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**ENVIRONMENTAL IMPACT ASSESSMENT REPORT &
ENVIRONMENTAL MANAGEMENT PROGRAMME REPORT FOR:**

FOR THE PROPOSED MINING RIGHT APPLICATION, COMBINED WITH A WASTE LICNCE APPLICATION OF TURNOVER TRADING (PTY) LTD FOR THIE MINING OF DIAMOND GENERAL (D) ON THE RE OF PORTIONS 6, 7, 10 AND PORTIONS 8, 17, 19 OF THE FARM STERKFONTein 155. PORTION 29, 30, 31, 32, 33, 34, 45, 46, 47, 48, 49, 50, 51, 52 53, 54, 55, 56, 57, 58, 59, 60, 61, 63, 64, 65, 68, 69, 70, 66 AND A CERTAIN PORTION OF PORTION 62, THE RE OF PORTION 1 & 7 OF THE FARM PUTFONTein 62. PORTION 1, 2 & THE RE OF THE FARM OMEGA 478. PORTION 3 & THE RE OF THE FARM HOLGAT 63. PORTION 4, 5 & 6 THE RE OF PORTION 2 OF THE FARM WILDFONTein 201. THE RE OF PORTION 5 & 31 OF THE FARM LEEUWFONTein 64. A CERTAIN PORTION OF THE RE OF FARM 533; REGISTRATION DIVISION: IP, NORTH WEST PROVINCE. DMRE REF NO: NW30/5/1/2/2/10186MR.

NAME OF APPLICANT	Turnover Trading 251 (Pty) Ltd
PREPARED BY	Milnex CC
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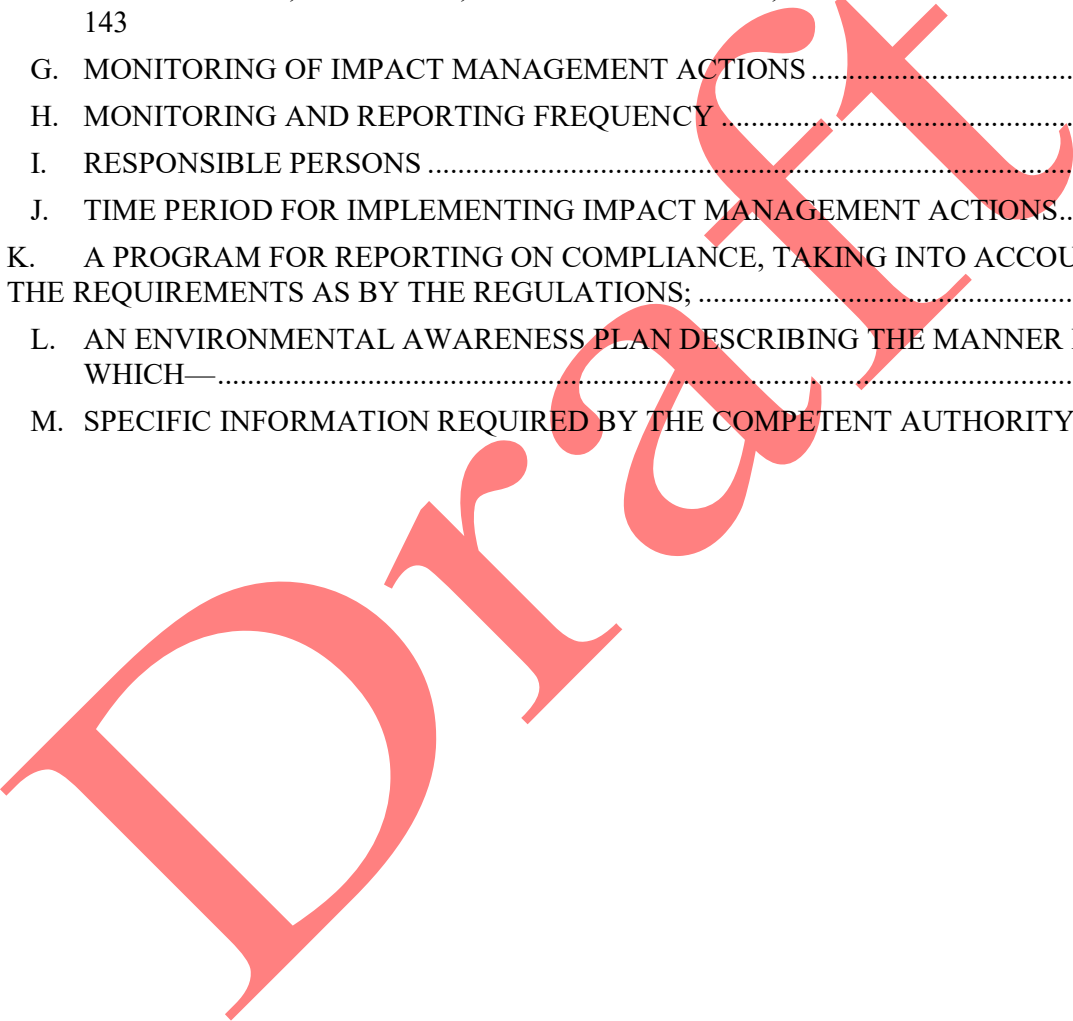
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PROJECT INFORMATION

Project Name: Environmental Authorization for Mining Right Application, combined with a Waste Licence Application of **Turnover Trading 251 (Pty) Ltd** for the mining of Diamonds General (D) on the RE of Portions 6, 7, 10 and Portions 8, 17, 19 of the Farm Sterkfontein 155. Portion 29, 30, 31, 32, 33, 34, 45, 46, 47, 48, 49, 50, 51, 52 53, 54, 55, 56, 57, 58, 59, 60, 61, 63, 64, 65, 68, 69, 70, 66 and a certain portion of portion 62, the RE of Portion 1 & 7 of the Farm Putfontein 62. Portion 1, 2 & the RE of the Farm Omega 478. Portion 3 & the RE of the Farm Holgat 63. Portion 4, 5, 6 & the RE of Portion 2 of the farm Wildfontein 201. The RE of portion 5 & 31 of the farm Leewufontein 64. A certain Portion of the RE of Farm 533; Registration Division: IP, North West Province.

Report Title: DRAFT EIR & EMPr

Prepared By: Milnex CC

Date: November 2021 Draft

QUALITY CONTROL:

	Report Author:	Report Reviewer:
Name:	Mr. Christiaan Baron	N/A
Signature:		

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IMPORTANT NOTICE

In terms of the Mineral and Petroleum Resources Development Act (Act 28 of 2002 as amended), the Minister must grant a prospecting or mining right if among others the mining “will not result in unacceptable pollution, ecological degradation or damage to the environment”.

Unless an Environmental Authorisation can be granted following the evaluation of an Environmental Impact Assessment and an Environmental Management Programme report in terms of the National Environmental Management Act (Act 107 of 1998) (NEMA), it cannot be concluded that the said activities will not result in unacceptable pollution, ecological degradation or damage to the environment.

In terms of section 16(3)(b) of the EIA Regulations, 2014, any report submitted as part of an application must be prepared in a format that may be determined by the Competent Authority and in terms of section 17 (1) (c) the competent Authority must check whether the application has taken into account any minimum requirements applicable or instructions or guidance provided by the competent authority to the submission of applications.

It is therefore an instruction that the prescribed reports required in respect of applications for an environmental authorisation for listed activities triggered by an application for a right or permit are submitted in the exact format of, and provide all the information required in terms of, this template. Furthermore please be advised that failure to submit the information required in the format provided in this template will be regarded as a failure to meet the requirements of the Regulation and will lead to the Environmental Authorisation being refused.

It is furthermore an instruction that the Environmental Assessment Practitioner must process and interpret his/her research and analysis and use the findings thereof to compile the information required herein. (Unprocessed supporting information may be attached as appendices). The EAP must ensure that the information required is placed correctly in the relevant sections of the Report, in the order, and under the provided headings as set out below, and ensure that the report is not cluttered with un-interpreted information and that it unambiguously represents the interpretation of the applicant.

ENVIRONMENTAL IMPACT ASSESSMENT PROCESS

- (1) The environmental impact assessment process must be undertaken in line with the approved plan of study for environmental impact assessment.
- (2) The environmental impacts, mitigation and closure outcomes as well as the residual risks of the proposed activity must be set out in the environmental impact assessment report.

OBJECTIVE OF THE ENVIRONMENTAL IMPACT ASSESSMENT PROCESS

2. The objective of the environmental impact assessment process is to, through a consultative process-

- (a) determine the policy and legislative context within which the activity is located and document how the proposed activity complies with and responds to the policy and legislative context;
- (b) describe the need and desirability of the proposed activity, including the need and desirability of the activity in the context of the preferred location;
- (c) identify the location of the development footprint within the preferred site based on an impact and risk assessment process inclusive of cumulative impacts and a ranking process of all the identified development footprint alternatives focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects of the environment;
- (d) determine the--
 - (i) nature, significance, consequence, extent, duration and probability of the impacts occurring to inform identified preferred alternatives; and
 - (ii) degree to which these impacts-
 - (aa) can be reversed;
 - (bb) may cause irreplaceable loss of resources, and
 - (cc) can be avoided, managed or mitigated;
- (e) identify the most ideal location for the activity within the preferred site based on the lowest level of environmental sensitivity identified during the assessment;
- (f) identify, assess, and rank the impacts the activity will impose on the preferred location through the life of the activity;
- (g) identify suitable measures to avoid, manage or mitigate identified impacts; and
- (h) identify residual risks that need to be managed and monitored.

SCOPE OF ASSESSMENT AND CONTENT OF ENVIRONMENTAL IMPACT ASSESSMENT REPORTS

A. CONTACT PERSON AND CORRESPONDENCE ADDRESS

a) Details of:

- i) The EAP who prepared the report**
- ii) Expertise of the EAP**

Table 1: Details of The EAP who prepared the report & Expertise of the EAP

NAME OF PRACTITIONER	QUALIFICATIONS	CONTACT DETAILS
Mr. Christiaan Baron	Master's Degree in Environmental Management (M.Sc .Env.Man) (refer to Appendix 1)	Tel No.: (018) 011 1925 Fax No.: (053) 963 2009 e-mail address: christiaan@milnex-sa.co.za
Ms. Percy Sehaole Pr. Sci. Nat. Reg. EAP (EAPASA)	Master's Degree in Environmental Science Master's Degree in Environmental Management (refer to Appendix 1)	Tel No.: (018) 011 1925 Fax No.: (053) 963 2009 e-mail address: percy@milnex-sa.co.za
Lizanne Esterhuizen	Honours Degree in Environmental Science (refer to Appendix 1)	Tel No.: (018) 011 1925 Fax No.: (053) 963 2009 e-mail address: lizanne@milnex-sa.co.za

Summary of the EAP's past experience. (Attach the EAP's curriculum vitae as **Appendix 2**)

Milnex CC was contracted by **Turnover Trading (Pty) Ltd** as the independent environmental consultant to undertake the Scoping and EIA process for a Mining Right for the mining of Diamonds General (D) on the RE of Portions 6, 7, 10 and Portions 8, 17, 19 of the Farm Sterkfontein 155. Portion 29, 30, 31, 32, 33, 34, 45, 46, 47, 48, 49, 50, 51, 52 53, 54, 55, 56, 57, 58, 59, 60, 61, 63, 64, 65, 68, 69, 70, 66 and a certain portion of portion 62, the RE of Portion 1 & 7 of the Farm Putfontein 62. Portion 1, 2 & the RE of the Farm Omega 478. Portion 3 & the RE of the Farm Holgat 63. Portion 4, 5, 6 & the RE of Portion 2 of the farm Wildfontein 201. The RE of portion 5 & 31 of the farm Leewufontein 64. A certain Portion of the RE of Farm 533; Registration Division: IP, North West Province. The farm where the mineral deposit is located is approximately 25km North East of Coligny.

Milnex CC does not have any interest in secondary developments that may arise out of the authorisation of the proposed project.

Milnex CC is a specialist environmental consultancy with extensive experience in the mining industry which provides a holistic environmental management service, including environmental assessment and planning to ensure compliance with relevant environmental legislation. Milnex CC benefits from the pooled resources, diverse skills and experience in the environmental and mining field held by its team that has been actively involved in undertaking environmental studies for a wide variety of mining related projects throughout South Africa. The Milnex CC team has considerable experience in environmental impact assessment and environmental management, especially in the mining industry.

Percy Schaole, Lizanne Esterhuizen & Christiaan Baron have experience consulting in the environmental field. Their key focus is on environmental assessment, advice and management and ensuring compliance to legislation and guidelines. They are currently involved in undertaking EIAs for several projects across the country (refer to **Appendix 2** for CV).

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B. DESCRIPTION OF THE PROPERTY

Table 2: description of the property

	FARM NAME	MAGISTERIAL DISTRICT	REGISTRATION DIVISION
	<ol style="list-style-type: none"> 1) The remaining extent of 6 (a portion of portion 1) of the farm Sterkfontein 155 2) The remaining extent of portion 7 of the farm Sterkfontein 155 3) Portion 8 (portion of portion 1) of the farm Sterkfontein 155 4) The remaining extent of portion 10 of the farm Sterkfontein 155 5) Portion 17 (portion of portion 7) of the farm Sterkfontein 155 6) Portion 19 of the farm Sterkfontein 155 7) The remaining extent of portion 7 (a portion of portion 1) of the farm Putfontein 62 8) Portion 29 (a portion of portion 1) of the farm Putfontein 62 9) Portion 30 (a portion of portion 1) of the farm Putfontein 62 10) Portion 31 (a portion of portion 1) of the farm Putfontein 62 11) Portion 32 (a portion of portion 1) of the farm Putfontein 62 12) Portion 33 (a portion of portion 1) of the farm Putfontein 62 	<p>Ngaka Modiri Mompoti Molema District Municipality</p>	<p>IQ</p>

- | | | | |
|--|--|--|--|
| | <ol style="list-style-type: none">13) Portion 34 (a portion of portion 37) of the farm Putfontein 6214) Portion 45 of the farm Putfontein 6215) Portion 46 of the farm Putfontein 6216) Portion 47 of the farm Putfontein 6217) Portion 48 of the farm Putfontein 6218) Portion 49 of the farm Putfontein 6219) Portion 50 of the farm Putfontein 6220) Portion 51 of the farm Putfontein 6221) Portion 52 of the farm Putfontein 6222) Portion 53 of the farm Putfontein 6223) Portion 54 of the farm Putfontein 6224) Portion 55 of the farm Putfontein 6225) Portion 56 of the farm Putfontein 6226) Portion 57 of the farm Putfontein 6227) Portion 58 of the farm Putfontein 6228) Portion 59 of the farm Putfontein 6229) Portion 60 of the farm Putfontein 6230) Portion 61 of the farm Putfontein 6231) Portion 63 of the farm Putfontein 6232) Portion 64 of the farm Putfontein 6233) Portion 65 of the farm Putfontein 6234) Portion 68 of the farm Putfontein 6235) Portion 69 of the farm Putfontein 6236) Portion 70 of the farm Putfontein 6237) The remaining extent of portion 1 of the farm Putfontein 6238) A certain portion of portion 62 of the farm Putfontein 6239) Portion 66 of the farm Putfontein 62
40) Remaining extent of the farm Omega 47841) Portion 1 of the farm Omega 47842) Portion 2 of the farm Omega 478 | | |
|--|--|--|--|

	<p>43) The remaining extent of the farm Holgat 63 44) Portion 3 of the farm Holgat 63</p> <p>45) Portions 4 of the farm Wildfontein 201 46) Portion 5 of the farm Wildfontein 201 47) Portion 6 of the farm Wildfontein 201 48) The remaining extent of portion 2 of the farm Wildfontein 201</p> <p>49) The remaining extent of portion 5 of the farm Leeuwfontein 64 50) The remaining extent of portion 31 of the farm Leeuwfontein 64</p> <p>50) certain portion of the remaining extent of Farm 533</p>		
Application area (Ha)	15 484.0614 hectares		
Extent of the area required for infrastructure, roads, servitudes etc	+/- 10 hectares		
Depth of the mineral below surface	The gravel thickness varies between 0.5 to 1 metres below surface		
Distance and direction from nearest town	The property is located approximately 25km North East of Coligny		
21 digit Surveyor General Code for each farm portion	<p>1. TOIP00000000015500006 2. TOIP00000000015500000 3. TOIP00000000015500008 4. TOIP00000000015500000 5. TOIP00000000015500017 6. TOIP0000000006200007 7. TOIP0000000006200030 8. TOIP0000000006200031 9. TOIP0000000006200032 10. TOIP0000000006200033</p>	<p>26. TOIP00000000062000580 27. TOIP00000000062000590 28. TOIP00000000062000600 29. TOIP00000000062000610 30. TOIP00000000062000630 31. TOIP00000000062000640 32. TOIP00000000062000650 33. TOIP00000000062000680 34. TOIP00000000062000690 35. TOIP00000000062000700</p>	

	11. TOIP0000000006200034 12. TOIP0000000006200000 13. TOIP00000000062000450 14. TOIP00000000062000460 15. TOIP00000000062000470 16. TOIP00000000062000480 17. TOIP00000000062000490 18. TOIP00000000062000500 19. TOIP00000000062000510 20. TOIP00000000062000520 21. TOIP00000000062000530 22. TOIP00000000062000540 23. TOIP00000000062000550 24. TOIP00000000062000560 25. TOIP00000000062000570	36. TOIP00000000062000620 37. TOIP00000000062000660 38. TOIP00000000047800000 39. TOIP00000000047800001 40. TOIP0000000004780000 41. TOIP0000000006300000 42. TOIP0000000006300030 43. TOIP00000000020100004 44. TOIP00000000020100005 45. TOIP00000000020100006 45. TOIP00000000020100000 46. TOIP0000000006400000 47. TOIP0000000006400005
Minerals applied for	Diamonds General (D)	

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iii. Farm co-ordinates

Table 3: Farm co-ordinates

Farms	Longitude	Latitude
1) The remaining extent of 6 (a portion of portion 1) of the farm Sterkfontein 155	0 26° 27' 21.650" E	26° 12' 19.841" S
	1 26° 31' 31.794" E	26° 11' 5.880" S
	2 26° 31' 22.429" E	26° 10' 49.756" S
2) The remaining extent of portion 7 of the farm Sterkfontein 155	A - Excluding 26° 30' 39.417" E	26° 11' 4.621" S
	B - Excluding 26° 30' 42.972" E	26° 11' 9.840" S
	D - Excluding 26° 30' 42.611" E	26° 11' 2.992" S
3) Portion 8 (portion of portion 1) of the farm Sterkfontein 155	C - Excluding 26° 30' 46.046" E	26° 11' 8.379" S
	3 26° 27' 16.834" E	26° 12' 4.068" S
4) The remaining extent of portion 10 of the farm Sterkfontein 155	4 26° 23' 33.529" E	26° 13' 27.109" S
	5 26° 24' 33.548" E	26° 14' 56.742" S
	6 26° 25' 12.348" E	26° 16' 39.019" S
5) Portion 17 (portion of portion 7) of the farm Sterkfontein 155	A1 - Excluding 26° 27' 35.638" E	26° 17' 25.748" S
	A2 - Excluding 26° 27' 10.673" E	26° 17' 34.997" S
	A3 - Excluding 26° 27' 16.379" E	26° 17' 52.226" S
6) Portion 19 of the farm Sterkfontein 155	A4 - Excluding 26° 27' 24.199" E	26° 17' 49.329" S
	A5 - Excluding 26° 27' 21.131" E	26° 17' 42.601" S
	A6 - Excluding 26° 27' 40.116" E	26° 17' 35.567" S
7) The remaining extent of portion 7 (a portion of portion 1) of the farm Putfontein 62	Ai - Excluding 26° 28' 27.911" E	26° 17' 41.382" S
	Aii - Excluding 26° 28' 26.638" E	26° 17' 40.316" S
	Aiii - Excluding 26° 28' 24.886" E	26° 17' 40.371" S
	Aiv - Excluding 26° 28' 20.623" E	26° 17' 42.161" S
8) Portion 29 (a portion of portion 1) of the farm Putfontein 62	Av - Excluding 26° 28' 20.983" E	26° 17' 54.344" S
	Avi - Excluding 26° 28' 24.896" E	26° 17' 57.655" S
	Avii - Excluding 26° 28' 29.984" E	26° 17' 58.385" S
9) Portion 30 (a portion of portion 1) of the farm Putfontein 62	Aviii - Excluding 26° 28' 34.945" E	26° 17' 58.251" S
	Aix - Excluding 26° 28' 37.857" E	26° 17' 55.465" S
	Ax - Excluding 26° 28' 37.482" E	26° 17' 43.073" S
10) Portion 31 (a portion of portion 1) of the farm Putfontein 62	Axi - Excluding 26° 28' 35.275" E	26° 17' 41.215" S
	A1i - Excluding 26° 29' 50.511" E	26° 18' 18.704" S
	A2i - Excluding 26° 28' 29.917" E	26° 18' 47.600" S
11) Portion 32 (a portion of portion 1) of the farm Putfontein 62	A3i - Excluding 26° 28' 29.943" E	26° 19' 4.865" S
	A4i - Excluding 26° 28' 6.010" E	26° 19' 16.652" S
	A5i - Excluding 26° 28' 20.118" E	26° 19' 33.175" S
12) Portion 33 (a portion of portion 1) of the farm Putfontein 62	A6i - Excluding 26° 28' 54.094" E	26° 19' 17.027" S
	A7i - Excluding 26° 30' 2.502" E	26° 18' 43.986" S
	7 26° 26' 35.927" E	26° 19' 28.440" S
13) Portion 34 (a portion of portion 37) of the farm Putfontein 62	8 26° 26' 48.871" E	26° 19' 48.408" S
	9 26° 27' 49.143" E	26° 19' 48.443" S

15)	Portion 46 of the farm Putfontein	10	26° 27' 49.142" E	26° 19' 48.267" S
62		11	26° 27' 48.171" E	26° 19' 48.228" S
16)	Portion 47 of the farm Putfontein	12	26° 27' 48.221" E	26° 19' 46.239" S
62		13	26° 28' 2.734" E	26° 19' 46.201" S
17)	Portion 48 of the farm Putfontein	14	26° 28' 2.836" E	26° 19' 48.546" S
62		15	26° 28' 6.661" E	26° 19' 48.420" S
18)	Portion 49 of the farm Putfontein	16	26° 28' 6.635" E	26° 19' 49.702" S
62		17	26° 28' 17.627" E	26° 19' 49.884" S
19)	Portion 50 of the farm Putfontein	18	26° 28' 30.455" E	26° 19' 50.094" S
62		19	26° 28' 32.719" E	26° 19' 51.262" S
20)	Portion 51 of the farm Putfontein	20	26° 28' 35.093" E	26° 19' 51.873" S
62		21	26° 28' 37.338" E	26° 19' 52.328" S
21)	Portion 52 of the farm Putfontein	22	26° 28' 38.521" E	26° 19' 53.099" S
62		23	26° 28' 40.534" E	26° 19' 53.710" S
22)	Portion 53 of the farm Putfontein	24	26° 28' 41.760" E	26° 19' 53.183" S
62		25	26° 28' 54.541" E	26° 19' 47.530" S
23)	Portion 54 of the farm Putfontein	26	26° 29' 2.763" E	26° 19' 44.447" S
62		27	26° 29' 9.321" E	26° 19' 42.736" S
24)	Portion 55 of the farm Putfontein	28	26° 29' 12.401" E	26° 19' 42.280" S
62		29	26° 29' 22.746" E	26° 19' 41.084" S
25)	Portion 56 of the farm Putfontein	30	26° 29' 39.265" E	26° 19' 39.236" S
62		31	26° 29' 56.244" E	26° 19' 37.337" S
26)	Portion 57 of the farm Putfontein	32	26° 30' 1.809" E	26° 19' 36.246" S
62		33	26° 30' 6.466" E	26° 19' 34.635" S
27)	Portion 58 of the farm Putfontein	34	26° 30' 9.577" E	26° 19' 33.162" S
62		35	26° 30' 22.077" E	26° 19' 25.245" S
28)	Portion 59 of the farm Putfontein	i	26° 30' 22.659" E	26° 19' 26.471" S
62		ii	26° 30' 14.613" E	26° 19' 31.666" S
29)	Portion 60 of the farm Putfontein	iii	26° 30' 10.143" E	26° 19' 34.430" S
62		iv	26° 30' 7.318" E	26° 19' 35.712" S
30)	Portion 61 of the farm Putfontein	v	26° 30' 2.228" E	26° 19' 37.491" S
62		vi	26° 29' 57.134" E	26° 19' 38.562" S
31)	Portion 63 of the farm Putfontein	vii	26° 29' 43.732" E	26° 19' 40.049" S
62		viii	26° 30' 32.631" E	26° 19' 47.520" S
32)	Portion 64 of the farm Putfontein	36	26° 30' 47.088" E	26° 19' 9.107" S
62		37	26° 30' 54.563" E	26° 19' 4.413" S
33)	Portion 65 of the farm Putfontein	38	26° 30' 59.408" E	26° 19' 2.117" S
62		39	26° 31' 3.191" E	26° 19' 0.766" S
34)	Portion 68 of the farm Putfontein	40	26° 30' 54.372" E	26° 18' 51.296" S
62		41	26° 30' 56.196" E	26° 18' 49.283" S
35)	Portion 68 of the farm Putfontein	42	26° 31' 7.728" E	26° 18' 59.599" S
62		43	26° 31' 12.094" E	26° 18' 58.897" S
36)	Portion 68 of the farm Putfontein	44	26° 31' 14.718" E	26° 18' 58.721" S
62		ix	26° 31' 4.191" E	26° 19' 1.839" S
37)	Portion 68 of the farm Putfontein	x	26° 31' 1.288" E	26° 19' 2.806" S
62		xi	26° 30' 54.220" E	26° 19' 6.151" S
38)	Portion 68 of the farm Putfontein	xii	26° 30' 47.895" E	26° 19' 10.185" S
62		xiii	26° 30' 30.795" E	26° 19' 21.216" S
39)	Portion 68 of the farm Putfontein	xiv	26° 30' 25.011" E	26° 19' 24.952" S
62		xv	26° 31' 24.377" E	26° 19' 28.103" S

