subsistence agriculture?

Cattle (goats and sheep's) subsistence farming in villages (mealies).

4.7. To what extent households/people rely on grants?

5. Health

5.1. What are the main health issues in the community?

5.2. What health facilities, services and programmes are there available to communities?

5.3. Are they easily accessible?

5.4. What would you say are the main reasons for poor health in the local area

6. Utilities, infrastructure and services

6.1. Is the Anglo operation affecting local infrastructure services (i.e. provision of services, damage of roads, subsidising new infrastructure, access to Anglo services etc.)

Anglo renovated a school within the community but the Councillor had no knowledge of this.

6.2. What are the existing housing pressures in the local area? (is the adequate housing supply, what is the quality of existing available housing)?

6.3. Describe access to safe drinking water within the local area – what is the primary source of water (e.g.: communal pumps, piped, wells, etc)?

6.4. Do the local community have access to electricity for light, heating and cooking?

6.5. Are there significant power outages within the local area? Are some communities / settlements more affected than others?

6.6. Is there a formal sewage system in place? If, so what type of system is in place (eg. Piped network, and treatment?)

6.7. Is there a formal waste collection system in place in the local area? If waste is not collected, what do local resident do with it?

6.8. Have any new roads been constructed / upgraded in the local area during the last 5 years? Are there any plans to do this?

6.9. Describe land tenure within the local area and other land issues (eg land disputes, evictions, land claims)

7. Nuisance Factors

7.1. What nuisance factors are most commonly raised amongst stakeholders in the local area?

7.2. Are there environmental impacts caused by Anglo's operation (eg. Water air, noise, etc)? Have complaints been lodged in respect of these

8. Safety and Security

8.1. How safe is the local area for the communities? Are their safety issues within the local area?

- 8.2. Are certain areas safer than others? Describe differences
- 8.3. What type of security issues and criminal activities are most common? And why do you think this happens?
- 8.4. In the local area, is security provided by police, private security companies and / or criminal elements?
- 8.5. Is there any social instability associated with the Anglo operations?

9. Local Business

- 9.1. There is a local Limpopo Consumer Coalition. What do they do? How are they involved with communities or communities with the Coalition?

LOCAL COMMUNITY REPRESENTATIVES

Name:	Edgar Raphahlelo Edgar
Date:	11 May 2017`
Place:	Reboile Farm

1. Community description:

- 1.1. How many people (approx.) live in community/ies?
- 1.2. Is it made up of mostly formal or informal housing?
- 1.3. Is it mostly families or individuals?
- 1.4. Where do people in the communities come from? Limpopo or other areas / countries?
- 1.5. What languages are spoken in the community?
- 1.6. Where do most people from this community work /get income (mining, farming, business, other)?
- 1.7. What other (formal or informal) employment activities are people involved in (farms, shops, houses, other)?
- 1.8. Do you know what the monthly income (range) per household/individual?
- 1.9. Describe land tenure within the local area and other land issues (eg land disputes, evictions, land claims)

2. Key Issues

- 2.1. What is the level of basic services in the community (water, sanitation, electricity, health, education)?
- 2.2. What are the current service related challenges in the area?
- 2.3. What are the communities' key issues? Health, services, general
- 2.4. Is there any conflict within the community or with other communities? If so, what is this about?

3. Relationship with Anglo:

- 3.1. How would you describe your relationship with Anglo?

Reboile is the property owner and leases approximately 600ha of land to Anglo. Farms are community farms. However, the lease amount is little. R5million over 20 years -= R5000 per month. We have requested Anglo to review the lease agreement, as they are not paying us anything.

We have monthly meetings with Anglo. We have raised issues but have no response.

- 3.2. Are there safety or environmental risks associated with Anglo's operations? If so, what are these? Can measures be taken to address these risks?

Air quality and water quality issues

When operations commenced there was an increase in cattle loss between 2001 and 2014. I suspect this was caused by the water quality. Anglo sampled water that cattle drank and we were advised to use a substance, which improved water quality. There was no cattle loss after that.

Before we used to graze 300 cows and now only graze 130. Increase in patches of burnt grass. It could be a result of sulphuric acid, which kills anything it comes into contact with. There is an increase in rust of (fence and roof). In 2010, the fence had to be changed because of the rust.

3.3. In general, is Anglo considered a good neighbour in the local area? Please provide reasons.

Anglo is causing division amongst the communities. Anglo is negotiating business with certain members who are not representing the whole community.

3.4. Have there been tension between local residents and the Anglo operation?

The lease agreement was signed in 2001. In terms of the lease, agreement Anglo operations must ensure transfer of skills, employment opportunities and business opportunities for the communities. There is not a single company that is in business with Anglo. There were protests in 2014 where operations at the smelter ceased for a day.

3.5. Are local residents given access to Anglo services (schools, medical services etc.)?

4. Economy, livelihoods and labour force

4.1. What is the most common livelihood activity within the local area and why? Where do people work mostly?

4.2. What is the most sought after work in the local area and why?

4.3. Is there high unemployment in the community? To what extent? (i.e. how would they rate majority of the population: no cash income; low income, medium income, high income)

4.4. What are the main skills in the local area?

4.5. What are the main skills gaps in the local area?

There is a lack of mining related skills and employment opportunities given to the locals. This will lead to tension and conflict. Youth are being provided with hospitality skills but this does not help because there are limited employment opportunities related to this skill.

4.6. Do people still farm (veg/cattle) to support the families/households?

4.7. How else do people get money? Is there a high reliance on social grants?

4.8. Are there certain times of the year that are more or less difficult (in relation to workload, food security, income, expenditure?) If so, who is affected most and why?

4.9. Does Anglo contribute to local communities and businesses? How?

5. Health

5.1. What are the main health issues in the community? What do you think are the main reasons for these issues?

5.2. Describe health facilities, services and programmes in the local area and are these accessible to the majority?

5.3. To what extent are living conditions contributing to health conditions?

5.4. To what extent are traditional healers and medicines used in the local area, and are they used with or instead of medical practices?

5.5. Does is Anglo / local authority / other business help the community with health facilities?

6. Utilities, infrastructure and services

6.1. Is the Anglo operation affecting local infrastructure services (i.e. provision of services, damage of roads, subsidising new infrastructure, access to Anglo services etc.)

Clinic was built in Mashashane and it is nearing completion. Approximately R10 million was allocated for a water project in Solomondale. This project is on hold due to conflicts. The village is not completely made up of the Maja population that was forcefully removed.

6.2. What are the existing housing pressures in the local area? (is the adequate housing supply, what is the quality of existing available housing)?

6.3. Is there access to safe drinking water? What is the primary source of water (e.g.: communal pumps, piped, wells, etc)?

Boreholes on farm.

