Whereas the said ELUNDINI MUNICIPALITY is the registered owner of :

1. **ERF 532 (a portion of Erf 200) UGIE,**
in the ELUNDINI MUNICIPALITY,
Division of MACLEAR
PROVINCE EASTERN CAPE
HELD BY Certificate of Registered Title No. 000054459 / 2007

2. **REMAINDER ERF 530 UGIE,**
in the ELUNDINI MUNICIPALITY,
Division of MACLEAR,
PROVINCE EASTERN CAPE.
HELD BY Deed of Transfer No. T.15866/1964

which properties have been consolidated into the land hereinafter described;

NOW, THEREFORE, in pursuance of the provisions of the said Act, I the Registrar of Deeds at Cape Town do hereby certify that the said

ELUNDINI MUNICIPALITY

its Successors in Title or Assigns,

are the registered owner of

ERF 2882 UGIE,
in the ELUNDINI MUNICIPALITY,
Division of MACLEAR,
PROVINCE EASTERN CAPE.

IN EXTENT: 22,2571 (TWENTY TWO comma TWO FIVE SEVEN ONE) Hectares

AS WILL APPEAR on Diagram No. 5756/2000

I. **AS REGARDS** the figure A f E on Diagram SG No. 5756/2000 :

A. **SUBJECT** to the following conditions contained in Crown Grant No. G204/1953.

(a) "Subject to the provisions of the Reserved Minerals Development Act, 1926, and of the Precious Stones Act, 1927, as amended, all rights to all minerals, mineral products, mineral oils, coal, base or precious stones in or under the land are reserved to the Government.

(b) The Governor-General shall have the right at all times of resuming for the Government and/or public purposes such portion or portions of the land as may not have been alienated by the Village

Management Board. In the event of such resumption, no compensation shall be payable by the Government except in respect of substantial improvements of a permanent nature affected on the land, whether by the Village Management Board or any other body or person acting under the express authority of the said Village Management Board."

B. **SUBJECT FURTHER** to the endorsement dated 3 October 1953 on said Crown Grant No. 204/1953, reading :

"Certificate of Mineral Rights No. 191/1953 issued in terms of Section 72 of Act 47/1937 in respect of the mineral rights reserved hereunder."

C. **ENTITLED** to the benefit of the following servitude as contained in the endorsement dated 19 December 1958 on said Crown Grant No. 204/1953, which endorsement reads as follows :

"Kragtens Akte van Transport Nr. 18870/1958 hede gedateer is Erf 304 groot 2 morg onderhewig gemaak aan 'n serwituut water pyplyn 5 Kaapse Voet wyd, die middellyn waarvan deur die blou lyn x y op Kaart Nr. 4867/58 daarvan voorgestel word ten gunste van die Restant van Erf 200 Ugie, groot 2005,6534 morg hieronder gehou soos meer volledig sal blyk uit gemelde Akte van Transport.

D. By Deed of Transfer T.21136/1990 the Municipality of Ugie (now Elundini Municipality) is entitled to a temporary access servitude 10 metres wide over Erf 571 Ugie of which the north eastern boundary is depicted by the line E F on Diagram No. 5441/1986.

II. **AS REGARDS** the figure f B C D E on Diagram SG No. 5756/2000 :

A. **SUBJECT** to the following conditions as contained in Crown Grant G204/1953 :-

"(a) Subject to the provisions of the Reserved Minerals Development Act, 1926, and of the precious Stones Act, 1927, as amended, all rights to all minerals, mineral products, mineral oils, coal, base or precious metals or precious stones in or under the land are reserved to the Government."

(In respect of which a Certificate of Mineral Rights No. 191/1953 was issued on 3 October 1953 as will more fully appear from the endorsement dated 3 October 1953 on the said Crown Grant No. G.204/1953).

(b) The Governor-General shall have the right at all times of resuming for the Government and/or public purposes such portion or portions of the land as may not have been alienated by the Village Management Board. In the event of such resumption, no

compensation shall be payable by the Government except in respect of substantial improvements of a permanent nature affected on the land, whether by the Village Management Board or any other body or person acting under the express authority of the said Village Management Board."

(c) .....

B. **ENTITLED** to the benefit of the following servitude as contained in the endorsement dated 19 December 1958 on said Crown Grant No. G204/1953, which endorsement reads as follows :

"Kragtens Akte van Transport Nr. 18870/1958 hede gedateer is Erf 304 groot 2 morg onderhewig gemaak aan 'n serwituut water pyplyn 5 Kaapse Voet wyd, die middellyn waarvan deur die blou lyn x y op Kaart Nr. 4867/58 daarvan voorgestel word ten gunste van die Restant van Erf 200 Ugie, groot 2005,6534 morg hieronder gehou soos meer volledig sal blyk uit gemelde Akte van Transport.

C. **ENTITLED** as mentioned in Deed of Transfer No. T.15866/1964 to a servitude pipeline 5 feet wide of which the centre line is indicated by the figures a b on Diagram No. 5538/62 annexed to Deed of Transfer T.23272/67 over Erf 533 Ugie measuring 3,6017 morgen held by Deed of Transfer No. T.23272/67 and as will more fully appear therefrom.

And that by virtue of these presents the said

ELUNDINI MUNICIPALITY

now is and henceforth shall be entitled thereto conformably to local custom, the State, however, reserving its rights.

IN WITNESSES whereof I the said, Registrar have subscribed to these presents, and have caused the seal of office to be affixed thereto.

Thus done and executed at the Office of the Registrar of Deeds at Cape Town on this 10 July in the year of Our Lord, Two Thousand and Seven (2007)

REGISTRAR OF DEEDS

9

12 JAN S DE VILLIERS
STELLENBOSCH
RJF/cle

Prepared by me

CONVEYANCER
FEENSTRA RJ

FEE
R 95,00

DATA / CAPTURE
06 AUG 2007

For further endr. See P. 6

T 00065464/2007

CERTIFICATE OF CONSOLIDATED TITLE

(Issued under the provisions of section forty of the Deeds Registries Act 1937 (no 47 of 1937)

DATA / VERIFY
27 A
LARNEY F

Whereas

THE ELUNDINI MUNICIPALITY

has applied for the issue to the said ELUNDINI MUNICIPALITY of a Certificate of Consolidated Title under the provisions of section forty of the Deeds Registries Act, 1937; and

-b- CCT

ENDORSEMENT IN TERMS OF SECTION 46 ACT 47/1937
ENDOSSEMENT KRAGTENS ARTIKEL 46 WET 47/1937

The land herein described has been subdivided
Die grond hierin beskryf is onderverdeel

EXEMPTED FROM THE PROVISIONS OF ACT 70/1970

In accordance with General Plan No.
In ooreensteming met Algemene Plan Nr. SG 4814/2006

Approved by the Surveyor-General on
Goedgekeur deur die Landmeter-Generaal op 8-9-2006

In terms of
Kragtens SEC. 25 OF ORD 15 OF 1985

Into erven numbers
In erwe genommer 5440 – 5563

Public places numbered
Openbare Plekke genommer 5564, 5565 AND 5566

And thoroughfares.
En strate.

Application filled as
Aansoek geliasseer as BC 56664/2006

Deeds Office / Aktekantoor
Cape Town / Kaaptad

Registrar of Deeds / Registrateur van Aktes

Date
Datum: .....

Servitude Notes/ Serwituut Notas (if any/indien enige)
ERVEN 5469, 5475, 5478 AND 5483 ARE SUBJECT TO A STORMWATER SERVITUDE 3 METRES WIDE.

Whereas the said ELUNDINI MUNICIPALITY is the registered owner of :

1. **ERF 5437 UGIE,**
in the ELUNDINI MUNICIPALITY,
Division of MACLEAR
PROVINCE EASTERN CAPE
HELD BY Certificate of Registered Title No. 54463/2007.

2. **ERF 5438 UGIE,**
in the ELUNDINI MUNICIPALITY,
Division of MACLEAR,
PROVINCE EASTERN CAPE.
HELD BY Certificate of Registered Title No. 00005446 3 / 2007

which properties have been consolidated into the land hereinafter described;

NOW, THEREFORE, in pursuance of the provisions of the said Act, I the Registrar of Deeds at Cape Town do hereby certify that the said

ELUNDINI MUNICIPALITY

its Successors in Title or Assigns,

are the registered owner of

ERF 5439 UGIE,
in the ELUNDINI MUNICIPALITY,
Division of MACLEAR,
PROVINCE EASTERN CAPE.

IN EXTENT: 29,6663 (TWENTY NINE comma SIX SIX SIX THREE) Hectares

AS WILL APPEAR on Diagram No. 4813/2006

I. **WITH REGARDS to the figure A B C D E F a b M N P Q R S T U V W on Diagram SG No. 4813/2006 :**

A. **SUBJECT** to the following conditions contained in Crown Grant No. G204/1953.

(a) "Subject to the provisions of the Reserved Minerals Development Act, 1926, and of the Precious Stones Act, 1927, as amended, all rights to all minerals, mineral products, mineral oils, coal, base or precious stones in or under the land are reserved to the Government.

(b) The Governor-General shall have the right at all times of resuming for the Government and/or public purposes such portion or portions of the land as may not have been alienated by the Village Management

Board. In the event of such resumption, no compensation shall be payable by the Government except in respect of substantial improvements of a permanent nature affected on the land, whether by the Village Management Board or any other body or person acting under the express authority of the said Village Management Board."

B. **SUBJECT FURTHER** to the endorsement dated 3 October 1953 on said Crown Grant No. 204/1953, reading :

"Certificate of Mineral Rights No. 191/1953 issued in terms of Section 72 of Act 47/1937 in respect of the mineral rights reserved hereunder."

C. **ENTITLED** to the benefit of the following servitude as contained in the endorsement dated 19 December 1958 on said Crown Grant No. 204/1953, which endorsement reads as follows :

"Kragtens Akte van Transport Nr. 18870/1958 hede gedateer is Erf 304 groot 2 morg onderhewig gemaak aan 'n serwituut water pyplyn 5 Kaapse Voet wyd, die middellyn waarvan deur die blou lyn x y op Kaart Nr. 4867/58 daarvan voorgestel word ten gunste van die Restant van Erf 200 Ugie, groot 2005,6534 morg hieronder gehou soos meer volledig sal blyk uit gemelde Akte van Transport.

D. By Deed of Transfer T.21136/1990 the Municipality of Ugie (now Elundini Municipality) is entitled to a temporary access servitude 10 metres wide over Erf 571 Ugie of which the north eastern boundary is depicted by the line E F on Diagram No. 5441/1986.

II. **WITH REGARDS to the figure a d c L b on Diagram SG No. 4813/2006 :**

A. **SUBJECT** to the following conditions contained in Crown Grant No. G204/1953.

(a) "Subject to the provisions of the Reserved Minerals Development Act, 1926, and of the Precious Stones Act, 1927, as amended, all rights to all minerals, mineral products, mineral oils, coal, base or precious stones in or under the land are reserved to the Government.

(b) The Governor-General shall have the right at all times of resuming for the Government and/or public purposes such portion or portions of the land as may not have been alienated by the Village Management Board. In the event of such resumption, no compensation shall be payable by the Government except in respect of substantial improvements of a permanent nature affected on the land, whether by the Village Management Board or any other body or person acting under the express authority of the said Village Management Board."

B. **SUBJECT FURTHER** to the endorsement dated 3 October 1953 on said Crown Grant No. 204/1953, reading :

"Certificate of Mineral Rights No. 191/1953 issued in terms of Section 72 of Act 47/1937 in respect of the mineral rights reserved hereunder."

C. **ENTITLED** to the benefit of the following servitude as contained in the endorsement dated 19 December 1958 on said Crown Grant No. 204/1953, which endorsement reads as follows :

"Kragtens Akte van Transport Nr. 18870/1958 hede gedateer is Erf 304 groot 2 morg onderhewig gemaak aan 'n serwituut water pyplyn 5 Kaapse Voet wyd, die middellyn waarvan deur die blou lyn x y op Kaart Nr. 4867/58 daarvan voorgestel word ten gunste van die Restant van Erf 200 Ugie, groot 2005,6534 morg hieronder gehou soos meer volledig sal blyk uit gemelde Akte van Transport.

D. By Deed of Transfer T.21136/1990 the Municipality of Ugie (now Elundini Municipality) is entitled to a temporary access servitude 10 metres wide over Erf 571 Ugie of which the north eastern boundary is depicted by the line E F on Diagram No. 5441/1986.

III. **WITH REGARD to the figure d G H J K c on Diagram SG No. 4813/2006 :**

A. **SUBJECT** to the conditions as contained in Crown Grant G204/1053 :

"(a) SUBJECT to the provisions of the Reserved Minerals Development Act, 1926, and of the precious Stones Act, 1927, as amended, all rights to all minerals, mineral products, mineral oils, coal, base or precious metals or precious stones in or under the land are reserved to the Government."

(In respect of which a Certificate of Mineral Rights No. 191/1953 was issued on 3 October 1953 as will more fully appear from the endorsement dated 3 October 1953 on the said Crown Grant No. G204/1953).

(b) The Governor-General shall have the right at all times of resuming for the Government and/or public purposes such portion or portions of the land as may not have been alienated by the Village Management Board. In the event of such resumption, no compensation shall be payable by the Government except in respect of substantial improvements of a permanent nature affected on the land, whether by the Village Management Board or any other body or person acting under the express authority of the said Village Management Board."

B. **ENTITLED** to the benefit of the following servitude as contained in the endorsement dated 19 December 1958 on said Crown Grant No. 204/1953, which endorsement reads as follows :

"Kragtens Akte van Transport Nr. 18870/1958 hede gedateer is Erf 304 groot 2 morg onderhewig gemaak aan 'n serwituut water pyplyn 5 Kaapse Voet wyd, die middellyn waarvan deur die blou lyn x y op Kaart Nr. 4867/58 daarvan voorgestel word ten gunste van die Restant van Erf 200 Ugie, groot 2005,6534 morg hieronder gehou soos meer volledig sal blyk uit gemelde Akte van Transport.

