

**ENVIRONMENTAL
SCIENCE
ASSOCIATES**

**BACKGROUND
INFORMATION DOCUMENT**

FOR

**THE ENVIRONMENTAL
IMPACT ASSESSMENT FOR
PROPOSED
PHOSPHOGYPSUM PLANT**

AT

**BPB GYPSUM BRAKPAN
T/A GYPROC**

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February 2008

**BACKGROUND INFORMATION DOCUMENT FOR AN ENVIRONMENTAL IMPACT
ASSESSMENT IN TERMS OF GNR 385 PROMULGATED UNDER THE NATIONAL
ENVIRONMENTAL MANAGEMENT ACT: 1998**

PROPOSED PHOSPHOGYPSUM PLANT

PREPARED FOR:

BPB GYPSUM T/A GYPROC

PREPARED BY:

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1. Introduction

Environmental Science Associates (ESA) was appointed by Gyproc, to apply for the proposed construction and operation of a phosphogypsum plant.

The project aims to expand Gyproc's plaster board production capacity to supply the construction and other industries which have seen substantial growth in recent years, with a subsequent increase in the demand for plaster board for use in ceiling and other prefabrication applications.

2. Legal and Policy Framework

In terms of Regulation 21(1)(a) of the regulations gazetted in Government Notice No. R 385 promulgated in terms of Section 24(5) of the National Environmental Management Act (Act No. 107 of 1998), the so called NEMA 2006 EIA Regulations, Basic assessment must be applied to an application if the authorisation applied for is in respect of an activity listed in Government Notice No. R. 386 of 2006.

Government Notice No. R 387 lists the following activities:

1(f) The construction of facilities or infrastructure, including associated structures or infrastructure, for - the recycling, re-use, handling, temporary storage or treatment of general waste with a throughput capacity of 50 tons or more daily average measured over a period of 30 days;

Phosphogypsum will be delivered to the site and processed to produce plaster at a rate of approximately 500tonnes/day. Approximately 900tonnes/day of phosphogypsum will be processed.

1(g) The construction of facilities or infrastructure, including associated structures or infrastructure, for - (g) the use, recycling, handling, treatment, storage or final disposal of hazardous waste;

Phosphogypsum will be delivered to the site and processed to produce plaster at a rate of approximately 500tonnes/day, Approximately 900tonnes/day of phosphogypsum will be processed. The phosphogypsum may be hazardous, classification and hazard rating as per the DWAF Minimum Requirements for the Handling, Classification and Disposal of Hazardous Waste will be undertaken as part of the EIA.

1 (q) The construction of facilities or infrastructure, including associated structures or infrastructure, for - the incineration, burning, evaporation, thermal treatment, roasting or heat sterilisation of waste or effluent, including the cremation of human or animal tissue;

The Phosphogypsum will be fed through a gas fired flash drier and subsequently calcined in an indirectly heated continuous calcining kettle.

3. Process Description

The ensuing process description is aimed at giving the reader an overview of the intended development. Further detail will be considered during the Scoping and EIA phases.

3.1 Logistics and Storage

All phosphogypsum will be delivered by road transport to a tipping station onsite. The phosphogypsum will have a moisture content of approximately 20% to prevent generation of dust. The offloading station will be hard-surfaced and designed to ensure that offloading can be undertaken in all normal weather conditions for the area. The phosphogypsum will be conveyed from the offloading station to a housed stacker/reclaimer system, which will act as both a bulk store and a homogeniser. The phosphogypsum will thus be protected from the ingress of storm water. The phosphogypsum will then be fed to a process feed silo by conveyor.

3.2 Drying and Calcining

The drying plant will receive the phosphogypsum from the stacker/ reclaimer into a process feed silo. The material will then be fed into a gas fired flash drier. The material will be passed from the drier into a second process feed silo.

The dried material will then be fed to a gas heated continuous kettle, where the material is transformed to gypsum hemi-hydrate. Provision will be made for feeding slaked lime into the kettle feed will be installed to neutralise the phosphogypsum if required.