35) Portion 69 of the farm Putfontein 62	xvi	26° 31' 21.413" E	26° 19' 20.333" S
	xix	26° 31' 8.974" E	26° 19' 0.714" S
36) Portion 70 of the farm Putfontein 62	xx	26° 31' 9.750" E	26° 19' 0.531" S
	xxi	26° 31' 13.591" E	26° 19' 0.046" S
	xxii	26° 31' 15.779" E	26° 18' 59.908" S
37) The remaining extent of portion 1 of the farm Putfontein 62	xvii	26° 31' 21.587" E	26° 19' 6.161" S
	xviii	26° 31' 14.646" E	26° 19' 5.787" S
38) A certain portion of portion 62 of the farm Putfontein 62	45	26° 31' 0.776" E	26° 18' 44.227" S
	46	26° 31' 7.072" E	26° 18' 29.868" S
	47	26° 31' 12.217" E	26° 18' 31.902" S
39) Portion 66 of the farm Putfontein 62	48	26° 31' 17.398" E	26° 18' 24.873" S
	49	26° 30' 56.931" E	26° 18' 7.062" S
	50	26° 31' 27.181" E	26° 17' 19.035" S
40) Remaining extent of the farm Omega 478	51	26° 30' 55.019" E	26° 16' 12.862" S
	52	26° 31' 14.566" E	26° 16' 6.761" S
	53	26° 31' 45.197" E	26° 16' 25.936" S
41) Portion 1 of the farm Omega 478	54	26° 32' 31.666" E	26° 16' 41.669" S
42) Portion 2 of the farm Omega 478	55	26° 32' 4.863" E	26° 15' 51.059" S
	56	26° 33' 9.463" E	26° 15' 30.883" S
	57	26° 32' 42.748" E	26° 14' 13.511" S
43) The remaining extent of the farm Holgat 63	58	26° 33' 14.788" E	26° 14' 3.158" S
	59	26° 33' 10.392" E	26° 13' 55.593" S
44) Portion 3 of the farm Holgat 63	60	26° 32' 59.085" E	26° 13' 57.626" S
	ia - Excluding	26° 30' 31.586" E	26° 14' 24.125" S
45) Portions 4 of the farm Wildfontein 201	iiB - Excluding	26° 30' 35.444" E	26° 14' 54.563" S
	iiiC - Excluding	26° 29' 9.785" E	26° 15' 22.164" S
	ivD - Excluding	26° 29' 16.527" E	26° 14' 37.593" S
46) Portion 5 of the farm Wildfontein 201	61	26° 29' 38.563" E	26° 13' 32.271" S
	62	26° 28' 4.337" E	26° 14' 39.697" S
47) Portion 6 of the Farm Wildfontein 201	63	26° 28' 11.878" E	26° 15' 4.392" S
	64	26° 28' 2.791" E	26° 15' 2.333" S
	65	26° 27' 2.070" E	26° 14' 39.970" S
48) The remaining extent of portion 2 of the farm Wildfontein 201	66	26° 26' 52.652" E	26° 14' 37.057" S
	67	26° 26' 28.990" E	26° 14' 23.269" S
	68	26° 26' 17.250" E	26° 14' 4.985" S
	69	26° 26' 9.730" E	26° 14' 1.565" S
49) The remaining extent of portion 5 of the farm Leeuwfontein 64	70	26° 27' 46.094" E	26° 13' 39.931" S
	71	26° 27' 44.215" E	26° 13' 33.775" S
50) The remaining extent of portion 31 of the farm Leeuwfontein 64	73	26° 31' 28.333" E	26° 12' 31.957" S
	74	26° 31' 29.076" E	26° 12' 45.726" S
	75	26° 31' 18.272" E	26° 12' 41.003" S
	76	26° 31' 14.364" E	26° 12' 48.175" S
51) certain portion of the remaining extent of Farm 533	77	26° 31' 19.369" E	26° 12' 59.172" S

C. LOCALITY MAP

(show nearest town, scale not smaller than 1:250000 attached as **Appendix 3**).

A Locality map is attached in **Appendix 3** and on figure 1 below.

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D. DESCRIPTION OF THE SCOPE OF THE PROPOSED OVERALL ACTIVITY.

i) LISTED AND SPECIFIED ACTIVITIES

Table 4: Listed and Specified Activities

<p>Description of the overall activity. (Indicate Mining Right, Mining Permit, Prospecting right, Bulk Sampling, Production Right, Exploration Right, Reconnaissance permit, Technical co-operation permit, Additional listed activity)</p>	<ol style="list-style-type: none"> 1. Listing Notice 1 GNR 327, Activity 24(ii): <i>"The development of a road with a reserve wider than 13.5 metres, or where no reserve exists where the road is wider than 8 metres."</i> 2. Listing Notice 1 GNR 327, Activity 9: <i>"The development of infrastructure exceeding 1 000 metres in length for the bulk transportation of water or storm water— (i) with an internal diameter of 0,36 metres or more; or (ii) with a peak throughput of 120 litres per second or more;"</i> 3. Listing Notice 1 GNR 327, Activity 10: <i>"The development and related operation of infrastructure exceeding 1 000 metres in length for the bulk transportation of sewage, effluent, process water, waste water, return water, industrial discharge or slimes"</i> 4. Listing Notice 1 GNR 327, Activity 14: <i>"The development and related operation of facilities or infrastructure, for the storage, or for the storage and handling, of a dangerous good, where such storage occurs in containers with a combined capacity of 80 cubic metres or more but not exceeding 500 cubic metres."</i> 5. Listing Notice 2 GNR 325, Activity 15: <i>"The clearance of an area of 20 hectares or more, of indigenous vegetation."</i> 6. Listing Notice 2 GNR 325, Activity 17: <i>"Any activity including the operation of that activity which requires a mining right as contemplated in section 22 of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002), including — (a) associated infrastructure, structures and earthworks, directly related to the extraction of a mineral resource; or (b) the primary processing of a mineral resource including winning, extraction, classifying, concentrating, crushing, screening or washing; but excluding the secondary processing of a mineral resource, including the smelting,</i>
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beneficiation, reduction, refining, calcining or gasification of the mineral resource in which case activity 6 in this Notice applies.” – Mining right for the mining of Diamonds General (D) including associated infrastructure, structure and earthworks.

7. Listing Notice 3: GNR 324, Activity 4(h) North West: *“The development of a road wider than 4 metres with a reserve less than 13,5 metres.*

(iv) Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority;”

8. Listing Notice 3: GNR 324, Activity 10(h) North West: The development and related operation of facilities or infrastructure for the storage, or storage and handling of a dangerous good, where such storage occurs in containers with a combined capacity of 30 but not exceeding 80 cubic metres.

(iv) Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority;

(vi) Areas within a watercourse or wetland, or within 100 metres from the edge of a watercourse or wetland.

9. Listing Notice 3: GNR 324, Activity 12(h) North West: *“The clearance of an area of 300 square metres or more of indigenous vegetation:*

(iv) Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority;

(vi) Areas within a watercourse or wetland, or within 100 metres from the edge of a watercourse or wetland.”

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Storage of hazardous waste

10. Category B: (1) The storage of general waste in lagoons.

Treatment of waste

11. Category B: (5) The treatment of hazardous waste in lagoons, excluding the treatment of effluent, wastewater or sewage.

Construction of facilities and associated structures & infrastructure:

12. Category B: (10) The construction of a facility for a waste management activity listed in Category B of this Schedule

Residue stockpiles or residue deposits

Category B: (11) The establishment or reclamation of a residue stockpile or residue deposit resulting from activities which require a mining right, exploration right or production right in terms of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002).

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Milnex CC: EIA412 –EIR & EMPr - Mining Right Application, combined with a Waste Licence Application of **Turnover Trading 251 (Pty) Ltd** for the mining of Diamonds General (D) on the RE of Portions 6, 7, 10 and Portions 8, 17, 19 of the Farm Sterkfontein 155. Portion 29, 30, 31, 32, 33, 34, 45, 46, 47, 48, 49, 50, 51, 52 53, 54, 55, 56, 57, 58, 59, 60, 61, 63, 64, 65, 68, 69, 70, 66 and a certain portion of portion 62, the RE of Portion 1 & 7 of the Farm Putfontein 62. Portion 1, 2 & the RE of the Farm Omega 478. Portion 3 & the RE of the Farm Holgat 63. Portion 4, 5, 6 & the RE of Portion 2 of the farm Wildfontein 201. The RE of portion 5 & 31 of the farm Leewufontein 64. A certain Portion of the RE of Farm 533; Registration Division: IP, North West Province.

NAME OF ACTIVITY (E.g. For prospecting - drill site, site camp, ablution facility, accommodation, equipment storage, sample storage, site office, access route etc...etc...etc E.g. for mining,- excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc...etc...etc.)	Aerial extent of the Activity Ha or m²	LISTED ACTIVITY (Mark with an X where applicable or affected).	APPLICABLE LISTING NOTICE (GNR 324, GNR 325 or GNR 326)	WASTE MANAGEMENT AUTHORISATION (Indicate whether an authorisation is required in terms of the Waste Management Act) (Mark with an X)
Listing Notice 1 GNR 327, Activity 9: <i>"The development of infrastructure exceeding 1 000 metres in length for the bulk transportation of water or storm water—</i> <i>(i) with an internal diameter of 0,36 metres or more; or</i> <i>(ii) with a peak throughput of 120 litres per second or more;"</i> Pipelines will be established for the mine infrastructure, including for potable water and storm water		X	Listing Notice 1 GNR 327, Activity 9	-
Listing Notice 1 GNR 327, Activity 10: <i>"The development and related operation of infrastructure exceeding 1 000 metres in length for the bulk transportation of sewage, effluent, process water, waste water, return water, industrial discharge or slimes"</i> Various pipelines will be established for the mine infrastructure, including for the pumping and transportation of tailings and process water.		X	Listing Notice 1 GNR 327, Activity 10	

<p>Listing Notice 1 GNR 327, Activity 14: <i>“The development and related operation of facilities or infrastructure, for the storage, or for the storage and handling, of a dangerous good, where such storage occurs in containers with a combined capacity of 80 cubic metres or more but not exceeding 500 cubic metres.”</i></p> <p>This includes explosives, solvents, lubricants, vehicle and generator fuel, waste oils etc. Various storage containers and storage areas, each of different sizes will be required for the different dangerous goods that will be necessary for the mining activity.</p>		X	<p>Listing Notice 1 GNR 327, Activity 14</p>	
<p>Listing Notice 1 GNR 327, Activity 24(ii): <i>“The development of a road with a reserve wider than 13.5 metres, or where no reserve exists where the road is wider than 8 metres.”</i></p>		X	<p>Listing Notice 1 GNR 327, Activity 24(ii)</p>	
<p>Clearance of indigenous vegetation:</p> <p>Listing Notice 2 GNR 325, Activity 15: <i>“The clearance of an area of 20 hectares or more, of indigenous vegetation.”</i></p>	<p>Vegetation clearance of over a 15 484.0614 hectares area.</p> <p>Concurrent backfilling will take place in order to rehabilitate.</p>	X	<p>Listing Notice 2 GNR 325, Activity 15</p>	

<p>Listing Notice 2 GNR 325, Activity 17: <i>“Any activity including the operation of that activity which requires a mining right as contemplated in section 22 of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002), including — (a) associated infrastructure, structures and earthworks, directly related to the extraction of a mineral resource; or (b) the primary processing of a mineral resource including winning, extraction, classifying, concentrating, crushing, screening or washing; but excluding the secondary processing of a mineral resource, including the smelting, beneficiation, reduction, refining, calcining or gasification of the mineral resource in which case activity 6 in this Notice applies.”</i></p> <p>Mining right for the mining of Diamonds General (D) including associated infrastructure, structure and earthworks.</p>	<p>Vegetation clearance of over a 15 484.0614 hectares area.</p> <p>Concurrent backfilling will take place in order to rehabilitate.</p>	<p>X</p>	<p>Listing Notice 2 GNR 325, Activity 17:</p>	
<p>Listing Notice 3: GNR 324, Activity 4(h) North West: <i>“The development of a road wider than 4 metres with a reserve less than 13,5 metres.</i></p> <p><i>(iv) Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority;”</i></p> <p>Application area falls within CBA1, CBA2 & ESA2 with different watercourses and wetlands such as Depressions, Channelled valley-bottom wetlands, Seeps and Unchannelled valley-bottom wetlands</p>		<p>X</p>	<p>Listing Notice 3: GNR 324, Activity 4(h) North West</p>	
<p>Listing Notice 3: GNR 324, Activity 12(h) North West: <i>“The clearance of an area of 300 square metres or more of indigenous vegetation:</i></p> <p><i>(iv) Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority;</i></p> <p><i>(vi) Areas within a watercourse or wetland, or within 100 metres from the edge of a watercourse or wetland.”</i></p>	<p>Vegetation clearance of over a 15 484.0614 hectares area.</p>	<p>X</p>	<p>Listing Notice 3: GNR 324, Activity 12(h) North West:</p>	

<p>Application area falls within CBA1, CBA2 & ESA2 with different watercourses and wetlands such as Depressions, Channelled valley-bottom wetlands, Seeps and Unchannelled valley-bottom wetlands</p>	<p>Concurrent backfilling will take place in order to rehabilitate.</p>			
<p>Storage of hazardous waste Category B: (1) The storage of general waste in lagoons. Tailing's storage facility.</p>			<p>NEM:WA 59 of 2008, Category B: (1)</p>	<p>X</p>
<p>Treatment of waste: Category B: (5) The treatment of hazardous waste in lagoons, excluding the treatment of effluent, wastewater or sewage.</p>			<p>NEM:WA 59 of 2008, Category B: (5)</p>	<p>X</p>
<p>Construction of facilities and associated structures and infrastructure: Category B: (10) The construction of a facility for a waste management activity listed in Category B of this Schedule</p>			<p>NEM:WA 59 of 2008, Category B: (10)</p>	<p>X</p>
<p>Residue stockpiles or residue deposits: Category B: (11) The establishment or reclamation of a residue stockpile or residue deposit resulting from activities which require a mining right, exploration right or production right in terms of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002).</p> <p>The waste rock and waste that is separated from the gravel during processing, is dumped away from the trenches onto a surface waste dump.</p>			<p>NEM:WA 59 of 2008, Category B: (11)</p>	<p>X</p>

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ii) **DESCRIPTION OF THE ASSOCIATED STRUCTURES AND INFRASTRUCTURE RELATED TO THE DEVELOPMENT**

(Describe Methodology or technology to be employed, and for a linear activity, a description of the route of the activity)

Basic overview of the mining method

Mining Methods: Although the alluvial diamond deposits and the presence of channels can be inferred, it is necessary that the mining work be accompanied by prospecting and exploration work to determine the precise location and direction of the channels to follow during mining. Pits will thus be excavated by Excavators as part of further exploration work and for mining purposes. Trenches will be excavated with Excavators. The topsoil removed and stored separately. The gravel will be removed and transported by ADT to the mining plant. Here it will be stored and transported by a FEL to the washing machines.

The gravel will be washed using the so-called “dry-method” and/or “wet-method” depending on the, among other, the weather, regulatory requirements, economies of scale. Depending on the method, waste will either be washed back into the trenches and/ or re-directed to the tailings dam.

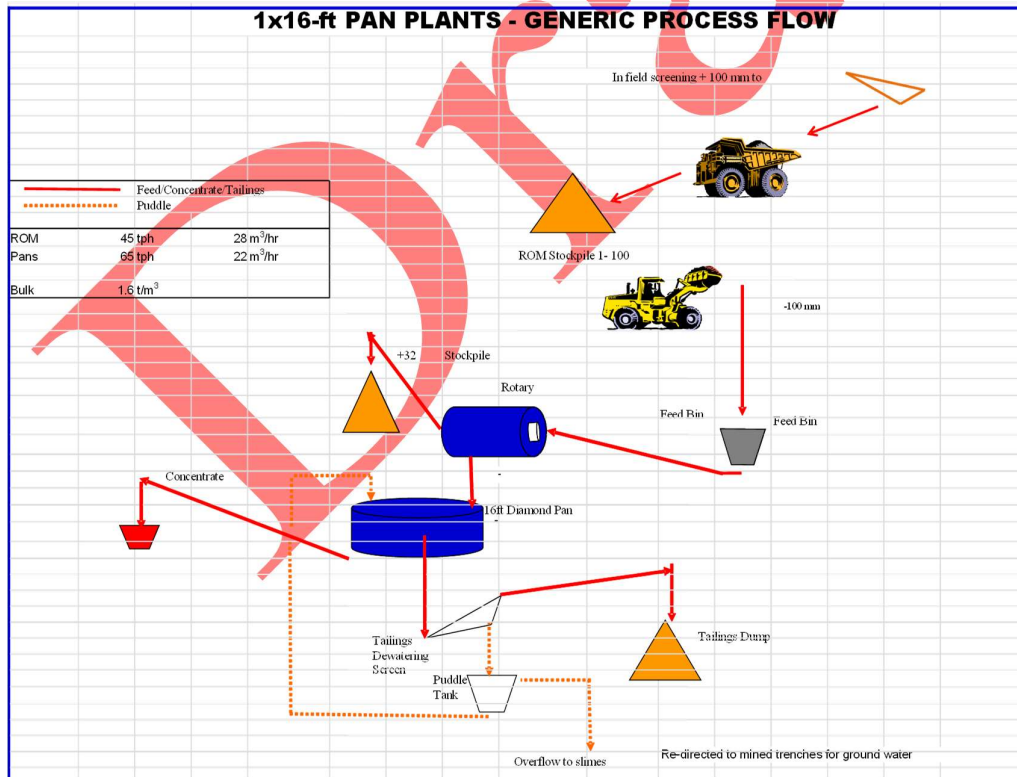
The possible diamond bearing gravel will be mortised into bins, where after the gravel will be sorted by a flow sort and/or DMS of possibly find diamonds

Open Cast Mining

OPEN CAST MINING



Basic Plant Design



(a) Material from mining Trench is delivered by ADT and is stockpiled at the Pan Plant site in the vicinity of the pan feed bin.

- (b) The material is fed to the pan feed bin with a FEL at a rate of approximately 45 tons per hour depending on the type of material (lower feed rates for material with high sand or clay content).
- (c) The material is screened to minus 32 mm with a barrel screen and fed into the pan with a pan feeder conveyor.
- (d) Oversize material (+32mm) is directed to a tailings dump via a tailings conveyor.
- (e) The pan material is separated with a medium of puddle applying the sink/ float principal at an operating density of Rd 1.35 - Rd 1.40.
- (f) The floating particles (gravel/ paddle/ fines) are directed to a chute onto a dewatering screen and screened at 1.00mm. The plus 1.00mm material or pan tailings are directed to a tailings dump with a tailings conveyor; and or
- (g) The minus 1.00 mm materials (slimes) are collected in the screen under the pan and pumped to an open and depleted mine trench for:
 - (i) Replenishing underground water; and
 - (ii) Restoring the underground water level.
 This operation is done during the same cycle of the plant ROM feed.
- (h) As an alternative to (d),(g) and (f) above the pan will be situated on the side of an open depleted mining trench and oversize, pan tailings, and slimes will be deposited directly into the open and worked mining trench (the dry-method). This is for the same objective as the options mentioned above
- (i) The concentrated material is trapped into a concentrate bin and transported to a final recovery plant for final diamond concentration and recovery.

Efficiency of the process

The diamond pan is one of the oldest methods that are used for concentrating and the recovery of diamonds in the North West region.

From the stockpile the gravel is screened. Screens are fed to a capacity of 75% for effectiveness and to obtain 80-90% efficiency.

The pan is used to separate light material in the feed to the pan from the heavy minerals - the diamond being relatively heavy at an Rd of 3.53.

The method is relatively cost-effective but produces a large amount of concentrate and recovery efficiencies are very sensitive to size distribution of the feed and the quality of the medium - called puddle.

Pan efficiencies are normally calculated at approximately 80% recovery of the product, provided that all operational parameters are being adhered to and medium contamination is kept to the minimum. Losses would mainly occur in the very small diamond fractions.

The grade may also be influenced by the uneven distribution of diamonds in the area. Allowing for a fluid mine plan assists in ensuring that the mining on the property remains efficient.

Life of the Mine

Total estimated resource 2 400 000 tonnes.

Production is expected to be, on average, 3 484 800 tonnes over the 10 year period, and thus an average of 348 480 tons per year.

$$\begin{aligned}\text{Life of Mine} &= \frac{\text{Inferred Resource estimate (in tonnes)}}{\text{Estimated production per year (in tonnes)}} \\ &= \frac{2\,400\,000 \text{ tonnes}}{348\,480 \text{ tonnes per annum}} \\ &= 6.9 \text{ years}\end{aligned}$$

The period that is applied for is **10 years**.

Year 1	348 480
Year 2	348 480
Year 3	348 480
Year 4	348 480
Year 5	348 480
Year 6	348 480
Year 7	348 480
Year 8	348 480
Year 9	348 480
Year 10	348 480

WATER USES:

Water uses under section 21 a-k of the NWA may be triggered, thus a Water Use Licence Application (WULA) will be needed in cases where there will be encroachment. When needed WULA will be lodged with the department of Water & Sanitation (DWS).

ABLUTION

Chemical toilets shall be used, no french drains and pits shall be permitted.

STORAGE OF DANGEROUS GOODS

During the mining activities, limited quantities of diesel and fuel, oil and lubricants will be stored on site. These goods should be placed in a bunded area one and a half times the volume of the total amount of goods to be stored.

Any hazardous goods will need to be handled in a way that they do not pose any health impact on people, livestock as well as crops.

SUMMARY OF INFRASTRUCTURE REQUIREMENTS SUCH AS ROADS, RAIL, ELECTRICITY

The infrastructure has already been erected and established during the prospecting activities. The area has good road accessibility and electrical power is already available at the mining site.