C. **ENTITLED** as mentioned in Deed of Transfer No. T15866/1964 to a servitude pipeline 5 feet wide of which the centre line is indicated by the figures a b on Diagram No. 5538/62 annexed to Deed of Transfer T.23272/67 over Erf 533 Ugie measuring 3,6017 morgen held by Deed of Transfer No. T.23272/67 and as will more fully appear therefrom.

And that by virtue of these presents the said

ELUNDINI MUNICIPALITY

now is and henceforth shall be entitled thereto conformably to local custom, the State; however, reserving its rights.

IN WITNESSES whereof I the said, Registrar have subscribed to these presents, and have caused the seal of office to be affixed thereto.

Thus done and executed at the Office of the Registrar of Deeds at Cape Town on this 10 July in the year of Our Lord, Two Thousand and Seven (2007)

REGISTRAR OF DEEDS

9

APPENDIX C

PUBLIC CONSULTATION

TERRECO cc
Geotechnical, Environmental and Waste Management

SCOPING QUESTIONNAIRE

PROJECT: PROPOSED UPGRADING OF UGIE TOWN STREETS
NAME: Johnson
RELATIONSHIP TO PROJECT: Nearby resident to Borrowpit
BORROWPIT No: Dolerite

CONTACT DETAILS

TEL:		FAX:	
CELL:		EMAIL:	
ADDRESS:	Bhekela		

COMMENTS/CONCERNS:

Borrowpit can be used only if
it will be rehebilited
I hereby give my consent for the borrowpit near to my house to be mined for material for use in the
Upgrading of Ugie Town streets.

SIGNATURE: X DATE: 22-09-09

TERRECO cc
Geotechnical Environmental and Waste Management

SCOPING QUESTIONNAIRE

PROJECT: PROPOSED UPGRADING OF UGIE TOWN STREETS

NAME: Nozizwe Cewule / Patrick Cewule

RELATIONSHIP TO PROJECT: Nearby resident to Borrowpit

BORROWPIT No: Dolerite

CONTACT DETAILS

TEL:	0737371835	FAX:	
CELL:		EMAIL:	
ADDRESS:	4196		

COMMENTS/CONCERNS:

I do not have any objection, the project must go-ahead as planned, at the end we are the one's to benefit from the propose mining.

I hereby give my consent for the borrowpit near to my house to be mined for material for use in the Upgrading of Ugie Town streets.

SIGNATURE: M. P [illegible] DATE: 22/09/09

TERRECO cc
Geotechnical Environmental and Waste Management

SCOPING QUESTIONNAIRE

PROJECT: PROPOSED UPGRADING OF UGIE TOWN STREETS

NAME: Nomasoka Pati

RELATIONSHIP TO PROJECT: Nearby resident to Borrowpit

BORROWPIT No: Dolerite

CONTACT DETAILS

TEL:		FAX:	
CELL:		EMAIL:	
ADDRESS:	4195, Bhekela		

COMMENTS/CONCERNS:

The area earmarked for the borrow-pit is fested with harzerdous/ poisonous snakes that could attack us if they are not properly checked and killed during the mining operations.

I hereby give my consent for the borrowpit near to my house to be mined for material for use in the Upgrading of Ugie Town streets.

SIGNATURE: PATI DATE: 22-09-09

TERRECO cc
Geotechnical Environmental and Waste Management

SCOPING QUESTIONNAIRE

PROJECT: PROPOSED UPGRADING OF UGIE TOWN STREETS

NAME: Johnson RASMENI

RELATIONSHIP TO PROJECT: Nearby resident to Borrowpit

BORROWPIT No: Dolerite

CONTACT DETAILS

TEL:		FAX:	
CELL:		EMAIL:	
ADDRESS:	KUNGOMBOMBO		

COMMENTS/CONCERNS:

andinangxaki ingasetyenziswa le ndawo

I hereby give my consent for the borrowpit near to my house to be mined for material for use in the Upgrading of Ugie Town streets.

SIGNATURE: +

DATE: 22-09-09

TERRECO cc
Geotechnical Environmental and Waste Management

SCOPING QUESTIONNAIRE

PROJECT: PROPOSED UPGRADING OF UGIE TOWN STREETS

NAME: Pikie Besett. / Bukelwa Mbanga

RELATIONSHIP TO PROJECT: Nearby resident to Borrowpit

BORROWPIT No: Odette

CONTACT DETAILS

TEL:		FAX:	
CELL:		EMAIL:	
ADDRESS:	4198,		

COMMENTS/CONCERNS:

I do not have problems, please proceed as planned, be careful not to line furrows that will trap water, because during raining days the water will spill-over to our homes.

I hereby give my consent for the borrowpit near to my house to be mined for material for use in the Upgrading of Ugie Town streets.

SIGNATURE: M Bukelwa DATE: 22/09/09

TERRECO cc
Geotechnical Environmental and Waste Management

SCOPING QUESTIONNAIRE

PROJECT: PROPOSED UPGRADING OF UGIE TOWN STREETS
NAME: Nowandile Mgude
RELATIONSHIP TO PROJECT: Nearby resident to Borrowpit
BORROWPIT No: Dolerite

CONTACT DETAILS

TEL:		FAX:	
CELL:		EMAIL:	
ADDRESS:	4191, Bhekela (Ngqoumbazo)		

COMMENTS/CONCERNS:

Our concern is regard to the rolling stones, Is it not dangerous for us to allow mining of stones here becoz we are too ~~far~~ close to the proposed site.

I hereby give my consent for the borrowpit near to my house to be mined for material for use in the Upgrading of Ugie Town streets.

SIGNATURE: X DATE: 22-09-09

TERRECO cc
Geotechnical, Environmental and Waste Management

SCOPING QUESTIONNAIRE

PROJECT: PROPOSED UPGRADING OF UGIE TOWN STREETS

NAME: NOBANTU MBULALI

RELATIONSHIP TO PROJECT: Nearby resident to Borrowpit

BORROWPIT No: Dolerite

CONTACT DETAILS

TEL:		FAX:	
CELL:	0786495482	EMAIL:	
ADDRESS:	4294 UGIE EXT. III		

COMMENTS/CONCERNS:

I like that decision but I am afraid of ~~over~~ our children when they playing ~~the~~ in that veld.

I hereby give my consent for the borrowpit near to my house to be mined for material for use in the Upgrading of Ugie Town streets.

SIGNATURE: [signature] DATE: 2009-09-22

TERRECO cc
Geotechnical Environmental and Waste Management

SCOPING QUESTIONNAIRE

PROJECT: PROPOSED UPGRADING OF UGIE TOWN STREETS

NAME: Eunice Nxelava

RELATIONSHIP TO PROJECT: Nearby resident to Borrowpit

BORROWPIT No: Dolerite

CONTACT DETAILS

TEL:	0732706617	FAX:	
CELL:		EMAIL:	
ADDRESS:	4193 Bekela,		

COMMENTS/CONCERNS:

Due to the slope of this area rocks from that site could roll-over to our houses please inform us about your plan to deal with this challenge before starting to mine

I hereby give my consent for the borrowpit near to my house to be mined for material for use in the Upgrading of Ugie Town streets.

SIGNATURE: [signature] DATE: 22-09-09

TERRECO cc
Geotechnical Environmental and Waste Management

SCOPING QUESTIONNAIRE

PROJECT: PROPOSED UPGRADING OF UGIE TOWN STREETS

NAME: Tosi Ngoma

RELATIONSHIP TO PROJECT: Nearby resident to Borrowpit

BORROWPIT No: Delete

CONTACT DETAILS

TEL:	0823424159	FAX:	
CELL:		EMAIL:	
ADDRESS:	4192, Bhekela		

COMMENTS/CONCERNS:

We do appreciate the proposed development. We also like to inform the developers that there are children around so Safety measured should be adhered to (inform us when and where are you going to start with mining)

I hereby give my consent for the borrowpit near to my house to be mined for material for use in the Upgrading of Ugie Town streets.

SIGNATURE: T. Ng DATE: 22-09-09

TERRECO cc
Geotechnical Environmental and Waste Management

SCOPING QUESTIONNAIRE

PROJECT: PROPOSED UPGRADING OF UGIE TOWN STREETS
NAME: THOBELA PHAWULA
RELATIONSHIP TO PROJECT: Nearby resident to Borrowpit
BORROWPIT No: Odenite Borrowpit

CONTACT DETAILS

TEL:		FAX:	
CELL:	071 090 1991	EMAIL:	
ADDRESS:			

COMMENTS/CONCERNS:

The borrowpit can be used, I dont have problems with that because it will be used for upgrading our streets.

I hereby give my consent for the borrowpit near to my house to be mined for material for use in the Upgrading of Ugie Town streets.

SIGNATURE: [signature] DATE: 22-09-09

TERRECO cc
Geotechnical Environmental and Waste Management

SCOPING QUESTIONNAIRE

PROJECT: PROPOSED UPGRADING OF UGIE TOWN STREETS

NAME: Nomableka Nondoda

RELATIONSHIP TO PROJECT: Nearby resident to Borrowpit

BORROWPIT No: Dolerite Borrowpit

CONTACT DETAILS

TEL:		FAX:	
CELL:		EMAIL:	
ADDRESS:	4205, Dlekeka.		

COMMENTS/CONCERNS:

Borrow-pits must be rehabilitated to prevent dams posing danger to our community.

I hereby give my consent for the borrowpit near to my house to be mined for material for use in the Upgrading of Ugie Town streets.

SIGNATURE: N Nondoda DATE: 22-09-09

APPENDIX D

IMPACT ASSESSMENT TABLES

Rehabilitation Cost Summary Table for Mudstone BP

Description	Unit	Quantity	Rate	Amount
Creation of benches along the top of the borrowpit				
Excavator	hr	50	400	20,000.00
Tipper Truck	hr	50	400	20,000.00
Lowbed Hire	km	200	10	2,000.00
Disturbed Areas (processing areas , stockpiles etc)				
Profiling (incl plant hire)	ha	0.91	2500	2,275.00
Topsoil (topsoil on site, placing only with TLB)	hr	50	16.5	825.00
Hydroseeding	ha	0	13000	0.00
Fertiliser (0.6t/ha of 2:3:2)	t	0.55	2750	1,512.50
Seed purchase (18kg/ha)	kg	16.4	100	1,640.00
Stormwater Control	sum	1	10000	10,000.00
Labour	man days	10	60	600.00
Demolishing of Buildings				
All building are private homes				0.00
Provisional sum for breaking concrete structures	sum	0	5000	0.00
Alien vegetation Control				0.00
Labour	days	60	60	3,600.00
Herbicide	ltr	60	150	9,000.00
After Care & Maintenance				
Labour	man days	60	60	3,600.00
Herbicide	ltr	60	150	9,000.00
Sub Total				**84,052.50**
Establishment and Management should current mine			@10%	8,405.25
operator become liquidated or incapacitated				
GRAND TOTAL				**92,457.75**

APPENDIX E

REHABILITATION COST SCHEDULES

Rehabilitation Cost Summary Table for Dolerite BP

Description	Unit	Quantity	Rate	Amount
Creation of benches along the top of the borrowpit				
Excavator	hr	50	400	20,000.00
Tipper Truck	hr	50	400	20,000.00
Lowbed Hire	km	210	10	2,100.00
Disturbed Areas (processing areas , stockpiles etc)				
Profiling (incl plant hire)	ha	0.63	2500	1,575.00
Topsoil (topsoil on site, placing only with TLB)	hr	50	16.5	825.00
Hydroseeding	ha	0	13000	0.00
Fertiliser (0.6t/ha of 2:3:2)	t	0.4	2750	1,100.00
Seed purchase (18kg/ha)	kg	11.4	100	1,140.00
Stormwater Control	sum	1	10000	10,000.00
Labour	man days	10	60	600.00
Demolishing of Buildings				
All building are private homes				0.00
Provisional sum for breaking concrete structures	sum	0	5000	0.00
Alien vegetation Control				0.00
Labour	days	60	60	3,600.00
Herbicide	ltr	60	150	9,000.00
After Care & Maintenance				
Labour	man days	30	60	1,800.00
Herbicide	ltr	30	150	4,500.00
Sub Total				**76,240.00**
Establishment and Management should current mine			@10%	7,624.00
operator become liquidated or incapacitated				
GRAND TOTAL				**83,864.00**

APPENDIX F

LETTER OF FINANCIAL GUARANTEE

MUNICIPALITY
IKAMVA ELIQAQAMBILEYO

Elundini Local Municipality
1 Celler Street • Maclear • 5480 • PO Box 1 • Maclear • 5480
Tel: +27 (0) 45 932 1085 • Fax: +27 (0) 45 932 1897 • Email: elundini@mweb.co.za

Enquiries: Ms.C.H.Qotoyi Tel: 045 932 8100/8132

Dept of Economic Development & Environmental Affairs (DEDEA)
Private Bag 1016
Aliwal North
9750

18 February 2010

Attention of: Ms N Mkhacane

Dear Madam

BORROWPITS FOR THE CONSTRUCTION AND REHABILITATION OF UGIE TOWN STREETS – CONFIRMATION OF FINANCIAL AND TECHNICAL COMPETENCE

We hereby confirm that the Elundini Local Municipality will appoint a professional engineering consulting company to manage all construction activities associated with the proposed project to construct and rehabilitate roads in and surrounding the town of Ugie in the Eastern Cape.

Part of the engineering consultant's brief will be to ensure that the borrowpits that will be used to supply the required material for road construction will be mined correctly as per the requirements of the approved Environmental Management Plan (EMP) and approved mine development plan. The consultant will also manage the required rehabilitation process at each of the two borrowpit sites.

The cost of rehabilitation will be included into the appointed Contractor's rates (within the contract document for the project) and as such will available as and when required during the project.

A financial guarantee of R 200 000.00 will be submitted (by the Elundini Local Municipality) upon approval of this application.

Please do not hesitate to contact the undersigned should you have any further queries.

Regards.