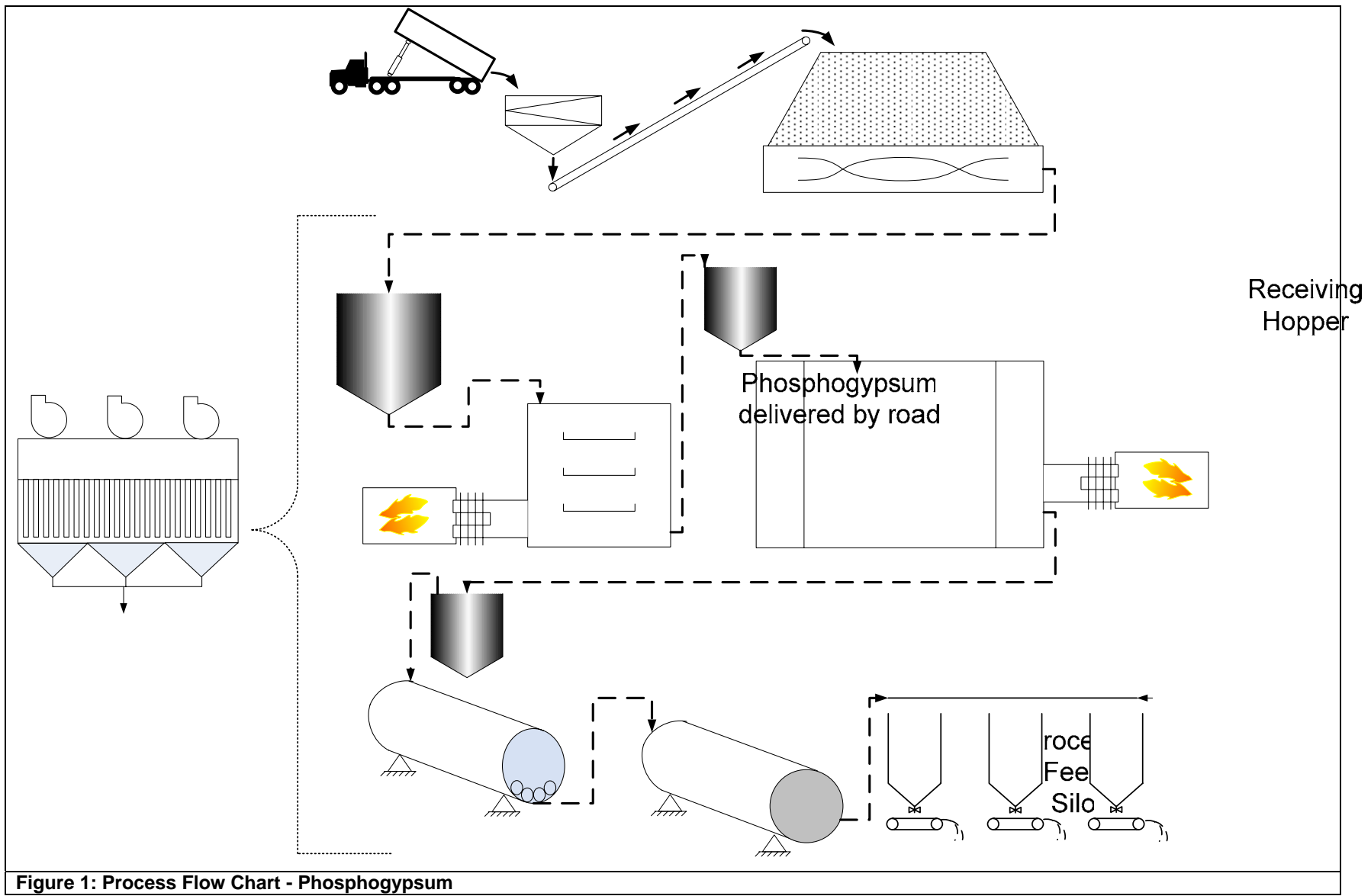
3.3 Milling and Cooling

Calcined material is passed through a tube mill before being sent through a cooler and finally to a set of silos for storage before packing.