NON-MINERAL WASTE MANAGEMENT

No solid waste disposal facilities are to be constructed as part of the mine development. All waste will be managed in accordance with the waste management hierarchy as required by the National Environmental Management: Waste Management Act 59 of 2008.

Waste will be segregated as possible into general and hazardous waste and contractors appointed to remove the waste to licensed waste disposal facilities.

Recyclable waste like glass, wood and plastic will similarly be segregated on site and removed by licensed waste transporters. An oil recycling company will also be appointed to remove waste oil generated by the mining activities. Medical waste arising from the on-site clinic will also be removed from site by a contractor. Refer to Waste Management Plan (**Appendix 13**)

The on-site waste storage area is proposed to be located within the process plant footprint.

SECURITY AND ACCESS CONTROL

A perimeter fence will be constructed around the mining area. Internal fences will also be established around facilities such as the surface mining area. Access control points with mobile office units and posted guards and gates will be placed at the main mine entrance as well as at the entrances to the process plant and mining service area. Existing roads are available for transportation.

Access will be obtained from the N14 & gravel roads.

REHABILITATION

Roll over method of mining will be used whereby all waste rock will be backfilled in pit. It is assumed that the open pit will be sloped for rehabilitation. Beneficiation of the ore will be conducted off-site; therefore, the open pit and backfilled waste rock are the only potential sources of contamination.

MINING ACTIVITIES AND PHASES

Please find the Mining Work Programme attached as **Appendix 8**.

A. POLICY AND LEGISLATIVE CONTEXT

(a description of the policy and legislative context within which the development is located and an explanation of how the proposed development complies with and responds to the legislation and policy context;)

Table 5: Policy and Legislative Context

Title of legislation, policy or guideline:	Administering authority:	Promulgation Date:
National Environmental Management Act No. 107 of 1998 as amended.	Department of Environmental Affairs	27 November 1998
Constitution of South Africa Act 108 of 1996	National	18 December 1996
The National Heritage Resources Act (Act No. 25 of 1999)	SAHRA	1999
Mineral and Petroleum Resources Development Act (Act No. 28 of 2002)	Department of Mineral Resources & Energy (DMRE)	2002
National Infrastructure Plan	National	
National Environmental Management: Biodiversity Act No. 10 of 2004	Department of Environmental Affairs	7 June 2004
National Environmental Management Waste Act, 2008 (Act No. 59 of 2008)	National & Provincial	1 July 2009
EIA regulations under NEMA	Department of Environmental Affairs	14 December 2014
Conservation of Agricultural Resources Act, 1983 (Act No. 43 of 1983)	Department of Agriculture Forestry and Fisheries	1 June 1984
National Environmental Management Air Quality Act, 2004 (Act No. 39 of 2004).	National and Provincial	11 September 2004
National Water Act, 1998 (Act No. 36 of 1998).	National	20 August 1998
North West Province Growth and Development Strategy	Provincial	11 August 2013
Ngaka Modiri Mompoti Molema District Municipality Integrated Development Plan (IDP)	Municipal	
Ditsobotla Local Municipality Integrated Development Plan (IDP)	Municipal	
National Forest Act (Act 84 of 1998) (NFA)	National	30 October 1998

Draft

Milnex CC: EIA412 –EIR & EMPr - Mining Right Application, combined with a Waste Licence Application of **Turnover Trading 251 (Pty) Ltd** for the mining of Diamonds General (D) on the RE of Portions 6, 7, 10 and Portions 8, 17, 19 of the Farm Sterkfontein 155. Portion 29, 30, 31, 32, 33, 34, 45, 46, 47, 48, 49, 50, 51, 52 53, 54, 55, 56, 57, 58, 59, 60, 61, 63, 64, 65, 68, 69, 70, 66 and a certain portion of portion 62, the RE of Portion 1 & 7 of the Farm Putfontein 62. Portion 1, 2 & the RE of the Farm Omega 478. Portion 3 & the RE of the Farm Holgat 63. Portion 4, 5, 6 & the RE of Portion 2 of the farm Wildfontein 201. The RE of portion 5 & 31 of the farm Leewufontein 64. A certain Portion of the RE of Farm 533; Registration Division: IP, North West Province.

POLICY AND LEGISLATIVE CONTEXT

<p>APPLICABLE LEGISLATION AND GUIDELINES USED TO COMPILE THE REPORT (a description of the policy and legislative context within which the development is proposed including an identification of all legislation, policies, plans, guidelines, spatial tools, municipal development planning frameworks and instruments that are applicable to this activity and are to be considered in the assessment process)</p>	<p>REFERENCE WHERE APPLIED</p>	<p>HOW DOES THIS DEVELOPMENT COMPLY WITH AND RESPOND TO THE LEGISLATION AND POLICY CONTEXT.</p> <p>(E.g. In terms of the National Water Act a Water Use License has/ has not been applied for)</p>
<p>The Constitution of South Africa (Act No. 108 of 1996)</p>		<p>The Constitution is the supreme law of the Republic and all law and conduct must be consistent with the Constitution. The Chapter on the Bill of Rights contains a number of provisions, which are relevant to securing the protection of the environment. Section 24 states that “everyone has the right to (a) an environment that is not harmful to their health or well-being and (b) to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that – (i) prevent pollution and ecological degradation; (ii) promote conservation; and (iii) secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development. The Constitution therefore, compels government to give effect to the people’s environmental right and places government under a legal duty to act as a responsible custodian of the countries environment. It compels government to pass legislation and use other measures to protect the environment, to prevent pollution and ecological degradation, promote conservation and secure sustainable development.</p>
<p>The National Environmental Management Act (Act No. 107 of 1998)</p>	<p>S24(1) of NEMA S28(1) of NEMA</p>	<p>NEMA provides for co-operative governance by establishing principles and procedures for decision-makers on matters affecting the environment. An important function of the Act is to serve as an enabling Act for the promulgation of legislation to effectively address integrated environmental management. Some of the principles in the Act are accountability; affordability; cradle to grave</p>

		<p>management; equity; integration; open information; polluter pays; subsidiary; waste avoidance and minimisation; co-operative governance; sustainable development; and environmental protection and justice.</p> <p>The mandate for EIA lays with the National Environmental Management Act (107 of 1998) and the EIA Regulations No. 982, 983, 984, and 985, as amended promulgated in terms of Section 24 of NEMA. The EIA Regulations determine that an Environmental Authorisation is required for certain listed activities, which might have a detrimental effect on the environment.</p>
The National Water Act (Act No. 36 of 1998)	S21	<p>Sustainability and equity are identified as central guiding principles in the protection, use, development, conservation, management and control of water resources. The intention of the Act is to promote the equitable access to water and the sustainable use of water, redress past racial and gender discrimination, and facilitate economic and social development. The Act provides the rights of access to basic water supply and sanitation, and environmentally, it provides for the protection of aquatic and associated ecosystems, the reduction and prevention of pollution and degradation of water resources.</p> <p>As this Act is founded on the principle that National Government has overall responsibility for and authority over water resource management, including the equitable allocation and beneficial use of water in the public interest, a person can only be entitled to use water if the use is permissible under the Act. Chapter 4 of the Act lays the basis for regulating water use.</p>
National Environmental Management: Air Quality Act (Act No. 39 of 2004)	S21	<p>The object of this Act is to protect the environment by providing reasonable measures for the protection and enhancement of the quality of air in the Republic; the prevention of air pollution and ecological degradation; and securing ecologically sustainable development while promoting justifiable economic and social development.</p> <p>Regulations No. R248 (of 31 March 2010) promulgated in terms of Section 21(1) (a) of the National Environmental Management Act: Air Quality Act (39 of 2004) determine that an Atmospheric Emission License (AEL) is required for certain listed activities, which result in atmospheric emissions which have or may have</p>

		<p>a detrimental effect on the environment. The Regulation also sets out the minimum emission standards for the listed activities. It is not envisaged that an Atmospheric Emission License will be required for the proposed development.</p>
<p>Draft National Dust Control Regulations of 27 May 2011</p>		<p>These regulations are closely related to the NEMAQA. The purpose of the regulations is to prescribe general measures for the control of dust in all areas including residential and light commercial areas.</p> <p>No person may conduct any activity in such a way as to give rise to dust in such quantities and concentrations that</p> <p>(1) The dust, or dust fall, has a detrimental effect on the environment including health, social conditions, economic conditions, ecological conditions or cultural heritage, or has contributed to the degradation of ambient air quality beyond the premises where it originates; or</p> <p>(2) The dust remains visible to the ambient air beyond the premises where it originates: or</p> <p>(3) The dust fall at the boundary or beyond the boundary of the premises where it originates exceeds -</p> <ul style="list-style-type: none"> a. 600 mg/m²/day averaged over 30 days In residential and light commercial areas measured using reference method ASTM 01739; or b. 1200 mg/m²/day averaged over 30 days in areas other than residential and light commercial areas measured using reference method ASTM 01739.
<p>The National Heritage Resources Act (Act No. 25 of 1999)</p>		<p>The Act aims to introduce an integrated and interactive system for the management of the heritage resources, to promote good government at all levels, and empower civil society to nurture and conserve heritage resources so that they may be bequeathed to future generations and to lay down principles for governing heritage resources management throughout the Republic. It also aims to establish the South African Heritage Resources Agency together with its Council to co-ordinate and promote the management of heritage resources, to set norms and maintain essential national standards and to protect heritage resources, to provide for the protection and management of conservation-worthy</p>

		<p>places and areas by local authorities, and to provide for matters connected therewith.</p> <p>The Act protects and manages certain categories of heritage resources in South Africa. For the purposes of the Heritage Resources Act, a "heritage resource" includes any place or object of cultural significance. In this regard the Act makes provision for a person undertaking an activity listed in Section 28 of the Act to notify the resources authority. The resources authority may request that a heritage impact assessment be conducted if there is reason to believe that heritage resources will be affected.</p>
<p>Conservation of Agricultural Resources Act (Act No. 85 of 1983)</p>		<p>The objective of the Act is to provide for control over the utilization of the natural agricultural resources of the Republic in order to promote the conservation of the soil, the water sources and the vegetation and the combating of weeds and invader plants; and for matters connected therewith.</p> <p>Consent may be required from the Department of Agriculture in order to confirm that the proposed development is not located on high potential agricultural land.</p>
<p>Mineral and Petroleum Resources Development Act (Act No. 28 of 2002)</p>		<p>The Minerals and Petroleum Resources Development Act identifies the state as the official custodian of South Africa's Mineral and Petroleum Resources. Therefore all activities relating to the reconnaissance, prospecting rights, mining rights, mining permits and retention permits are regulated by the State.</p> <p>A mining right application has been lodge with the Department of Mineral Resources and Energy- North West Province</p>
<p>National Infrastructure Plan</p>		<p>The National Government adopted a National Infrastructure Plan in 2012. With the plan they aim to transform the South African economic landscape while simultaneously creating significant numbers of new jobs, and strengthening the delivery of basic services.</p> <p>Government will over the three years from 2013/14 invest R827 billion in building and upgrading existing infrastructure.</p>

		<p>These investments will improve access by South Africans to healthcare facilities, schools, water, sanitation, housing and electrification. On the other hand, investments in the construction of ports, roads, railway systems, electricity plants, hospitals, schools and dams will contribute to faster economic growth.</p> <p>This mining activity will indirectly contribute to the growing of the South African economy by supplying SANRAL with material to build and upgrade road infrastructure.</p>
<p>National Forest Act 84 of 1998</p>		<p>The protection, sustainable management and use of forests and trees within South Africa are provided for under the National Forests Act (Act 84 of 1998).</p> <p>Prohibition on destruction of trees in natural forests</p> <p>(1) No person may -</p> <ul style="list-style-type: none"> (a) cut, disturb, damage or destroy any indigenous tree in a natural forest; or (b) possess, collect, remove, transport, export, purchase, sell, donate or in any other manner acquire or dispose of any tree, or any forest product derived from a tree contemplated in paragraph (a), except in terms of- <ul style="list-style-type: none"> (i) a licence issued under subsection (4) or section 23; or (ii) an exemption from the provisions of this subsection published by the Minister in the <i>Gazette</i> on the advice of the Council.
<p>National Environmental Management: Protected Areas Act 57 of 2003</p>		<p>This Act provides for the protection and conservation of ecologically viable areas representative of South Africa's biological diversity and its natural landscapes and seascapes. It also seeks to provide for the sustainable utilization of protected areas and to promote participation of local communities in the management of protected areas.</p>

<p>National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008)</p>		<p>Section 24S of NEMA deals with the management of residue stockpiles and residue deposits and provides that Residue stockpiles and residue deposits must be deposited and managed in accordance with the provisions of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008), on any site demarcated for that purpose in the environmental management plan or environmental management programme in question</p> <p>The management of residue stockpiles and residue deposits must be done in accordance with any conditions set out and any identified measures in the environmental authorisation issued in terms of NEMA, an environmental management programme and a waste management licence issued in terms of NEMA (Regulation 3(2)).</p>
<p>National Environmental Management: Waste Act, 2008 (Act No. 59 Of 2008) Regulations regarding the Planning & Management of Residue Stockpiles & Residue Deposits from a Prospecting, Mining, Exploration or Production Operation</p>		<p>The purpose of these Regulations is to regulate the planning and management of residue stockpiles and residue deposits from a prospecting, mining, exploration or production operation.</p>
<p>Hazardous Substances Act (No. 15 of 1979)</p>		<p>The object of the Act is inter alia to ‘provide for the control of substances which may cause injury or ill health to, or death of, human beings by reason of their toxic, corrosive, irritant, strongly sensitising or flammable nature or the generation of pressure thereby in certain circumstances; for the control of electronic products; for the division of such substances or products into groups in relation to the degree of danger; for the prohibition and control of such substances.’</p> <p>In terms of the Act, substances are divided into schedules, based on their relative degree of toxicity, and the Act provides for the control of importation, manufacture, sale, use, operation, application, modification, disposal and dumping of substances in each schedule.</p>

<p>Occupational Health and Safety Act (No. 85 of 1993)</p>	<p>The Occupational Health and Safety Act (No. 85 of 1993) (OHSA) provides a legislative framework for the provision of reasonably healthy and safe conditions in the workplace. It also places extensive legal duties on employees and users of machinery and makes major inroads on employers' and employees' common law rights.</p> <p>The OHSA is applicable and states that any person involved with construction, upgrades or developments for use at work or on any premises shall ensure as far as reasonably practicable that nothing about the manner in which it is installed, erected or constructed makes it unsafe or creates a risk to health when properly used.</p>
<p>Mine Health and Safety Act (No. 29 of 1996)</p>	<p>The Mine Health and Safety Act (No. 29 of 1996) (MHSA) aims to protect and promote the health and safety of employees and persons that may be affected by the activities at a mine and outlines both the rights and responsibilities of an employer, as well as the obligations of employees working thereat.</p> <p>The following principles are considered applicable to the Proposed Project and are detailed below:</p> <ul style="list-style-type: none"> • The primary responsibility for ensuring a health and safe working environment in the mining site is placed on the mine owner. The Act sets out in detail the steps that employers must take to identify, assess records and control health and safety hazards in the mine; • The right of workers to participate in health and safety decisions, the right to receive health and safety information, the right to training and the right to withdraw from the workplace in face of danger; • The Act requires the establishment of institutions to promote a culture of health and safety and develop policy, legislation and regulations; and • The responsibility for enforcing MHSA lies with the Mine Health and Safety Inspectorate. The Inspectorate's powers are recast and include the power to impose administrative fines upon employers who contravene the MHSA.

	<p>The Act also contains innovative approaches to the investigation of accidents, diseases and other occurrences that threaten health and safety.</p>
<p>Government Notice Regulation 704 of 1999</p>	<p>GNR.704 of 1999 under the NWA provides regulations on the use of water for mining and related activities aimed at the protection of water resources (requirements for clean and dirty water separation). GNR.704 requires inter alia the following:</p> <ul style="list-style-type: none"> • Separation of clean (unpolluted) water from dirty water; • Collection and confinement of the water arising within any dirty area into a dirty water system; • Design, construction, maintenance and operation of the clean water and dirty water management systems so that it is not likely for either system to spill into the other more than once in 50 years; • Design, construction, maintenance and operation of any dam that forms part of a dirty water system to have a minimum freeboard of 0.8m above full supply level, unless otherwise specified in terms of Chapter 12 of the Act; and • Design, construction, and maintenance of all water systems in such a manner as to guarantee the serviceability of such conveyances for flows up to and including those arising as a result of the maximum flood with an average period of recurrence of once in 50 years. <p><u>GNR.704 also stipulates that no person in control of a mine or activity may:</u></p> <p>Locate or place any residue deposit, dam, reservoir, together with any associated structure or any other facility within the 1:100 year flood line or within a horizontal distance of 100 m from any watercourse or estuary, borehole or well, excluding boreholes or wells drilled specifically to monitor the pollution of groundwater, or on water-logged ground, or on ground likely to become water-logged, undermined, unstable or cracked;</p>

		<p>Place or dispose of any residue or substance which causes or is likely to cause pollution of a water resource, in the workings of any underground or opencast mine excavation, prospecting diggings, pit or any other excavation; or</p> <p>Use any area or locate any sanitary convenience, fuel depots, reservoir or depots for any substance which causes or is likely to cause pollution of a water resource within the 1:50 year flood line of any watercourse or estuary.</p>
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B. NEED AND DESIRABILITY OF THE PROPOSED ACTIVITIES.

(a motivation for the need and desirability for the proposed development, including the need and desirability of the activity in the context of the preferred [location] development footprint within the approved site as contemplated in the accepted scoping report;).

Mining has played a vital role in the economy of South Africa for over 100 years. In 2015 the mining industry contributed R286 billion towards South African Gross Domestic Product (GDP) representing 7.1% of overall GDP. Mining is a significant contributor to employment in the nation, with 457 698 individuals directly employed by the sector in 2015. This represents just over 3% of all employed nationally. (Chamber of Mines, South Africa, 17:2016)

Diamonds, arguably the ultimate luxury mineral, comprise an intricate lattice of carbon atoms, a crystalline structure that makes them harder than any other form in nature. This characteristic makes diamonds not only popular in jewellery, but also desirable in high-tech cutting, grinding and polishing tools (Chamber of Mines, South Africa, 12:2016).

According to the Chamber of Mines the country's diamond sector is far from reaching the end of its life even though diamond mining has been taking place in South Africa for almost a century and a half. The primary sources of all of South Africa's diamonds are kimberlites in ancient, vertically dipping volcanic pipes most of which were located in the vicinity of the city of Kimberley and which were initially amenable to open-cast.

Economic growth - South Africa's total reserves remain some of the world's most valuable, with an estimated worth of R20.3-trillion. Overall, the country is estimated to have the world's fifth-largest mining sector in terms of GDP value.

It has the world's largest reserves of manganese and platinum group metals (PGMs), according to the [US Geological Survey](#), and among the largest reserves of gold, diamonds, chromite ore and vanadium.

With South Africa's economy built on gold and diamond mining, the sector is an important foreign exchange earner, with gold accounting for more than one-third of exports. In 2009, the country's diamond industry was the fourth largest in the world.

Mining is a cornerstone of the economy, making a significant contribution to economic activity, job creation and foreign exchange earnings. Mining and its related industries are critical to South Africa's socio-economic development.

G. A MOTIVATION FOR THE PREFERRED DEVELOPMENT FOOTPRINT

(-within the approved site as contemplated in the accepted scoping report;)

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

Location of the site

This application was preceded by a prospecting right. The location of the site is preferred due to the presence of Diamonds

As discussed in the previous section, based on outcomes of previous studies in the vicinity of the proposed site, the possibility to encounter high volumes of Mining Right of Diamonds General on the RE of Portions 6, 7, 10 and Portions 8, 17, 19 of the Farm Sterkfontein 155. Portion 29, 30, 31, 32, 33, 34, 45, 46, 47, 48, 49, 50, 51, 52 53, 54, 55, 56, 57, 58, 59, 60, 61, 63, 64, 65, 68, 69, 70, 66 and a certain portion of portion 62, the RE of Portion 1 & 7 of the Farm Putfontein 62. Portion 1, 2 & the RE of the Farm Omega 478. Portion 3 & the RE of the Farm Holgat 63. Portion 4, 5, 6 & the RE of Portion 2 of the farm Wildfontein 201. The RE of portion 5 & 31 of the farm Leewufontein 64. A certain Portion of the RE of Farm 533; Registration Division: IP, North West Province. were anticipated.

Preferred activity

The mining of Diamonds General (D) is the optimum preferred activity for the site.

A total of 32 employees will be employed.

H. A FULL DESCRIPTION OF THE PROCESS FOLLOWED TO REACH THE PROPOSED DEVELOPMENT FOOTPRINT

(-within the approved site as contemplated in the accepted scoping report, including:)

i) Details of the development footprint alternatives considered;

- **Consideration of alternatives**

The DEAT 2006 guidelines on 'assessment of alternatives and impacts' proposes the consideration of four types of alternatives namely, the no-go, site, activity, and technology alternatives. It is however, important to note that the regulation and guidelines specifically state that only 'feasible' and 'reasonable' alternatives should be explored. It also recognizes that the consideration of alternatives is an iterative process of feedback between the developer, the EAP and Interested and affected parties, which in some instances culminates in a single preferred project proposal. The following sections explore each type of alternative in relation to the proposed activity.

- **Location alternatives**

This alternative asks the question, if there is not, from an environmental perspective, a more suitable location for the proposed activity. No other properties have been secured by **Turnover Trading (Pty) Ltd** near Colingy & Ventersdorp area to potentially mine Diamonds General (D). Also, it is expected that the Diamonds General (D) been deposited on these farms and therefore the applicant would like to commence with their mining activities.

Land capability is the combination of soil suitability and climate factors. The site and surroundings have a land capability classification, on the 8 category scale, of Class 3, 5 & 6.

Refer to Land capability map attached as **Appendix 5 & figure 3 below.**

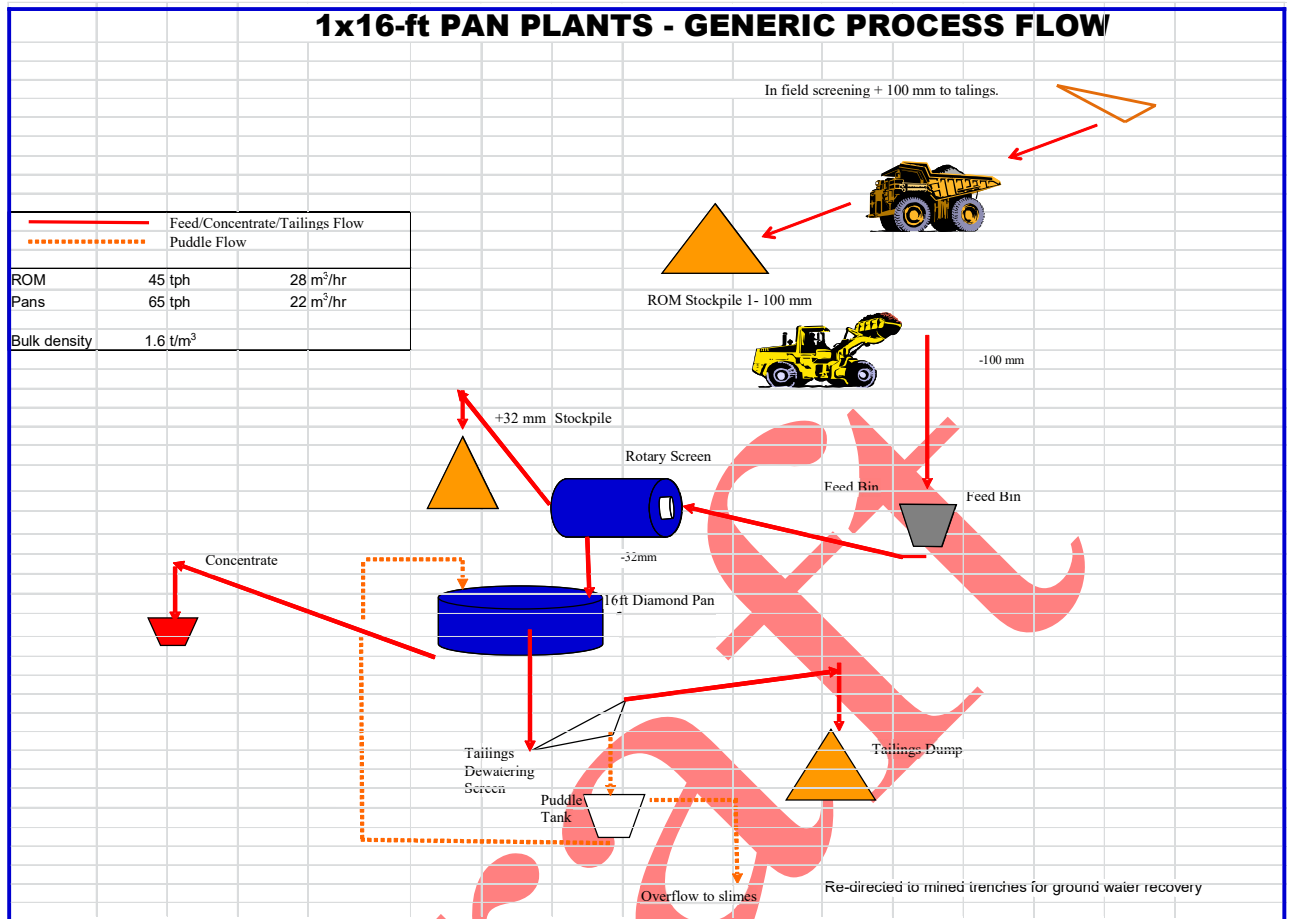


Figure 4: Generic process flow.