.....
Mr. K. Gashi
Municipal Manager

MUNICIPALITY
IKAMVA ELIQAQAMBILEYO

Elundini Local Municipality
1 Celler Street • Maclear • 5480 • PO Box 1 • Maclear • 5480
Tel: +27 (0) 45 932 1085 • Fax: +27 (0) 45 932 1897 • Email: elundini@mweb.co.za

The Regional Manager

Private Bag X6076

Port Elizabeth

6000

FINANCIAL GUARANTEE FOR THE REHABILITATION OF LAND DISTURBED BY MINING (EXECUTION OF ENVIRONMENTAL MANAGEMENT PROGRAMME)

1. Concerning the responsibility in terms of Mineral and Petroleum Resources Development Act 28 of 2002, which is incumbent on **Elundini Local Municipality** (hereinafter referred to as "the mine owner") to execute the environmental management programme approved in terms of the provisions of the said Act for a the resuscitation of a borrow pit at Ugie.

2. situated in the magisterial district of Maclear, Province of the **Eastern Cape**,

   I....KHAYALETHU GASHI,

   in my capacity as the Municipal Manager: Elundini Local Municipality

   (hereinafter referred to as "the guarantor") confirm that the amount of

   R 200,000.00 is available to you for the purpose of executing the said environmental management programme.

2. The guarantor, who hereby waives the advantages of the exceptions *non numeratae non causa debiti execussionis et divisionis*, the meaning and the consequences of which is known to the guarantor, undertakes to pay to you the said sum of R 200,000.00 upon receipt of a written claim from you to do so and the claim may be submitted by you, if (in your opinion and discretion) the mine owner fails or remains in default to execute the said environmental management programme, or if he ceases mining/prospecting operations. The said claim may be instituted by you at any stage commencing from the date of signature of this guarantee.

MUNICIPALITY
IKAMVA ELIQAQAMBILEYO

Elundini Local Municipality
1 Celler Street • Maclear • 5480 • PO Box 1 • Maclear • 5480
Tel: +27 (0) 45 932 1085 • Fax: +27 (0) 45 932 1897 • Email: elundini@mweb.co.za

3. The said amount of R 200,000.00 may be held by you on the condition that you, after having complied with all the provisions of the said environmental management programme, will give account to the guarantor of how the amount was appropriated and repay any unappropriated amount to the guarantor.

4. This undertaking is neither negotiable nor transferable, and-
   a) must be returned to the guarantor when giving account to the guarantor in terms of clause 3 above,

   b) shall lapse on the granting of a closure certificate in terms of the Mineral and Petroleum Resources Development Act 28 of 2002, and

   c) shall not be construed as placing any other responsibility on the guarantor other than the paying of the guaranteed amount

Yours faithfully

.....
KHAYALETHU GASHI
MUNICIPAL MANAGER

PLEASE NOTE:

1) No amendments and/or additions to the wording of this guarantee will be accepted.

2) The address of the guarantee must be stated clearly.

3) This guarantee must be returned to:

The Municipal Manager

Elundini Local Municipality

P.O. Box 1

Maclear

5480

APPENDIX G

LETTER OF UNDERTAKING

MUNICIPALITY
IKAMVA ELIQAQAMBILEYO

Elundini Local Municipality
1 Celler Street • Maclear • 5480 • PO Box 1 • Maclear • 5480
Tel: +27 (0) 45 932 1085 • Fax: +27 (0) 45 932 1897 • Email: elundini@mweb.co.za

I, KHAYALETHU GASHI

.....

The undersigned and duly authorised thereto by The Elundini Local Municipality hereby undertake to implement all the aspects contained in the EMP and accept full responsibility therefore.

SIGNED at MACLEAR this 23 day Nov. 2009

SIGNATURE

WITNESSES:

1. .....

2. .....

Official use

1. APPROVAL

Approved in terms of the provisions of the Minerals and Petroleum Resources Development Act, 2002 (Act 28 of 2002).

SIGNED at ..... this ..... day ..... 20.....

REGIONAL MANAGER
EASTERN CAPE

APPENDIX H

LETTER CONFIRMING ELUNDINI MUNICIPALITY PROJECT

MUNICIPALITY
IKAMVA ELIQAQAMBILEYO

Elundini Local Municipality
1 Celler Street • Maclear • 5480 • PO Box 1 • Maclear • 5480
Tel: +27 (0) 45 932 1085 • Fax: +27 (0) 45 932 1897 • Email: elundini@mweb.co.za

Department of Minerals and Energy
Private Bag X6076
PORT ELIZABETH
6000

ATTENTION: MS N. MKHACANE

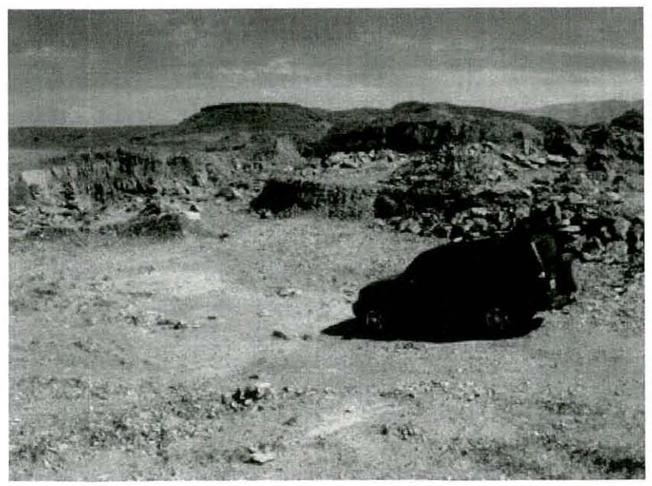
UPGRADING OF ROADS WITHIN UGIE

This letter is submitted in support of the Environmental Management Plan for the proposed borrow-pits to be used for the upgrading of roads within the Ugie town area. We would like to confirm that this is a Elundini Local Municipality Project.

Yours faithfully

.....
KHAYALETHU GASHI
MUNICIPAL MANAGER

2.4.1 Development and Rehabilitation Procedures for Mud BP

MINING AND REHABILITATION PROCEDURES	MUD BP
PRECONSTRUCTION PHASE:	***BORROWPIT INFORMATION***
• Obtain DME permission to use Borrowpit. • Obtain land owners permission to use Borrowpit (done).	**LANDOWNER**: State-owned land **CO-ORDINATES:** S 31° 13' 14.4" E 28° 14' 12.6" **CURRENT LANDUSE:** Old Borrowpit, Grazing **PROPOSED ENDUSE:** Grazing
CONSTRUCTION PHASE	***REFERENCES***
• Strip off vegetation. All shrubs should be placed through a chipper and the chips stockpiled on site for use in rehabilitation. • Strip off topsoil and overburden and place in stockpiles as indicated. • Fence borrowpit area as indicated on the plans.	**DEVELOPMENT PLAN:** Drawing No: 240860QPO/FIG AA (APPENDIX B) **LANDOWNER QUESTIONNAIRE/PERMISSION:** APPENDIX D
OPERATION PHASE	
• • Excavate material using a bulldozer as indicated in the development plan. The floor of the BP will be deepened. • The material will be removed to resemble the mining profile provided in the mining development plan. • Mined material will be crushed and stockpiled on site temporarily before being moved to the construction site. • All mobile plant will be serviced at the central workshop located in Ugie.	
CLOSURE AND REHABILITATION	***PHOTOGRAPH***
• The portable toilet will be dismantled and removed from site. • All excess material will be pushed up against the base of the borrowpit face and over the floor and covered with overburden. • Topsoil will be placed over the overburden. • The access road will be ripped and removed. • Chipped vegetation will be spread over the topsoil to create a mulch. • The fence will be maintained. • The soil will be analysed for fertility and the required fertilizer mix will be applied. • The entire mining area will be either hand seeded or hydroseeded with an indigenous seed mix.	
AFTERCARE	
• The borrowpit will be inspected 6 months after rehabilitation, and again after 12 months for signs of erosion and to assess the success of re-vegetation. • In the event of any erosion, the necessary repairs will be undertaken by the contractor. • Reseeding will be undertaken should the vegetation not have recovered sufficiently.	

2.4.2 Development and Rehabilitation Procedures for DoI BP

MINING AND REHABILITATION PROCEDURES	DOL BP
PRECONSTRUCTION PHASE:	***BORROWPIT INFORMATION***
• Obtain DME permission to use Borrowpit. • Obtain land owner's permission to use Borrowpit (done).	**LANDOWNER**: State owned land **CO-ORDINATES:** S 31° 11' 55.7" E 28° 15' 39.7" **CURRENT LANDUSE:** Existing borrowpit, Grazing **PROPOSED ENDUSE:** Grazing.
CONSTRUCTION PHASE	***REFERENCES***
• Strip off vegetation. All shrubs should be placed through a chipper and the chips stockpiled on site for use in rehabilitation. • Strip off topsoil and place in stockpiles. • Strip off overburden and place in designated stockpile area within the borrowpit fence. • Fence borrowpit area as indicated on the plans.	**DEVELOPMENT PLAN:** Drawing No: 240860QPO/FIG AB (APPENDIX B) **LANDOWNER QUESTIONNAIRE/PERMISSION:** APPENDIX D
OPERATION PHASE	
• Excavate material using a bulldozer as indicated in the mine development plan. • The material will be removed to resemble the mining profile provided in the development plan. • Material will be removed immediately from the borrowpit for use in the road construction. It may be necessary to have a small temporary stockpile of material from time to time. This will be placed within the designated borrowpit area. • All mobile plant will be serviced at the central workshop located along in Ugie.	
CLOSURE AND REHABILITATION	***PHOTOGRAPH***
• The borrowpit will be shaped to resemble the profile provided in the development plan. • Excess material will be placed against the faces created during mining and then that material will be covered with overburden. • Topsoil will be placed over the overburden. • The soil will be analysed for fertility and the required fertilizer mix will be applied. • The rehabilitated areas will be either hand seeded or hydroseeded with an indigenous seed mix.	
AFTERCARE	
• The borrowpit will be inspected 6 months after rehabilitation, and again after 12 months for signs of erosion and to assess the success of re-vegetation. • In the event of any erosion, the necessary repairs will be undertaken by the contractor. • Reseeding will be undertaken should the vegetation not have recovered sufficiently.	

Figure 5.1 Aspect and Impact Summary Matrix – Mud BP

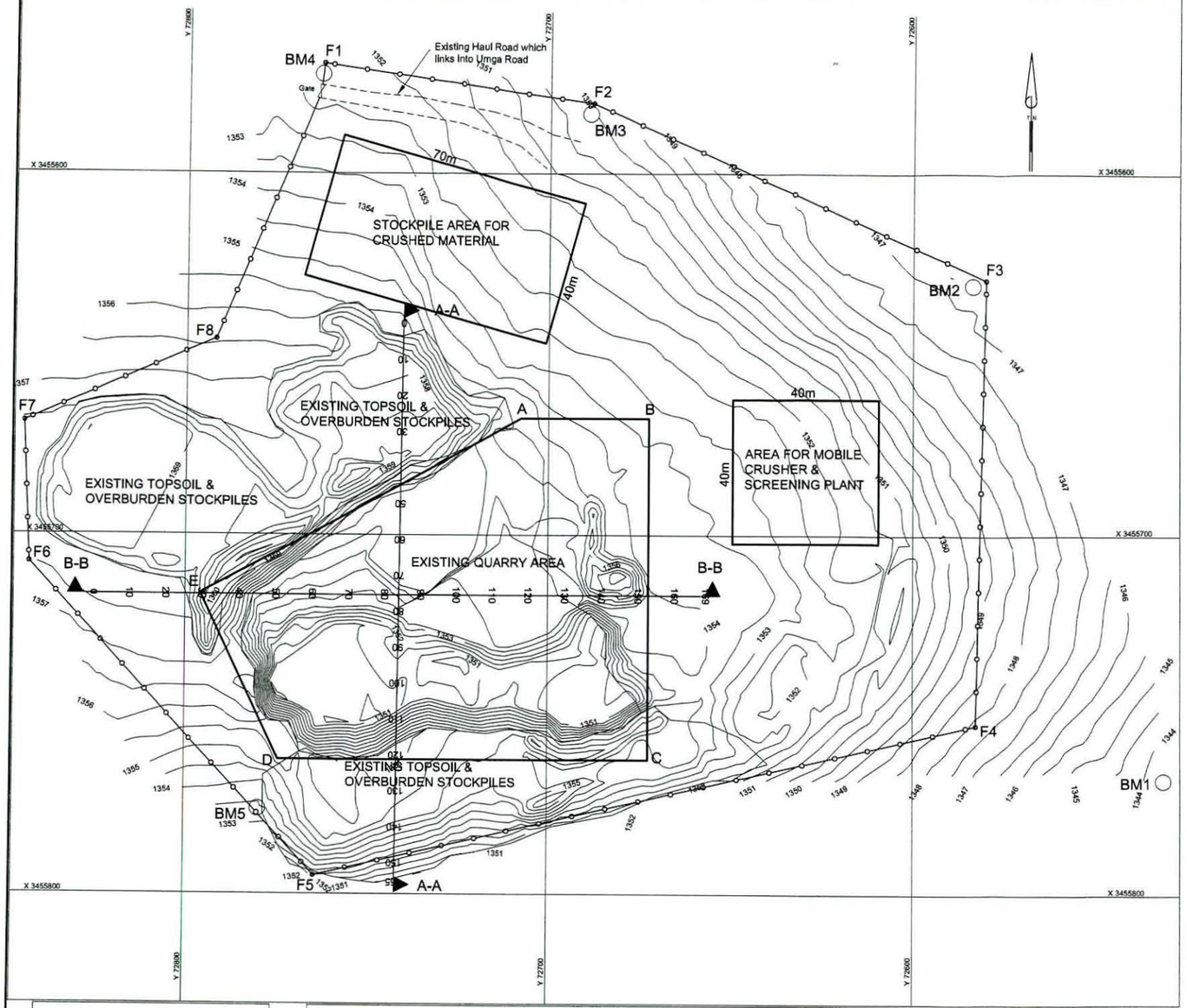
ACTIVITY			ASPECT (the mechanism by which an activity can interact with the environment and lead to environmental impacts) (See Table 5.1)	Energy Consumption	Water Consumption	Materials consumption	Releases to Water (point)	Releases to Water (diffuse)	Emissions to air (gaseous)	Emissions to air (particulate)	Noise disturbance	Clearing of vegetation	Ground disturbance	Change in landform	Waste generation and disposal	Access creation / disruption	Changes in landuse/zoning	Employment and training
	Construction		Site Clearance - vegetation															
			Site preparation (clearing and grubbing)															
			Erection of Fencing															
			Construct of drainage structures															
			Stockpiling															
	Operation		Mining activities															
			Loading material onto trucks															
			Transport of mined material to construction site															
	Closure		Earthworks															
			Ripping of compacted soils															
			Topsoiling of disturbed areas															
			Planting of indigenous vegetation															
AFFECTED ENVIRONMENTS - IMPACTS	PHYSICAL		Soil compaction / erosion															
			Soil Pollution															
			Air pollution															
			Surface water pollution															
			Alteration to drainage systems															
			Groundwater pollution															
	BIOLOGICAL		Habitat degradation and loss															
			Species of special concern															
			Spread of invasive alien species															
			Impacts on aquatic flora and fauna															
	HUMAN / SOCIO-ECONOMIC		Public Nuisance - traffic disruption															
			Public Nuisance - dust generation															
			Public Nuisance - noise															
			Public Safety (health and safety risks)															
			Degradation of landscape value, aesthetic appeal or sense of place															
			Cultural heritage															
			Economic development															
			Income generation and social upliftment															