3.4 Other inputs

Sand, perlite or vermiculite will be added to the material from the final batch mixes. The vermiculite and/or perlite will be passed through an expander/exfoliator process to reduce bulk density of the plaster.

The expander/exfoliation process consists of a gas fired expander chamber and a cooler section. Potential dust sources will be under negative pressure to a set of cyclone separators.



Receiving Hopper

Phosphogypsum delivered by road

Process Feed Silo

Figure 1: Process Flow Chart - Phosphogypsum

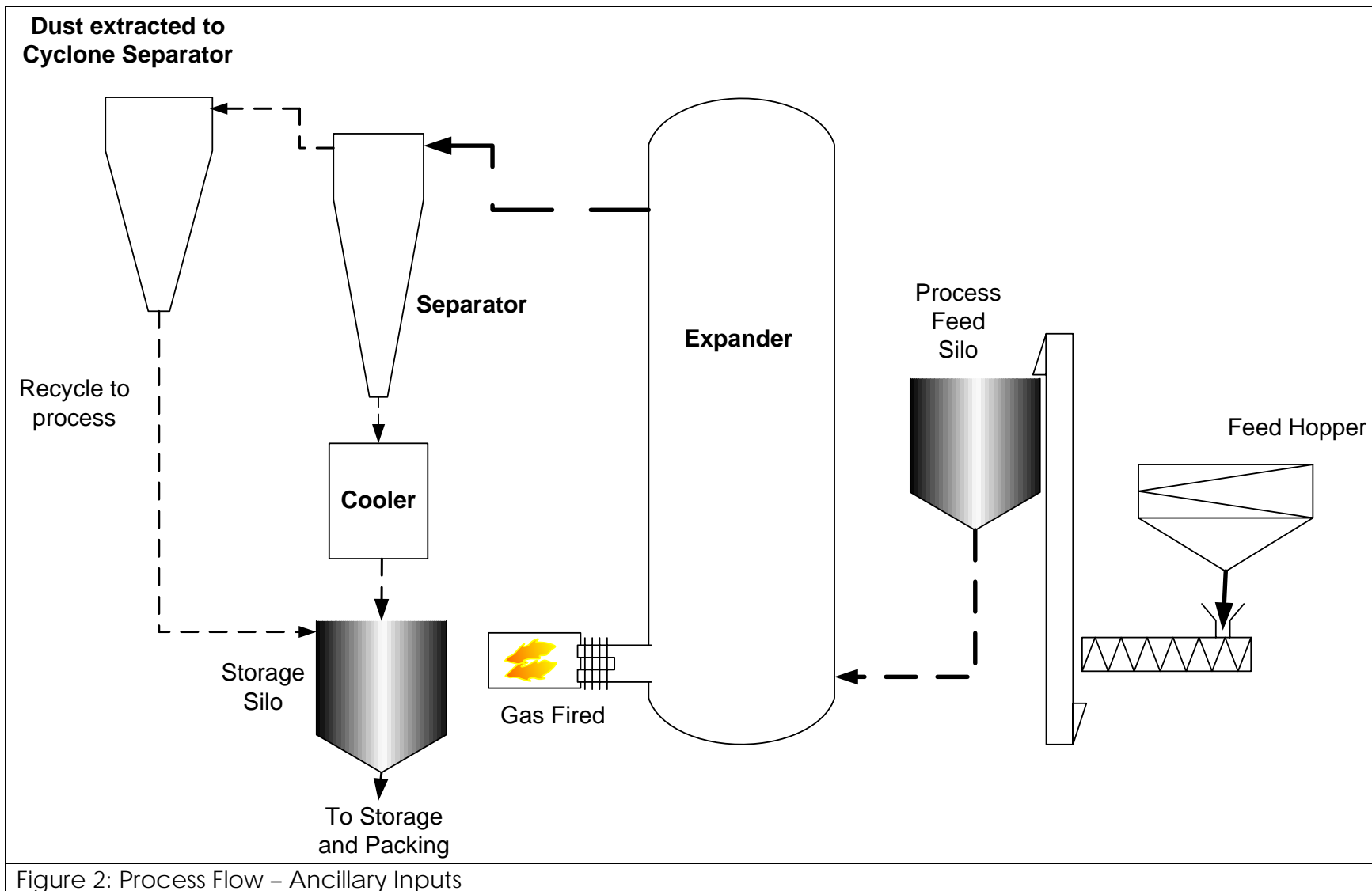


Figure 2: Process Flow – Ancillary Inputs

4. Environmental Aspects

4.1 Generation of Waste

The plant generates small amounts of waste mostly from packaging. Dust extracted from various points in the process will be re-fed into the process. Product not meeting the required output specifications will be recycled into process.