- **No-go alternative**

This alternative considers the option of ‘do nothing’ and maintaining the status quo. The description provided in section H of this report could be considered the baseline conditions (status quo) to persist should the no-go alternative be preferred. The site is currently zoned for agricultural land uses. Should the proposed activity not proceed, the site will remain unchanged.

Technology alternatives

The preferred technology for the proposed mining activity, will be to remove the Diamonds General (D) with an excavator. The ore removed will then be processed. Please find the Mining Work Programme attached as **Appendix 8**.

Dust suppression

When it comes to dust suppression two main methods were considered, namely molasses stillage and the wetting (water) of roads. The table below provides a short summary of the advantages and disadvantages of each.

Table 6: Dust Suppression

Water	Molasses stillage
More cost effective	Much more expensive

Could lead to the depleting of water resources	Requires less water
No damage (only if used excessively)	The product may be toxic to aquatic organisms. (As this product could have physical effects on aquatic organisms for e.g. floating, osmotic damage)
No harm to humans or animals (Only a high quantity will have harm to humans or animals)	Not Hazardous or toxic. Could cause irritation to eyes, skin or when ingested and inhaled.
Non-flammable	Non-flammable
Eye-wash fountains not needed	Eye-wash fountains in the work place are strongly recommended
	Working procedures should be designed to minimize worker exposure to this product.
Basic storing methods	Storing methods are a bit more complicated. Should be stored in a plastic, plastic lined or stainless steel, tight closed containers between 5 and 40 degrees Centigrade.

Considering the above-mentioned information, water will be used for dust suppression purposes.

Vehicles and earthmoving equipments may cause a dust cloud if not effectively managed which may affect the plants. This may also affect the systems of the centre pivots and clogging it.

ii) Details of the Public Participation Process Followed

Describe the process undertaken to consult interested and affected parties including public meetings and one on one consultation. NB the affected parties must be specifically consulted regardless of whether or not they attended public meetings. (Information to be provided to affected parties must include sufficient detail of the intended operation to enable them to assess what impact the activities will have on them or on the use of their land.

Disclaimer:

The Public Participation Process (PPP) must follow Regulation 41 of NEMA EIA Regulations; thus, the process needs to be transparent. However, due to the Protection of Personal Information Act (POPI Act) which commenced on 01 July 2021, Stakeholders, Landowners, surrounding landowners and registered I&AP' addresses, contact details and comments will not be included in any draft report to be circulated. All this information will form part of the final report to be submitted to the Competent Authority only.

Should you be identified as a Stakeholder, Landowner, Surrounding landowner and you do not wish to receive any further communique from Milnex CC regarding the application in question, you may request in writing that your details be removed from the Milnex CC database for this application.

NEWSPAPER ADVERTISEMENT

An advertisement was placed on 02 July 2021 in English in the local newspaper (**The Noordwester**) advertisement (see **Appendix 6**) notifying the public of the EIA process and requesting Interested and Affected Parties (I&APs) to register with, and submit their comments to Milnex CC. I&APs were given the opportunity to raise comments within 30 days of the advertisement.

SITE NOTICES

Site notices were placed (as anticipated on the coordinates below) on site in English to inform surrounding communities and immediately adjacent landowners of the proposed development. I&APs will be given the opportunity to raise comments. Photographic evidence of the site notices will be included in **Appendix 6**.

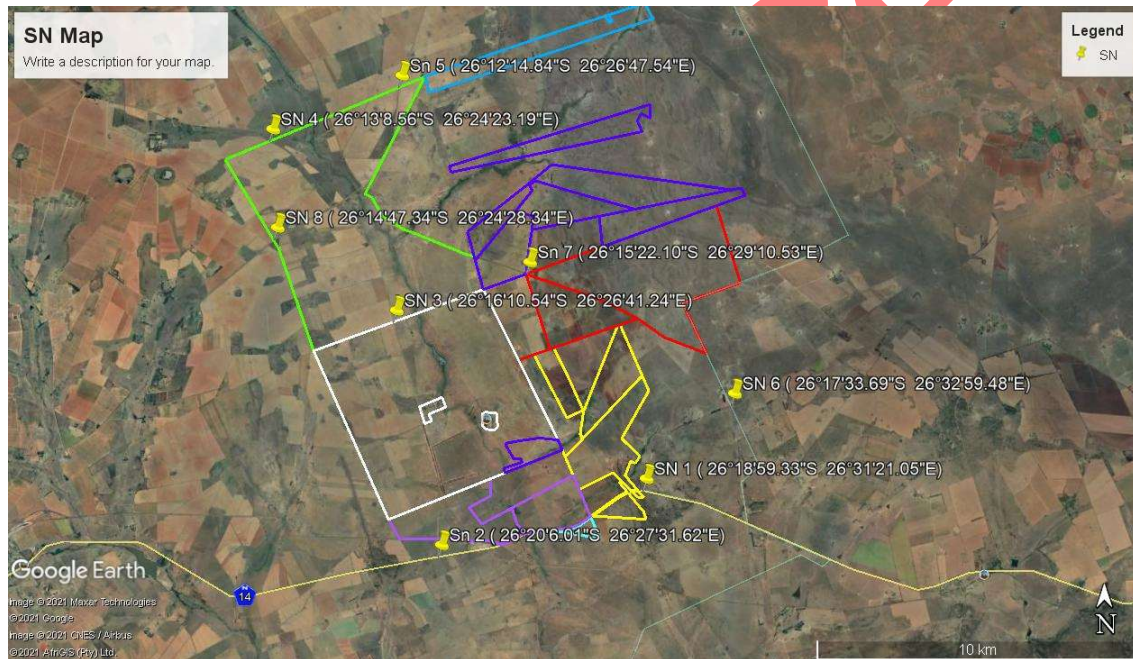


Figure 5: Site notices placement

DIRECT NOTIFICATION AND CIRCULATION OF SCOPING REPORT TO IDENTIFIED I&APS, SURROUNDING LAND OWNERS AND OCCUPIERS

Identified I&APs, including key stakeholders representing various sectors, are directly informed of the proposed development and the availability of the Scoping Report via registered post on **02 July 2021** and were requested to submit comments by **02 August 2021**. During the site visit on Friday 02 July, letters were also distributed to members of the community informing them of the proposed project and the availability of the Draft Scoping Report, see the distribution letter in **Appendix 6**. A copy of the report is also available at the Milnex offices in Schweizer-Reneke, 4 Botha Street, Schweizer-Reneke and Potchefstroom (Waterberry Street, Waterberry Square, 1st floor, Office 5B, Potchefstroom), between 7:30AM and 5PM, Monday to Friday. Please refer to the following Dropbox link for copies on the appendices to the report:

https://www.dropbox.com/sh/a4r0ug79nzvynii/AABowh5RJ_pXb8pdCok2-Jcma?dl=0

DIRECT NOTIFICATION AND CIRCULATION OF DRAFT ENVIRONMENTAL IMPACT REPORT TO IDENTIFIED I&APS, LAND OWNERS AND OCCUPIERS

Identified I&APs, including key stakeholders representing various sectors, are directly informed of the availability of the Environmental Impact Report via registered post on **03 November 2021** and were requested to submit comments by **03 December 2021**. A copy of the report is also available at the Milnex offices in Schweizer-Reneke, 4 Botha Street, Schweizer-Reneke and Potchefstroom (Waterberry Street, Waterberry Square, 1st floor, Office 5B, Potchefstroom), between 7:30AM and 5PM, Monday to Friday. Please refer to the following Dropbox link for copies on the appendices to the report:

<https://www.dropbox.com/sh/gyaxdvpoux0ut2w/AADLAYwos1FUcL0ITKQOLhRca?dl=0>

PUBLIC PARTICIPATION PLAN

Public participation plan

A public Participation plan was submitted to DMR for Milnex CC mining applications, and the following was outlined to the DMRE

In an event were the **applicant is applying on another person' property** the following is proposed for the Public Participation Plan

CONSULTATION METHOD	DESCRIPTION
Written Notice	<ul style="list-style-type: none"> • Registered letters will be sent to Stakeholders, Landowner, Surrounding Landowners and registered I&APs • Where applicable and email addresses are available, notification letter will be sent via emails
Availability of the documents	<p>Draft Environmental Impact Assessment Report (Draft EIA & EMPr) can be accessed using the following manner:</p> <ul style="list-style-type: none"> • A dropbox link which will be made available during circulation • Sent via emails • Pick-up at the Schweizer-Reneke, (4 Botha Street, Schweizer-Reneke) between 7:30AM and 5PM, Monday to Thursdays and between 7:30AM and 4PM on Fridays will be made available. Prior arrangement should be made so that the documents may be packaged and sanitised for pick up
Landowner consultation	<ul style="list-style-type: none"> • Consultation with the landowner for their consent on the application (Consent letter)
Fixing of Notice Boards & distribution of background information documents	<ul style="list-style-type: none"> • Notice boards will be fixed at a place conspicuous to and accessible by the public at the boundary • BID's will be distributed to landowners/adjacent landowners & other interested and affected parties as well.
Placing of an advertisement	<ul style="list-style-type: none"> • Advertisement will be placed in one local newspaper
Meetings	<ul style="list-style-type: none"> • A preferred method of a meeting is online to avoid contact and any spread of the Covid-19 virus. • Meetings will be conducted upon request. This will be conducted virtually via Zoom or Microsoft Teams • If there is a need, the meetings can be arranged for people less than 50 people on site

For a complete list of stakeholder details and for proof of registered post see **Appendix 6**. The consultees included:

Table 7: List of Stakeholders, Land owners, & surrounding land owners

Stakeholders	Land owners	Other, communities, claimants
Department of Agriculture Forestry and Fisheries (DAFF)	Leeufontein Trust	WESSA (National office)
Department of Agriculture and Rural Development (DARD)	Jan Le Roux Trust	Bodentsein (Graan)
Department of Community Safety and Transport Management (DCSTM)	National Government of RSA	Bethel High School
Department of Cooperative Governance and Traditional Affairs (DCGTA)	MPOWER INV PTY LTD	
Department of Economic Development, Environment, Conservation and Tourism (DEDECT)	Hannes van Jaarsveld Familie Trust	Daniel mogonediwa (Monamaladi CPA) Mr Julius Mogoshane (Monamaladi CPA)
North-West Tourism Board	Daan Du Plessis Family Trust	Ben van der Berg
Department of Human Settlements (DHS)	Mr Sello Tatai, secretary: Batloung Communal Property Association	Joseph Lekgwenyene
Department of Public Works and Roads (DPWR)	Mr T.J Mere & Mr Adam Boloji Bokamoso Communal Property Association	Monamaladi Public School
Department of Agriculture, Land Reform and Rural Development (DALRRD)	Frizbee Trade & Invest 1022 CC	Ms. M Mokone: Coordinator of Individual Plot owners of farm Putfontein 62 IP
Department of Forestry, Fisheries and the Environment (DFFE)	Wertua Trust	Mrs. Johanna K. Setenane: On behalf of the coordinators of Vogelstruisknop Farm
The South African National Roads Agency SOC Ltd (SANRAL)	Purple Rain Property No 330 (Pty Ltd)	Mr. Muzi Dhlamini: On behalf of the coordinators-Sterkfontein 155 IP Plot Owners
Department of Water and Sanitation (DWS)	Mr Diketso Mosiane & M.J Seemane: Kgatelopele CPA	Henk Smith: Representing: LAMOSA & Mrs Maseipati Mokone

Stakeholders	Land owners	Other, communities, claimants
Magalies Water <i>Overseeing Department/Entity</i> Department of Human Resources, Water and Sanitation (DHSWS)		
ESKOM		
North West Provincial Heritage Resources Authority (PHRA)		
Transnet SOC Ltd		
Ditsobotla Local Municipality		
Ditsobotla Local Municipality Ward 13 Councillor		
The Ngaka Modiri Molema District Municipality		

MEETINGS:

NB: The interested and affected parties were given an opportunity to register by circulating, registered letters, press advert and letters.

A note was included that due to COVID-19, any meetings will be conducted virtually via Zoom or Microsoft Teams upon request by the I&APs.

Meeting 25 October 2021:

A meeting was held on 25 October 2021 with I&AP's and Milnex CC Environmental Consultants and some of the landowners/claimants. The minutes of the meeting are attached as Appendix 6 .

Meeting 27 October 2021

A meeting was held on 25 October 2021 with I&AP's and Milnex CC Environmental Consultants and some of the landowners/claimants. The minutes of the meeting are attached as Appendix 6

TIMEFRAME EXTENSION REQUEST

Timeframe Extension has been requested by Milnex CC

ISSUES RAISED BY INTERESTED AND AFFECTED PARTIES

Comments received during this period are attached as comment & response report as well as populated in the table of summary of issues raised.

Please see disclaimer at the beginning of this section.

Milnex CC: EIA412 –EIR & EMPr - Mining Right Application, combined with a Waste Licence Application of **Turnover Trading 251 (Pty) Ltd** for the mining of Diamonds General (D) on the RE of Portions 6, 7, 10 and Portions 8, 17, 19 of the Farm Sterkfontein 155. Portion 29, 30, 31, 32, 33, 34, 45, 46, 47, 48, 49, 50, 51, 52 53, 54, 55, 56, 57, 58, 59, 60, 61, 63, 64, 65, 68, 69, 70, 66 and a certain portion of portion 62, the RE of Portion 1 & 7 of the Farm Putfontein 62. Portion 1, 2 & the RE of the Farm Omega 478. Portion 3 & the RE of the Farm Holgat 63. Portion 4, 5, 6 & the RE of Portion 2 of the farm Wildfontein 201. The RE of portion 5 & 31 of the farm Leewufontein 64. A certain Portion of the RE of Farm 533; Registration Division: IP, North West Province.

**iii) Summary of Issues Raised by I&Aps
(Complete the table summarising comments and issues raised, and reaction to those responses)**

Table 8: Summary of Issues Raised by I&Aps

Interested And Affected Parties		Issues Raised	EAPS Response To Issues As Mandated By The Applicant	Section And Paragraph Reference In This Report Where The Issue And Or Response Where Incorporated
List The Names Of Persons Consulted In This Column, And Mark With An X Where Those Who Must Be Consulted Were In Fact Consulted.				
Organisation	Contact Person			
LAND OWNER				
31(RE) & RE/5 of Leeuwfontein 64 & RE of 6 of Sterkfontein 155	Leeuwfontein Trust			
7(RE) & 17 of Sterkfontein 155	Jan Le Roux Trust			

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0 & 3 of Holgat 63 & 8, 19 (still part of portion 18) of Sterkfontein 155	National Government of RSA Department of Rural Development & Land Reform Mr Moduku Khwene			
	Ms Nomfundo Ntloko-Gobodo			
10(RE) of Sterkfontein 155	MPOWER INV PTY LTD Tania & Christo Stephanus Grobler			
29 & 1(RE) of Putfontein 62	Hannes van Jaarsveld Familie Trust Johannes Jacobus & Kate Agnes van Jaarsveld			
30, 31, 32, 33 & 34 of Putfontein 62	Daan Du Plessis Family Trust J D Du Plessis			
0(RE), 1 & 2 of Omega 478. Portion 45, 46, 47, 48, 49, 50,51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 63, 64, 65, 66, 68, 69, 70, the RE of portion 7 & a certain portion of portion 62 (still known as portion 37-42) of Putfontein 62.	Batloung Communal Property Association Khepi Shole & Obrey			
	Batloung Communal Property Association Secretary: Mr Sello Tatai			
4 of Wildfontein 201	Bokamoso Communal Property Association Adam Baloi			

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	Bokamoso Communal Property Association T.J Tshidiso Mere			
5 of Wildfontein 201	Frizbee Trade & Invest 1022 CC			
6 of Wildfontein 201	Kgatelopele CPA Mr Diketso Mosiane & M.J Seemane:			
2(RE) of Wildfontein 201	Wertua Trust Dirk Lourens Niewoudt			

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A certain portion of the RE of Farm 533	Purple Rain Property No 330 (Pty Ltd)			
COMMUNITIES, CLAIMANTS & OTHERS				
WESSA (National Office)	Mr. John Wesson			
Bodenstein (Graan)	Mr Ishmael Baloyi			
Bethel High School	Mr MJ Sebolai			
	Mr Isaac Mapikitla			
Monamaladi CPA	Mr Daniel Mogonediwa			
	Mr Julius Mogoshane			
Ben van der Berg	To whom it may concern			
Joseph Lekgwenyene	To whom it may concern			

Milnex CC: EIA412 –EIR & EMPr - Mining Right Application, combined with a Waste Licence Application of **Turnover Trading 251 (Pty) Ltd** for the mining of Diamonds General (D) on the RE of Portions 6, 7, 10 and Portions 8, 17, 19 of the Farm Sterkfontein 155. Portion 29, 30, 31, 32, 33, 34, 45, 46, 47, 48, 49, 50, 51, 52 53, 54, 55, 56, 57, 58, 59, 60, 61, 63, 64, 65, 68, 69, 70, 66 and a certain portion of portion 62, the RE of Portion 1 & 7 of the Farm Putfontein 62. Portion 1, 2 & the RE of the Farm Omega 478. Portion 3 & the RE of the Farm Holgat 63. Portion 4, 5, 6 & the RE of Portion 2 of the farm Wildfontein 201. The RE of portion 5 & 31 of the farm Leewufontein 64. A certain Portion of the RE of Farm 533; Registration Division: IP, North West Province.

Monamaladi Public School	To whom it may concern			
Mr Lebogang Mosegedi On behalf of The Lekgetho & Serati Families	Mr Lebogang Mosegedi			
Coordinator of Individual Plot owners of farm Putfontein 62 IP	Ms. M Mokone			
On behalf of the coordinators of Vogelstruisknop Farm	Mrs. Johanna K. Setenane:			
On behalf of the coordinators- Sterkfontein 155 IP Plot Owners	Mr. Muzi Dhlamini			
Representing LAMOSA & Mrs Maseipati Mokone	Mr Henk Smith			
THE MUNICIPALITY IN WHICH JURISDICTION THE DEVELOPMENT IS LOCATED				
Ditsobotla Local Municipality	Municipal Manager: Mr Mogapane Abel Metswamere			
The Ngaka Modiri Molema District Municipality	To whom it may concern			
MUNICIPAL COUNCILOR OF THE WARD IN WHICH THE SITE IS LOCATED				
Ditsobotla Local Municipality	Ward 13 Councillor			

Milnex CC: EIA412 –EIR & EMPr - Mining Right Application, combined with a Waste Licence Application of **Turnover Trading 251 (Pty) Ltd** for the mining of Diamonds General (D) on the RE of Portions 6, 7, 10 and Portions 8, 17, 19 of the Farm Sterkfontein 155. Portion 29, 30, 31, 32, 33, 34, 45, 46, 47, 48, 49, 50, 51, 52 53, 54, 55, 56, 57, 58, 59, 60, 61, 63, 64, 65, 68, 69, 70, 66 and a certain portion of portion 62, the RE of Portion 1 & 7 of the Farm Putfontein 62. Portion 1, 2 & the RE of the Farm Omega 478. Portion 3 & the RE of the Farm Holgat 63. Portion 4, 5, 6 & the RE of Portion 2 of the farm Wildfontein 201. The RE of portion 5 & 31 of the farm Leewufontein 64. A certain Portion of the RE of Farm 533; Registration Division: IP, North West Province.

Ward Councillor			
ORGANS OF STATE HAVING JURISDICTION			
Department of Agriculture Forestry and Fisheries (DAFF)	Mr. Maurice Vukeya & Mrs Mpho Gumula		
Department of Agriculture and Rural Development	Head of Department: Mr Dipepeneng Serage (Acting)		
Department of Community Safety and Transport Management	Head of Department: Ms Botlhale Mofokeng		
Department of Cooperative Governance and Traditional Affairs	Head of Department: Mr Pihadu Ephraim Motoko		
Department of Economic Development, Environment, Conservation and Tourism	Ouma Skosana		
North-West Tourism Board	Communications Officers: Ms Mamaki Estelle Phoolo		
Department of Human Settlements	Head of Department: Adv Neo Sephoti		
Department of Public Works and Roads	Head of Department: Mr Pakiso Mothupi		
Department of Agriculture, Land Reform and Rural Development (DALRRD)	Senior Management: Ms Nomfundo Ntloko-Gobodo (Chief Land Claims Commissioner)		

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	<p>Commission on Restitution of Land Rights: Office of the Regional Land Claims Commissioner: North West:</p> <p>Agnes Montwedi Kgomotso Majova Sydney Masiga Keabetswe Mothupi</p>			

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Draft

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	Rakhumo Moacwiemang on behalf of Mr F. Ngoza			
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Draft

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<p>Department of Forestry, Fisheries and the Environment (DFFE)</p>	<p><u>Personal Assistant:</u> Director General Ms Siphokazi Nkosi</p> <p><u>Deputy Directors General:</u> Ms Nonhlanhla Mkhize (Environmental Programmes) Mr Shonisani Munzhedzi (Biodiversity and Conservation)</p>			
<p>The South African National Roads Agency SOC Ltd (SANRAL)</p>	<p><u>Regional Manager:</u> Northern Region Mr Progress Hlahla</p>			
<p>Department of Water and Sanitation (DWS)</p>	<p>P. Mabote</p>			
<p>Magalies Water</p> <p><u>Overseeing Department/Entity</u> Department of Human Resources, Water and Sanitation (DHSWS)</p>	<p><u>Senior Management:</u></p> <p>General Manager: Water Services Ms Lerato Morake</p>			

Milnex CC: EIA412 –EIR & EMPr - Mining Right Application, combined with a Waste Licence Application of **Turnover Trading 251 (Pty) Ltd** for the mining of Diamonds General (D) on the RE of Portions 6, 7, 10 and Portions 8, 17, 19 of the Farm Sterkfontein 155. Portion 29, 30, 31, 32, 33, 34, 45, 46, 47, 48, 49, 50, 51, 52 53, 54, 55, 56, 57, 58, 59, 60, 61, 63, 64, 65, 68, 69, 70, 66 and a certain portion of portion 62, the RE of Portion 1 & 7 of the Farm Putfontein 62. Portion 1, 2 & the RE of the Farm Omega 478. Portion 3 & the RE of the Farm Holgat 63. Portion 4, 5, 6 & the RE of Portion 2 of the farm Wildfontein 201. The RE of portion 5 & 31 of the farm Leewufontein 64. A certain Portion of the RE of Farm 533; Registration Division: IP, North West Province.