ACTIVITY/ASPECT INTERACTION	
POTENTIAL NEGATIVE IMPACT OF ASPECT ON ENVIRONMENT	
POTENTIAL POSITIVE IMPACT ON ENVIRONMENT	

Figure 5.2 Aspect and Impact Summary Matrix – DoI BP

ACTIVITY			ASPECT (the mechanism by which an activity can interact with the environment and lead to environmental impacts) (See Table 5.1)	Energy Consumption	Water Consumption	Materials consumption	Releases to Water (point)	Releases to Water (diffuse)	Emissions to air (gaseous)	Emissions to air (particulate)	Noise disturbance	Clearing of vegetation	Ground disturbance	Change in landform	Waste generation and disposal	Access creation / disruption	Changes in Landuse / zoning	Employment and training
	Construction		Site Clearance - vegetation															
			Site preparation (clearing and grubbing)															
			Erection of Fencing															
			Construct of drainage structures															
			Stockpiling															
	Operation		Mining activities															
			Loading material onto trucks															
			Transport of mined material to construction site															
	Closure		Earthworks															
			Ripping of compacted soils															
			Topsoiling of disturbed areas															
			Planting of indigenous vegetation															
AFFECTED ENVIRONMENTS - IMPACTS	PHYSICAL		Soil compaction / erosion															
			Soil Pollution															
			Air pollution															
			Surface water pollution															
			Alteration to drainage systems															
			Groundwater pollution															
	BIOLOGICAL		Habitat degradation and loss															
			Species of special concern															
			Spread of invasive alien species															
			Impacts on aquatic flora and fauna															
	HUMAN / SOCIO-ECONOMIC		Public Nuisance - traffic disruption															
			Public Nuisance - dust generation															
			Public Nuisance - noise															
			Public Safety (health and safety risks)															
			Degradation of landscape value, aesthetic appeal or sense of place															
			Cultural heritage															
			Economic development															
			Income generation and social upliftment															

ACTIVITY/ASPECT INTERACTION
POTENTIAL NEGATIVE IMPACT OF ASPECT ON ENVIRONMENT
POTENTIAL POSITIVE IMPACT ON ENVIRONMENT



BENCH MARKS - WGS 84

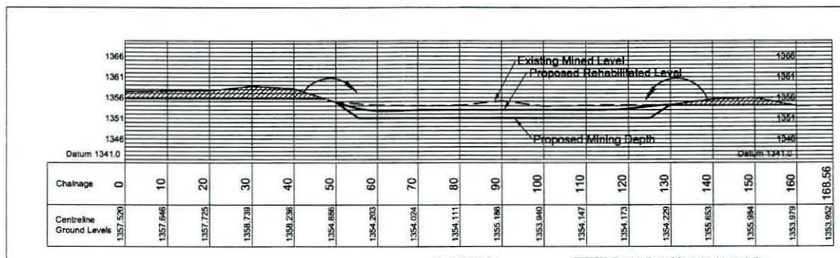
Code	Tag	Y	X	Elevation
BM1	MS1	72531.09	3455768.06	1343.669
BM2	MS2	72583.66	3455630.71	1346.772
BM3	MS3	72689.02	3455583.64	1350.082
BM4	MS4	72763.81	3455572.84	1352.096
BM5	MS5	72779.92	3455776.30	1353.351

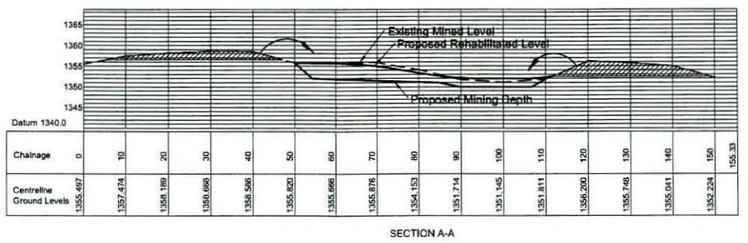
EXTENT OF AREA TO BE MINED = 9076.27m² PERIMETER = 384m

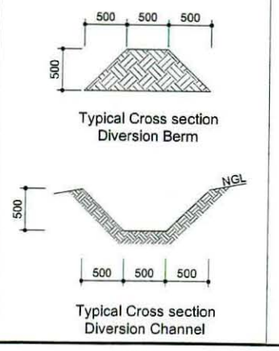
A	72707.50	3455667.56
B	72672.50	3455667.56
C	72672.50	3455762.56
D	72774.50	3455762.56
E	72795.94	3455716.29

FENCE AREA = 41970.2m² PERIMETER = 800m

F1	72763.38	3455569.88
F2	72688.18	3455580.74
F3	72580.01	3455629.06
F4	72582.64	3455752.75
F5	72764.67	3455794.78
F6	72843.10	3455707.79
F7	72844.69	3455668.70
F8	72792.17	3455645.78







LEGEND

QUANTITY - 15 000m³
EXTENT TO BE MINED - 9076.27m²
MATERIAL - COARSE MUDSTONE
USE - ROAD LAYERWORKS

NOTES

1. Borrow Pit to be self-draining.
2. Drawing not to be scaled.
3. Topsoil and overburden material from existing stockpiles to be used for rehabilitation of Borrow Pit.
4. All temporary batters to be maximum 1:1,5 and all finished/ rehabilitated batters to be maximum 1:3.
5. A fence and gate are to secure the area to be worked including topsoil stockpile. See detail drawing for fencing.

PRELIMINARY
FOR INFORMATION ONLY
FOR APPROVAL ✓
FOR TENDER PURPOSES
FOR CONSTRUCTION

Amendment

No.	Date	Checked	Done by	Description

SCALE FOR REDUCED PLAN

Notes

KV3 ENGINEERS
P.O.Box 7587
Newton Park 6055
Tel:(041)391-6911
Fax:(041)364-3788
e-mail: portelizabeth@kv3.co.za

Designed	GVA
Drawn	LR
Checked	RB

Client: ELUNDINI MUNICIPALITY, 1 Sellar Street, Maclear, 5480

Project: UGIE STREETS

Drawing description: MUDSTONE BORROW PIT - EMP

Consulting Engineer — Pr. Eng. 950038

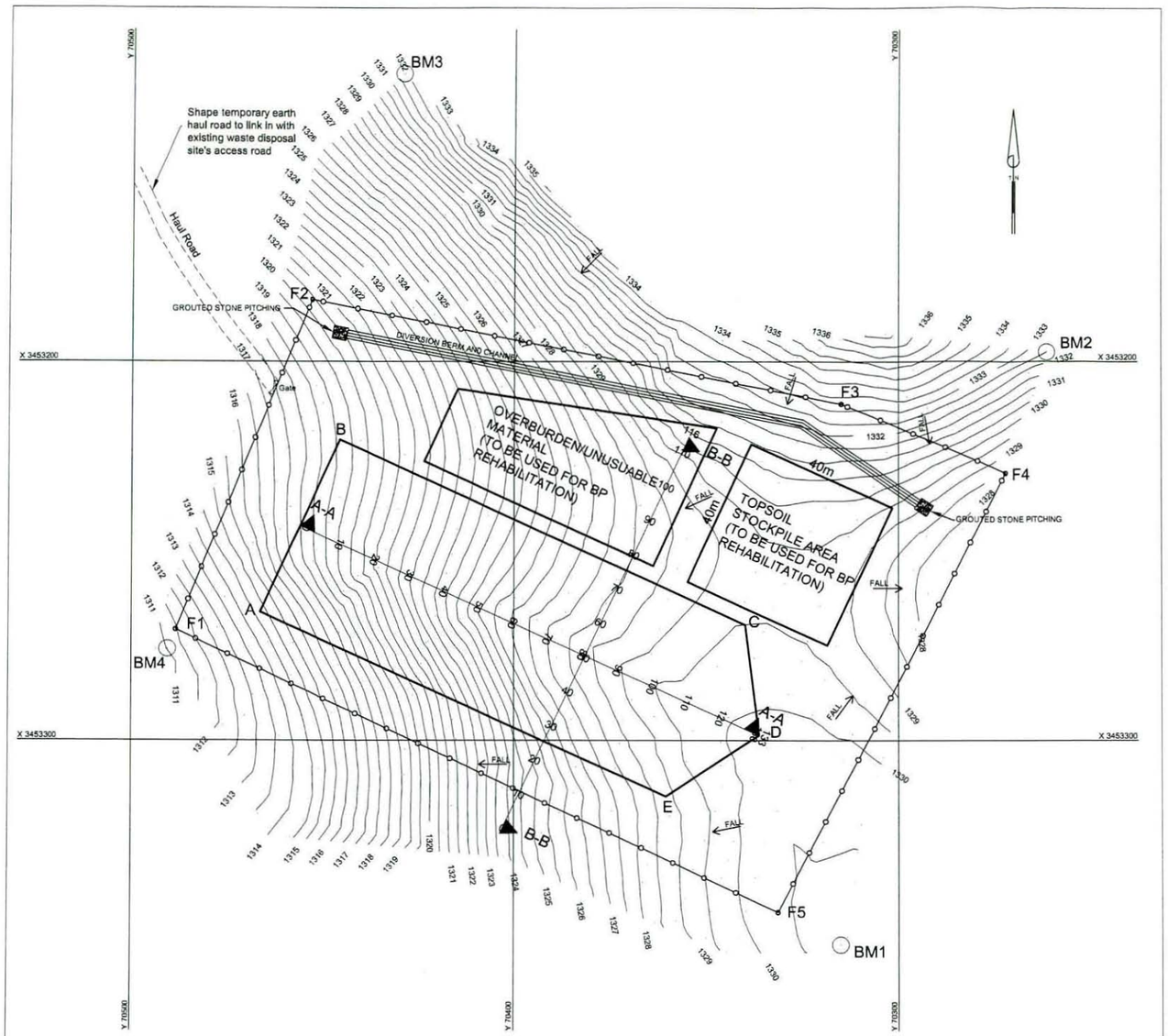
Scale: 1:1000

Date: NOVEMBER 2009

Client

Date

Drawing number: 240860QPO/FIG AA



BENCH MARKS - WGS 84 15mm ROUND IRON PEG

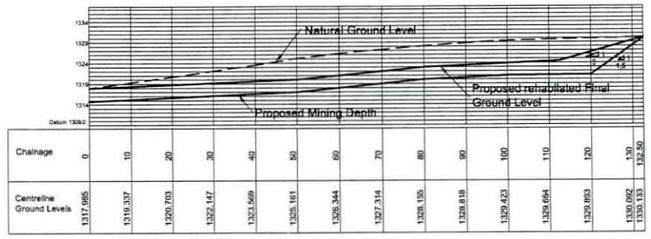
Code	Tag	Y	X	Elevation
BM1	DOL1	70314.87	3453353.99	1330.862
BM2	DOL2	70260.72	3453197.54	1332.499
BM3	DOL3	70429.29	3453124.80	1331.888
BM4	DOL4	70490.60	3453275.79	1311.049

EXTENT OF AREA TO BE MINED = 6238m² PERIMETER = 342.83m

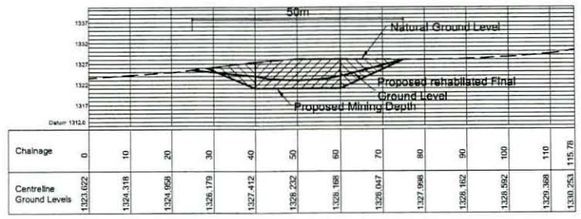
A	70466.66	3453266.02
B	70445.78	3453220.59
C	70339.47	3453269.45
D	70335.82	3453298.64
E	70360.35	3453314.88

FENCE AREA = 20776m² PERIMETER = 586.45m

F1	70488.54	3453270.71
F2	70453.26	3453183.84
F3	70314.74	3453211.13
F4	70271.72	3453229.32
F5	70330.96	3453345.47



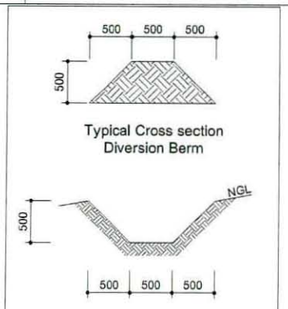
SECTION A-A



SECTION B-B

Anticipated usable weathered dolerite material to be mined

Unusuable material to be stockpiled for later use to rehabilitate Borrow Pit



LEGEND

QUANTITY - 15 000m³
EXTENT TO BE MINED - 6238m²
MATERIAL - YELLOW WEATHERED DOLERITE
USE - ROAD LAYERWORKS

NOTES

1. Borrow Pit to be self-draining.
2. Drawing not to be scaled.
3. Topsoil and overburden material to be stockpiled and watered for future use in rehabilitation of Borrow Pit. Topsoil to be stockpiled separate to other overburden material.
4. Diversion berm to protect all slopes into Borrow Pit.
5. All temporary batters to be maximum 1:1,5 and all finished/ rehabilitated batters to be maximum 1:3.
6. A fence and gate are to secure the area to be worked including topsoil stockpile. See detail drawing for fencing.