4.2 Discharge of Effluent

The process is not expected to generate effluent.

4.3 Emissions to Air

Emissions to air will consist primarily of:

- Dust from process and transfer points
- Combustion gases namely Carbon Dioxide and Oxides of Nitrogen.

The processes will be gas fired. Thus emissions of Sulphur Dioxide will be insignificant.

4.4 Impact on Soil and Groundwater

The off-loading facilities will be undertaken on a hard surfaced area, and designed to ensure that there is no run-off of contaminated water during rainfall. The rest of process will be undertaken under roof on concreted surfaces.

5. Property Particulars

5.1 Name of Property

10 Ergo Road,
Vulcania South,
Brakpan
Gauteng,

Refer to Figure 3 : Site Location.

5.2 Local Authority

The subject property is located within the jurisdiction of the Ekurhuleni Metropolitan Municipality.

5.3 Present Land Use

The land is presently zoned for Industrial use. The nearest residential area is Phumulo, approximately 0.75km South East of the site. The areas directly bordering site are mostly undeveloped.

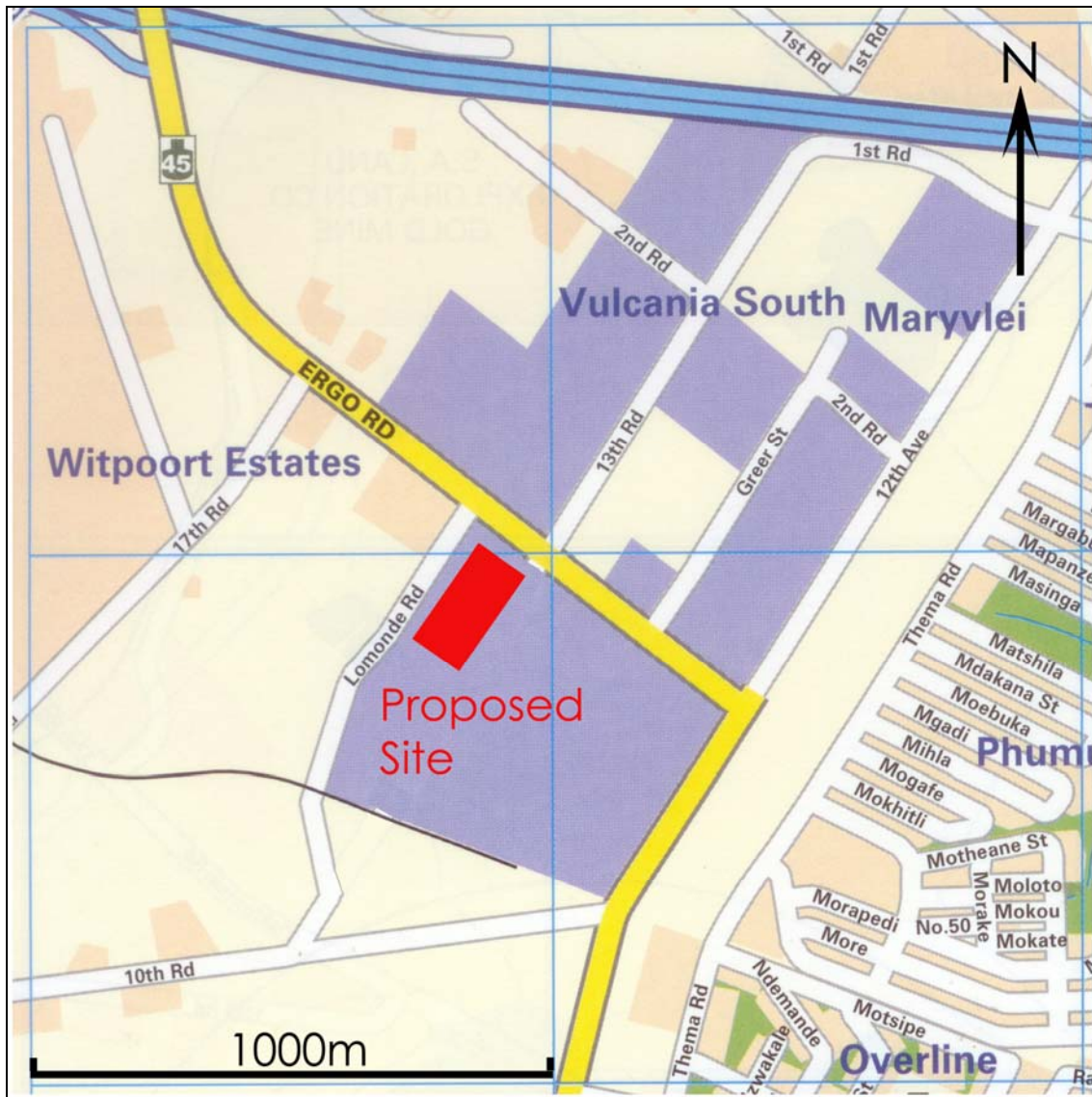


Figure 3: Site Location

6. Invitation to register as an Interested or Affected Party

Notice of the proposed development was published in the legal section of the 'The Star' and placed on site in an A2 format, as shown in Figure 5: Environmental Impact Assessment Notice. Any interested or affected parties are invited to register and take part in the public participation process. Contact details are indicated in Figure 5: Environmental Impact Assessment Notice. A registration form is attached following the notice on the next page.

7. Appendix 1: Site Notice

NOTIFICATION OF ENVIRONMENTAL IMPACT ASSESSMENT FOR A PROPOSED PHOSPHOGYPSUM PLANT BY BPB Gypsum (PTY) LTD, t/a GYPROC.