- 6.4. Do the local community have access to electricity for light, heating and cooking?
- 6.5. Are there significant power outages within the local area? Are some communities / settlements more affected than others?
- 6.6. Is there a formal sewage system in place? If, so what type of system is in place (eg. Piped network, and treatment?)
- 6.7. Is there a formal waste collection system in place in the local area? If waste is not collected, what do local resident do with it?
- 6.8. Are there roads that need to be upgraded? Have any new roads been constructed / upgraded in the local area during the last 5 years?

7. Safety and Security

- 7.1. Do the Anglo operations cause any water, air, noise issues for local communities?
- 7.2. How safe is the local area? Are their safety issues within the local area? Are certain areas safer than others? Describe differences
- 7.3. What type of security issues and criminal activities are most common? Is any of it associated with Anglo?
- 7.4. In the local area, is security provided by police, private security companies and / or criminal elements? Does it work?

8. Proposed Abatement Project

- 8.1. What do you understand about the proposed project?
- 8.2. Has there been communication / consultation has been held with the TA in respect of the project, if so what has taken place?
- 8.3. Does the Community have any expectations for proposed project, in terms of how they see Anglo contributing to local communities through this project?
- 8.4. Do you feel the community have been given sufficient information about the project?
- 8.5. If no, what information would you like to receive from Anglo?
- 8.6. How do you think it will affect the community?

9. Other relationships:

- 9.1. What is the community's association/relationship with the Local Municipality?
- 9.2. What other community structures are there operating in/with the local communities – to raise issues, funding, NGOs, etc?

Business forum

LOCAL COMMUNITY REPRESENTATIVES

Name:	Sinkie Mashapu (Ga-Cheune Community Representative)
Date:	12 May 2017
Place:	Ga Chuene Resort

1. Community description:

- 1.1. How many people (approx.) live in community/ies?
Seven villages in Ga-Cheune
- 1.2. Is it made up of mostly formal or informal housing?
Formal dwellings
- 1.3. Is it mostly families or individuals?
Mostly families
- 1.4. Where do people in the communities come from? Limpopo or other areas / countries?
Majority of the population originates from this area.
- 1.5. What languages are spoken in the community?
Sepedi
- 1.6. Where do most people from this community work /get income (mining, farming, business, other)?
Polokwane Town
- 1.7. What other (formal or informal) employment activities are people involved in (farms, shops, houses, other)?
- 1.8. Do you know what the monthly income (range) per household/individual?
R3 500
- 1.9. Describe land tenure within the local area and other land issues (eg land disputes, evictions, land claims)
Traditional authority.

2. Key Issues

- 2.1. What is the level of basic services in the community (water, sanitation, electricity, health, education)?
All households have access to electricity. Villages have VIP toilets, Lack of high mast lights
- 2.2. What are the current service related challenges in the area?
- 2.3. What are the communities' key issues? Health, services, general
- 2.4. Is there any conflict within the community or with other communities? If so, what is this about?
No conflict between communities. Only political conflict.

3. Relationship with Anglo:

- 3.1. How would you describe your relationship with Anglo?
Ga-Chuene meets with Anglo on a quarterly basis. Committee formed and engagements are new.
- 3.2. Are there safety or environmental risks associated with Anglo's operations? If so, what are these? Can measures be taken to address these risks?
During the construction of the smelter, many contractors from different places came into our villages. Because of the lack of employment, the local woman had relations with the

contractors which resulted in an increase in HIV rates and also an increase in numbers of children without fathers.

3.3. In general, is Anglo considered a good neighbour in the local area? Please provide reasons.

Protests last year due to tension between communities and Anglo. Opportunities are given to people from the outside. Approximately 3 people from Ga-Cheune are permanently employed at smelter.

3.4. Have there been tension between local residents and the Anglo operation?

Yes, last year.

3.5. Are local residents given access to Anglo services (schools, medical services etc.)?

4. Economy, livelihoods and labour force

4.1. What is the most common livelihood activity within the local area and why? Where do people work mostly?

Retail, domestic workers and contract jobs.

4.2. What is the most sought after work in the local area and why?

4.3. Is there high unemployment in the community? To what extent? (i.e. how would they rate majority of the population: no cash income; low income, medium income, high income)

Yes, Low.

4.4. What are the main skills in the local area?

Engineer, Human Resource Management, and people with trade skills

4.5. What are the main skills gaps in the local area?

Carpentry welding, No FET colleges nearby to assist communities.

4.6. Do people still farm (veg/cattle) to support the families/households?

Cattle farming and subsistence farming (tomatoes and spinach)

4.7. How else do people get money? Is there a high reliance on social grants?

Grants.

4.8. Are there certain times of the year that are more or less difficult (in relation to workload, food security, income, expenditure?) If so, who is affected most and why?

4.9. Does Anglo contribute to local communities and businesses? How?

5. Health

5.1. What are the main health issues in the community? What do you think are the main reasons for these issues?

5.2. Describe health facilities, services and programmes in the local area and are these accessible to the majority?

5.3. To what extent are living conditions contributing to health conditions?

5.4. To what extent are traditional healers and medicines used in the local area, and are they used with or instead of medical practices?

5.5. Does is Anglo / local authority / other business help the community with health facilities?

6. Utilities, infrastructure and services

6.1. Is the Anglo operation affecting local infrastructure services (i.e. provision of services, damage of roads, subsidising new infrastructure, access to Anglo services etc.)

6.2. What are the existing housing pressures in the local area? (is the adequate housing supply, what is the quality of existing available housing)?

- 6.3. Is there access to safe drinking water? What is the primary source of water (e.g.: communal pumps, piped, wells, etc)?
- 6.4. Do the local community have access to electricity for light, heating and cooking?
- 6.5. Are there significant power outages within the local area? Are some communities / settlements more affected than others?
- 6.6. Is there a formal sewage system in place? If, so what type of system is in place (eg. Piped network, and treatment?)
- 6.7. Is there a formal waste collection system in place in the local area? If waste is not collected, what do local resident do with it?
- 6.8. Are there roads that need to be upgraded? Have any new roads been constructed / upgraded in the local area during the last 5 years?

7. Safety and Security

- 7.1. Do the Anglo operations cause any water, air, noise issues for local communities?
- 7.2. How safe is the local area? Are there safety issues within the local area? Are certain areas safer than others? Describe differences
- 7.3. What type of security issues and criminal activities are most common? Is any of it associated with Anglo?
- 7.4. In the local area, is security provided by police, private security companies and / or criminal elements? Does it work?

8. Proposed Abatement Project

- 8.1. What do you understand about the proposed project?
- 8.2. Has there been communication / consultation has been held with the TA in respect of the project, if so what has taken place?
- 8.3. Does the Community have any expectations for proposed project, in terms of how they see Anglo contributing to local communities through this project?
- 8.4. Do you feel the community have been given sufficient information about the project?
- 8.5. If no, what information would you like to receive from Anglo?
- 8.6. How do you think it will affect the community?