PRELIMINARY	
FOR INFORMATION ONLY	
FOR APPROVAL	✓
FOR TENDER PURPOSES	
FOR CONSTRUCTION	

Amendment

No.	Date	Checked	Done by	Description

SCALE FOR REDUCED PLAN

Notes

KV3 ENGINEERS
P.O.Box 7567
Newton Park 6055
Tel:(041)391-6811
Fax:(041)364-3758
e-mail: sorbeltzabeln@kv3.co.za

Designed	GVA
Drawn	LR
Checked	RB

Client: ELUNDINI MUNICIPALITY, 1 Sellar Street, Maclear, 5480

Project: UGIE STREETS

Drawing description: WEATHERED DOLERITE BORROW PIT - EMP

Consulting Engineer — 950038 Pr. Eng.

Scale: 1:1000

Date: NOVEMBER 2009

Client

Date

Drawing number: 240860QPO/FIG AB

MUDSTONE BP - POTENTIAL IMPACT – CONSTRUCTION PHASE	ASPECT	Nature	Severity	Duration	Extent	Probability	Confidence	MITIGATION POTENTIAL	SIGNIFICANCE		MITIGATION REF
									Without Mitigation	With Mitigation	
1.1 Soil Compaction and Erosion ***Activities:*** • Clearing and grubbing • Stripping of topsoil • Creation of stormwater drainage systems ***Description:*** The compaction of soil may occur during the site preparation phase as a result of operating heavy machinery. Compaction of soil may result in the loss of soil viability which will affect the ability of the vegetation to recover. Compacted soil decreases infiltration and therefore increases the amount of surface runoff which will contribute to the rate of erosion. The removal of vegetation cover (limited amounts) and exposure of underlying soil will increase the risk of erosion, particularly on steeper slopes. Erosion may result in the loss of viable topsoil and downstream impacts on the receiving water bodies.	Surface Disturbance	**Negative Direct**	**M**	**M**	**S**	**L**	**H**	**M**	**LOW NEGATIVE**	**LOW NEGATIVE**	**6.4 6.7**
1.2 Soil Pollution ***Activities:*** • Operation of machinery ***Description:*** The operation of heavy machinery during the stripping and clearing of the borrowpit may result in spillages of hydraulic oils due to breakdowns or spillages of diesel during refuelling in the field. Spillages may result in the pollution of soil which could affect soil viability.	Hazardous Waste	**Negative Direct**	**M**	**S**	**S**	**P**	**M**	**H**	**MEDIUM NEGATIVE**	**LOW NEGATIVE**	**6.3 6.4 6.13 6.14**
1.3 Air Pollution ***Activities:*** • Clearing and grubbing • Stripping of topsoil • Potential blasting • Crushing of excavated material • Creation of stormwater drainage systems • Stripping of overburden ***Description:*** Vehicle emissions (exhaust emissions) will be generated by the operation of plant on site. Dust will be generated from the use of machinery during the stripping of vegetation, topsoil and overburden as well as the blasting of hard rock and the crushing of that material. Exposed surfaces will contribute to atmospheric dust particularly during high wind conditions. Excessive exposure to dust will impact on human health. Lower levels may be considered of nuisance value. The impact on Public Health and Safety is discussed under Section 1.10 below. There are no houses within 350m of the site	Emissions to Air (Gaseous) Emissions to Air (Particulate – Dust)	**Negative Direct**	**M**	**S**	**S**	**D**	**H**	**M**	**HIGH - MEDIUM NEGATIVE**	**MEDIUM / LOW NEGATIVE**	**6.5**

SEVERITY: (Refer to Table 5.2) H = High; M = Medium; L = Low; + = Positive	DURATION: (Refer to Table 5.3) S = Short Term; M = Medium Term; L = Long Term; P = Permanent	EXTENT: (Refer to Table 5.3) S = Site; L = Local; R = regional; N = National	PROBABILITY: (Refer to Table 5.3) U = Unlikely; L = Likely; P = Possible; D = Definite
MITIGATION PROTENTIAL: (Refer to Table 5.4) H = High; M = Medium; L = Low	MITIGATION REF: Refers to chapter in EMP document.		

MUDSTONE BP - POTENTIAL IMPACT – CONSTRUCTION PHASE	ASPECT	Nature	Severity	Duration	Extent	Probability	Confidence	MITIGATION POTENTIAL	SIGNIFICANCE		MITIGATION REF
									Without Mitigation	With Mitigation	
1.4 Surface Water Pollution (Dirty Water Runoff and Pollutants) ***Activities:*** • Clearing and grubbing • Stripping of topsoil • Stripping of overburden • Creation of stormwater drainage systems • Topsoil and overburden stockpiles ***Description:*** The relatively flat topography of the site and surrounding areas ensures that limited runoff will be created on site. Therefore it is not necessary to construct a diversion berm or catchment drain to manage the stormwater generated there. The compaction of surfaces and the creation of hard, impermeable surfaces will however increase the amount of runoff generated. A limited stormwater management system is therefore proposed, with regular monitoring of downstream impacts. Spillages of hydrocarbons (such as hydraulic oils) may enter into surface water bodies if washed off site.	Release to water (diffuse & point)	**Negative Direct**	**L**	**M**	**L**	**P**	**H**	**H**	**LOW NEGATIVE**	**LOW NEGATIVE**	**6.3 6.4**
1.5 Habitat Degradation and Loss ***Activities:*** • Clearing and grubbing ***Description:*** The preparation of the site will involve limited clearing of vegetation. The site is currently a degraded grassland area. The site preparation will effectively result in the limited transformation of site in terms of plant and animal habitat. The vegetation assessment indicated that the vegetation type affected by the mining areas is not unique and is in fact well represented in the surrounding areas. Most of the mining will involve the deepening of the existing floor and only limited horizontal expansion is proposed. One may therefore assume that the loss of the vegetation on the footprint of the mining area will not have a significantly detrimental impact on the vegetation type as a whole. Notwithstanding this, an effort should be made to minimize the area of impact and to reestablish the vegetation as close to the original condition as possible, following completion of the mining operations.	Surface Disturbance	**Negative Direct**	**M/L**	**L**	**S**	**D**	**H**	**M**	**MEDIUM NEGATIVE**	**LOW NEGATIVE**	**6.8**
1.6 Spread of invasive alien species ***Activities:*** • Clearing and grubbing ***Description:*** The removal of the existing vegetation and the creation of disturbed surfaces is an open invitation for the invasion of alien plant species. Alien invader species such as *Lantana camara* and Black Wattle have been recorded in the area. Invasive alien plants effectively out compete many of the indigenous species and ultimately lead to a loss of biodiversity. This impact must be managed throughout the life of mine through the implementation of a detailed alien plant eradication programme.	Surface Disturbance	**Negative Direct**	**M**	**L**	**S**	**L**	**H**	**H**	**MEDIUM NEGATIVE**	**LOW NEGATIVE**	**6.8**

SEVERITY: (Refer to Table 5.2) H = High; M = Medium; L = Low; + = Positive	DURATION: (Refer to Table 5.3) S = Short Term; M = Medium Term; L = Long Term; P = Permanent	EXTENT: (Refer to Table 5.3) S = Site; L = Local; R = regional; N = National	PROBABILITY: (Refer to Table 5.3) U = Unlikely; L = Likely; P = Possible; D = Definite
MITIGATION PROTENTIAL: (Refer to Table 5.4) H = High; M = Medium; L = Low	MITIGATION REF: Refers to chapter in EMP document.		

MUDSTONE BP - POTENTIAL IMPACT – CONSTRUCTION PHASE	ASPECT	Nature	Severity	Duration	Extent	Probability	Confidence	MITIGATION POTENTIAL	SIGNIFICANCE		MITIGATION REF
									Without Mitigation	With Mitigation	
1.7 Public Nuisance – Traffic Disruption ***Activities:*** • Accessing the site • Fencing of the site ***Description:*** Accessing the borrowpit may result in some disruption to traffic along the gravel public road. This will be short-lived and of low significance. Fencing of the site may impact on pedestrian movement across the site. Considering that the site does not form part of an obvious thoroughfare nor is there any evidence of well used paths, this impact is unlikely to be significant.	Creation/disruption of access	**Negative Direct**	**L**	**S**	**S**	**P**	**H**	**L**	**LOW NEGATIVE**	**LOW NEGATIVE**	**6.15**
1.8 Public Nuisance – Dust Generation ***Activities:*** • Accessing the borrowpit • Clearing and grubbing • Stripping of topsoil • Potential blasting • Creation of stormwater drainage systems • Stripping of overburden ***Description:*** Dust will be generated from the use of machinery during the limited stripping of vegetation, topsoil and overburden and potentially during blasting activities. Exposed surfaces will contribute to atmospheric dust particularly during high wind conditions.	Emissions to air - particulate	**Negative Direct**	**L**	**M**	**S**	**L**	**M**	**M**	**MEDIUM NEGATIVE**	**LOW NEGATIVE**	**6.5**
1.9 Public Nuisance – Noise ***Activities:*** • Accessing the site • Clearing and grubbing • Stripping of topsoil • Stripping of overburden • Creations of stormwater drainage systems • Potential blasting ***Description:*** During the site establishment phase, noise will be generated primarily by heavy earthmoving machinery as the mining area is stripped of topsoil and overburden. As such, the noise levels are likely to be those commonly experienced on any civils construction site. Activities will be limited to normal working hours. There is however the potential for blasting activities to be required on site. The impact of noise on mine workers' health will be addressed by the Mine Health and Safety Plan and will include the use of protective hearing devices.	Noise Disturbance	**Negative Direct**	**L**	**M**	**S**	**D**	**M**	**M**	**HIGH - MEDIUM NEGATIVE**	**MEDIUM NEGATIVE (if blasting required)**	**6.6**

SEVERITY: (Refer to Table 5.2) H = High; M = Medium; L = Low; + = Positive	DURATION: (Refer to Table 5.3) S = Short Term; M = Medium Term; L = Long Term; P = Permanent	EXTENT: (Refer to Table 5.3) S = Site; L = Local; R = regional; N = National	PROBABILITY: (Refer to Table 5.3) U = Unlikely; L = Likely; P = Possible; D = Definite
MITIGATION PROTENTIAL: (Refer to Table 5.4) H = High; M = Medium; L = Low	MITIGATION REF: Refers to chapter in EMP document.		

MUDSTONE BP - POTENTIAL IMPACT – CONSTRUCTION PHASE	ASPECT	Nature	Severity	Duration	Extent	Probability	Confidence	MITIGATION POTENTIAL	SIGNIFICANCE		MITIGATION REF
									Without Mitigation	With Mitigation	
1.10 Public Health and Safety ***Activities:*** • Accessing the site • Clearing and grubbing • Stripping of topsoil • Stripping of overburden • Creations of stormwater drainage systems • Potential blasting ***Description:*** Public health and safety may be at risk as a result of a number of aspects: generation of dust and noise, the operation of heavy earthmoving machinery of site, the creation of excavations and stockpiles and potentially blasting on site (if required). The impacts of noise and dust generation on public health and wellbeing are discussed in the sections above. The erection of the security fence and presence of security staff as well as proper safety signage, will minimize the safety risks posed to nearby residents and other members of the public. Any blasting to be required will be undertaken by a registered professional blasting.	Emissions to air, Noise, surface disturbance, changes in landform, topography	**Negative Direct**	**M**	**M**	**S**	**P**	**M**	**H**	**MEDIUM NEGATIVE**	**LOW NEGATIVE**	**6.12 6.14 6.15**
1.11 Degradation of landscape value, aesthetic appeal or sense of place ***Activities:*** • Clearing and grubbing • Stripping of topsoil • Stripping of overburden ***Description:*** The site establishment phase will have a limited visual impact as vegetation and topsoil is stripped. The activities will be visible from some of the surrounding areas. The borrowpit is located adjacent to a gravel road and is therefore highly visible from that road. Mud BP is, however, an existing borrowpit with a high visual impact. Considering that the surrounding landuse is largely rural agricultural in nature, the site establishment activities are likely to be noticeable and therefore will have a significant impact on the aesthetic value of the landscape. This will be mitigated somewhat by minimizing cleared areas and by landscaping where possible.	Surface disturbance, change in landform and topography	**Negative Direct**	**M**	**L**	**L**	**D**	**M**	**M**	**MEDIUM NEGATIVE**	**MEDIUM NEGATIVE**	**6.3 6.5 6.6 6.8 6.9 6.10 6.11 6.13 6.14**
1.12 Cultural Heritage ***Activities:*** • Clearing and grubbing • Stripping of topsoil • Stripping of overburden ***Description:*** The archaeologist had no objection to the proposed mining activities at the Mud BP.	Surface disturbance, change in landform and topography	**Negative Direct**	**M/H**	**L**	**L**	**D**	**M**	**M**	**HIGH – MEDIUM NEGATIVE**	**MEDIUM NEGATIVE**	**6.9**

SEVERITY: (Refer to Table 5.2) H = High; M = Medium; L = Low; + = Positive	DURATION: (Refer to Table 5.3) S = Short Term; M = Medium Term; L = Long Term; P = Permanent	EXTENT: (Refer to Table 5.3) S = Site; L = Local; R = regional; N = National	PROBABILITY: (Refer to Table 5.3) U = Unlikely; L = Likely; P = Possible; D = Definite
MITIGATION PROTENTIAL: (Refer to Table 5.4) H = High; M = Medium; L = Low	MITIGATION REF: Refers to chapter in EMP document.		