<p>Department of Mineral Resources and Energy (DMRE)</p>	<p>Ms Matodzi Ramboho</p>	<p>Mr Reginald Motaung</p>		
<p>ESKOM</p>	<p>Mr Reginald Motaung</p>			

Draft

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North West Provincial Heritage Resources Authority	Mr Motlhabane Mosiane			
Transnet SOC Ltd	Biance Schoeman			

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iv) the environmental attributes associated with the development footprint alternatives focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects;

Baseline Environment

The baseline environment is described with specific reference to geotechnical conditions, ecological habitat and landscape features, Soil, land capability and agricultural potential, climate and the visual landscape.

There are respecting activities, agricultural activities, residential areas & Natural areas with water bodies on the application area.



Figure 5: Agricultural activities on site

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Figure 6: Water bodies on the application area



Figure 7: Water bodies and cattle grazing on site

The proposed site for mining falls within the Grassland Biome (Mucina & Rutherford 2006). Biomes are further divided into bioregions, which are spatial terrestrial units possessing similar biotic and physical features and processes at a regional scale. The study site overlaps with the Dry Highveld Grassland Bioregion (**Figure 4**). **Table 4** below provides an overview of the vegetation types associated with the study site. The study site overlaps the Vaal-Vet Sandy Grassland, to the West, and the Carletonville dolomite Grassland to the East.

(a) Type of environment affected by the proposed activity.

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

Milnex CC: EIA412 –EIR & EMPr - Mining Right Application, combined with a Waste Licence Application of **Turnover Trading 251 (Pty) Ltd** for the mining of Diamonds General (D) on the RE of Portions 6, 7, 10 and Portions 8, 17, 19 of the Farm Sterkfontein 155. Portion 29, 30, 31, 32, 33, 34, 45, 46, 47, 48, 49, 50, 51, 52 53, 54, 55, 56, 57, 58, 59, 60, 61, 63, 64, 65, 68, 69, 70, 66 and a certain portion of portion 62, the RE of Portion 1 & 7 of the Farm Putfontein 62. Portion 1, 2 & the RE of the Farm Omega 478. Portion 3 & the RE of the Farm Holgat 63. Portion 4, 5, 6 & the RE of Portion 2 of the farm Wildfontein 201. The RE of portion 5 & 31 of the farm Leewufontein 64. A certain Portion of the RE of Farm 533; Registration Division: IP, North West Province.

Mining may have impact directly on any socio-economic aspects since this will be affect the farming activities, food security and have financial impact to the landowners using the farms for agricultural activities.

GEOLOGY AND SOILS

Geological formation	<p>Ventersdorp Supergroup</p> <ul style="list-style-type: none"> • Allanridge formation <p>Ventersdorp Supergroup</p> <ul style="list-style-type: none"> • Allanridge Formation (Va- Basaltic amygdaloidal lava) <p>Transvaal Sequence</p> <ul style="list-style-type: none"> • Black Reef Formation (Vbr – Quartzite, conglomerate, shale) • Chuniespoort Group – Oaktree Formation (Vo – Dark chert, poor dolomite) <p><u>Other outcrops</u></p> <p>Qg – Gravel, diamondiferous in places</p> <p>The Miocene deflation gravels consist of a well-rounded pebble to cobble gravel in a dark reddish clay matrix. The gravel is well to moderately packed, but changes over very short distances. Pockets of gravel occur in the softer bedrock. Clasts consist of well-rounded to sub-rounded quartzite, BIFs, quartz veins, agates, chert and jasper. Larger clasts consist of sub-rounded to sub-angular Ventersdorp lava boulders and cobbles.</p> <p>The primary Pliocene gravels are sometimes partially calcretized and/or covered by a hard Calcrete layer up to 4m thick in places (average Calcrete thickness is approximately 2m)</p> <p>The Rooikoppie gravels are well developed on several terrace levels, the oldest being represented on the higher elevations, and are remnants of Early Cainozoic to possibly Late Cretaceous diamondiferous sedimentary deposits that have been weathered into a downwasted resistate profile.</p> <p>An older, remnant gravel occasionally underlies the Rooikoppie gravels and is often seen in the footwall of the mine cuts where efforts have been made to excavate it. This older conglomerate, remnants of the Karoo-age Dwyka diamictite, contains large boulders in a highly weathered and often calcareous matrix.</p>
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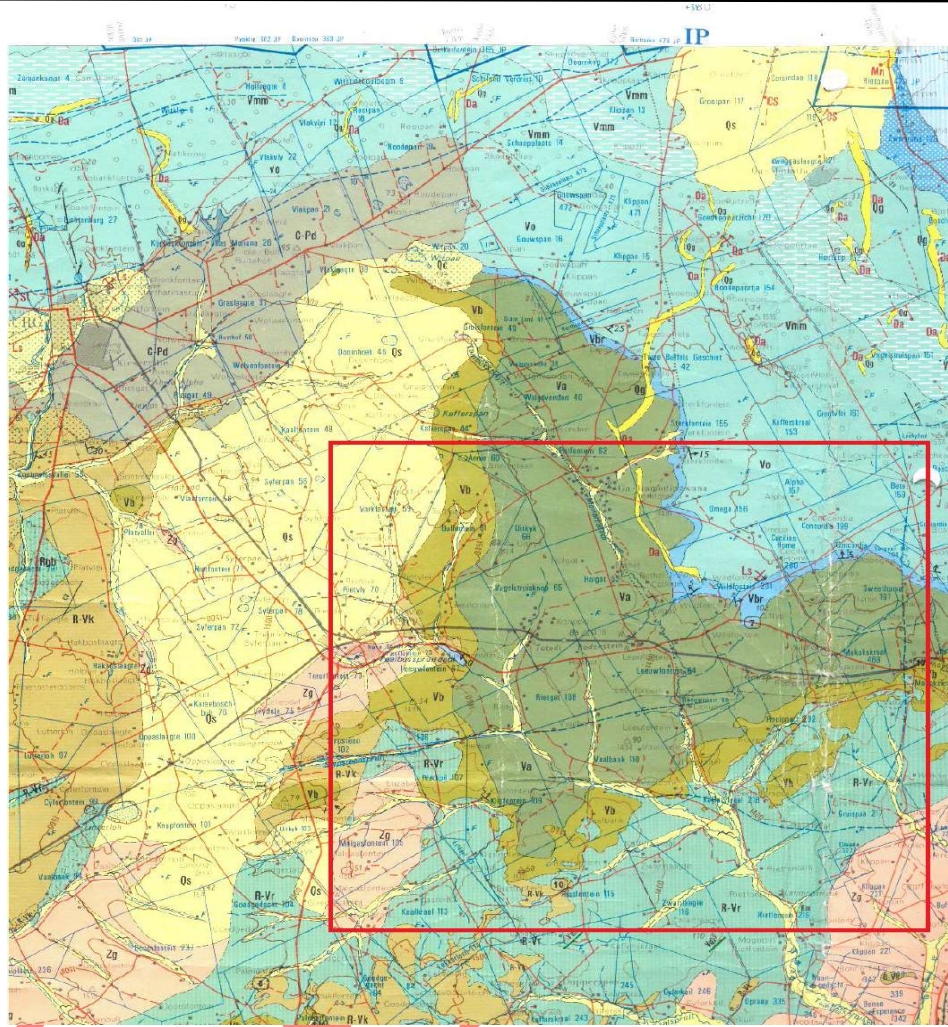


Figure 8: Specific geological map

According to the DEA screening tool, there are wind & solar development with an approved EA within 30km

No	EIA Ref number	Classification	Status of application	Distance proposed from area (km)
1	12/12/20/2149	Solar PV	Approved	16.4

Results of the environmental sensitivity of the proposed area (Screening tool)

The following section represents the results of the screening for environmental sensitivity of the proposed site for relevant environmental themes associated with the project classification.

According to the DEA Screening Tool the proposed development area Environmental sensitivity

The following summary of the development site environmental sensitivities is identified. Only the highest environmental sensitivity is indicated. The footprint environmental sensitivities for the

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proposed development footprint as identified, are indicative only and must be verified on site by a suitably qualified person before the specialist assessments identified below can be confirmed.

Agriculture Theme		X		
Animal Species Theme				X
Aquatic Biodiversity Theme	X			
Archaeological and Cultural Heritage Theme				X
Civil Aviation Theme				X
Defence Theme				X
Paleontology Theme	X			
Plant Species Theme			X	
Terrestrial Biodiversity Theme	X			

Agriculture Theme Sensitivity

According to the screening tool, the application area falls within a medium to high sensitive area refer to Figure 9 below

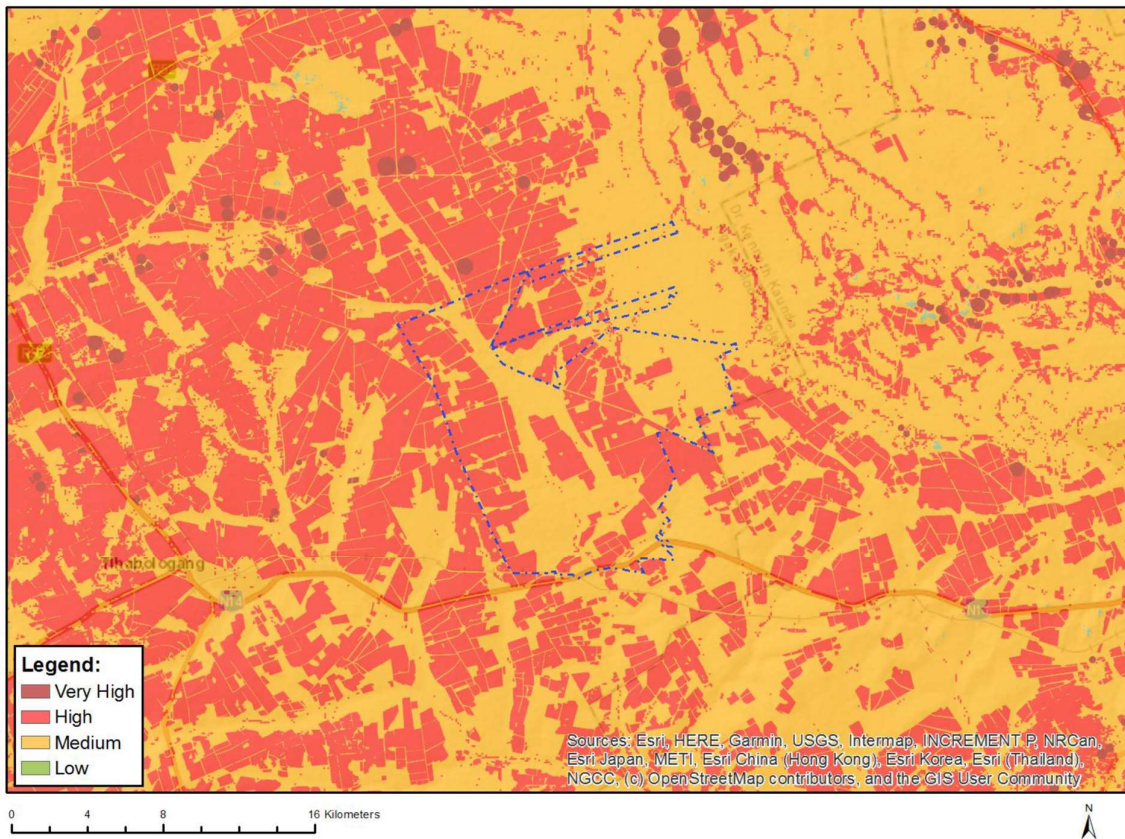
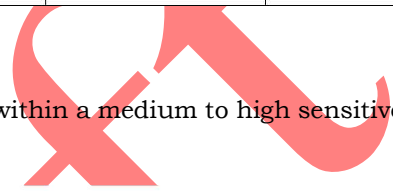


Figure 9: Agriculture Theme Sensitivity map

Ecological habitat and landscape features

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The proposed area falls within vegetation unit Gh 15 and Gh10, which is known as the Carletonville Dolomite Grassland and Vaal-Vet Sandy Grassland. Both are part of the Dry Highveld Grassland, which is a sub-bioregion of the Grassland Biome.

Carletonville Dolomite Grassland

According to Mucina and Rutherford (2006:388), Carletonville Dolomite Grassland mainly covers the North West Provinces, at times Gauteng Province and marginally into the Free State Province. In the region of Potchefstroom, Ventersdorp and Carletonville, extending westwards to the vicinity of Ottoshoop, but also occurring as far east as Centurion and Bapsfontein in Gauteng Province.

The vegetation and landscape can be described as slightly undulating plains dissected by prominent rocky chert ridges. Species-rich grasslands forming a complex mosaic pattern dominated by many species.

Vaal-Vet Sandy Grassland

According to Mucina and Rutherford (2006:384-385), the Vaal-Vet Sandy Grassland vegetation covers the North West and Free State provinces. This include the South of Lichtenburg and Ventersdorp, stretching southwards to Klerksdorp, Leeudoringstad, Bothaville and to the Brandfort area north of Bloemfontein. This type of grassland is situated at an altitude of 1 220m-1560m, generally 1 260m-1360m.

The area often has plains-dominated landscape with some scattered, slightly irregular undulating plains and hills. Mainly low-tussock grasslands with an abundant karroid element. Dominance of Themeda triandra is an important feature of this vegetation unit. Locally low cover of T. triandra and the associated increase in Elionurus muticu, Cymbopogon pospischii and Aristida congesta is attributed to heavy grazing and / or erratic rainfall. (Mucina and Rutherford, 2006:385)

Summary from the Ecological Report (Also see Appendix 10)

The study site falls within the C24F Quaternary Catchment and forms part of the Middle-Vaal Water Management Area (WMA). The Middle Vaal WMA is located downstream of the confluence of the Vaal and the Rietspruit Rivers and upstream of Bloemhof Dam; It extends to the headwaters of the Schoonspruit River in the North and the Vet River in the south, covering a total catchment area of 52 563 km².

Desktop Assessment:

- According to the South African National Biodiversity Institute (SANBI), the proposed site is located within the Endangered Vaal-Vet Sandy Grassland vegetation Ecosystem.
- According to the North West Biodiversity Sector Plan (2015), the study site does not overlap with any formally Protected Area.
- No Important Bird and Biodiversity Areas (IBAs) were identified within the vicinity of the study site (Birdlife 2019);
- The study sites overlap with the Vaal-Vet Sandy Grassland (Gh 10) and the Carletonville Dolomite Grassland (Gh 15) vegetation types, within the Dry Highveld Grassland Bioregion (Mucina & Rutherford, 2006/2018);
- Most of the study site overlaps with Category B, Highest Risk for Mining according to the Mining and Biodiversity Guideline (2013);
- The study site falls within the Highveld Ecoregion and Quaternary Catchment C24F;

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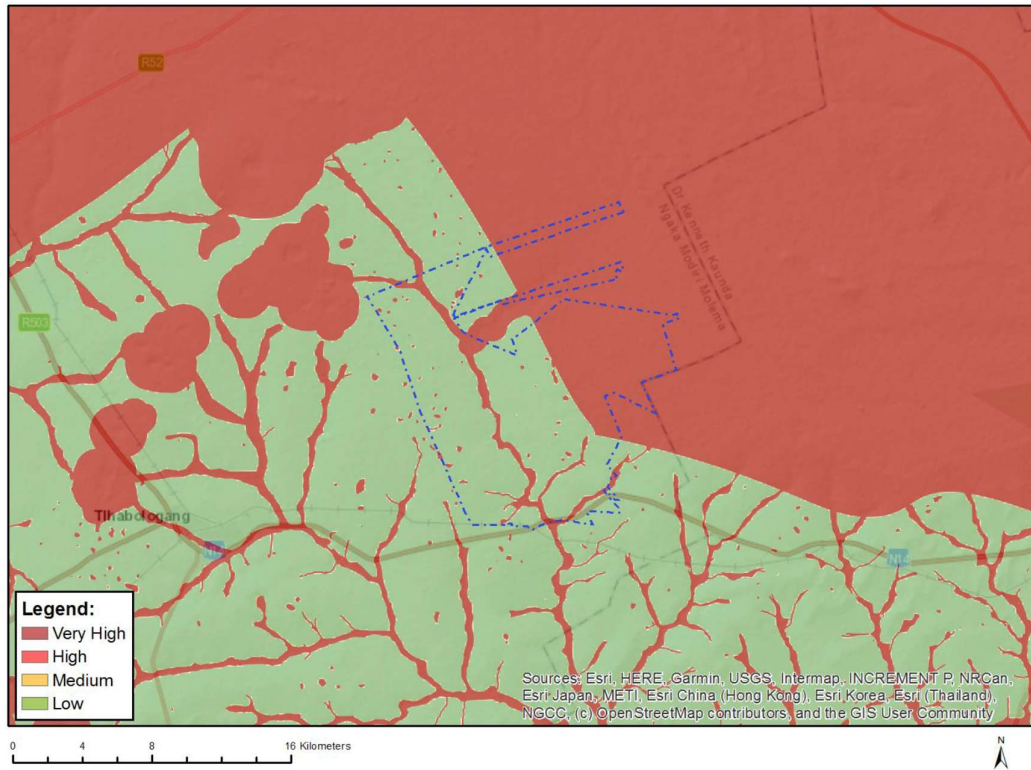


Figure 11: Aquatic Biodiversity Theme Sensitivity

Terrestrial Biodiversity Theme Sensitivity

According to the screening tool as implemented by DEA and attached as **appendix 7**, the application area is within a Very high Terrestrial Biodiversity Theme Sensitivity (See Figure 10).

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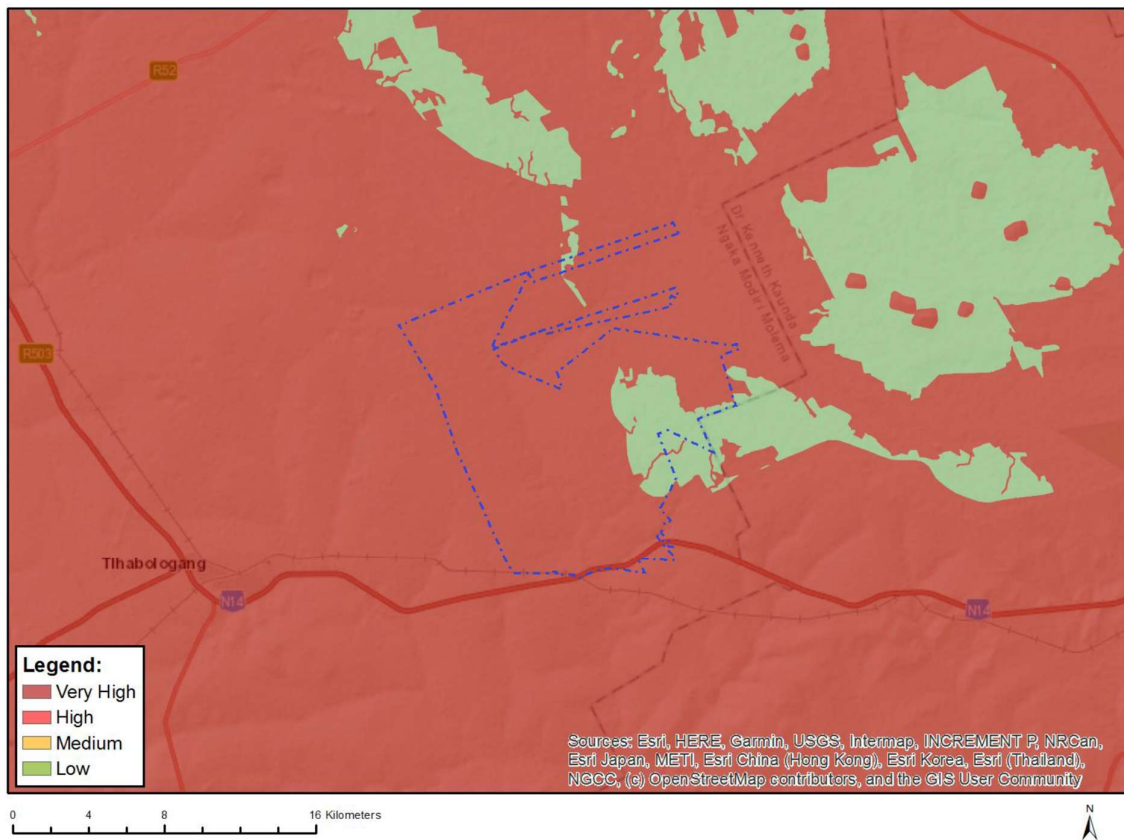


Figure 12: Terrestrial Biodiversity Theme Sensitivity

Specialist findings

Refer to the Specialist findings on page 117 of this report & **Appendix 10**

Critical Biodiversity Area

The Department of Rural, Environmental and Agriculture Development (READ) defines Critical Biodiversity Areas and Ecological Support Areas as follows:

Critical Biodiversity Areas (CBAs) are terrestrial and aquatic areas of the landscape that need to be maintained in a natural or near-natural state in order to ensure the continued existence and functioning of species and ecosystems and the delivery of ecosystem services. In other words, if these areas are not maintained in a natural or near-natural state then biodiversity targets cannot be met. Maintaining an area in a natural state can include a variety of biodiversity compatible land uses and resource uses.

Ecological Support Areas (ESAs) are terrestrial and aquatic areas that are not essential for meeting biodiversity representation targets (thresholds), but which nevertheless play an important role in supporting the ecological functioning of critical biodiversity areas and/or in delivering ecosystem services that support socio-economic development, such as water provision, flood mitigation or carbon sequestration. The degree or extent of restriction on land use and resource use in these areas may be lower than that recommended for CBAs.

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According to the data for Critical Biodiversity Areas, the proposed area falls within CBA type 1 & 2 and ESA type 2. According to the North West Biodiversity Sector Plan (2015) the land management objectives for above mentioned are as follows:

Critical Biodiversity Area type 1 (CBA 1)

Maintain in a natural or near-natural state that maximises the retention of biodiversity pattern and ecological process:

- Ecosystems and species fully or largely intact and undisturbed.
- These are areas with high irreplaceability or low flexibility in terms of meeting biodiversity pattern targets. If the biodiversity features targeted in these areas are lost then targets will not be met.
- These are biodiversity features that are at, or beyond, their limits of acceptable change.

Critical Biodiversity Areas 2 (CBA2)

Maintain in a natural or near-natural state that maximises the retention of biodiversity pattern and ecological process:

- Ecosystems and species fully or largely intact and undisturbed.
- Areas with intermediate irreplaceability or some flexibility in terms of meeting biodiversity targets. There are options for loss of some components of biodiversity in these landscapes without compromising the ability to achieve biodiversity targets, although loss of these sites would require alternative sites to be added to the portfolio of CBAs.
- These are biodiversity features that are approaching but have not passed their limits of acceptable change.

Ecological Support Area 2 (ESA2)

Maintain as much ecological functionality as possible (generally these areas have been substantially modified):

- Maintain current land use or restore area to a natural state.
- Ecosystem NOT in a natural or near-natural state, and has been previously developed (e.g. ploughed).
- Ecosystems significantly disturbed but still able to maintain some ecological functionality.
- Individual species or other biodiversity indicators are severely disturbed or reduced and these are areas that have low irreplaceability with respect to biodiversity pattern targets only.

These are areas with low irreplaceability with respect to biodiversity pattern targets only. These areas are required to maintain ecological processes especially landscape connectivity.