9. Other relationships:

- 9.1. What is the community's association/relationship with the Local Municipality?
- 9.2. What other community structures are there operating in/with the local communities – to raise issues, funding, NGOs, etc?

TRADITIONAL AUTHORITY

Name:	Ga-Maja Traditional Authority
Date:	11 May 2017
Place:	Ga-Maja Traditional Offices

1. Communications

1.1. How does the TA communicate with the local communities?

Communication is via the headman and headwoman. Messages are sent out to schools and meetings are held with representatives who channel it back to community.

1.2. Does the TA interact with the ward councillors?

Currently there is no interaction between ward councillors and TA. Councillors undermine the Traditional Authority.

1.3. Are there community /municipal forums on which the TA are represented?

Yes.

2. Communities

2.1. What is the TA's role in the local communities and local area?

This Traditional Council is responsible for facilitation of services and facilities within the community. They resolve grievances and conflicts. They are responsible for land allocation.

2.2. What are the communities' key issues at the moment? i.e. what are meetings about / What problems are the people concerned about? Services, social, economic, etc

3. Relationship with Anglo:

3.1. How would you describe your relationship with Anglo (specifically Polokwane Smelter / Polokwane Metallurgical Complex (PMC))?

There has been no interaction with Anglo. There is no communication with between Anglo and the council. We have no knowledge of Anglo's social responsibilities.

3.2. How does Anglo communicate with the TA and / or community representatives / community in general (formal or informal)? Are there regular meetings / forums for information sharing and raising of issues/concerns?

No meetings between Anglo and the community. There is no committee that represents the community at the smelter.

3.3. In general, is Anglo considered a good neighbour in the local area? Please provide reasons.

There are no formal lines of communication with Anglo representative.

4. Anglo Operations

4.1. Are there safety or environmental risks associated with Anglo's operations? If so, what are these? Can measures be taken to address these risks?

We have no knowledge of environmental impacts associated with the operations. There is nobody from the smelter who understands the implications of the operations and who has shared that knowledge with us.

4.2. Have there been incidents of tension between local residents and the Anglo operation?

There are concerns amongst the community but because there is no communication between the two parties, conflict is bound to erupt.

4.3. Are local residents given access to Anglo services (schools, medical services etc.)?

4.4. Is there any social instability associated with the Anglo operations?

5. Local Economic Development

5.1. Are there are major economic development proposals in the local area or region by Anglo / Municipality/other?

There is a proposal for the development of a R30 million sports complex. The project is on hold. People have not been paid for 2 months.

A site/ land has been set aside for a proposed mall. This has been assessed many times by business investors.

5.2. What community initiatives (current and proposed) does the Authority have?

Multi Office Cluster for Traditional Authority- not functioning. There is a vacant building without staff.

6. Local Livelihoods

6.1. What is the main source of income for people in the TA's communities?

People are mainly employed in the town of Polokwane. Others are employed in Johannesburg.

6.2. How else are people employed? (e.g, do they work in small businesses, work for farmers)

6.3. Describe activities that households use to support their livelihoods (e.g. subsistence farming, informal employment, grants, etc.)

Cattle farming, subsistence farming and social grants.

6.4. Does Anglo contribute to the local economy? How? Is it positive or negative?

No.

7. Health

7.1. What are the main health issues in the community?

7.2. Describe health facilities, services and programmes in the local area and are these accessible to the majority?

7.3. To what extent are traditional healers and medicines used in the local area, and are they used with or instead of medical practices?

7.4. What are the major reasons for poor health in the local area

7.5. How is Anglo / local authority / other business responding to health issues in the area?

8. Utilities, infrastructure and services

8.1. What are the primary infrastructure needs in the community?

8.2. Is the Anglo operation affecting local infrastructure services (i.e. provision of services, damage of roads, subsidising new infrastructure, access to Anglo services etc.)?

8.3. Is there enough houses for people? Or is there a shortage?

8.4. What is the quality of existing available housing?

8.5. Describe access to safe drinking water within the local area?

8.6. What is the primary source of water (e.g. communal pumps, piped, wells, etc.)?

8.7. Do the local community have access to electricity for light, heating and cooking?

8.8. Have any new roads been constructed / upgraded in the local area during the last 5 years? Are there any plans to do this?

No

9. Safety and Security

9.1. How safe is the local area for the general population? What safety issues are there?

9.2. Are some areas safer than others? Describe differences

ANGLO REPRESENTATIVE

Name:	Nkhensani Baloyi
Date:	12 May 2017
Place:	Anglo Offices Polokwane

1. Stakeholder Management

1.1. Do you have a community engagement forum/committee?

Only Ga-Cheune has an existing community forum. Other communities do not have a forum.

1.2. If so, at what frequency does the forum meets and who is represented on the forum?

Quarterly meetings with Ga-Cheune

There were monthly meetings with Reboile Tradional Authority however withdrew these due to community conflict.

2. Local social issues

2.1. What are key issues raised by local communities related to smelter (through forums/other)?

There have been no issues raised. SO2 emission are within standards. However new regulations indicate exceedance. Smell may become an issue.

2.2. What are key issues raised by local communities in general?

3. Proposed Abatement Project

3.1. What do you understand about the proposed project?

3.2. How do you think it will affect the community? Do you foresee any specific issues?

3.3. What are the social issues or concerns (if any) that stakeholders are likely to have in respect of the proposed project (perhaps historical issues)?

Procurement and employment opportunities but these need to be managed. We need to know the numbers of employment opportunities.

3.4. How and where will labour for the project (unskilled/semi-skilled) be sourced?

Information currently not available. We need to train people now in order for them to have the required skills.

3.5. How is the process of sourcing labour managed?

Anglo apply a 50km radius to sourcing labour. Labour will be sourced locally- This will be done through forums. Assessments must be done within communities and individuals must be brought to smelter for medicals.

3.6. Are local leadership / communities given preference and if so how are they engaged with / notified of opportunities

4. Community Programmes and Relationships

4.1. What community initiatives is Anglo is involved in locally? e.g. upliftment programmes

- Water project Thokogwang in partnership with the municipality
- R10.7 million set aside for water reticulation system at Solomonville
- Renovated schools and built VIP toilets Ga-Cheune
- Cattle farming project for Reboile Trust
- A school was built at Mashashane to support special needs.
- Anglo wants to collaborate with the University of Limpopo to help improve science.

- 4.2. Which communities does this involve?
- 4.3. What issues or problems are experienced by Anglo with communities?
- 4.4. Have there been incidents of tension between local residents and the Anglo operations?

. Ga-Cheune protests closed roads to stop operations

- 4.5. What issues are most commonly raised amongst stakeholders in the local area?