NOTICE is given in terms of Regulation 56 of the regulations gazetted in Government Notice No. R385 promulgated under section 24(5) of the National Environmental Management Act 1998 (Act No 107 of 1998) to all interested and affected parties (I&APs) that BPB Gypsum (Pty) Ltd proposes to undertake the production of gypsum products from phosphogypsum. Phosphogypsum is a waste product from the manufacture of phosphate fertilisers.

BPB Gypsum (Pty) Ltd is a leader in the manufacturing of lightweight building materials including decorative mouldings, fixed and suspended ceilings, drywall systems and finishing plasters.

The proposed development will include:

- The handling and storage of phosphogypsum as raw material onsite
- Dehydration of phosphor gypsum to produce hemihydrate, which will be used as an input to existing production processes

In terms of Section 24(5) of the National Environmental Management Act: 1998, and the regulations promulgated there under, an application for Environmental Authorisation entailing an Environmental Impact Assessment (EIA) is required for the proposed project.

**Name of proponent: BPB Gypsum (Pty) Ltd trading as Gyproc
Environmental Assessment Practitioner: Environmental Science Associates**

The EIA will be undertaken by Environmental Science Associates, a firm of independent consultants. To ensure that you are kept informed throughout the EIA process, please submit your name, contact information and interest in the project to Abdul Ebrahim (Details below) on or before **28 February 2008**. This will ensure that you are included in the database of registered Interested and Affected Parties.

Contact: Abdul Ebrahim
PO Box 73420, Lynwood Ridge, Pretoria 0040
Tel: 011 728 2683
Cell: 072 268 1119
Fax: 086 610 6703
E-mail: abdul@escience.co.za

Figure 4: Environmental Impact Assessment Notice

8. Appendix 2: INTERESTED & AFFECTED PARTY REGISTRATION & COMMENT SHEET

Name:	
Designation:	
Organisation:	
Tel:	
E-Mail:	
Fax:	
Postal Address:	
Physical Address:	
Interest in the Development	