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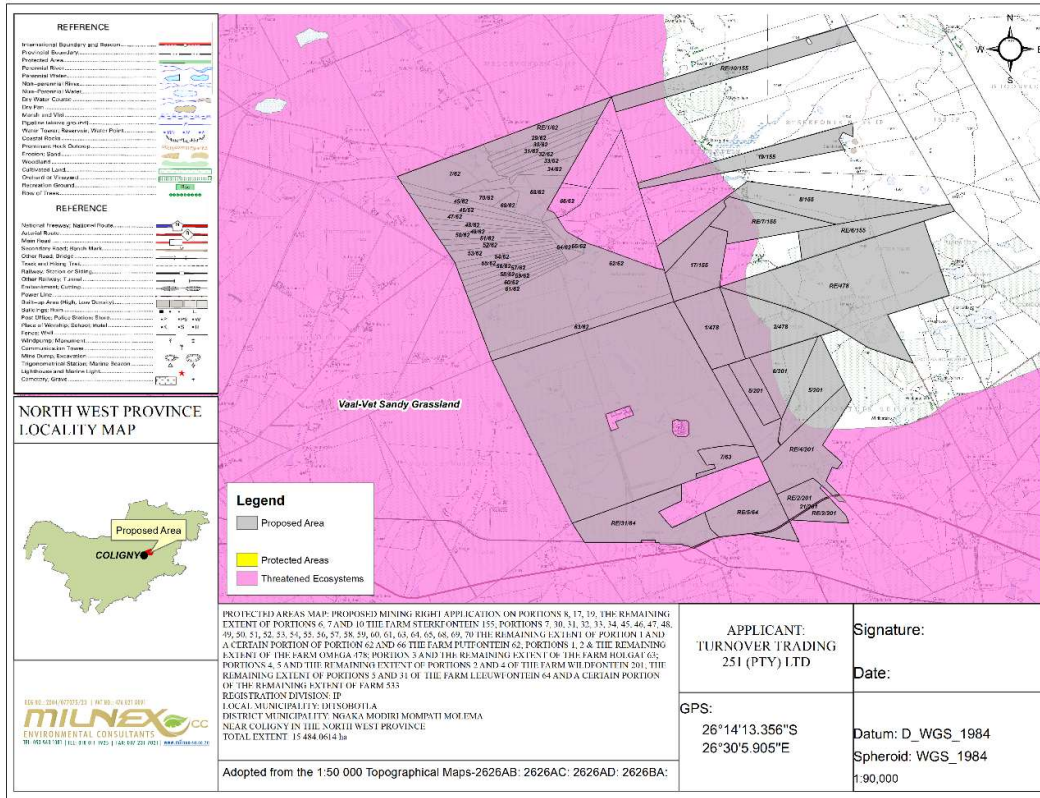


Figure 16: Protected areas map.

DESCRIPTION OF THE SOCIO-ECONOMIC ENVIRONMENT

• Socio-economic conditions

The Ditsobotla Local Municipality is a Category B municipality situated within the Ngaka Modiri Molema District in the North West Province. It is one of the five municipalities in the district, making up almost a quarter of its geographical area. The seat of the local municipality is Lichtenburg. The municipality was established through the amalgamation of the former Lichtenburg, Coligny and Biesiesvlei Transitional Councils.

Its main attractions are cultural, heritage and agricultural museums; the burning vlei – a unique vlei consisting of the thick layers of subterranean peat that burnt for years, creating a rare natural phenomenon; the Lichtenburg Game Breeding Centre; Eufees and Duch Roode Dams, situated between the CBD and Burgersdorp; and Molopo Oog/Wondergat.

Area: 6 465km²

Cities/Towns: Biesiesvlei, Coligny, Lichtenburg

Main Economic Sectors: Manufacturing (38.5%), agriculture (16.5%), wholesale and retail (7.4%)

- **CULTURAL AND HERITAGE ASPECTS**

Identified sites

During the survey the following sites, features or objects of cultural significance were identified.

- Two sites dating to the Later Stone Age were identified. The one is classified as a factory site where a cores, flakes and tools produced from chert, were identified. The second site contains a number of pecked engravings of humans, animals and geometric patterns on what is colloquially referred to as a 'rhino rock'.
- A total of seven informal burial sites have been identified. It is taken that some of the graves would date back to the early settlement of the baTloung in the region, especially in the vicinity of the mission station. Unfortunately, most graves do not have headstones with dates on them – the earliest identified date was 1924.

A number of homesteads were identified, mostly occurring along the Monamaladi River. All of them seem to conform to a 'standard' pattern: a house (in most cases now demolished); outbuildings consisting of cattle enclosures built with local stone; and an ash midden in close proximity. Apparently, these houses were abandoned when infrastructure services (water and electricity) were installed at the Putfontein community.

A small hamlet, known as Carcal, developed in close proximity of the Bodenstein railway station. It consists of a number of buildings most of which, according to their architectural style, date to the 1930s and 1940s.

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Impact assessment and proposed mitigation measures

Impact analysis of cultural heritage resources under threat of the proposed development, is based on the present understanding of the development:

IDENTIFIED HERITAGE RESOURCES					
Site No.	Site type	NHRA category	Field rating	Impact rating: Before/After	Proposed mitigation (Refer to definitions in Section 8.4)
EIA412: Stone Age Sites					
7.1.1 – 7.1.2	Factory site	Section 35	High significance Grade III-A	36 6	(1) Avoid/preserve

IDENTIFIED HERITAGE RESOURCES					
Site No.	Site type	NHRA category	Field rating	Impact rating: Before/After	Proposed mitigation (Refer to definitions in Section 8.4)
EIA412: Burial Sites					
7.3.1.1 – 7.3.1.7	Burial sites	Section 36	High significance Grade IV-A	36 6	(1) Avoid/preserve

IDENTIFIED HERITAGE RESOURCES					
Site No.	Site type	NHRA category	Field rating	Impact rating: Before/After	Proposed mitigation (Refer to definitions in Section 8.4)
EIA412: Archaeological sites					
7.3.2.1 – 7.3.2.31	Built environment	Section 34	High significance Grade IV-A	36 6	(1) Avoid/preserve; (2) Archaeological investigation

IDENTIFIED HERITAGE RESOURCES					
Site No.	Site type	NHRA category	Field rating	Impact rating: Before/After	Proposed mitigation (Refer to definitions in Section 8.4)
EIA412: Built environment					
7.3.3.1	Built environment	Section 34	High significance Grade IV-A	36 6	(1) Avoid/preserve

From a heritage point of view, it is recommended that the proposed mining activities be allowed to continue on acceptance of the proposed mitigation measures and the conditions proposed below.

For the full report see **appendix 10**

It should be noted that heritage resources including archaeological and paleontological sites over 100 years old, graves older than 60 years, structure older than 60 years are protected by the National Heritage Resources Act no 25 of 1999. Therefore if such resources are found during the mining or development activities, they shall not be disturbed without a permit from the relevant heritage resource Authority, which means that before such sites are disturbed by development it is incumbent on the developer to ensure that a heritage impact assessment is done and the Provincial Heritage Resources Authority and SAHRA must be contacted immediately and work will stop.

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(b) Description of the current land uses.

The site visit confirmed that are area is to an extent natural and disturbed & some of the land is used for agriculture. There are also residential settlements and water bodies present on site. There is also prospecting activities present on the site, which were previously authorised by the Department of Mineral Resources & Energy.

The landowners use the area for farming, cattle farming and - grazing.

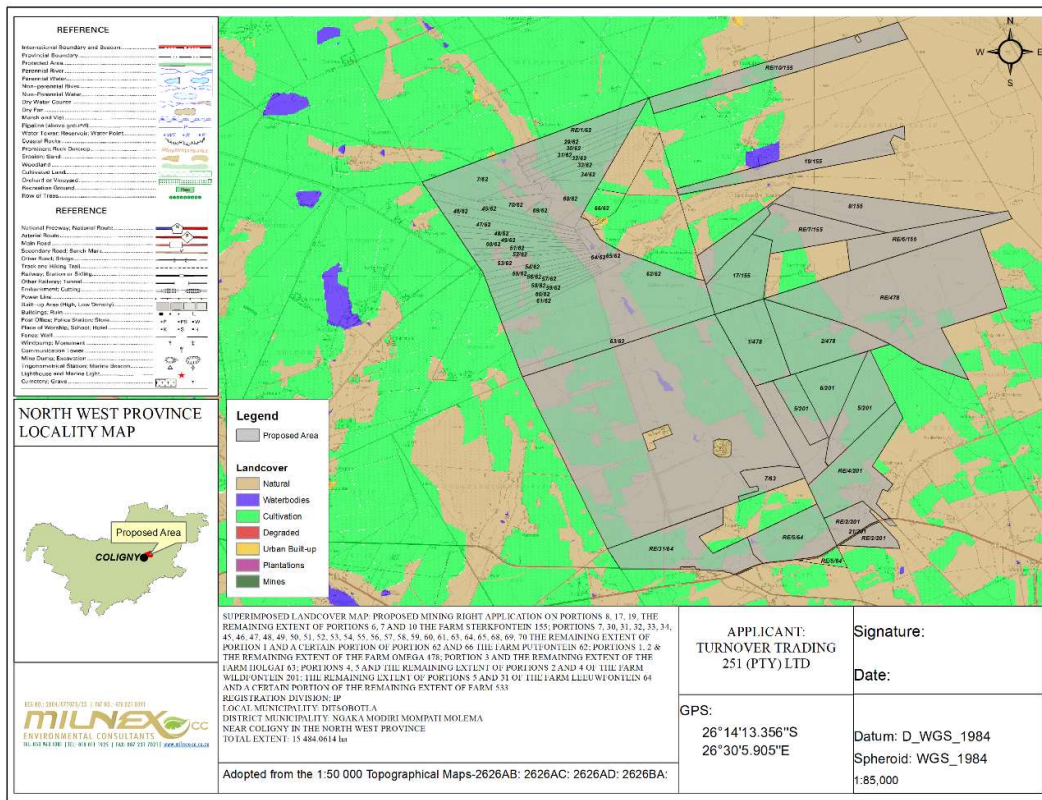


Figure 17: Land cover map

- v) **The impacts and risks identified including the nature, significance, consequence, extent, duration and probability of the impacts, including the degree to which these impacts—**
 - (aa) can be reversed;
 - (bb) may cause irreplaceable loss of resources; and
 - (cc) can be avoided, managed or mitigated;

Please see heading J) AN ASSESSMENT OF EACH IDENTIFIED POTENTIALLY SIGNIFICANT IMPACT AND RISK,, for the impacts identified and their assessment.

vi) THE METHODOLOGY USED IN DETERMINING AND RANKING THE NATURE, SIGNIFICANCE, CONSEQUENCES, EXTENT, DURATION AND PROBABILITY OF POTENTIAL ENVIRONMENTAL IMPACTS AND RISKS;

Method of environmental assessment

The environmental assessment aims to identify the various possible environmental impacts that could result from the proposed development. Different impacts need to be evaluated in terms of its significance and in doing so highlight the most critical issues to be addressed.

Significance is determined through a synthesis of impact characteristics which include context and intensity of an impact. Context refers to the geographical scale i.e. site, local, national or global whereas intensity is defined by the severity of the impact e.g. the magnitude of deviation from background conditions, the size of the area affected, the duration of the impact and the overall probability of occurrence. Significance is calculated as shown in the Table below.

Significance is an indication of the importance of the impact in terms of both physical extent and time scale, and therefore indicates the level of mitigation required. The total number of points scored for each impact indicates the level of significance of the impact.

Impact Rating System

Impact assessment must take account of the nature, scale and duration of impacts on the environment whether such impacts are positive or negative. Each impact is also assessed according to the following project phases:

- Construction
- Operation
- Decommissioning

Where necessary, the proposal for mitigation or optimisation of an impact should be detailed. A brief discussion of the impact and the rationale behind the assessment of its significance should also be included. The rating system is applied to the potential impacts on the receiving environment and includes an objective evaluation of the mitigation of the impact. In assessing the significance of each impact the following criteria is used:

vii) POSITIVE AND NEGATIVE IMPACTS THAT THE PROPOSED ACTIVITY AND ALTERNATIVES WILL HAVE ON THE ENVIRONMENT AND ON THE COMMUNITY THAT MAY BE AFFECTED FOCUSING ON THE GEOGRAPHICAL, PHYSICAL, BIOLOGICAL, SOCIAL, ECONOMIC, HERITAGE AND CULTURAL ASPECTS;

Table 9: Positive and Negative Impacts

NEGATIVE IMPACTS
Mining may have impact directly on any socio-economic aspects since this will be affect the farming activities, food security and have financial impact to the landowners using the farms for agricultural activities.
Increased ambient noise levels resulting from mining activities
Loss of Agricultural land
Increased traffic movement of trucks, moving ore bodies to the crushing area.
Potential water and soil pollution impacts resulting from hydrocarbon spills and soil erosion which may impact on environmental resources utilized by communities, landowners and other stakeholders.

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Air Quality
Increased vehicle activity within the area resulting in the possible destruction and disturbance of fauna and flora.
Influx of persons (job seekers) to site as a result of increased activity and the possible resultant increase in opportunistic crime.
Airpollution due to dust to the surrounding community
POSITIVE IMPACTS
Temporary employment and other economic benefits

viii) THE POSSIBLE MITIGATION MEASURES THAT COULD BE APPLIED AND LEVEL OF RESIDUAL RISK;

(With regard to the issues and concerns raised by affected parties provide a list of the issues raised and an assessment/ discussion of the mitigations or site layout alternatives available to accommodate or address their concerns, together with an assessment of the impacts or risks associated with the mitigation or alternatives considered).

Adverse environmental associated with the prospecting activity have been identified through the Scoping & EIR process. Mitigation measures as set out in the Environmental Management Programme (EMPr) attached in Part B must be implemented in order to minimise any potential impacts.

All comments received during the review period of the Scoping and EIR report, as well as response provided is captured and recorded within the Comments and Response Report and will be attached in the final EIR.

ix) IF NO ALTERNATIVE DEVELOPMENT [LOCATION] FOOTPRINTS FOR THE ACTIVITY WERE INVESTIGATED, THE MOTIVATION FOR NOT CONSIDERING SUCH; AND

As discussed in the previous section, based on outcomes of previous studies in the vicinity of the proposed site, the possibility to encounter high volumes of Mining Right of Diamonds General on the RE of Portions 6, 7, 10 and Portions 8, 17, 19 of the Farm Sterkfontein 155. Portion 29, 30, 31, 32, 33, 34, 45, 46, 47, 48, 49, 50, 51, 52 53, 54, 55, 56, 57, 58, 59, 60, 61, 63, 64, 65, 68, 69, 70, 66 and a certain portion of portion 62, the RE of Portion 1 & 7 of the Farm Putfontein 62. Portion 1, 2 & the RE of the Farm Omega 478. Portion 3 & the RE of the Farm Holgat 63. Portion 4, 5, 6 & the RE of Portion 2 of the farm Wildfontein 201. The RE of portion 5 & 31 of the farm Leewufontein 64. A certain Portion of the RE of Farm 533; Registration Division: IP, North West Province. were anticipated.

A preceding prospecting right also justifies the means of the area.

x) A CONCLUDING STATEMENT INDICATING THE LOCATION OF THE PREFERRED ALTERNATIVE DEVELOPMENT [LOCATION] FOOTPRINT WITHIN THE APPROVED SITE AS CONTEMPLATED IN THE ACCEPTED SCOPING REPORT;

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

Design alternatives were considered throughout the planning and design phase (i.e. where is the rock bed located?). In this regard discussions on the design were held between the EAP and the developer. The layout follows the limitations of the site and aspects such as, roads, site offices and workshop area as well as fencing.

I. A FULL DESCRIPTION OF THE PROCESS UNDERTAKEN TO IDENTIFY, ASSESS AND RANK THE IMPACTS THE ACTIVITY AND ASSOCIATED STRUCTURES AND INFRASTRUCTURE WILL IMPOSE ON THE PREFERRED [LOCATION] DEVELOPMENT FOOTPRINT ON THE APPROVED SITE

(AS CONTEMPLATED IN THE ACCEPTED SCOPING REPORT THROUGH THE LIFE OF THE ACTIVITY, INCLUDING—.)

i. A description of all environmental issues and risks that are identified during the environmental impact assessment process

Process for the identification of key issues

The methodology for the identification of key issues aims, as far as possible, to provide a user-friendly analysis of information to allow for easy interpretation.

- **Checklist:** The checklist consists of a list of structured questions related to the environmental parameters and specific human actions. They assist in ordering thinking, data collection, presentation and alert against the omission of possible impacts.
- **Matrix:** The matrix analysis provides a holistic indication of the relationship and interaction between the various activities, development phases and the impact thereof on the environment. The method aims at providing a first order cause and effect relationship between the environment and the proposed activity. The matrix is designed to indicate the relationship between the different stressors and receptors which leads to specific impacts. The matrix also indicates the specialist studies, which will be submitted as part of the Environmental Impact Report in order to address the potentially most significant impacts.

Checklist analysis

The site visit was conducted to ensure a proper analysis of the site specific characteristics of the study area. The table below provides a checklist, which is designed to stimulate thought regarding possible consequences of specific actions and so assist scoping of key issues. It consists of a list of structured questions related to the environmental parameters and specific human actions. They assist in ordering thinking, data collection, presentation and alert against the omission of possible impacts. The table highlights certain issues, which are further analysed in matrix format.

Environmental Checklist

QUESTION	YES	NO	Un-sure	Description
1. Are any of the following located on the site earmarked for the development?				
I. A river, stream, dam or wetland	X			Refer to Specialist section in Section K According to the Ecological report there are multiple depressions & Chanelled valley bottom
II. A conservation or open space area		X		None
III. An area that is of cultural importance			X	
IV. Site of geological significance			X	
V. Areas of outstanding natural beauty		X		

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VI. Highly productive agricultural land	×			According to present cultivated land & screening tool
VII. Floodplain			×	No reference is made to a floodplain in the Ecological Report
VIII. Indigenous forest			×	The proposed area has mostly been transformed to crop production and cattle kraals
IX. Grass land	×			The proposed area has mostly been transformed to crop production, cattle kraals and residential areas. Some areas have remained natural.
X. Bird nesting sites			×	The proposed area has mostly been transformed to crop production. However there are trees in multiple areas, and bird nesting sites may be expected. See ecological report with a list of birds occurring on site.
XI. Red data species			×	Several species possibly occurring on site are protected under NEMBA. Although not listed in the species list, there is a possibility of the Critically Endangered Riverine Rabbit (<i>Bunolagus monticularis</i>) occurring on site.
XII. Tourist resort		×		None.
2. Will the project potentially result in potential?				
I. Removal of people			×	None
II. Visual Impacts	×			The visual impact will be managed.
III. Noise pollution	×			The noise impact will be managed.
IV. Construction of an access road		×		None. Access will be obtained from a gravel roads off the N14
V. Risk to human or valuable ecosystems due to explosion/fire/ discharge of waste into water or air.		×		
VI. Accumulation of large workforce (>50 manual workers) into the site.	×			Approximately 32 employment opportunities will be created during the construction and operational phase of the project, according to the Mining Work Programme
VII. Utilisation of significant volumes of local raw materials such as water, wood etc.	×			The application area will use 2 x 14 Feet Washing Pans. Since 2 x 14 feet washing pans will be used, the amount of water for the pans will be 30 000 L/hour from which 30% is re-used

Milnex CC: EIA412 –EIR & EMPr - Mining Right Application, combined with a Waste Licence Application of **Turnover Trading 251 (Pty) Ltd** for the mining of Diamonds General (D) on the RE of Portions 6, 7, 10 and Portions 8, 17, 19 of the Farm Sterkfontein 155. Portion 29, 30, 31, 32, 33, 34, 45, 46, 47, 48, 49, 50, 51, 52 53, 54, 55, 56, 57, 58, 59, 60, 61, 63, 64, 65, 68, 69, 70, 66 and a certain portion of portion 62, the RE of Portion 1 & 7 of the Farm Putfontein 62. Portion 1, 2 & the RE of the Farm Omega 478. Portion 3 & the RE of the Farm Holgat 63. Portion 4, 5, 6 & the RE of Portion 2 of the farm Wildfontein 201. The RE of portion 5 & 31 of the farm Leewufontein 64. A certain Portion of the RE of Farm 533; Registration Division: IP, North West Province.

VIII. Job creation	×			Approximately 32 employment opportunities will be created during the construction and operational phase of the project, according to the Mining Work Programme
IX. Traffic generation			×	None.
X. Soil erosion		×		Only areas earmarked for mining will be cleared. The mining will be phased and the topsoil stockpiled separately.
XI. Installation of additional bulk telecommunication transmission lines or facilities		×		None.
3. Is the proposed project located near the following?				
I. A river, stream, dam or wetland	×			According to the Ecological report there are multiple depressions & Chanelled valley bottom
II. A conservation or open space area		×		None
III. An area that is of cultural importance		×		None
IV. A site of geological significance		×		
V. An area of outstanding natural beauty		×		None
VI. Highly productive agricultural land	×			
VII. A tourist resort		×		
VIII. A formal or informal settlement	×			The Bokamoso CPA The Batloung CPA The Kgatelopele CPA The Monamaladi CPA

Matrix analysis

The matrix describes the relevant listed activities, the aspects of the development that will apply to the specific listed activity, a description of the environmental issues and potential impacts, the significance and magnitude of the potential impacts, and the mitigation of the potential impacts. The matrix also highlights areas of particular concern, which requires more in depth assessment. Each cell is evaluated individually in terms of the nature of the impact, duration and its significance – should no mitigation measures be applied. This is important since many impacts would not be considered insignificant if proper mitigation measures were implemented. The matrix also provides an indication if mitigation measures are available.

In order to conceptualise the different impacts the matrix specify the following:

- **Stressor:** Indicates the aspect of the proposed activity, which initiates and cause impacts on elements of the environment.

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- **Receptor:** Highlights the recipient and most important components of the environment affected by the stressor.
- **Impacts:** Indicates the net result of the cause-effect between the stressor and receptor.
- **Mitigation:** Impacts need to be mitigated to minimise the effect on the environment.

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Milnex CC: EIA412-EIR & EMPr - Mining Right Application, combined with a Waste Licence Application of **Turnover Trading 251 (Pty) Ltd** for the mining of Diamonds General (D) on the RE of Portions 6, 7, 10 and Portions 8, 17, 19 of the Farm Sterkfontein 155. Portion 29, 30, 31, 32, 33, 34, 45, 46, 47, 48, 49, 50, 51, 52 53, 54, 55, 56, 57, 58, 59, 60, 61, 63, 64, 65, 68, 69, 70, 66 and a certain portion of portion 62, the RE of Portion 1 & 7 of the Farm Putfontein 62. Portion 1, 2 & the RE of the Farm Omega 478. Portion 3 & the RE of the Farm Holgat 63. Portion 4, 5, 6 & the RE of Portion 2 of the farm Wildfontein 201. The RE of portion 5 & 31 of the farm Leewufontein 64. A certain Portion of the RE of Farm 533; Registration Division: IP, North West Province.