5. Economy, livelihoods and labour force

- 5.1. What is the most common livelihood activity within the local area and why? What is the main source of income in the local area?

Approximately 1000 people are employed at the smelter.

- 5.2. What is the most sought after livelihood activity in the local area and why?
- 5.3. Is there high unemployment in the community? To what extent?
- 5.4. What are the main skills and What are the main skills gaps in the local area?
- 5.5. Other than Anglo, what organisations are other main employers in the local area?
- 5.6. How else are people employed? (i.e. do they work in small businesses, agriculture?) Do they undertake subsistence farming? What other income/means of sustaining themselves is there?

6. Health

- 6.1. What are the major health issues in the local area?
- 6.2. How is Anglo responding to health issues in the area? What services are provided to general communities?

7. Safety and Security

- 7.1. What is your experience of security and crime in your community / neighbourhood? What types of security issues or criminal activities are prevalent? Are certain areas safer than others?
- 7.2. Are there security/unrest/issues associated with Anglo Operations?
- 7.3. In the local area, is security provided by police, private security companies and / or criminal elements?

8. Other relationships:

- 8.1. What is Anglo's association with the Local Municipality?
- 8.2. What other community structures are there for communities – to raise issues, funding, NGOs, etc.?

NGO's in community

9.3. In the local area, is security provided by police, private security companies and / or criminal elements?

10. Other relationships:

10.1. What is the TA's association/relationship with the Local Municipality?

10.2. What other community structures are there operating in/with the local communities – to raise issues, funding, NGOs, etc?

Appendix B

CV'S OF SIA TEAM MEMBERS

HILARY KONIGKRAMER, B.SocH., EAP

DIRECTOR (ENVIRONMENTAL SCIENCE), ENVIRONMENT & ENERGY



CAREER SUMMARY

Hilary is a Director with 15 years' experience as a consulting social and environmental scientist with extensive experience in integrated environmental management in a variety of sectors including petrochemical, paper and pulp, general industrial, commercial and infrastructure.

Hilary has thorough working knowledge of current environmental laws and policies and a comprehensive understanding of environmental processes. She has experience in undertaking pre-feasibility assessments, legal reviews, and the co-ordination of a wide range of application processes (Basic Assessment and Scoping and EIA processes, Section 24G, and Waste Management License applications). Hilary has been involved in a number of high profile projects for Transnet SOC Ltd; Engen Petroleum Limited, Sappi Southern Africa, and Exxaro Coal Mpumalanga (Pty) Ltd Mpumalanga (Pty) Ltd. She has excellent verbal communication skills in terms of authority consultation, stakeholder engagement and client liaison.

Specialist social science expertise includes conducting Social Impact Assessments (SIA) involving social profiling, social sensitivity mapping, development and implementation of questionnaires, co-ordination of social surveys, stakeholder workshops and focus group sessions. A number of key SIA studies have been undertaken over the past few years for a variety of waste, industrial and mining projects in South Africa, as well as stakeholder engagement for a large residential and tourism development in the Seychelles.

Stakeholder engagement has become a key focus of her capability in recent years. She recognises the value of the development of targeted stakeholder engagement strategies to ensure stakeholder engagement processes are implemented effectively. Recent stakeholder engagement experience includes directing and managing the stakeholder engagement process in the early phases of the proposed Durban Dig-Out Port for Transnet Capital Projects

EDUCATION

BSoc Sci (Hons) Environmental Management, University of Natal, Durban, South African 1998

BSoc Sci Geography, Environmental Management, University of Natal, Durban, South African 1997

ADDITIONAL TRAINING

Sustainability Framework Learning Programme, IFC 2012

PROFESSIONAL MEMBERSHIPS

Member of the International Association for Impact Assessment South Africa IAIAsa

Certified Environmental Assessment Practitioner (10/2010) EAP

YEARS WITH THE FIRM

11

YEARS TOTAL

16

PROFESSIONAL QUALIFICATIONS

EAP

AREAS OF PRACTICE

Environmental Impact Assessment Experience

Specialist Environmental Support

Specialist Stakeholder Engagement and Social Impact Assessment Experience

HILARY KONIGKRAMER, B.SocH., EAP

PROFESSIONAL EXPERIENCE

Environmental Impact Assessment Experience

- à Expansion of polyester manufacturing plant, Durban, KwaZulu-Natal, South Africa (2015): Project Director. Hosaf operates a polyester production facility in Jacobs (South Durban) and proposed to increase polyethylene terephthalate (PET) production at the facility through the expansion of the plant and installation of a second processing facility. The project involved a Basic Assessment process for the amendment of their Atmospheric Emissions License. Client: Hosaf, a division of PG Bison (Pty) Ltd.
- à Expansion of the Island View Fuel Storage, Durban, KwaZulu-Natal, South Africa (2014-2015): Project Director. Engen Petroleum Limited proposed the expansion of fuel storage and modification of the Engen Island View D site, located within the Port of Durban. The project entailed a Basic Assessment process, application for Atmospheric Emissions License, and close coordination with consulting and client engineers. Client: Engen Petroleum Limited.
- à Decommissioning of the pulp mill and associated structures including tanks at the Sappi Southern Africa Limited: Enstra Mill in Springs, Gauteng, South Africa (2014-2015): Project Director. This project involves the undertaking of a Basic Assessment process in order to gain Environmental Authorisation for the proposed decommissioning of the Pulp Mill and associated structures including tanks. Client: Sappi Southern Africa Limited.
- à Green Energy Power Project - Tugela Mill, KwaZulu-Natal, South Africa (2013-2015): Project Director. Environmental Authorisation and Waste Management License procedure associated with the generation of 40WM of electrical power to supply the Tugela Mill and the national grid. Client: Sappi Southern Africa Limited.
- à Sappi Ngodwana Expansion Project – Ngodwana Mill, Mpumalanga, South Africa (2013-2014). Project Director. Environmental Authorisation and Waste Management License for the expansion of the existing specialised cellulose production and construction of a sawmill at the Ngodwana Mill. Client: Sappi Southern Africa Limited.
- à Green Energy Power Project – Ngodwana Mill, Mpumalanga, South Africa (2012-2013): Project Director. Environmental Authorisation and Waste Management License procedure for the installation of a biomass boiler, condensing turbine and associated biomass handling equipment, collectively termed the green energy power project. Specialist studies included air quality, visual, traffic, noise and socio-economic impact assessments. Client: Sappi Southern Africa Limited.
- à Eerstelingsfontein Open Cast Coal Mine, Mpumalanga, South Africa (2010-2013): Project Manager. The project involved facilitating receipt of an Environmental Authorisation for the proposed open cast coal mining activity. The study included an extensive range of specialist inputs, comprehensive authority engagement, stakeholder engagement and project management. Client: Exxaro Coal Mpumalanga (Pty) Ltd Mpumalanga (Pty) Ltd.
- à Cato Ridge Regional Landfill Site, KwaZulu Natal, South Africa (2010-2011): Project Director. An EIA process, including a Waste License Application, was undertaken for the development of a regional landfill site to service the west of the eThekweni Municipality. The study included a wide range of specialist

HILARY KONIGKRAMER, B.SocH., EAP

inputs, and extensive stakeholder engagement and project management.
Client: eThekweni Cleansing and Solid Waste Department.