MUDSTONE BP - POTENTIAL IMPACT – CONSTRUCTION PHASE	*ASPECT*	*Nature*	*Severity*	*Duration*	*Extent*	*Probability*	*Confidence*	MITIGATION POTENTIAL	SIGNIFICANCE		MITIGATION REF
									Without Mitigation	With Mitigation	
1.13 Change in Landuse ***Activities:*** • General mining activities ***Description:*** The expansion of the borrowpit will result in a temporary change of landuse which will be largely reinstated on closure.	Surface disturbance, change in landform and topography	**Negative Direct**	**H**	**L**	**S**	**D**	**H**	**M**	**HIGH NEGATIVE**	**LOW NEGATIVE**	**6.10**
1.14 Economic Development, income generation and social upliftment ***Activities:*** • Procurement of goods and services • Employment and training ***Description:*** The site establishment phase is likely to require the use of generalized and specialized services. Preference will be given to local service providers and suppliers where possible and to the employment of local labour. Employment of local labour, use of existing SMME's based in the area, and the support of local businesses in the supply of goods and services will benefit the regional economy.	Materials Consumption, recruitment and training	**Positive Direct and Indirect**	**M+**	**M**	**R**	**P**	**M**	**N/A**	**MEDIUM POSITIVE**		**6.16** **6.17**

SEVERITY: (Refer to Table 5.2) H = High; M = Medium; L = Low; + = Positive	DURATION: (Refer to Table 5.3) S = Short Term; M = Medium Term; L = Long Term; P = Permanent	EXTENT: (Refer to Table 5.3) S = Site; L = Local; R = regional; N = National	PROBABILITY: (Refer to Table 5.3) U = Unlikely; L = Likely; P = Possible; D = Definite
MITIGATION PROTENTIAL: (Refer to Table 5.4) H = High; M = Medium; L = Low	MITIGATION REF: Refers to chapter in EMP document.		

MUDSTONE BP - POTENTIAL IMPACT – OPERATION PHASE	*ASPECT*	*Nature*	*Severity*	*Duration*	*Extent*	*Probability*	*Confidence*	MITIGATION POTENTIAL	SIGNIFICANCE		MITIGATION REF
									Without Mitigation	With Mitigation	
2.1 Soil Compaction and Erosion ***Activities:*** • Extraction of material ***Description:*** Refer to Section 1.1	Surface Disturbance	**Negative Direct**	**M**	**M**	**S**	**L**	**H**	**M**	**MEDIUM - LOW NEGATIVE**	**LOW NEGATIVE**	**6.4 6.7**
2.2 Soil Pollution ***Activities:*** • Operation of machinery ***Description:*** Refer to Section 1.2	Hazardous Waste	**Negative Direct**	**M**	**S**	**S**	**P**	**M**	**H**	**MEDIUM NEGATIVE**	**LOW NEGATIVE**	**6.3 6.4 6.13 6.14**
2.3 Air Pollution ***Activities:*** • Extraction of material • Loading of trucks • Transportation of material ***Description:*** Refer to Section 1.3	(Gaseous) Emissions to Air (Particulate – Dust)	**Negative Direct**	**M**	**S**	**S**	**D**	**H**	**M**	**MEDIUM NEGATIVE**	**MEDIUM / LOW NEGATIVE**	**6.5**
2.4 Surface Water Pollution (Dirty Water Runoff and Pollutants) ***Activities:*** • Extraction of material ***Description:*** Refer to Section 1.4	Release to water (diffuse & point)	**Negative Direct**	**L**	**M**	**L**	**P**	**H**	**H**	**MEDIUM – LOW NEGATIVE**	**LOW NEGATIVE**	**6.3 6.4**
2.5 Spread of invasive alien species ***Activities:*** • Extraction of material ***Description;*** Refer to Section 1.6	Surface Disturbance	**Negative Direct**	**M**	**L**	**S**	**L**	**H**	**H**	**MEDIUM NEGATIVE**	**LOW NEGATIVE**	**6.8**

SEVERITY: (Refer to Table 5.2) H = High; M = Medium; L = Low; + = Positive	DURATION: (Refer to Table 5.3) S = Short Term; M = Medium Term; L = Long Term; P = Permanent	EXTENT: (Refer to Table 5.3) S = Site; L = Local; R = regional; N = National	PROBABILITY: (Refer to Table 5.3) U = Unlikely; L = Likely; P = Possible; D = Definite
MITIGATION PROTENTIAL: (Refer to Table 5.4) H = High; M = Medium; L = Low	MITIGATION REF: Refers to chapter in EMP document.		

MUDSTONE BP - POTENTIAL IMPACT – OPERATION PHASE	ASPECT	Nature	Severity	Duration	Extent	Probability	Confidence	MITIGATION POTENTIAL	SIGNIFICANCE		MITIGATION REF
									Without Mitigation	With Mitigation	
2.6 Public Nuisance – Traffic Disruption ***Activities:*** • Transporting of Material to construction sites ***Description:*** The transportation of material to the various construction sites along the Ugie streets may result in traffic disruption. One should bear in mind, however, that there will already be disruption to traffic caused by the road construction activities and the transportation of material to site is unlikely to add significantly to this. There is generally a fair amount of traffic along the Ugie streets.	Creation/disruption of access	**Negative Direct**	**L**	**S**	**S**	**P**	**H**	**L**	**LOW NEGATIVE**	**LOW NEGATIVE**	**6.15**
2.7 Public Nuisance – Dust Generation ***Activities:*** • Extraction of material • Potential blasting • Crusher activities • Loading of material • Transportation of material to site ***Description:*** Dust will be generated from excavation and loading of material as well as the exposure of bare soil within the borrowpit. Dust will be generated from the use of trucks to transport material to the construction sites. Dust will also be generated by the potential blasting activities. Dust will be created by the crusher activities on site.	Emissions to air - particulate	**Negative Direct**	**L**	**M**	**L**	**L**	**M**	**M**	**MEDIUM NEGATIVE**	**LOW NEGATIVE**	**6.5**
2.8 Public Nuisance – Noise ***Activities:*** • Extraction of material • Loading of material • Potential blasting • Crusher activities • Transportation of material to site ***Description:*** Refer to Section 1.9.	Noise Disturbance	**Negative Direct**	**M**	**M**	**L**	**D**	**M**	**M**	**HIGH - MEDIUM NEGATIVE**	**MEDIUM – LOW NEGATIVE**	**6.6**

SEVERITY: (Refer to Table 5.2) H = High; M = Medium; L = Low; + = Positive	DURATION: (Refer to Table 5.3) S = Short Term; M = Medium Term; L = Long Term; P = Permanent	EXTENT: (Refer to Table 5.3) S = Site; L = Local; R = regional; N = National	PROBABILITY: (Refer to Table 5.3) U = Unlikely; L = Likely; P = Possible; D = Definite
MITIGATION PROTENTIAL: (Refer to Table 5.4) H = High; M = Medium; L = Low	MITIGATION REF: Refers to chapter in EMP document.		

MUDSTONE BP - POTENTIAL IMPACT – OPERATION PHASE	*ASPECT*	*Nature*	*Severity*	*Duration*	*Extent*	*Probability*	*Confidence*	MITIGATION POTENTIAL	SIGNIFICANCE		MITIGATION REF
									Without Mitigation	With Mitigation	
2.9 Public Health and Safety ***Activities:*** • Extraction of material • Loading of material • Potential blasting • Crusher activities • Transportation of material to site ***Description:*** Public health and safety may be at risk as a result of a number of aspects: generation of dust and noise, the operation of heavy earthmoving machinery of site, the creation of excavations and stockpiles, the crushing of rock materials and the potential blasting of hard rock in the borrowpit. The impacts of noise and dust generation on public health and wellbeing are discussed in the sections above. The erection of the security fence and presence of security staff as well as proper safety signage will minimize the safety risks posed to nearby residents and other members of the public.	Emissions to air Noise, surface disturbance, changes in landform, topography	**Negative Direct**	**M**	**M**	**S**	**P**	**M**	**H**	**MEDIUM – HIGH NEGATIVE**	**LOW NEGATIVE**	**6.12 6.14 6.15**
2.10 Degradation of landscape value, aesthetic appeal or sense of place ***Activities:*** • Excavation of the material – expansion of the borrowpit ***Description:*** As the borrowpit is mined, it will grow in size extending as indicated in the development plans. This will have a visual impact, particularly as the borrowpit is visible from an existing gravel road.	Surface disturbance, change in landform and topography	**Negative Direct**	**M**	**L**	**L**	**D**	**M**	**M**	**HIGH – MEDIUM NEGATIVE**	**MEDIUM NEGATIVE**	**6.3 6.5 6.6 6.8 6.9 6.10 6.11 6.13 6.14**
2.11 Economic Development, income generation and social upliftment ***Activities:*** • Procurement of goods and services • Employment and training ***Description:*** Refer to Section 1.14.	Materials Consumption, recruitment and training	**Positive Direct and Indirect**	**M+**	**M**	**R**	**P**	**M**	**N/A**	**MEDIUM POSITIVE**		**6.16 6.17**

SEVERITY: (Refer to Table 5.2) H = High; M = Medium; L = Low; + = Positive	DURATION: (Refer to Table 5.3) S = Short Term; M = Medium Term; L = Long Term; P = Permanent	EXTENT: (Refer to Table 5.3) S = Site; L = Local; R = regional; N = National	PROBABILITY: (Refer to Table 5.3) U = Unlikely; L = Likely; P = Possible; D = Definite
MITIGATION PROTENTIAL: (Refer to Table 5.4) H = High; M = Medium; L = Low	MITIGATION REF: Refers to chapter in EMP document.		

MUDSTONE BP - POTENTIAL IMPACT – CLOSURE PHASE	*ASPECT*	*Nature*	*Severity*	*Duration*	*Extent*	*Probability*	*Confidence*	MITIGATION POTENTIAL	SIGNIFICANCE		MITIGATION REF
									Without Mitigation	With Mitigation	
3.1 Soil Compaction and Erosion ***Activities:*** • Shaping of the borrowpit • Topsoiling ***Description:*** Refer to Section 1.1	Surface Disturbance	**Negative Direct**	**M**	**M**	**S**	**L**	**H**	**M**	**MEDIUM NEGATIVE**	**LOW NEGATIVE**	**6.4 6.7**
3.2 Soil Pollution ***Activities:*** • Operation of machinery ***Description:*** Refer to Section 1.2	Hazardous Waste	**Negative Direct**	**M**	**S**	**S**	**P**	**M**	**H**	**MEDIUM NEGATIVE**	**LOW NEGATIVE**	**6.3 6.4 6.13 6.14**
3.3 Air Pollution ***Activities:*** • Shaping of the borrowpit • Topsoiling ***Description:*** Refer to Section 1.3	(Gaseous) Emissions to Air (Particulate – Dust)	**Negative Direct**	**M**	**S**	**S**	**D**	**H**	**M**	**MEDIUM NEGATIVE**	**LOW NEGATIVE**	**6.5**
3.4 Surface Water Pollution (Dirty Water Runoff and Pollutants) ***Activities:*** • Shaping of the borrowpit • Topsoiling ***Description:*** Refer to Section 1.4	Release to water (diffuse & point)	**Negative Direct**	**L**	**M**	**L**	**P**	**H**	**H**	**MEDIUM – LOW NEGATIVE**	**LOW NEGATIVE**	**6.3 6.4**
3.5 Spread of invasive alien species ***Activities:*** • Spreading of topsoil • Hydroseeding ***Description;*** Refer to Section 1.6	Surface Disturbance	**Negative Direct**	**M**	**L**	**S**	**L**	**H**	**H**	**MEDIUM NEGATIVE**	**LOW NEGATIVE**	**6.8**

SEVERITY: (Refer to Table 5.2) H = High; M = Medium; L = Low; + = Positive	DURATION: (Refer to Table 5.3) S = Short Term; M = Medium Term; L = Long Term; P = Permanent	EXTENT: (Refer to Table 5.3) S = Site; L = Local; R = regional; N = National	PROBABILITY: (Refer to Table 5.3) U = Unlikely; L = Likely; P = Possible; D = Definite
MITIGATION PROTENTIAL: (Refer to Table 5.4) H = High; M = Medium; L = Low	MITIGATION REF: Refers to chapter in EMP document.		

MUDSTONE BP - POTENTIAL IMPACT – CLOSURE PHASE	ASPECT	Nature	Severity	Duration	Extent	Probability	Confidence	MITIGATION POTENTIAL	SIGNIFICANCE		MITIGATION REF
									Without Mitigation	With Mitigation	
3.6 Public Nuisance – Dust Generation ***Activities:*** • Shaping of the Borrowpit • Spreading of topsoil ***Description:*** Dust will be generated from the shaping of the borrowpit as well as the spreading of the topsoil.	Emissions to air - particulate	**Negative Direct**	**M**	**M**	**L**	**L**	**M**	**M**	**MEDIUM NEGATIVE**	**LOW NEGATIVE**	**6.5**
3.7 Public Nuisance – Noise ***Activities:*** • Shaping of the Borrowpit • Spreading of topsoil ***Description:*** Refer to Section 1.9.	Noise Disturbance	**Negative Direct**	**M**	**M**	**L**	**D**	**M**	**M**	**MEDIUM NEGATIVE**	**MEDIUM – LOW NEGATIVE**	**6.6**
3.8 Public Health and Safety ***Activities:*** • Shaping of the Borrowpit • Spreading of topsoil ***Description:*** Public health and safety may be at risk as a result of a number of aspects: generation of dust and noise, the operation of heavy earthmoving machinery of site and the creation of excavations and stockpiles. The impacts of noise and dust generation on public health and wellbeing are discussed in the sections above. The erection of the security fence and presence of security staff as well as proper safety signage will minimize the safety risks posed to nearby residents and other members of the public.	Emissions to air Noise, surface disturbance, changes in landform, topography	**Negative Direct**	**M**	**M**	**S**	**P**	**M**	**H**	**MEDIUM – HIGH NEGATIVE**	**LOW NEGATIVE**	**6.12** **6.14** **6.15**
3.9 Degradation of landscape value, aesthetic appeal or sense of place ***Activities:*** • Shaping of the borrowpit • Topsoiling • Hydroseeding ***Description:*** This is an existing borrowpit. The final rehabilitation will result in an improvement to the visual impact of the site.	Surface disturbance, change in landform and topography	**Negative Direct**	**M+**	**P**	**S**	**D**	**M**	**N/A**	**MEDIUM POSITIVE**		**6.3** **6.5** **6.6** **6.8** **6.9** **6.10** **6.11** **6.13** **6.14**

SEVERITY: (Refer to Table 5.2) H = High; M = Medium; L = Low; + = Positive	DURATION: (Refer to Table 5.3) S = Short Term; M = Medium Term; L = Long Term; P = Permanent	EXTENT: (Refer to Table 5.3) S = Site; L = Local; R = regional; N = National	PROBABILITY: (Refer to Table 5.3) U = Unlikely; L = Likely; P = Possible; D = Definite
MITIGATION PROTENTIAL: (Refer to Table 5.4) H = High; M = Medium; L = Low	MITIGATION REF: Refers to chapter in EMP document.		