- ii) An assessment of the significance of each issue and risk and an indication of the extent to which the issue and risk could be avoided or addressed by the adoption of mitigation measures;**

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MATRIX ANALYSIS

LISTED ACTIVITY (The Stressor)	ASPECTS OF THE DEVELOPMENT /ACTIVITY	POTENTIAL IMPACTS		SIGNIFICANCE AND MAGNITUDE OF POTENTIAL IMPACTS			MITIGATION OF POTENTIAL IMPACTS	SPECIALIST STUDIES / INFORMATION	
		Receptors	Impact description	Minor	Major	Durati on	Possible Mitigation		
CONSTRUCTION PHASE									
Listing Notice GNR 325, Activity 15: "The clearance of an area of 20 hectares or more, of indigenous vegetation."	<u>Site clearing and preparation</u> Areas earmarked for mining will need to be cleared, topsoil will be stockpiled separately.	BIOPHYSICAL ENVIRONMENT	Fauna & Flora	<ul style="list-style-type: none"> Loss or fragmentation of indigenous natural vegetation. Loss of sensitive species. Loss or fragmentation of habitats. 	-		M	Yes	-
			Air	<ul style="list-style-type: none"> Air pollution due to the increase of traffic of construction vehicles. 	-		M	Yes	-
			Soil	<ul style="list-style-type: none"> Soil degradation, including erosion. Loss of topsoil. Disturbance of soils and existing land use (soil compaction). 		-	S	Yes	-
			Geology	<ul style="list-style-type: none"> It is not foreseen that the removal of indigenous vegetation will impact on the geology or vice versa. 	N/A	N/A	N/A	N/A	-
			Existing services infrastructure	<ul style="list-style-type: none"> Generation of waste that need to be accommodated at a licensed landfill site. Generation of sewage that need to be accommodated by the local sewage plant. 	-		S	Yes	-
			Ground water	<ul style="list-style-type: none"> Pollution due to construction vehicles. 	-		S	Yes	-
		SOCIAL/ECONOMIC ENVIRONMENT	Surface water	<ul style="list-style-type: none"> Increase in storm water run-off. Pollution of water sources due to soil erosion. Destruction of watercourses (pans/dams/streams). 	-		S	Yes	-
			Local unemployment rate	<ul style="list-style-type: none"> Job creation. Business opportunities. Skills development. 		+	S	Yes	-
			Visual landscape	<ul style="list-style-type: none"> Potential visual impact on residents of farmsteads, settlements and motorists in close proximity to proposed facility. 	-		L	Yes	-
			Traffic volumes	<ul style="list-style-type: none"> Increase in construction vehicles. 	-		S	Yes	-
			Health & Safety	<ul style="list-style-type: none"> Air/dust pollution. Road safety. Increased risk of veld fires. 		-	S	Yes	-
			Noise levels	<ul style="list-style-type: none"> The generation of noise as a result of construction vehicles, the use of machinery such as drills, excavators, rotary pans, dumper trucks and people working on the site. 		-	L	Yes	-

			Tourism industry	<ul style="list-style-type: none"> Since there is no tourism facility in close proximity to the site, the construction activity will have no impact on tourism in the area. 	N/A	N/A	N/A	N/A	-
			Heritage resources	<ul style="list-style-type: none"> Removal or destruction of archaeological and/or paleontological sites. Removal or destruction of buildings, structures, places and equipment of cultural significance. Removal or destruction of graves, cemeteries and burial grounds. 	-		S	Yes	-
<p>Listing Notice GNR 325, Activity 17 “Any activity including the operation of that activity which requires a mining right as contemplated in section 22 of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002), including — (a) associated infrastructure, structures and earthworks, directly related to the extraction of a mineral resource; or (b) the primary processing of a mineral resource including winning, extraction, classifying, concentrating, crushing, screening or washing; but excluding the secondary processing of a mineral resource, including the smelting, beneficiation, reduction, refining, calcining or gasification of the mineral resource in which case activity 6 in this Notice applies.” – Mining right for the mining of Diamonds General (D) including associated infrastructure, structure and earthworks.</p>	<p><u>Site clearing and preparation</u> Areas earmarked for mining will need to be cleared, topsoil will be stockpiled separately. This will inevitably result in the removal of indigenous vegetation located on the site.</p>	BIOPHYSICAL ENVIRONMENT	Fauna & Flora	<ul style="list-style-type: none"> Loss or fragmentation of indigenous natural vegetation. Loss of sensitive species. Loss or fragmentation of habitats. 	-		M	Yes	-
			Air quality	<ul style="list-style-type: none"> Air pollution due to the increase of traffic. 	-		M	Yes	-
			Soil	<ul style="list-style-type: none"> Soil degradation, including erosion. Disturbance of soils and existing land use (soil compaction). Loss of agricultural potential (medium significance relative to agricultural potential of the site). 		-	M	Yes	-
			Geology	<ul style="list-style-type: none"> It is not foreseen that the removal of indigenous vegetation will impact on the geology or vice versa. 		-	L	Yes	-
			Existing services infrastructure	<ul style="list-style-type: none"> Generation of waste that need to be accommodated at a licensed landfill site. Generation of sewage that need to be accommodated by the local sewage plant. 	-		M	Yes	-
			Ground water	<ul style="list-style-type: none"> Pollution due to construction vehicles 	-		S	Yes	-
			Surface water	<ul style="list-style-type: none"> Increase in storm water run-off. Pollution of water sources due to soil erosion. Destruction of watercourses (pans/dams/streams). 	-		M	Yes	-
		SOCIAL/ECONOMIC ENVIRONMENT	Local unemployment rate	<ul style="list-style-type: none"> Job creation. Skills development. 		+	S	N/A	-
			Visual landscape	<ul style="list-style-type: none"> Potential visual impact on residents of farmsteads, settlements and motorists in close proximity to proposed facility due to dust. 	-		S	Yes	-
			Traffic volumes	<ul style="list-style-type: none"> Increase in construction vehicles. 	-		S	Yes	-
			Health & Safety	<ul style="list-style-type: none"> Air/dust pollution. Road safety. 		-	S	Yes	-
			Noise levels	<ul style="list-style-type: none"> The generation of noise as a result of construction vehicles, and people working on the site. 		-	M	Yes	-

		Tourism industry	<ul style="list-style-type: none"> Since there is no tourism facility in close proximity to the site, the construction activity will have no impact on tourism in the area. 	N/A	N/A	N/A	N/A	-	
		Heritage resources	<ul style="list-style-type: none"> Removal or destruction of archaeological and/or paleontological sites. Removal or destruction of buildings, structures, places and equipment of cultural significance. Removal or destruction of graves, cemeteries and burial grounds. 	-		S	Yes	-	
OPERATIONAL PHASE									
<p>Listing Notice GNR 325, Activity 17 “Any activity including the operation of that activity which requires a mining right as contemplated in section 22 of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002), including — (a) associated infrastructure, structures and earthworks, directly related to the extraction of a mineral resource; or (b) the primary processing of a mineral resource including winning, extraction, classifying, concentrating, crushing, screening or washing; but excluding the secondary processing of a mineral resource, including the smelting, beneficiation, reduction, refining, calcining or gasification of the mineral resource in which case activity 6 in this Notice applies.” – Mining right for the mining of Diamonds General (D) including associated infrastructure, structure and earthworks.</p>	<p>The key components of the proposed project are described below:</p> <ul style="list-style-type: none"> Supporting Infrastructure - A control facility with basic services such as water and electricity will be constructed on the site and will have an approximate footprint 50m² or less. Other supporting infrastructure includes a site office and workshop area. Roads - Access will be obtained from gravel roads off the R512 and N4. Fencing - For health, safety and security reasons, the facility will be required to be fenced off from the surrounding farm. 	BIOPHYSICAL ENVIRONMENT	Fauna & Flora	<ul style="list-style-type: none"> Fragmentation of habitats. Establishment and spread of declared weeds and alien invader plants (operations). 	-		L	Yes	-
			Air quality	<ul style="list-style-type: none"> Air pollution due to the mining activity, crusher plant, transport of the gravel to the designated areas 	-		M	Yes	-
			Soil	<ul style="list-style-type: none"> Soil degradation, including erosion. Disturbance of soils and existing land use (soil compaction). Loss of agricultural potential (low significance relative to agricultural potential of the site). 	-		L	Yes	-
			Geology	<ul style="list-style-type: none"> Collapsible soil. Seepage (shallow water table). Active soil (high soil heave). Erodible soil. The presence of undermined ground. Instability due to soluble rock. Steep slopes or areas of unstable natural slopes. Areas subject to seismic activity. Areas subject to flooding. 	-		L	Yes	-
			Existing services infrastructure	<ul style="list-style-type: none"> Generation of waste that need to be accommodated at a licensed landfill site. Generation of sewage that need to be accommodated by the municipal sewerage system and the local sewage plant. Increased consumption of water. 	-		L	Yes	-
			Ground water	<ul style="list-style-type: none"> Leakage of hazardous materials. The machinery on site require oils and fuel to function. Leakage of these oils and fuels can contaminate water supplies. 	-		L	Yes	-
			Surface water	<ul style="list-style-type: none"> Increase in storm water runoff. The development will potentially result in an increase in storm water run-off that needs to be managed to prevent soil erosion. Destruction of watercourses (pans/dams/streams). Leakage of hazardous materials. The machinery on site require oils and fuel to 	-		L	Yes	-

				function. Leakage of these oils and fuels can contaminate water supplies.					
		SOCIAL/ECONOMIC ENVIRONMENT	Local unemployment rate	<ul style="list-style-type: none"> Job creation. Security guards will be required for 24 hours every day of the week and general laborers will also be required for the cleaning of the panels. Skills development. 		+	L	Yes	-
			Visual landscape	<ul style="list-style-type: none"> The proposed portion is used for crop production which will still take place simultaneously with the mining activity, however this depends on the location of the activity. 	-		L	Yes	-
			Traffic volumes	<ul style="list-style-type: none"> Increase in vehicles collecting gravel for distribution. 	-		S	Yes	-
			Health & Safety	<ul style="list-style-type: none"> Air/dust pollution. Road safety. 		-	S	Yes	-
			Noise levels	<ul style="list-style-type: none"> The proposed development will result in noise pollution during the operational phase. 	-	-	L	Yes	-
			Tourism industry	<ul style="list-style-type: none"> Since there is no tourism facility in close proximity to the site, the operational activities will have no impact on tourism in the area. 	N/A	N/A	N/A	N/A	-
			Heritage resources	<ul style="list-style-type: none"> Removal or destruction of archaeological and/or paleontological sites. Removal or destruction of buildings, structures, places and equipment of cultural significance. Removal or destruction of graves, cemeteries and burial grounds. 	-	-	S	Yes	-
DECOMMISSIONING PHASE									
-	<p><u>Mine closure</u> During the mine closure the Mine and its associated infrastructure will be dismantled.</p> <p><u>Rehabilitation of biophysical environment</u> The biophysical environment will be rehabilitated.</p>	BIOPHYSICAL ENVIRONMENT	Fauna & Flora	<ul style="list-style-type: none"> Re-vegetation of exposed soil surfaces to ensure no erosion in these areas. 		+	L	Yes	-
			Air quality	<ul style="list-style-type: none"> Air pollution due to the increase of traffic of construction vehicles. 	-		S	Yes	-
			Soil	<ul style="list-style-type: none"> Backfilling of all voids Placing of topsoil on backfill 		+	L	Yes	-
			Geology	<ul style="list-style-type: none"> It is not foreseen that the decommissioning phase will impact on the geology of the site or vice versa. 	N/A	N/A	N/A	N/A	-
			Existing services infrastructure	<ul style="list-style-type: none"> Generation of waste that need to be accommodated at the local landfill site. Generation of sewage that need to be accommodated by the municipal sewerage system and the local sewage plant. Increase in construction vehicles. 	-		S	Yes	-
			Ground water	<ul style="list-style-type: none"> Pollution due to construction vehicles. 	-		S	Yes	-

			Surface water	<ul style="list-style-type: none"> • Increase in storm water run-off. • Pollution of water sources due to soil erosion. • Destruction of watercourses (pans/dams/streams). 	-		S	Yes	-
		SOCIAL/ECONOMIC ENVIRONMENT	Local unemployment rate	<ul style="list-style-type: none"> • Loss of employment. 		-	L	Yes	-
			Visual landscape	<ul style="list-style-type: none"> • Potential visual impact on visual receptors in close proximity to proposed facility. 	-		S	Yes	-
			Traffic volumes	<ul style="list-style-type: none"> • Increase in construction vehicles. 	-		S	Yes	-
			Health & Safety	<ul style="list-style-type: none"> • Air/dust pollution. • Road safety. • Increased crime levels. The presence of mine workers on the site may increase security risks associated with an increase in crime levels as a result of influx of people in the rural area. 	-			Yes	-
			Noise levels	<ul style="list-style-type: none"> • The generation of noise as a result of construction vehicles, the use of machinery and people working on the site. 	-		S	Yes	-
			Tourism industry	<ul style="list-style-type: none"> • Since there is no tourism facility in close proximity to the site, the decommissioning activities not have an impact on tourism in the area. 	N/A	N/A	N/A	N/A	-
			Heritage resources	<ul style="list-style-type: none"> • Removal or destruction of archaeological and/or paleontological sites. • Removal or destruction of buildings, structures, places and equipment of cultural significance. • Removal or destruction of graves, cemeteries and burial grounds. 	-	-	S	Yes	-

(N/A) No impact (+) Positive Impact (-) Negative Impact (S) Short Term (M) Medium Term (L) Long Term

J. AN ASSESSMENT OF EACH IDENTIFIED POTENTIALLY SIGNIFICANT IMPACT AND RISK, INCLUDING—

- (i) cumulative impacts;
- (ii) the nature, significance and consequences of the impact and risk;
- (iii) the extent and duration of the impact and risk;
- (iv) the probability of the impact and risk occurring;
- (v) the degree to which the impact and risk can be reversed;
- (vi) the degree to which the impact and risk may cause irreplaceable loss of resources; and
- (vii) the degree to which the impact and risk can be mitigated;

Significance of potential impacts

The following sections present the outcome of the significance rating exercise. The results suggest that almost none of the key issues identified as part of the EIR process had a negative high environmental significance. Instead the overall score indicate a low environmental significance score.

Table: The rating system

NATURE		
Include a brief description of the impact of environmental parameter being assessed in the context of the project. This criterion includes a brief written statement of the environmental aspect being impacted upon by a particular action or activity.		
GEOGRAPHICAL EXTENT		
This is defined as the area over which the impact will be experienced.		
1	Site	The impact will only affect the site.
2	Local/district	Will affect the local area or district.
3	Province/region	Will affect the entire province or region.
4	International and National	Will affect the entire country.
PROBABILITY		
This describes the chance of occurrence of an impact.		
1	Unlikely	The chance of the impact occurring is extremely low (Less than a 25% chance of occurrence).
2	Possible	The impact may occur (Between a 25% to 50% chance of occurrence).
3	Probable	The impact will likely occur (Between a 50% to 75% chance of occurrence).
4	Definite	Impact will certainly occur (Greater than a 75% chance of occurrence).
DURATION		
This describes the duration of the impacts. Duration indicates the lifetime of the impact as a result of the proposed activity.		
1	Short term	The impact will either disappear with mitigation or will be mitigated through natural processes in a span shorter than the construction phase (0 – 1 years), or the impact will last for the period of a relatively short construction

		period and a limited recovery time after construction, thereafter it will be entirely negated (0 – 2 years).
2	Medium term	The impact will continue or last for some time after the construction phase but will be mitigated by direct human action or by natural processes thereafter (2 – 10 years).
3	Long term	The impact and its effects will continue or last for the entire operational life of the development, but will be mitigated by direct human action or by natural processes thereafter (10 – 30 years).
4	Permanent	The only class of impact that will be non-transitory. Mitigation either by man or natural process will not occur in such a way or such a time span that the impact can be considered indefinite.
INTENSITY/ MAGNITUDE		
Describes the severity of an impact.		
1	Low	Impact affects the quality, use and integrity of the system/component in a way that is barely perceptible.
2	Medium	Impact alters the quality, use and integrity of the system/component but system/component still continues to function in a moderately modified way and maintains general integrity (some impact on integrity).
3	High	Impact affects the continued viability of the system/component and the quality, use, integrity and functionality of the system or component is severely impaired and may temporarily cease. High costs of rehabilitation and remediation.
4	Very high	Impact affects the continued viability of the system/component and the quality, use, integrity and functionality of the system or component permanently ceases and is irreversibly impaired. Rehabilitation and remediation often impossible. If possible rehabilitation and remediation often unfeasible due to extremely high costs of rehabilitation and remediation.
REVERSIBILITY		
This describes the degree to which an impact can be successfully reversed upon completion of the proposed activity.		
1	Completely reversible	The impact is reversible with implementation of minor mitigation measures.
2	Partly reversible	The impact is partly reversible but more intense mitigation measures are required.
3	Barely reversible	The impact is unlikely to be reversed even with intense mitigation measures.
4	Irreversible	The impact is irreversible and no mitigation measures exist.
IRREPLACEABLE LOSS OF RESOURCES		
This describes the degree to which resources will be irreplaceably lost as a result of a proposed activity.		
1	No loss of resource	The impact will not result in the loss of any resources.
2	Marginal loss of resource	The impact will result in marginal loss of resources.
3	Significant loss of resources	The impact will result in significant loss of resources.

4	Complete loss of resources	The impact is result in a complete loss of all resources.
CUMULATIVE EFFECT		
This describes the cumulative effect of the impacts. A cumulative impact is an effect which in itself may not be significant but may become significant if added to other existing or potential impacts emanating from other similar or diverse activities as a result of the project activity in question.		
1	Negligible cumulative impact	The impact would result in negligible to no cumulative effects.
2	Low cumulative impact	The impact would result in insignificant cumulative effects.
3	Medium cumulative impact	The impact would result in minor cumulative effects.
4	High cumulative impact	The impact would result in significant cumulative effects
SIGNIFICANCE		
Significance is determined through a synthesis of impact characteristics. Significance is an indication of the importance of the impact in terms of both physical extent and time scale, and therefore indicates the level of mitigation required. The calculation of the significance of an impact uses the following formula: (Extent + probability + reversibility + irreplaceability + duration + cumulative effect) x magnitude/intensity. The summation of the different criteria will produce a non-weighted value. By multiplying this value with the magnitude/intensity, the resultant value acquires a weighted characteristic which can be measured and assigned a significance rating.		
Points	Impact significance rating	Description
6 to 28	Negative low impact	The anticipated impact will have negligible negative effects and will require little to no mitigation.
6 to 28	Positive low impact	The anticipated impact will have minor positive effects.
29 to 50	Negative medium impact	The anticipated impact will have moderate negative effects and will require moderate mitigation measures.
29 to 50	Positive medium impact	The anticipated impact will have moderate positive effects.
51 to 73	Negative high impact	The anticipated impact will have significant effects and will require significant mitigation measures to achieve an acceptable level of impact.
51 to 73	Positive high impact	The anticipated impact will have significant positive effects.
74 to 96	Negative very high impact	The anticipated impact will have highly significant effects and are unlikely to be able to be mitigated adequately. These impacts could be considered "fatal flaws".
74 to 96	Positive very high impact	The anticipated impact will have highly significant positive effects.

INITIAL CLEARANCE AND SITE PREPARATION PHASE

Direct impacts: During this phase minor negative impacts are foreseen over the short term. The latter refers to a period of weeks. The site preparation may result in ecological impacts, loss or fragmentation of habitats, soil erosion, hydrology, and temporary noise disturbance, generation of waste, visual intrusions, increase in heavy vehicle traffic, and risk to safety, livestock and farm infrastructure, and increased risk of veld fires. The abovementioned impacts are discussed in more detail below:

An ecological impact assessment was conducted by Mr Khume Mtshweni, and rated the impact assessment during the construction phase as follows:

Impacts were assessed for the following stages of the project cycle:

- Construction;
- Operational; and
- Decommissioning.

Table 10: Criteria for assessing significance of impacts

LIKELIHOOD DESCRIPTORS	
Frequency of Impact	Rating
Almost Never / Almost Impossible	1
Very Seldom / Highly Unlikely	2
Infrequent / Unlikely / Seldom	3
Often / Regularly / Likely / Possible	4
Daily / Highly Likely / Definitely	5
Frequency of Activity / Duration of Aspect	Rating
Annually or less / Low	1
6 Months / Temporary	2
Monthly / Infrequent	3
Weekly / Life of Operation / Regularly / Likely	4
Daily / Permanent / High	5
CONSEQUENCE DESCRIPTORS	
Severity of Impact	Rating
Insignificant / Non-harmful	1
Small / Potentially Harmful	2
Significant / Slightly Harmful	3
Great / Harmful	4
Disastrous / Extremely Harmful	5
Spatial Scope of Impact	Rating
Activity specific	1
Mine specific (within the site boundary)	2
Local area (within 5 km of the site boundary)	3
Regional	4
National	5
Duration of Impact	Rating
One day to one month	1
One month to one year	2
One year to ten years	3
Life of operation	4
Post Closure / Permanent	5

Table 11: **Significance Rating Matrix**

	Consequence (Severity + Spatial Scope + Duration)														
Likelihood (Frequency of Impact + Frequency of Activity)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30
	3	6	9	12	15	18	21	24	27	30	33	36	39	42	45
	4	8	12	16	20	24	28	32	36	40	44	48	52	56	60
	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75
	6	12	18	24	30	36	42	48	54	60	66	72	78	84	90
	7	14	21	28	35	42	49	56	63	70	77	84	91	98	105
	8	16	24	32	40	48	56	64	72	80	88	96	104	112	120
	9	18	27	36	45	54	63	72	81	90	99	108	117	126	135
	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150

Table 12: **Positive / Negative Mitigation Ratings**

Significance Rating	Value	Impact Management Recommendation
Very High	126 - 150	Critically consider the viability of proposed projects. Improve current management of existing projects significantly and immediately.
High	101 - 125	Comprehensively consider the viability of proposed projects. Improve current management of existing projects significant
Medium – High	76 - 100	Consider the viability of proposed projects. Improve current management of existing projects.
Medium – Low	51 - 75	Actively seek mechanisms to minimise impacts in line with the mitigation hierarchy.
Low	26 - 50	Where deemed necessary seek mechanisms to minimise impacts in line with the mitigation hierarchy.
Very Low	1 - 25	Maintain current management and/or proposed project criteria and strive for continuous improvement.

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Potential Environmental Impact	Environmental Impact Before Mitigation					Significance	Environmental Impact After Mitigation					Significance
	Frequency of Impact	Frequency of Activity	Severity	Spatial Scale	Duration		Probability of Impact	Sensitivity of Receiving Environment	Severity	Spatial Scale	Duration	
Alteration of the flow regime of the watercourse	5	4	3	4	4	99 Medium - High	3	4	2	3	3	56 Medium - Low
Changing the physical structure within a water resource (habitat)	4	4	4	3	4	88 Medium - High	2	4	2	2	3	42 Low
Alteration of the amount of sediment entering the water resource and associated change in turbidity	4	4	3	4	3	80 Medium - High	3	4	2	3	2	49 Low
Alteration of water quality	4	4	3	4	3	80 Medium - High	3	4	1	3	2	42 Low
Loss of terrestrial habitat	5	4	3	3	3	81 Medium - High	3	4	2	2	2	42 Low
Loss of Aquatic Biota	3	3	3	4	3	60 Medium - Low	2	3	1	2	1	20 Very Low
Loss of Terrestrial Fauna	4	3	2	3	3	56 Medium - Low	2	3	1	1	1	15 Very Low
Loss of Terrestrial Flora	4	4	3	2	3	64 Medium - Low	3	4	2	1	1	28 Low
Introduction and spread of alien vegetation	4	3	3	3	4	70 Medium - Low	3	3	2	2	2	36 Low

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- Loss of topsoil –Topsoil may be lost due to poor topsoil management (burial, erosion, etc.). The effect will be the loss of soil fertility on disturbed areas after rehabilitation. This will result in potential cultivation being lost.

Once the vegetation is removed, the topsoil will be removed and stored at a designated area.

Loss of topsoil	Pre-mitigation impact rating	Post mitigation impact rating
Status (positive or negative)	Negative	Negative
Geographical extent	Site (1)	Site (1)
Probability	Possible (2)	Possible (2)
Duration	Long term (3)	Medium term (2)
Magnitude	High (3)	Medium (2)
Reversibility	Barely reversible (3)	Partly reversible (2)
Irreplaceable loss of resources	Significant loss of resource (3)	Marginal loss of resource (2)
Cumulative impact	High cumulative impacts (4)	
Significance	Negative medium (48)	Negative low (22)
Can impacts be mitigated?	<p>The following mitigation or management measures are provided:</p> <ul style="list-style-type: none"> • If an activity will mechanically disturb below surface in any way, then any available topsoil should first be stripped from the entire surface and stockpiled for re-spreading during rehabilitation. • Topsoil stockpiles must be conserved against losses through erosion by establishing vegetation cover on them. • Dispose of all subsurface spoils from excavations where they will not impact on undisturbed land. • During rehabilitation, the stockpiled topsoil must be evenly spread over the entire disturbed surface. • Erosion must be controlled where necessary on top soiled areas. <p>Establish an effective record keeping system for each area where soil is disturbed for constructional purposes. These records should be included in environmental performance reports, and should include all the records below.</p> <ul style="list-style-type: none"> • Record the GPS coordinates of each area. • Record the date of topsoil stripping. • Record the GPS coordinates of where the topsoil is stockpiled. • Record the date of cessation of constructional (or operational) activities at the particular site. 	