- à Sanibonani Mixed Development, Himeville, KwaZulu-Natal, South Africa (2005-2011): Project Director. The project commenced with an environmental pre-feasibility assessment in order to clarify the legal requirements and determine opportunities and constraints associated with the proposed mixed housing and commercial development between the towns of Underberg and Himeville. An Environmental Authorisation procedure was undertaken which included significant project management and co-ordination of a large team of specialists. Client: Retsol Holdings (Pty) Ltd.
- à Closure and Remediation of the Guernica Chemicals Site in Cato Ridge, KwaZulu-Natal, South Africa (2009-2010): Project Manager. A Basic Assessment process was undertaken for the closure and remediation of the Guernica Chemicals site in Cato Ridge. The focus of this Basic Assessment process is the identification of the best technology to treat and dispose of mercury contaminated material on site, and prepare implementation plans for the rehabilitation of this site. The site has been covered widely in both local and national media for over 15 years. Client: Guernica Chemicals (Pty) Ltd (formally Thor Chemicals).
- à Back of Berth Upgrade at the Island View Complex, and a Tank Replacement at the Engen Refinery, KwaZulu-Natal, South Africa (2008-2010): Project Director. The project involved the upgrade of back of berth pipeline infrastructure within the Durban Harbour, as well as a tank replacement at the Engen Refinery. The challenge with the project was addressing impacts associated with two locations within one application, with one of the locations being within the contentious South Durban area. The Environmental Authorisation process involved significant authority and stakeholder engagement. Client: Engen Petroleum Limited.
- à Alkylation Unit Upgrade at the Engen Refinery, South Durban, KwaZulu-Natal, South Africa (2006-2009): Project Manager. Environmental Scoping and Environmental Management Plan was undertaken for the proposed upgrade of the Alkylation Unit at the Engen Refinery. This project involved significant public and authority consultation and a detailed technical component. Stakeholder engagement was a significant challenge within the South Durban context, and an innovative approach was required in order to ensure those who were likely to be directly affected by the project were afforded an opportunity to engage in the process. Client: Engen Petroleum Limited.
- à Ngwadini Reservoir, KwaZulu-Natal, South Africa (2007-2009): Project Manager. Environmental Scoping and EMP for the proposed off-stream earth embankment dam in the Ngwadini Valley, to ensure a reliable supply of water to the Sappi Saiccor Mill located in Umkomaas, KwaZulu-Natal. The Environmental Authorisation process included extensive stakeholder and authority engagement, and the management of a wide range of specialist. Client: Sappi Saiccor (Pty) Ltd.
- à Permit Amendment for the Existing H:H Landfill Site, Newcastle, KwaZulu-Natal, South Africa (2007-2008): Project Manager. A Basic Assessment process was followed for the permit amendment of the existing H:H landfill at the Arcelor Mittal South Africa Ltd Steel Newcastle Plant. This permit amendment allow for certain waste types generated at the Arcelor Mittal South Africa Ltd Vereeniging Plant to be transported and disposed of at the Newcastle Plant. Client: Arcelor Mittal South Africa Ltd.

HILARY KONIGKRAMER, B.SocH., EAP

Specialist Environmental Support

- à Environmental support associated with the Richards Bay Oil Spill, KwaZulu-Natal, South Africa (2014-2015): Project Manager. Provision of strategic support in respect of clean-up operations and longer terms monitoring support in respect to the Heavy Fuel Oil spill which occurred in the Port of Richards Bay. Client: Confidential.
- à Environmental input into a technical report and Preliminary Economic Assessment for the Enchi Gold Project, Ghana (2015): Project Manager. An environmental screening assessment was undertaken to identify key environmental issues associated with the proposed gold project, and environmental legal review to identify the regulatory requirements and processes applicable to the project.

Specialist Stakeholder Engagement and Social Impact Assessment Experience

- à Proposed Durban Dig-Out Port, early planning phase Stakeholder Engagement, Durban, KwaZulu-Natal, South Africa (2012-2013): Stakeholder Engagement Director and Project Manager. The proposed Durban Dig-Out Port is a large infrastructure project of national strategic importance. WSP has been responsible for stakeholder engagement in the early phase (FEL1) of the project planning lifecycle. A Stakeholder Engagement Strategy was developed to ensure the stakeholder engagement process was implemented effectively. Stakeholder identification, mapping and evaluation was undertaken throughout the project. A series of discussion sessions were arranged with key representatives of the various stakeholder groups in order to develop relationships and trust, share information and obtain feedback (key issues) early in the planning process. This early engagement has developed the foundation for future engagement (EIA phase). Client: Transnet Capital Projects.
- à Umhlanga Tidal Pool, KwaZulu-Natal, South Africa (2013): Social Impact Assessment (SIA) Project Director. eThekweni proposed to construct a tidal pool at Umhlanga Beach within the northern eThekweni region. The SIA was commissioned due to public request, and involved extensive surveys and interviews. The outcome included the identification of the most socially acceptable site, and recommendations regarding development and management of the tidal pool in the short to long term. Client: eThekweni Municipality.
- à Re-Processing of the Waterval Tailings Storage Facility, Rustenburg, North West Province, South Africa (2013): SIA Project Director. An SIA was required in support of the Environmental Authorisation process for the amendment of the Environmental Management Programme. The existing social climate in and around the Rustenburg mining operations was potentially unstable at the time of the study, due to historical and on-going issues between labour and mining companies. The SIA aimed to establish both direct and indirect impacts of the proposed project, and establish the significance of these impacts within the local socio-economic landscape, and included a review of existing information and the collection of primary data through interviews with key local stakeholders. The SIA ultimately determined that there would be no direct significant negative impacts on the local communities, although certain measures would need to be put in place to ensure that any negative impacts would be mitigated during the construction and operational phases. Client: Anglo American Platinum Limited.