DOLERITE BP - POTENTIAL IMPACT – CONSTRUCTION PHASE	ASPECT	Nature	Severity	Duration	Extent	Probability	Confidence	MITIGATION POTENTIAL	SIGNIFICANCE		MITIGATION REF
									Without Mitigation	With Mitigation	
1.1 Soil Compaction and Erosion ***Activities:*** • Clearing and grubbing • Stripping of topsoil • Creation of stormwater drainage systems ***Description:*** The compaction of soil may occur during the site preparation phase as a result of operating heavy machinery. Compaction of soil may result in the loss of soil viability which will affect the ability of the vegetation to recover. Compacted soil decreases infiltration and therefore increases the amount of surface runoff which will contribute to the rate of erosion. The removal of vegetation cover and exposure of underlying soil will increase the risk of erosion, particularly on steeper slopes. Erosion may result in the loss of viable topsoil and downstream impacts on the receiving water bodies.	Surface Disturbance	**Negative Direct**	**M**	**M**	**S**	**L**	**H**	**M**	**MEDIUM NEGATIVE**	**LOW NEGATIVE**	**6.4 6.7**
1.2 Soil Pollution ***Activities:*** • Operation of machinery ***Description:*** The operation of heavy machinery during the stripping and clearing of the borrowpit may result in spillages of hydraulic oils due to breakdowns or spillages of diesel during refuelling in the field. Spillages may result in the pollution of soil which could affect soil viability.	Hazardous Waste	**Negative Direct**	**M**	**S**	**S**	**P**	**M**	**H**	**MEDIUM NEGATIVE**	**LOW NEGATIVE**	**6.3 6.4 6.13 6.14**
1.3 Air Pollution ***Activities:*** • Clearing and grubbing • Stripping of topsoil • Creation of stormwater drainage systems • Stripping of overburden ***Description:*** Vehicle emissions (exhaust emissions) will be generated by the operation of plant on site. Dust will be generated from the use of machinery during the stripping of vegetation, topsoil and overburden. Exposed surfaces will contribute to atmospheric dust particularly during high wind conditions. Excessive exposure to dust will impact on human health. Lower levels may be considered of nuisance value. The impact on Public Health and Safety is discussed under Section 1.10 below.	Emissions to Air (Gaseous) Emissions to Air (Particulate – Dust)	**Negative Direct**	**M**	**S**	**S**	**D**	**H**	**M**	**MEDIUM NEGATIVE**	**MEDIUM / LOW NEGATIVE**	**6.5**

SEVERITY: (Refer to Table 5.2) H = High; M = Medium; L = Low; + = Positive	DURATION: (Refer to Table 5.3) S = Short Term; M = Medium Term; L = Long Term; P = Permanent	EXTENT: (Refer to Table 5.3) S = Site; L = Local; R = regional; N = National	PROBABILITY: (Refer to Table 5.3) U = Unlikely; L = Likely; P = Possible; D = Definite
MITIGATION PROTENTIAL: (Refer to Table 5.4) H = High; M = Medium; L = Low	MITIGATION REF: Refers to chapter in EMP document.		

DOLERITE BP - POTENTIAL IMPACT – CONSTRUCTION PHASE	ASPECT	Nature	Severity	Duration	Extent	Probability	Confidence	MITIGATION POTENTIAL	SIGNIFICANCE		MITIGATION REF
									Without Mitigation	With Mitigation	
1.4 Surface Water Pollution (Dirty Water Runoff and Pollutants) ***Activities:*** • Clearing and grubbing • Stripping of topsoil • Stripping of overburden • Creation of stormwater drainage systems • Topsoil and overburden stockpiles ***Description:*** Without proper management, runoff from exposed soil surfaces and stockpiles is likely to become highly sedimented (ie carry a high sediment load). The compaction of surfaces and the creation of hard, impermeable surfaces will increase the amount of runoff generated. A stormwater management system is therefore proposed, with regular monitoring of downstream impacts. Spillages of hydrocarbons (such as hydraulic oils) may enter into surface water bodies if washed off site.	Release to water (diffuse & point)	**Negative Direct**	**L**	**M**	**L**	**P**	**H**	**H**	**MEDIUM – LOW NEGATIVE**	**LOW NEGATIVE**	**6.3 6.4**
1.5 Habitat Degradation and Loss ***Activities:*** • Clearing and grubbing ***Description:*** The preparation of the site will involve the clearing of vegetation. The site is currently degraded grasslands. The site preparation will effectively result in the complete transformation of site in terms of plant and animal habitat. The vegetation assessment indicated that the vegetation type affected by the mining areas is not unique and is in fact well represented in the surrounding areas. One may therefore assume that the loss of the vegetation on the footprint of the mining area will not have a significantly detrimental impact on the vegetation type as a whole. Notwithstanding this, an effort should be made to minimize the area of impact and to reestablish the vegetation as close to the original condition as possible, following completion of the mining operations.	Surface Disturbance	**Negative Direct**	**M/L**	**L**	**S**	**D**	**H**	**M**	**MEDIUM NEGATIVE**	**LOW NEGATIVE**	**6.8**
1.6 Spread of invasive alien species ***Activities:*** • Clearing and grubbing ***Description:*** The removal of indigenous vegetation and the creation of disturbed surfaces is an open invitation for the invasion of alien plant species. Alien invader species such as *Lantana camara* and Black Wattle have been recorded in the area. Invasive alien plants effectively out compete many of the indigenous species and ultimately lead to a loss of biodiversity. This impact must be managed throughout the life of mine through the implementation of a detailed alien plant eradication programme.	Surface Disturbance	**Negative Direct**	**M**	**L**	**S**	**L**	**H**	**H**	**MEDIUM NEGATIVE**	**LOW NEGATIVE**	**6.8**

SEVERITY: (Refer to Table 5.2) H = High; M = Medium; L = Low; + = Positive	DURATION: (Refer to Table 5.3) S = Short Term; M = Medium Term; L = Long Term; P = Permanent	EXTENT: (Refer to Table 5.3) S = Site; L = Local; R = regional; N = National	PROBABILITY: (Refer to Table 5.3) U = Unlikely; L = Likely; P = Possible; D = Definite
MITIGATION PROTENTIAL: (Refer to Table 5.4) H = High; M = Medium; L = Low	MITIGATION REF: Refers to chapter in EMP document.		

DOLERITE BP - POTENTIAL IMPACT – CONSTRUCTION PHASE	ASPECT	Nature	Severity	Duration	Extent	Probability	Confidence	MITIGATION POTENTIAL	SIGNIFICANCE		MITIGATION REF
									Without Mitigation	With Mitigation	
1.7 Public Nuisance – Traffic Disruption ***Activities:*** • Accessing the site • Fencing of the site ***Description:*** Accessing the borrowpit may result in some disruption to traffic along the gravel public road. This will be short-lived and of low significance. Fencing of the site may impact on pedestrian movement across the site. Considering that the site does not form part of an obvious thoroughfare nor is there any evidence of well used paths, this impact is unlikely to be significant.	Creation/disruption of access	**Negative Direct**	**L**	**S**	**S**	**P**	**H**	**L**	**LOW NEGATIVE**	**LOW NEGATIVE**	**6.15**
1.8 Public Nuisance – Dust Generation ***Activities:*** • Accessing the borrowpit • Clearing and grubbing • Stripping of topsoil • Creation of stormwater drainage systems • Stripping of overburden ***Description:*** Dust will be generated from the use of machinery during the stripping of vegetation, topsoil and overburden. Exposed surfaces will contribute to atmospheric dust particularly during high wind conditions.	Emissions to air - particulate	**Negative Direct**	**L**	**M**	**S**	**L**	**M**	**M**	**MEDIUM NEGATIVE**	**LOW NEGATIVE**	**6.5**
1.9 Public Nuisance – Noise ***Activities:*** • Accessing the site • Clearing and grubbing • Stripping of topsoil • Stripping of overburden • Creations of stormwater drainage systems ***Description:*** During the site establishment phase, noise will be generated primarily by heavy earthmoving machinery as the mining area is stripped of topsoil and overburden. As such, the noise levels are likely to be those commonly experienced on any civils construction site. Activities will be limited to normal working hours. The impact of noise on mine workers' health will be addressed by the Mine Health and Safety Plan and will include the use of protective hearing devices.	Noise Disturbance	**Negative Direct**	**L**	**M**	**S**	**D**	**M**	**M**	**MEDIUM NEGATIVE**	**MEDIUM – LOW NEGATIVE**	**6.6**

SEVERITY: (Refer to Table 5.2) H = High; M = Medium; L = Low; + = Positive	DURATION: (Refer to Table 5.3) S = Short Term; M = Medium Term; L = Long Term; P = Permanent	EXTENT: (Refer to Table 5.3) S = Site; L = Local; R = regional; N = National	PROBABILITY: (Refer to Table 5.3) U = Unlikely; L = Likely; P = Possible; D = Definite
MITIGATION PROTENTIAL: (Refer to Table 5.4) H = High; M = Medium; L = Low	MITIGATION REF: Refers to chapter in EMP document.		

DOLERITE BP - POTENTIAL IMPACT – CONSTRUCTION PHASE	ASPECT	Nature	Severity	Duration	Extent	Probability	Confidence	MITIGATION POTENTIAL	SIGNIFICANCE		MITIGATION REF
									Without Mitigation	With Mitigation	
1.10 Public Health and Safety ***Activities:*** • Accessing the site • Clearing and grubbing • Stripping of topsoil • Stripping of overburden • Creations of stormwater drainage systems ***Description:*** Public health and safety may be at risk as a result of a number of aspects: generation of dust and noise, the operation of heavy earthmoving machinery of site and the creation of excavations and stockpiles. The impacts of noise and dust generation on public health and wellbeing are discussed in the sections above. The erection of the security fence and presence of security staff as well as proper safety signage, will minimize the safety risks posed to nearby residents and other members of the public.	Emissions to air, Noise, surface disturbance, changes in landform, topography	**Negative Direct**	**M**	**M**	**S**	**P**	**M**	**H**	**MEDIUM NEGATIVE**	**LOW NEGATIVE**	**6.12 6.14 6.15**
1.11 Degradation of landscape value, aesthetic appeal or sense of place ***Activities:*** • Clearing and grubbing • Stripping of topsoil • Stripping of overburden ***Description:*** The site establishment phase will have a visual impact as vegetation and topsoil is stripped. The activities will be visible from the majority of the surrounding areas. The borrowpit is located on a hill side above the town of Ugie and is therefore highly visible from the town. This is a new borrowpit site and will therefore create a new visual impact. Considering that the surrounding landuse is largely rural agricultural in nature, the site establishment activities are likely to be noticeable and therefore will have a significant impact on the aesthetic value of the landscape. This will be mitigated somewhat by minimizing cleared areas and by landscaping where possible.	Surface disturbance, change in landform and topography	**Negative Direct**	**M**	**L**	**L**	**D**	**M**	**M**	**HIGH – MEDIUM NEGATIVE**	**HIGH – MEDIUM NEGATIVE**	**6.3 6.5 6.6 6.8 6.9 6.10 6.11 6.13 6.14**
1.12 Cultural Heritage ***Activities:*** • Clearing and grubbing • Stripping of topsoil • Stripping of overburden ***Description:*** No sites of cultural or historical importance will be disturbed during the development of this site. However the archaeologist did object to the positioning of the site due to the large visual impact it will create during the construction and operation phases.	Surface disturbance, change in landform and topography	**Negative Direct**	**M/H**	**L**	**L**	**D**	**M**	**M**	**N/A**	**N/A**	**6.9**

SEVERITY: (Refer to Table 5.2) H = High; M = Medium; L = Low; + = Positive	DURATION: (Refer to Table 5.3) S = Short Term; M = Medium Term; L = Long Term; P = Permanent	EXTENT: (Refer to Table 5.3) S = Site; L = Local; R = regional; N = National	PROBABILITY: (Refer to Table 5.3) U = Unlikely; L = Likely; P = Possible; D = Definite
MITIGATION PROTENTIAL: (Refer to Table 5.4) H = High; M = Medium; L = Low	MITIGATION REF: Refers to chapter in EMP document.		