HILARY KONIGKRAMER, B.SocH., EAP

- à SIA for Proposed Yzermyn Coal Mine, Mpumalanga, South Africa (2013): SIA Project Director. In support of an Environmental Authorisation procedure for the proposed underground coal mine, an SIA was undertaken to assess the socio-economic impacts of the activity. A variety of techniques, including household surveys, stakeholder interviews, and group meetings were used to establish the potential issues, impacts and recommendations. The social impacts of the proposed mine were determined to be of significance to the local population, and firm measures were provided to prevent excessive loss of local sense of place and livelihoods, and ensure economic stability for the local communities. Client: Atha-Africa Ventures (Pty).
- à Tumela Central Shaft, Thabazimbi, Limpopo, South Africa (2013): SIA Project Director (2013): In support of the EIA process for the proposed new shaft at the Amandelbult Section, a social screening was undertaken to establish potential socio-economic impacts of the proposed development. The site, being located a number of kilometres away from populated areas, was unlikely to have a significant social impact. To ensure independent assessment, and given the instability of mining communities, and the social screening reviewed existing data, and interviewed a number of key local stakeholders to determine the possible issues, impacts and recommendations. Client: Anglo American Platinum Limited.
- à Sasol New Energy Holding Concentrated Solar Park, Upington, Northern Cape, South Africa (2012): SIA Project Director. Sasol New Energys Holding proposed the construction of a solar power generation complex near Upington in the Northern Cape. The SIA was undertaken to determine the socio-economic impact of the proposed project. The objective of the SIA was to identify and assess potential impacts of the proposed SSP on the socio-economic receiving environment. The SIA determined that there were a number of key socio-economic benefits of the proposed project, and provided sound recommendations regarding the development of community trusts, small business opportunities and education programmes, in order to maximise these social benefits. Client: Sasol Energy.
- à Social Impact Assessment of the Proposed Green Energy Project at Sappi Ngodwana Mill, Mpumalanga, South Africa (2012): SIA Project Director. Sappi Southern Africa (Pty) Ltd proposes the installation of a biomass boiler to generate electricity, a portion of which will be fed into the national grid. The SIA focuses on the identification and assessment of the direct socio-economic impacts of the proposed project. Client: Sappi Southern Africa (Pty) Ltd.
- à Coal Mine Social Impact Assessment, Eerstelingsfontein, North West Province, South Africa (2011): SIA Project Director. Exxaro proposed to mine an area of agricultural land for the extraction of high-quality coal. The social impact assessment (SIA) team undertook a detailed assessment of the immediate communities, local government and broader social and economic issues through surveys of the local community and farmers, assessment of other specialist studies in terms of the potential social impacts, and the provision of mitigation measures and a social management plan for the construction and operation of the mine. The presence of an established community on the site provided a significant social hurdle; however, the team provided a social management strategy to manage and mitigation potential social impacts on the local communities. Client: Exxaro Coal Mpumalanga (Pty) Ltd.
- à Social Impact Assessment of the Town of Nottingham Road – Implications of the Proposed Rawdons and Hillside Developments, KwaZulu-Natal, South

HILARY KONIGKRAMER, B.SocH., EAP

Africa (2008): SIA Project Director. A socio-economic assessment of the proposed Rawdons extension and the Hillside developments was undertaken. Of particular consideration were the cumulative social impacts and the future growth of the town of Nottingham Road. Client: Afzelia Environmental Consultants CC.

- à SIA for Proposed Relocation of Denel's Philippi Munitions Facility, Western Cape, South Africa (2007): Social Consultant. A qualitative methodology was employed during the SIA study in order to identify the social issues associated with the relocation of the Philippi munitions facility. The study sought to understand the differing issues and concerns of the stakeholders likely to be affected by the project. The methodology included a social review of the project areas, primary data collection in the form of questionnaires and stakeholder meetings, and the identification and assessment of potential impacts. Client: Denel Munitions (Pty) Ltd.
- à Proposed Cato Ridge Regional Landfill Site, KwaZulu-Natal, South Africa (2007): Social Consultant. The eThekweni Municipality propose the development of a large regional general landfill site to meet the future waste management requirements of the municipality. This SIA study involved the identification and assessment of potential social issues associated with the development of the landfill site. The study included a desktop socio-economic review of the area, primary data collection in the form of questionnaires and stakeholder workshops. Client: eThekweni Cleansing and Solid Waste Department.
- à Public Impact Assessment for the Proposed Île Aurore Development, Mahé, Seychelles (2007): Social Consultant. A public impact assessment was undertaken as a specialist component of the Scoping study for the development of an exclusive golf course and casino development on the island of Île Aurore, Seychelles. The purpose of the study was to consult with the local community who would be most affected by the development, document the key issues and identify the likely impacts. Client: Pinnacle Point Holdings (Pty) Ltd.
- à Social Probe for the Proposed Ngwadini Reservoir, KwaZulu-Natal, South Africa (2006): Social Consultant. Sappi Saiccor proposed the construction of an off-stream storage reservoir, with a design capacity of 10 million cubic meters of water, to supplement water supply to the Saiccor Mill during period of low river flow. The reservoir footprint is 73 hectares, located within a rural context. The social probe provided a description of the social environment surrounding the proposed Ngwadini Reservoir site, thereby identifying possible social issues associated with the proposed project. The report included a description of social impacts, preliminary assessment of impacts and recommendations. Client: Sappi Saiccor (Pty) Ltd.

BATHABILE MSOMI, B.Soc.H.

ENVIRONMENTAL CONSULTANT (ENVIRONMENTAL SCIENCE), ENVIRONMENT & ENERGY



YEARS WITH THE FIRM

4

YEARS TOTAL

5

AREAS OF PRACTICE

Basic Assessments
Stakeholder Engagement
Strategic Environmental Planning
Water Use Licence Applications

LANGUAGES

Zulu

CAREER SUMMARY

Bathabile Msomi completed her Honours in Social Science at the University of KwaZulu-Natal in 2011 specialising in Environmental Management and Geographic Information System. She completed her Bachelor of Social Science in Environmental Management at the University of KwaZulu-Natal in 2010. Bathabile has 4 years' experience in the field of environmental consulting involved with stakeholder engagement and management, report writing, project administration and environmental authorisation processes.

EDUCATION

Bachelor of Social Science (Honours), Geography and Environmental Management, University of KwaZulu-Natal, South Africa	2011
Bachelor of Social Science, Environmental and Geographical Science, University of KwaZulu-Natal, South Africa	2010

ADDITIONAL TRAINING

Safety, Health and Environmental Representative, Safety Risk Management	2017
Defensive Driving and Traffic Psychology Course, Toyota	2016
Amendments to Legislation Workshop, Tabacks Attorneys	2014
Diploma (S4): Project Management, Unischool, South Africa	2013

PROFESSIONAL MEMBERSHIPS

IAIAsa	2015
--------	------

PROFESSIONAL EXPERIENCE

Stakeholder Engagement

à Transnet Proposed Durban Dig Out Port Stakeholder Engagement, Durban, KwaZulu-Natal, South Africa (2012-2013): Assistant Consultant. Reviewing documents and summarising issues, assisting project leader and team with administrative tasks, development of a stakeholder engagement database and capturing data (meeting minutes, comments). Client: Transnet Port Terminals.