DOLERITE BP - POTENTIAL IMPACT – CONSTRUCTION PHASE	ASPECT	Nature	Severity	Duration	Extent	Probability	Confidence	MITIGATION POTENTIAL	SIGNIFICANCE		MITIGATION REF
									Without Mitigation	With Mitigation	
1.13 Change in Landuse ***Activities:*** • General mining activities ***Description:*** The creation of the new "greenfields" borrowpit will result in a temporary change of landuse which will be largely reinstated on closure.	Surface disturbance, change in landform and topography	**Negative Direct**	**H**	**L**	**S**	**D**	**H**	**M**	**HIGH NEGATIVE**	**LOW NEGATIVE**	**6.10**
1.14 Economic Development, income generation and social upliftment ***Activities:*** • Procurement of goods and services • Employment and training ***Description:*** The site establishment phase is likely to require the use of generalized and specialized services. Preference will be given to local service providers and suppliers where possible and to the employment of local labour. Employment of local labour, use of existing SMME's based in the area, and the support of local businesses in the supply of goods and services will benefit the regional economy.	Materials Consumption, recruitment and training	**Positive Direct and Indirect**	**M+**	**M**	**R**	**P**	**M**	**N/A**	**MEDIUM POSITIVE**		**6.16** **6.17**

SEVERITY: (Refer to Table 5.2) H = High; M = Medium; L = Low; + = Positive	DURATION: (Refer to Table 5.3) S = Short Term; M = Medium Term; L = Long Term; P = Permanent	EXTENT: (Refer to Table 5.3) S = Site; L = Local; R = regional; N = National	PROBABILITY: (Refer to Table 5.3) U = Unlikely; L = Likely; P = Possible; D = Definite
MITIGATION PROTENTIAL: (Refer to Table 5.4) H = High; M = Medium; L = Low	MITIGATION REF: Refers to chapter in EMP document.		

DOLERITE BP - POTENTIAL IMPACT – OPERATION PHASE	ASPECT	Nature	Severity	Duration	Extent	Probability	Confidence	MITIGATION POTENTIAL	SIGNIFICANCE		MITIGATION REF
									Without Mitigation	With Mitigation	
2.1 Soil Compaction and Erosion ***Activities:*** • Extraction of material ***Description:*** Refer to Section 1.1	Surface Disturbance	**Negative Direct**	**M**	**M**	**S**	**L**	**H**	**M**	**MEDIUM NEGATIVE**	**LOW NEGATIVE**	**6.4 6.7**
2.2 Soil Pollution ***Activities:*** • Operation of machinery ***Description:*** Refer to Section 1.2	Hazardous Waste	**Negative Direct**	**M**	**S**	**S**	**P**	**M**	**H**	**MEDIUM NEGATIVE**	**LOW NEGATIVE**	**6.3 6.4 6.13 6.14**
2.3 Air Pollution ***Activities:*** • Extraction of material • Loading of trucks • Transportation of material ***Description:*** Refer to Section 1.3	(Gaseous) Emissions to Air (Particulate – Dust)	**Negative Direct**	**M**	**S**	**S**	**D**	**H**	**M**	**MEDIUM NEGATIVE**	**LOW NEGATIVE**	**6.5**
2.4 Surface Water Pollution (Dirty Water Runoff and Pollutants) ***Activities:*** • Extraction of material ***Description:*** Refer to Section 1.4	Release to water (diffuse & point)	**Negative Direct**	**L**	**M**	**L**	**P**	**H**	**H**	**MEDIUM – LOW NEGATIVE**	**LOW NEGATIVE**	**6.3 6.4**
2.5 Spread of invasive alien species ***Activities:*** • Extraction of material ***Description;*** Refer to Section 1.6	Surface Disturbance	**Negative Direct**	**M**	**L**	**S**	**L**	**H**	**H**	**MEDIUM NEGATIVE**	**LOW NEGATIVE**	**6.8**

SEVERITY: (Refer to Table 5.2) H = High; M = Medium; L = Low; + = Positive	DURATION: (Refer to Table 5.3) S = Short Term; M = Medium Term; L = Long Term; P = Permanent	EXTENT: (Refer to Table 5.3) S = Site; L = Local; R = regional; N = National	PROBABILITY: (Refer to Table 5.3) U = Unlikely; L = Likely; P = Possible; D = Definite
MITIGATION PROTENTIAL: (Refer to Table 5.4) H = High; M = Medium; L = Low	MITIGATION REF: Refers to chapter in EMP document.		

DOLERITE BP - POTENTIAL IMPACT – OPERATION PHASE	ASPECT	Nature	Severity	Duration	Extent	Probability	Confidence	MITIGATION POTENTIAL	SIGNIFICANCE		MITIGATION REF
									Without Mitigation	With Mitigation	
2.6 Public Nuisance – Traffic Disruption ***Activities:*** • Transporting of material to construction sites ***Description:*** The transportation of material to the various construction sites along the Ugie streets may result in traffic disruption. One should bear in mind, however, that there will already be disruption to traffic caused by the road construction activities and the transportation of material to site is unlikely to add significantly to this. There is generally a fair amount of traffic along these roads.	Creation/disruption of access	**Negative Direct**	**L**	**S**	**S**	**P**	**H**	**L**	**LOW NEGATIVE**	**LOW NEGATIVE**	**6.15**
2.7 Public Nuisance – Dust Generation ***Activities:*** • Extraction of material • Loading of material • Transportation of material to site ***Description:*** Dust will be generated from excavation and loading of material as well as the exposure of bare soil within the borrowpit. Dust will be generated from the use of trucks to transport material to the construction sites.	Emissions to air - particulate	**Negative Direct**	**L**	**M**	**L**	**L**	**M**	**M**	**MEDIUM NEGATIVE**	**LOW NEGATIVE**	**6.5**
2.8 Public Nuisance – Noise ***Activities:*** • Extraction of material • Loading of material • Transportation of material to site ***Description:*** Refer to Section 1.9.	Noise Disturbance	**Negative Direct**	**M**	**M**	**L**	**D**	**M**	**M**	**MEDIUM NEGATIVE**	**MEDIUM – LOW NEGATIVE**	**6.6**
2.9 Public Health and Safety ***Activities:*** • Extraction of material • Loading of material • Transportation of material to site ***Description:*** Public health and safety may be at risk as a result of a number of aspects: generation of dust and noise, the operation of heavy earthmoving machinery of site and the creation of excavations and stockpiles. The impacts of noise and dust generation on public health and wellbeing are discussed in the sections above. The erection of the security fence and presence of security staff as well as proper safety signage will minimize the safety risks posed to nearby residents and other members of the public.	Emissions to air Noise, surface disturbance, changes in landform, topography	**Negative Direct**	**M**	**M**	**S**	**P**	**M**	**H**	**MEDIUM NEGATIVE**	**LOW NEGATIVE**	**6.12 6.14 6.15**

SEVERITY: (Refer to Table 5.2) H = High; M = Medium; L = Low; + = Positive	DURATION: (Refer to Table 5.3) S = Short Term; M = Medium Term; L = Long Term; P = Permanent	EXTENT: (Refer to Table 5.3) S = Site; L = Local; R = regional; N = National	PROBABILITY: (Refer to Table 5.3) U = Unlikely; L = Likely; P = Possible; D = Definite
MITIGATION PROTENTIAL: (Refer to Table 5.4) H = High; M = Medium; L = Low	MITIGATION REF: Refers to chapter in EMP document.		

DOLERITE BP - POTENTIAL IMPACT – OPERATION PHASE	ASPECT	Nature	Severity	Duration	Extent	Probability	Confidence	MITIGATION POTENTIAL	SIGNIFICANCE		MITIGATION REF
									Without Mitigation	With Mitigation	
2.10 Degradation of landscape value, aesthetic appeal or sense of place ***Activities:*** • Excavation of the material – development of the borrowpit ***Description:*** As the borrowpit is mined, it will grow in size extending as indicated in the development plans. This will have a visual impact, particularly as the borrowpit is located on a hill side above the town of Ugie.	Surface disturbance, change in landform and topography	**Negative Direct**	**M**	**L**	**L**	**D**	**M**	**M**	**HIGH – MEDIUM NEGATIVE**	**HIGH – MEDIUM NEGATIVE**	**6.3 6.5 6.6 6.8 6.9 6.10 6.11 6.13 6.14**
2.11 Economic Development, income generation and social upliftment ***Activities:*** • Procurement of goods and services • Employment and training ***Description:*** Refer to Section 1.14.	Materials Consumption, recruitment and training	**Positive Direct and Indirect**	**M+**	**M**	**R**	**P**	**M**	**N/A**	**MEDIUM POSITIVE**		**6.16 6.17**

SEVERITY: (Refer to Table 5.2) H = High; M = Medium; L = Low; + = Positive	DURATION: (Refer to Table 5.3) S = Short Term; M = Medium Term; L = Long Term; P = Permanent	EXTENT: (Refer to Table 5.3) S = Site; L = Local; R = regional; N = National	PROBABILITY: (Refer to Table 5.3) U = Unlikely; L = Likely; P = Possible; D = Definite
MITIGATION PROTENTIAL: (Refer to Table 5.4) H = High; M = Medium; L = Low	MITIGATION REF: Refers to chapter in EMP document.		

DOLERITE BP - POTENTIAL IMPACT – CLOSURE PHASE	ASPECT	Nature	Severity	Duration	Extent	Probability	Confidence	MITIGATION POTENTIAL	SIGNIFICANCE		MITIGATION REF
									Without Mitigation	With Mitigation	
3.1 Soil Compaction and Erosion ***Activities:*** • Shaping of the borrowpit • Topsoiling ***Description:*** Refer to Section 1.1	Surface Disturbance	**Negative Direct**	**M**	**M**	**S**	**L**	**H**	**M**	**MEDIUM NEGATIVE**	**LOW NEGATIVE**	**6.4 6.7**
3.2 Soil Pollution ***Activities:*** • Operation of machinery ***Description:*** Refer to Section 1.2	Hazardous Waste	**Negative Direct**	**M**	**S**	**S**	**P**	**M**	**H**	**MEDIUM NEGATIVE**	**LOW NEGATIVE**	**6.3 6.4 6.13 6.14**
3.3 Air Pollution ***Activities:*** • Shaping of the borrowpit • Topsoiling ***Description:*** Refer to Section 1.3	(Gaseous) Emissions to Air (Particulate – Dust)	**Negative Direct**	**M**	**S**	**S**	**D**	**H**	**M**	**MEDIUM NEGATIVE**	**LOW NEGATIVE**	**6.5**
3.4 Surface Water Pollution (Dirty Water Runoff and Pollutants) ***Activities:*** • Shaping of the borrowpit • Topsoiling ***Description:*** Refer to Section 1.4	Release to water (diffuse & point)	**Negative Direct**	**L**	**M**	**L**	**P**	**H**	**H**	**MEDIUM – LOW NEGATIVE**	**LOW NEGATIVE**	**6.3 6.4**
3.5 Spread of invasive alien species ***Activities:*** • Spreading of topsoil • Hydroseeding ***Description;*** Refer to Section 1.6	Surface Disturbance	**Negative Direct**	**M**	**L**	**S**	**L**	**H**	**H**	**MEDIUM NEGATIVE**	**LOW NEGATIVE**	**6.8**

SEVERITY: (Refer to Table 5.2) H = High; M = Medium; L = Low; + = Positive	DURATION: (Refer to Table 5.3) S = Short Term; M = Medium Term; L = Long Term; P = Permanent	EXTENT: (Refer to Table 5.3) S = Site; L = Local; R = regional; N = National	PROBABILITY: (Refer to Table 5.3) U = Unlikely; L = Likely; P = Possible; D = Definite
MITIGATION PROTENTIAL: (Refer to Table 5.4) H = High; M = Medium; L = Low	MITIGATION REF: Refers to chapter in EMP document.		

DOLERITE BP - POTENTIAL IMPACT – CLOSURE PHASE	ASPECT	Nature	Severity	Duration	Extent	Probability	Confidence	MITIGATION POTENTIAL	SIGNIFICANCE		MITIGATION REF
									Without Mitigation	With Mitigation	
3.6 Public Nuisance – Dust Generation ***Activities:*** • Shaping of the Borrowpit • Spreading of topsoil ***Description:*** Dust will be generated from the shaping of the borrowpit as well as the spreading of the topsoil.	Emissions to air - particulate	**Negative Direct**	**M**	**M**	**L**	**L**	**M**	**M**	**MEDIUM NEGATIVE**	**LOW NEGATIVE**	**6.5**
3.7 Public Nuisance – Noise ***Activities:*** • Shaping of the Borrowpit • Spreading of topsoil ***Description:*** Refer to Section 1.9.	Noise Disturbance	**Negative Direct**	**M**	**M**	**L**	**D**	**M**	**M**	**MEDIUM NEGATIVE**	**MEDIUM – LOW NEGATIVE**	**6.6**
3.8 Public Health and Safety ***Activities:*** • Shaping of the Borrowpit • Spreading of topsoil ***Description:*** Public health and safety may be at risk as a result of a number of aspects: generation of dust and noise, the operation of heavy earthmoving machinery of site and the creation of excavations and stockpiles. The impacts of noise and dust generation on public health and wellbeing are discussed in the sections above. The erection of the security fence and presence of security staff as well as proper safety signage will minimize the safety risks posed to nearby residents and other members of the public.	Emissions to air Noise, surface disturbance, changes in landform, topography	**Negative Direct**	**M**	**M**	**S**	**P**	**M**	**H**	**MEDIUM – HIGH NEGATIVE**	**LOW NEGATIVE**	**6.12** **6.14** **6.15**
3.9 Degradation of landscape value, aesthetic appeal or sense of place ***Activities:*** • Shaping of the borrowpit • Topsoiling • Hydroseeding ***Description:*** The final rehabilitation will result in a vast improvement to the visual impact of the site as will be experienced during the construction and operational phases. The site will be shaped to blend in with the surrounding topography and will be grassed and returned to its former landuse of grazing.	Surface disturbance, change in landform and topography	**Negative Direct**	**M+**	**P**	**S**	**D**	**M**	**N/A**	**MEDIUM POSITIVE**		**6.3** **6.5** **6.6** **6.8** **6.9** **6.10** **6.11** **6.13** **6.14**

SEVERITY: (Refer to Table 5.2) H = High; M = Medium; L = Low; + = Positive	DURATION: (Refer to Table 5.3) S = Short Term; M = Medium Term; L = Long Term; P = Permanent	EXTENT: (Refer to Table 5.3) S = Site; L = Local; R = regional; N = National	PROBABILITY: (Refer to Table 5.3) U = Unlikely; L = Likely; P = Possible; D = Definite
MITIGATION PROTENTIAL: (Refer to Table 5.4) H = High; M = Medium; L = Low	MITIGATION REF: Refers to chapter in EMP document.		