Basic Assessment

- à Proposed Steel Forging Facility Scaw Metals, Kitwe, Copperbelt Province Zambia (2015): Assistant Consultant. Development of Environmental Project Brief Report. Client: SCAW South Africa (Pty) Ltd.
- à Proposed Comrie Dam Expansion, Donnybrook, KwaZulu-Natal, South Africa (2015): Assistant Consultant. Basic Assessment report and stakeholder management. Client: Sappi Southern Africa Limited.

BATHABILE MSOMI, B.Soc.H.

- à Afrox Site Decommissioning, Durban, KwaZulu-Natal, South Africa (2014): Assistant consultant. Report development and stakeholder management. Client: African Oxygen Ltd.
- à Proposed Expansion and Decommissioning of Storage Tanks, Ngodwana, Mpumalanga, South Africa (2014): Assistant consultant. Stakeholder engagement and report development. Assisting in application process. Sappi Southern Africa Limited.
- à Proposed Hammarsdale (MR385) Bridge and Road Widening, Hammarsdale, KwaZulu-Natal, South Africa (2014): Assistant consultant. Stakeholder engagement and report development. Assisting in application process. Client: eThekweni Municipality.
- à Proposed Lilani Springs Refurbishment, Lilani Springs, KwaZulu-Natal, South Africa (2014): Role on Project. Assistant consultant in the application process, stakeholder engagement and report development. Client: Abakali (Pty) Ltd.
- à Tongaat Hulett Maudstone Waste Licence Application, Tongaat, KwaZulu-Natal, South Africa (2013): Assistant consultant. Public participation process and report development. Assisting in application process. Client: Tongaat Hulett Sugar Limited.
- à Proposed Construction of Dormac Floating Drydock, Durban, KwaZulu-Natal, South Africa (2013): Assistant consultant. Stakeholder engagement and report development. Assisting in application process. Client: Dormac a division of Southey Holdings (Pty) Ltd.
- à Proposed Sappi Ngodwana Mill Expansion, Ngodwana, Mpumalanga, South Africa (2013): Assistant Consultant. Site visits to assess and understand the potential impacts of the proposed project. Responsible for the developing and distributing Public Participation Process (PPP) material (notices and adverts). Assisting with application process. Client: Sappi Southern Africa Limited.
- à Proposed Sappi Tugela Green Energy Power Project, Tugela, KwaZulu-Natal, South Africa (2013): Assistant consultant. Site visits to assess and understand the potential impacts of the proposed project. Responsible for developing and distributing Public Participation Process (PPP) material (notices and adverts). Assisting with application process. Client: Sappi Southern Africa Limited.

Water Use Licence Applications

- à Proposed Comrie Dam Expansion, Donnybrook, KwaZulu-Natal, South Africa (2015): Assistant Consultant. Completion of Application Forms. Client: Sappi Southern Africa Limited.
- à BrightSource Water Use Licence, Kimberly, Northern Cape, South Africa (2014): Assistant consultant: Completion of application forms. Client: BrightSource Energy.
- à Foskor Water Use Licence, Richards Bay, KwaZulu-Natal, South Africa (2014): Assistant consultant. WULA application process and report development. Client: Foskor (Pty) Ltd.
- à Hammarsdale M50 Water Use Licence, Hammarsdale, KwaZulu-Natal, South Africa (2014): Assistant consultant. WULA application process and report development. eThekweni Municipality.

Strategic Environmental Planning

- à Southern Public Transport Corridor Densification Framework, KwaZulu-Natal, South Africa (2013-ongoing). Assistant consultant. Identifying densification

BATHABILE MSOMI, B.Soc.H.

opportunities and constraints within a defined corridor in South Durban including Umlazi, Isipingo / Reunion, Clairwood / Merebank and Congella / Umbilo.
Client: Strategic Planning Resources.

TERTIARY EDUCATION AND QUALIFICATIONS

2003 – 2006 MSocSci Environmental Management, University of KwaZulu-Natal, Durban

Thesis: Coastal Sensitivity Indicators for Decision Support Systems: A case study of the Greater St Lucia Wetland Park.

2002 BSocSci (Hons) Environmental Management, University of Natal, Durban

Including: Environmental Impact Assessment, Coastal Management, Tourism, Geographical Information Systems, and Research Methods.

Research Paper: The La Lucia – Umhlanga Ridge as an Emerging 'Edge City'.

1999 – 2001 BSocSci Geography, Environmental Management, University of Natal, Durban

PROFESSIONAL CERTIFICATION AND TRAINING

- Shepstone & Wylie's Environmental Law half-day seminar: 2014 EIA Regulations in Context.
- Leadership Development Programme and Personal Mastery
- National Department of Water Affairs - Section 21 (c) and (i) water uses, Dr Wietsche Roets
- National Environmental Management: Waste Act: Key Updates, WSP Environmental
- Sharpening the Tool: New Techniques and Methods in Environmental Impact Assessment (Sean O'Beirne, SE Solutions)
- International certificate course in emotion, outrage and public participation, International Association of Public Participation (IAP2)
- Integrating HIV and Gender Related Issues into the EA Process – SAIEA, UNDP and IAIAAsa certificated course
- Sustainable Livelihoods Where Social and Natural Systems Meet – International Association of Impact Assessors, South Africa (IAIAAsa) certificated course
- The Integrated Coastal Management Act seminar, Shepstone & Wylie
- IAIAAsa - Attendance and participation at IAIAAsa National conference since 2004, and all KZN branch events since 2012 (including legal, ECO, MiniSaSS, coastal management, Green building, Water Use Licensing, Strategic Environmental Assessment, etc.)

EMPLOYMENT HISTORY

**Present Envital
Social and Environmental Consultant**

2008 – 2017 Senior Environmental Consultant (2012 – 2017)

Environmental Consultant (2010 – 2012)

Assistant Consultant (2008 – 2010)

WSP Environmental (Pty) Ltd, Durban, Republic of South Africa

- Successfully manage medium to large EIA projects with international clients and multi-disciplinary teams
- Undertake Social Impact Assessments in line with IFC requirements

- Able to design scientifically defensible studies / assessment to provide relevant solutions
- Stakeholder engagement and community participation
- Key client management and provide bespoke solutions to meet client needs
- Mentor colleagues through daily interactions and informal training
- In-depth disciplinary knowledge and up to date with industry trends

2007 – 2008 Employment whilst travelling – London, United Kingdom

- Visual Response Ltd – Local and International Logistics Assistant
- Elsevier Publishing – Administration and Events
- Able & Cole – Customer Services

**2006 – 2007 Assistant Social and Environmental Consultant
Real Consulting, Durban, Republic of South Africa**

- Integration of sustainability into municipal policy
- Stakeholder engagement and community participation
- Assisted with a variety of local economic development and assessment projects

VOLUNTEER COMMITTEES

- International Association of Impact Assessors, South Africa (IAIAsa)
 - National Executive Committee Member
 - Continued Professional Development Portfolio (2014/15)
 - National Conference Chair Portfolio (2015/16)
 - KZN Chair (2016-18)
- IAIAsa KwaZulu-Natal Branch Committee
 - Events Coordinator (2012 – 2015)
 - Incoming / Vice Chair (2015/16)
 - Chair (2016-2018)

KEY SKILLS

- Strong verbal and written communication skills
- Self-disciplined and professional
- Strong project and administration skills
- Dedicated and enthusiastic
- Valuable team member and strong leadership skills
- Adaptable and welcomes new ideas
- Able to build upon and learn from experiences by applying new knowledge
- Engage with new and challenging assignments for continuous self-development

SELECTED PROFESSIONAL EXPERIENCE

Social Impact Assessments

- Expansion of existing chrome mine, North West
- Several proposed photovoltaic and concentrated solar power generation facilities (125 – 250 MW), Northern Cape
- Multiple proposed (125 mw) wind power generation facilities, Western Cape
- Construction and operation of an industrial facility, Free State
- Expansion of an existing mill, Mpumalanga
- Expansion of a colliery, Mpumalanga
- New shaft at an existing platinum mine, Limpopo
- New underground coal mine, Mpumalanga
- Re-processing of the tailings storage facility, North West
- Consternation and operation of a tidal pool, KwaZulu-Natal
- Biomass boiler renewable energy project, Mpumalanga
- Effluent pipeline diversion, Free State
- Multiple housing and mixed used developments, KwaZulu-Natal

Environmental Authorisation Processes

- Concentrated solar power, Northern Cape
- Expansion of the fuel storage depot, KwaZulu-Natal
- Bulk ore storage, KwaZulu-Natal
- Decommissioning of underground storage tanks, KwaZulu-Natal
- Decommissioning for redundant steel mill, KwaZulu-Natal
- Expansion of polyester manufacturing plant, KwaZulu-Natal
- Multiple river crossing access bridges, KwaZulu-Natal
- Community healthcare center, KwaZulu-Natal
- Construction and operation of a 10MW gas turbine, KwaZulu-Natal
- Expansion of a public hospital, KwaZulu-Natal
- Upgrade of 40 000cubic meter gas storage facility, KwaZulu-Natal
- Photovoltaic Solar Facility, KwaZulu-Natal
- Provincial bulk water pipeline, KwaZulu-Natal
- Upgrade of public open space, KwaZulu-Natal
- Construction of telecommunications masts, KwaZulu-Natal
- Multiple road and highway upgrades, KwaZulu-Natal

Waste Management Licensing

- Recycling of used black oil, KwaZulu-Natal
- Community healthcare center, KwaZulu-Natal
- Industrial operational waste review and licensing, KwaZulu-Natal
- Public hospital expansion, KwaZulu-Natal

Curriculum Vitae
Danielle Sanderson

MSoc.Sci. Environmental Management

- Effluent treatment plant, KwaZulu-Natal

Coastal Planning and Permitting

- Coastal waters discharger permit for reverse osmosis plant, Western Cape
- Coastal waters discharger permit for industrial facility, KwaZulu-Natal
- Stakeholder engagement for developing coastal setback lines, Western Cape
- Development of a shoreline management plan, KwaZulu-Natal
- Environmental management input for expansion of a yacht mole, KwaZulu-Natal

Auditing

- Environmental Control Officer for the development of an oil and gas port, Pemba, Mozambique
- Authorisation and best practice audits of oil recycling and drum reconditioning facilities, KwaZulu-Natal
- Environmental Control Officer for the redevelopment of a soccer stadium, KwaZulu-Natal
- Environmental Control Officer for the decommissioning of redundant steel mill, KwaZulu-Natal
- Environmental Control Officer for bulk water pipelines, KwaZulu-Natal
- Environmental Control Officer for the restoration of fuel pipelines, KwaZulu-Natal

Appendix C

IMPACT ASSESSMENT MATRIX

Construction Phase											
Polokwane Smelter											
Potential Impact		Extent (E)	Duration (D)	Magnitude (M)	Probability (P)	Significance (S=(E+D+M)*P)	Status (+ve or -ve)	Confidence			
Employment Opportunities	Nature of impact:	Short term employment of approximately 250 individuals, most of which will be existing contract labour. Limited unskilled employment opportunities for local community members									
	Without Mitigation	3	2	4	3	27	Low	+	High		
	degree to which impact can be reversed:	N/A									
	degree of impact on irreplaceable resources:	N/A									
	Mitigation Measures	Appointment of local contractors; Employment of local labour as far as possible, particularly for semi and unskilled opportunities									
	With Mitigation	3	2	4	4	36	Medium	+	High		
Local economic development opportunities	Nature of impact:	Generation of construction phase LED opportunities such as use of local contractors and materials sourced locally									
	Without Mitigation	3	2	4	3	27	Low	+			
	degree to which impact can be reversed:	N/A									
	degree of impact on irreplaceable resources:	N/A									
	Mitigation Measures	Prioritisation of local contractors and sourcing of materials locally as far as possible									
	With Mitigation	3	2	4	4	36	Medium	+	High		

Nuisance from noise, dust and traffic disturbances	Nature of impact:	Localised disturbance as a result of dust, noise and traffic							
	Without Mitigation	2	2	4	3	24	Low	-	High
	degree to which impact can be reversed:	Medium - Implementation of EMPr measures to reduce noise, dust and traffic related impacts, but unlikely to negate completely							
	degree of impact on irreplaceable resources:	N/A							
	Mitigation Measures	Air quality, noise and traffic related mitigation measure recommended by relevant specialist and included in the EMPr							
	With Mitigation	2	2	2	2	12	Low	-	High

Operational Phase											
Polokwane Smelter											
Potential Impact		Extent (E)	Duration (D)	Magnitude (M)	Probability (P)	Significance (S=(E+D+M)*P)	Status (+ve or -ve)	Confidence			
Improvement in ambient air quality	Nature of impact:	The implementation of the project will result in an improvement in the local ambient air quality									
	Without Mitigation	2	4	4	4	40	Medium	+	High		
	degree to which impact can be reversed:	N/A									
	degree of impact on irreplaceable resources:	N/A									
	Mitigation Measures	None									
	With Mitigation	2	4	6	4	48	Medium	+	High		
Employment, skills and local economic development	Nature of impact:	Implementation of the project will result in limited new employment opportunities (3 operators). It will however ensure the continued operation of the Polokwane Smelter and therefore ensure existing jobs are retained.									
	Without Mitigation	2	4	2	3	24	Low	+	High		
	degree to which impact can be reversed:	N/A									
	degree of impact on irreplaceable resources:	N/A									
	Mitigation Measures	None									
	With Mitigation	2	4	2	3	24	Low	+	High		