	<ul style="list-style-type: none"> • Photograph the area on cessation of constructional activities. • Record date and depth of re-spreading of topsoil. • Photograph the area on completion of rehabilitation and on an annual basis thereafter to show vegetation establishment and evaluate progress of restoration over time. <p>Section (f) of the EMPr also provide mitigation measures related to topsoil management.</p>
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- **Soil erosion** – Soil erosion due to alteration of the land surface run-off characteristics. Alteration of run-off characteristics may be caused by construction related land surface disturbance, vegetation removal and the establishment of roads. Erosion will cause loss and deterioration of soil resources. This will result in grazing and cultivation potential being lost.

Soil erosion	Pre-mitigation impact rating	Post mitigation impact rating
Status (positive or negative)	Negative	Negative
Geographical extent	Site (1)	Site (1)
Probability	Probable (3)	Possible (2)
Duration	Long term (3)	Long term (3)
Magnitude	Very High (4)	High (3)
Reversibility	Barely reversible (3)	Partly reversible (2)
Irreplaceable loss of resources	Marginal (2)	Marginal (2)
Cumulative impact	Medium cumulative impact (3).	
Significance	Negative High (52)	Negative Medium (36)
Can impacts be mitigated?	<ul style="list-style-type: none"> • The following mitigation or management measures are provided: Implement an effective system of run-off control, where it is required, that collects and safely disseminates run-off water from all hardened surfaces and prevents potential down slope erosion. • Monitor the area regularly after larger rainfall events to determine where erosion may be initiated and then mitigate by modifying the soil micro-topography and revegetation or soil erosion control efforts accordingly. <p>Include periodical site inspection in environmental performance reporting that inspects the effectiveness of the run-off control system and specifically records the occurrence any erosion on site or downstream – refer to section (f) of the EMPr.</p>	

- Temporary noise disturbance - Preparation activities will result in the generation of noise over a period of months. Sources of noise are likely to include vehicles, the use of machinery such as back actors and people working on the site. The noise impact is likely to be significant; but activities should be limited to normal working days and hours.

Community Noise

Community noise impacts should not exceed the levels presented in Table below of South African Standards or result in a maximum increase above background levels of 3 dBA at the nearest receptor location off-site.

- The noise levels are relevant to noise impacts beyond the property boundary of the facility. However, noise prevention and mitigation measures should be applied where predicted or measured noise impacts from a project facility or operations exceed the applicable noise level guideline at the most sensitive point of reception. A point of reception or receptor may be defined as any point on the premises occupied by persons where extraneous noise and/or vibration are received.
- South African National Standard (SANS) 10103 (2008) provides a guideline for estimating community response to an increase in the general ambient noise level caused by intruding noise.

SITE	WHO / IFC LAEQ (1H) DBA		SOUTH AFRICAN STANDARDS	
	DAY 07:00 – 19:00	NIGHT 19:00 – 07:00	DAY 07:00 – 19:00	NIGHT 19:00 – 07:00
Residential; Institutional; Educational	55	45	55	45
Industrial, Commercial	70	70	70	60

Temporary noise disturbance	Pre-mitigation impact rating	Post mitigation impact rating
Status (positive or negative)	Negative	Negative
Extent	Local (2)	Local (2)
Probability	Probable (3)	Possible (2)
Duration	Long term (3)	Medium term (2)
Magnitude	High (3)	Medium (2)
Reversibility	Partly reversible (2)	Completely reversible (1)
Irreplaceable loss of resources	Significant loss of resource (3)	Marginal loss of resource (2)
Cumulative impact	High cumulative impact (4).	
Significance	Negative High (51)	Negative low (26)
Can impacts be mitigated?	Yes, management actions related to noise pollution are included in section (f) of the EMPr.	

- Generation of waste - general waste, construction waste, sewage and grey water - The workers on site are likely to generate general waste such as food wastes, packaging, bottles, etc. The applicant

will need to ensure that general waste is appropriately disposed of i.e. taken to the nearest licensed landfill.

Sanitation for mine employees will consist of sufficient ablution facilities portable toilets serviced by one septic tank which is pumped out regularly. No further sanitation infrastructure is envisioned for the proposed expansion of the mining activities.

No pit latrines, French drain systems or soak away systems shall be allowed.

Generation of waste	Pre-mitigation impact rating	Post mitigation impact rating
Status (positive or negative)	Negative	Negative
Extent	Local/district (2)	Local/district (2)
Probability	Probable (3)	Possible (2)
Duration	Medium term (2)	Medium term (2)
Magnitude	Medium (2)	Low (1)
Reversibility	Partly reversible (2)	Partly reversible (2)
Irreplaceable loss of resources	No loss of resource (1)	No loss of resource (1)
Cumulative impact	Low cumulative impact (2) - An additional demand for landfill space could result in significant cumulative impacts if services become unstable or unavailable, which in turn would negatively impact on the local community. If general waste is left on site livestock could mistakenly eat it, which might in turn harm or kill them.	
Significance	Negative low (24)	Negative low (11)
Can impacts be mitigated?	Yes, it is therefore important that all management actions and mitigation measures included in section (f) of the EMP are implemented.	

Impacts on heritage objects -

Identified sites

During the survey the following sites, features or objects of cultural significance were identified.

- Two sites dating to the Later Stone Age were identified. The one is classified as a factory site where cores, flakes and tools produced from chert, were identified. The second site contains a number of pecked engravings of humans, animals and geometric patterns on what is colloquially referred to as a 'rhino rock'.
- A total of seven informal burial sites have been identified. It is taken that some of the graves would date back to the early settlement of the baTloug in the region, especially in the vicinity of the mission station. Unfortunately, most graves do not have headstones with dates on them – the earliest identified date was 1924.

A number of homesteads were identified, mostly occurring along the Monamaladi River. All of them seem to conform to a 'standard' pattern: a house (in most cases now demolished); outbuildings consisting of cattle enclosures built with local stone; and an ash midden in close proximity. Apparently, these houses were abandoned when infrastructure services (water and electricity) were installed at the Putfontein community.

A small hamlet, known as Carcal, developed in close proximity of the Bodenstein railway station. It consists of a number of buildings most of which, according to their architectural style, date to the 1930s and 1940s.

Impact assessment and proposed mitigation measures

Impact analysis of cultural heritage resources under threat of the proposed development, is based on the present understanding of the development:

IDENTIFIED HERITAGE RESOURCES					
Site No.	Site type	NHRA category	Field rating	Impact rating: Before/After	Proposed mitigation (Refer to definitions in Section 8.4)
EIA412: Stone Age Sites					
7.1.1 – 7.1.2	Factory site	Section 35	High significance Grade III-A	36 6	(1) Avoid/preserve

IDENTIFIED HERITAGE RESOURCES					
Site No.	Site type	NHRA category	Field rating	Impact rating: Before/After	Proposed mitigation (Refer to definitions in Section 8.4)
EIA412: Burial Sites					
7.3.1.1 – 7.3.1.7	Burial sites	Section 36	High significance Grade IV-A	36 6	(1) Avoid/preserve

IDENTIFIED HERITAGE RESOURCES					
Site No.	Site type	NHRA category	Field rating	Impact rating: Before/After	Proposed mitigation (Refer to definitions in Section 8.4)
EIA412: Archaeological sites					
7.3.2.1 – 7.3.2.31	Built environment	Section 34	High significance Grade IV-A	36 6	(1) Avoid/preserve; (2) Archaeological investigation

IDENTIFIED HERITAGE RESOURCES					
Site No.	Site type	NHRA category	Field rating	Impact rating: Before/After	Proposed mitigation (Refer to definitions in Section 8.4)
EIA412: Built environment					
7.3.3.1	Built environment	Section 34	High significance Grade IV-A	36 6	(1) Avoid/preserve

From a heritage point of view, it is recommended that the proposed mining activities be allowed to continue on acceptance of the proposed mitigation measures and the conditions proposed below.

It should be noted that heritage resources including archaeological and paleontological sites over 100 years old, graves older than 60 years, structure older than 60 years are protected by the National Heritage Resources Act no 25 of 1999. Therefore if such resources are found during the mining or development activities, they shall not be disturbed without a permit from the relevant heritage resource Authority, which means that before such sites are disturbed by development it is incumbent on the developer to ensure that a heritage impact assessment is done and the Provincial Heritage Resources Authority and SAHRA must be contacted immediately and work will stop.

Impacts on palaeontology

Impact assessment must take account of the nature, scale and duration of impacts on the environment whether such impacts are positive or negative. Each impact is also assessed according to the following project phases:

- Construction
- Operation
- Decommissioning

Where necessary, the proposal for mitigation or optimisation of an impact should be detailed. A brief discussion of the impact and the rationale behind the assessment of its significance should also be included. The rating system is applied to the potential impacts on the receiving environment and includes an objective evaluation of the mitigation of the impact. In assessing the significance of each impact the following criteria is used:

Table 13: The rating system

NATURE		
Loss of fossil Heritage.		
GEOGRAPHICAL EXTENT		
This is defined as the area over which the impact will be experienced.		
1	Site	The impact will only affect the site.
2	Local/district	Will affect the local area or district.
3	Province/region	Will affect the entire province or region.
4	International and National	Will affect the entire country.
PROBABILITY		
This describes the chance of occurrence of an impact.		
1	Unlikely	The chance of the impact occurring is extremely low (Less than a 25% chance of occurrence).
2	Possible	The impact may occur (Between a 25% to 50% chance of occurrence).
3	Probable	The impact will likely occur (Between a 50% to 75% chance of occurrence).
4	Definite	Impact will certainly occur (Greater than a 75% chance of occurrence).
DURATION		
This describes the duration of the impacts. Duration indicates the lifetime of the impact as a result of the proposed activity.		
1	Short term	The impact will either disappear with mitigation or will be mitigated through natural processes in a span shorter than the construction phase (0 – 1 years), or the impact will last for the period of a relatively short construction period and a limited recovery time after construction, thereafter it will be entirely negated (0 – 2 years).
2	Medium term	The impact will continue or last for some time after the construction phase but will be mitigated by direct human action or by natural processes thereafter (2 – 10 years).
3	Long term	The impact and its effects will continue or last for the entire operational life of the development, but

		will be mitigated by direct human action or by natural processes thereafter (10 – 30 years).
4	Permanent	The only class of impact that will be non-transitory. Mitigation either by man or natural process will not occur in such a way or such a time span that the impact can be considered indefinite.
INTENSITY/ MAGNITUDE		
Describes the severity of an impact.		
1	Low	Impact affects the quality, use and integrity of the system/component in a way that is barely perceptible.
2	Medium	Impact alters the quality, use and integrity of the system/component but system/component still continues to function in a moderately modified way and maintains general integrity (some impact on integrity).
3	High	Impact affects the continued viability of the system/component and the quality, use, integrity and functionality of the system or component is severely impaired and may temporarily cease. High costs of rehabilitation and remediation.
4	Very high	Impact affects the continued viability of the system/component and the quality, use, integrity and functionality of the system or component permanently ceases and is irreversibly impaired. Rehabilitation and remediation often impossible. If possible rehabilitation and remediation often unfeasible due to extremely high costs of rehabilitation and remediation.

REVERSIBILITY		
This describes the degree to which an impact can be successfully reversed upon completion of the proposed activity.		
1	Completely reversible	The impact is reversible with implementation of minor mitigation measures.
2	Partly reversible	The impact is partly reversible but more intense mitigation measures are required.
3	Barely reversible	The impact is unlikely to be reversed even with intense mitigation measures.
4	Irreversible	The impact is irreversible and no mitigation measures exist.

IRREPLACEABLE LOSS OF RESOURCES		
This describes the degree to which resources will be irreplaceably lost as a result of a proposed activity.		
1	No loss of resource	The impact will not result in the loss of any resources.
2	Marginal loss of resource	The impact will result in marginal loss of resources.
3	Significant loss of resources	The impact will result in significant loss of resources.

4	Complete loss of resources	The impact is result in a complete loss of all resources.
CUMULATIVE EFFECT		
This describes the cumulative effect of the impacts. A cumulative impact is an effect which in itself may not be significant but may become significant if added to other existing or potential impacts emanating from other similar or diverse activities as a result of the project activity in question.		
1	Negligible cumulative impact	The impact would result in negligible to no cumulative effects.
2	Low cumulative impact	The impact would result in insignificant cumulative effects.
3	Medium cumulative impact	The impact would result in minor cumulative effects.
4	High cumulative impact	The impact would result in significant cumulative effects

SIGNIFICANCE			
Significance is determined through a synthesis of impact characteristics. Significance is an indication of the importance of the impact in terms of both physical extent and time scale, and therefore indicates the level of mitigation required. The calculation of the significance of an impact uses the following formula: (Extent + probability + reversibility + irreplaceability + duration + cumulative effect) x magnitude/intensity.			
The summation of the different criteria will produce a non-weighted value. By multiplying this value with the magnitude/intensity, the resultant value acquires a weighted characteristic which can be measured and assigned a significance rating.			
Points	Impact rating	significance	Description
6 to 28	Negative low impact		The anticipated impact will have negligible negative effects and will require little to no mitigation.
6 to 28	Positive low impact		The anticipated impact will have minor positive effects.
29 to 50	Negative medium impact		The anticipated impact will have moderate negative effects and will require moderate mitigation measures.
29 to 50	Positive medium impact		The anticipated impact will have moderate positive effects.
51 to 73	Negative high impact		The anticipated impact will have significant effects and will require significant mitigation measures to achieve an acceptable level of impact.
51 to 73	Positive high impact		The anticipated impact will have significant positive effects.
74 to 96	Negative very high impact		The anticipated impact will have highly significant effects and are unlikely to be able to be mitigated adequately. These impacts could be considered "fatal flaws".
74 to 96	Positive very high impact		The anticipated impact will have highly significant positive

1.1.1 Summary of Impacts

Only the site will be affected (1). It is probable that the impact will occur (2). The expected duration of the impact is assessed as potentially permanent to long term (4). The impact on fossil heritage will be irreversible and a complete loss of fossil heritage will take place (4). The cumulative effect of the impact will be Low (1). The magnitude of the impact happening will be low (1)

Significance = (Extent (1) + probability (2) + reversibility (4) + irreplaceability (4) + duration (4) + cumulative effect) (2) x magnitude/intensity (1) =17.

The Impact significance will therefore be a negative Low Impact.

Indirect impacts: The nuisance aspects generally associated with the installation of infrastructure or ground preparation will also be applicable to this development, which relates primarily to the increase in vehicle traffic associated with mining practices, the influx of job seekers to the area, risk to safety, livestock and farm infrastructure, and increased risk of veld fires.

- **Increase in vehicle traffic** – The movement of heavy vehicles have the potential to damage local roads and create dust and safety impacts for other road users in the area. Existing roads are available for transportation.

The movement of heavy vehicles during the clearance of vegetation and topsoil has the potential to damage local farm roads and create dust and safety impacts for other road users in the area.

Access will be obtained from the existing gravel roads and the N14. The volume of traffic along this road is medium to high and the movement of heavy vehicles along this road is likely to damage the road surface and impact on other road users.

Increase in vehicle traffic	Pre-mitigation impact rating	Post mitigation impact rating
Status (positive or negative)	Negative	Negative
Extent	Local (2)	Local (2)
Probability	Probable (3)	Possible (2)
Duration	Long term (3)	Medium term (2)
Magnitude	High (3)	Medium (2)
Reversibility	Partly reversible (2)	Partly reversible (2)
Irreplaceable loss of resources	Significant loss of resource (3)	Marginal loss of resource (2)
Cumulative impact	Medium cumulative impact (3).	
Significance	Negative Medium (48)	Negative low (26)
Can impacts be mitigated?	<p>The potential impacts associated with heavy vehicles can be effectively mitigated. The mitigation measures include:</p> <ul style="list-style-type: none"> • The contractor must ensure that damage caused by construction on the off-gravel roads. The costs associated with the repair must be borne by the contractor; 	

	<ul style="list-style-type: none"> Dust suppression measures must be implemented for heavy vehicles such as wetting of gravel roads on a regular basis and ensuring that vehicles used to transport sand and building materials are fitted with tarpaulins or covers; All vehicles must be road-worthy and drivers must be qualified and made aware of the potential road safety issues and need for strict speed limits. Speed humps will need to be in place in order to assist in restricting truck drives from speeding <p>Also refer section (f) of the EMPr. For mitigation measures related to traffic.</p>
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- Risk to safety, crop production and farm infrastructure - The presence on and movement of workers on and off the site poses a potential safety threat to local farmer's, farm workers and the communities in the vicinity of the site. In addition, farm infrastructure, such as fences and gates, may be damaged and stock losses may also result from gates being left open and/or fences being damaged or stock theft linked either directly or indirectly to the presence of farm workers on the site.

Risk to safety, livestock and farm infrastructure	Pre-mitigation impact rating	Post mitigation impact rating
Status (positive or negative)	Negative	Negative
Extent	Site (1)	Site (1)
Probability	Possible (2)	Possible (2)
Duration	Medium term (2)	Medium term (2)
Magnitude	Very high (4)	medium (2)
Reversibility	Completely reversible (1)	Completely reversible (1)
Irreplaceable loss of resources	Marginal loss of resource (2)	No loss of resource (1)
Cumulative impact	Low cumulative effects (2), provided losses are compensated for.	
Significance	Negative Medium (40)	Negative low (18)
Can impacts be mitigated?	<p>Key mitigation measures include:</p> <ul style="list-style-type: none"> Turnover Trading (Pty) Ltd should enter into an agreement with the local farmers in the area whereby damages to farm property etc. during the construction phase will be compensated for. The agreement should be signed before the construction phase commences; The construction area should be fenced off prior to the commencement of the construction phase. The movement of construction workers on the site should be confined to the fenced off area; Contractors appointed by Turnover Trading (Pty) Ltd should provide daily transport for low and semi-skilled workers to and from the site. This would reduce the potential risk of 	

	<p>trespassing on the remainder of the farm and adjacent properties;</p> <ul style="list-style-type: none"> • Turnover Trading (Pty) Ltd should hold contractors liable for compensating farmers in full for any stock losses and/or damage to farm infrastructure that can be linked to construction workers. This should be contained in the Code of Conduct to be signed between the proponent, the contractors and neighbouring landowners. The agreement should also cover losses and costs associated with fires caused by construction workers or construction related activities (see below); • The Environmental Management Programme (EMPr) should outline procedures for managing and storing waste on site, specifically plastic waste that poses a threat to livestock if ingested; • Contractors appointed Turnover Trading (Pty) Ltd must ensure that all workers are informed at the outset of the construction phase of the conditions contained on the Code of Conduct, specifically consequences of stock theft and trespassing on adjacent farms. • Contractors appointed by Turnover Trading (Pty) Ltd must ensure that construction workers who are found guilty of trespassing, stealing livestock and/or damaging farm infrastructure are dismissed and charged. This should be contained in the Code of Conduct. All dismissals must be in accordance with South African labour legislation;
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- Increased risk of veld fires - The presence of construction workers and construction-related activities on the site poses an increased risk of grass fires that could in turn pose a threat to livestock, crops, wildlife, farmsteads and the communities in the area.

In the process, infrastructure may also be damaged or destroyed and human lives threatened. The potential risk of grass fires was heightened by the windy conditions in the area, especially during the dry, windy winter months from May to October. Fire-fighting equipment should be provided on site during the construction phase.

Increased risk of veld fires	Pre-mitigation impact rating	Post mitigation impact rating
Status (positive or negative)	Negative	Negative
Extent	Region (3)	Local (2)
Probability	Probable (3)	Possible (2)
Duration	Medium term (2)	Medium term (2)
Magnitude	Very high (4)	Medium (2)
Reversibility	Irreversible (4)	Partly reversible (2)

Irreplaceable loss of resources	Significant loss of resource (3)	Marginal loss of resource (2)
Cumulative impact	Negligible cumulative effects (1), provided losses are compensated for.	
Significance	Negative high (64)	Negative low (22)
Can impacts be mitigated?	<p>The mitigation measures include:</p> <ul style="list-style-type: none"> • A fire-break should be constructed around the perimeter of the site prior to the commencement of the construction phase; • Contractor should ensure that open fires on the site for cooking or heating are not allowed except in designated areas; • Contractor to ensure that construction related activities that pose a potential fire risk, such as welding, are properly managed and are confined to areas where the risk of fires has been reduced. Measures to reduce the risk of fires include avoiding working in high wind conditions when the risk of fires is greater. In this regard special care should be taken during the high risk dry, windy winter months; • Contractor to provide adequate firefighting equipment on-site, including a fire fighting vehicle; • Contractor to provide fire-fighting training to selected construction staff; • No construction staff, with the exception of security staff, to be accommodated on site over night; • As per the conditions of the Code of Conduct, in the advent of a fire being caused by construction workers and or construction activities, the appointed contractors must compensate farmers for any damage caused to their farms. The contractor should also compensate the firefighting costs borne by farmers and local authorities. 	

- Increased groundwater impact-

Increased consumption of water	Pre-mitigation impact rating	Post mitigation impact rating
Status (positive or negative)	Negative	Negative
Extent	Site (1)	Site (1)
Probability	Definite (4)	Definite (4)
Duration	Medium term (2)	Medium term (2)
Magnitude	Medium (2)	low (1)
Reversibility	Barely (3)	Partly (2)
Irreplaceable loss of resources	Marginal loss of resources (2)	Marginal loss of resources (2)
Cumulative impact	Medium cumulative impacts (3) - An additional demand on water sources could result in a significant cumulative impact with regards to the availability of water.	

Significance	Negative medium (30)	Negative Low (14)
Can impacts be mitigated?	Yes.	

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OPERATIONAL PHASE

Direct impacts: During the operational phase the study area will serve as a mining area and the impacts are generally associated with ecological impacts, soil erosion, change in land use, impacts associated with the, increase in storm water runoff, increased consumption of water, visual intrusion, the generation of general waste, leakage of hazardous materials, and the change in the sense of place. The operational phase will also have a direct positive impact through the provision of permanent employment opportunities and facilitating a positive economic growth. The abovementioned impacts are discussed in more detail below:

- Ecological impacts – According to the Ecological Report the operational phase impact is as follows:

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Potential Environmental Impact	Environmental Impact Before Mitigation					Significance	Environmental Impact After Mitigation					Significance
	Probability of Impact	Sensitivity of Receiving	Severity	Spatial Scale	Duration		Probability of Impact	Sensitivity of Receiving	Severity	Spatial Scale	Duration	
Alteration of the flow regime of the watercourse	5	4	4	4	5	117 High	4	4	3	3	4	80 Medium - High
Changing the physical structure within a water resource (habitat)	5	4	4	4	5	117 High	4	4	3	3	3	72 Medium - Low
Alteration of the amount of sediment entering the water resource and associated change in turbidity	5	4	4	4	4	108 High	4	4	2	3	2	56 Medium - Low
Alteration of water quality	5	4	4	4	4	108 High	4	4	2	3	2	56 Medium - Low
Loss of terrestrial habitat	5	4	3	3	5	99 Medium - High	4	4	2	2	4	64 Medium - Low
Loss of Aquatic Biota	4	3	3	4	3	70 Medium - Low	3	3	2	2	4	48 Low
Loss of Terrestrial Fauna	4	3	3	3	4	70 Medium - Low	3	3	2	2	3	42 Low
Loss of Terrestrial Flora	5	4	3	3	5	99 Medium - High	4	4	2	2	3	56 Medium - Low
Introduction and spread of alien vegetation	4	3	3	3	5	77 Medium - High	2	3	2	1	3	30 Low

- Soil erosion – The largest risk factor for soil erosion will be during the operational phase when the mining activity ensues and soil is left bare until rehabilitation is initiated. Erosion will be localised within the site. This will ultimately lead to the irretrievable commitment of this resource. The measurable effect of reducing erosion by utilizing mitigation measures may reduce possible erosion significantly

Soil erosion	Pre-mitigation impact rating	Post mitigation impact rating
Status (positive or negative)	Negative	Negative
Extent	Local (2)	Site (1)
Probability	Possible (2)	Unlikely (1)
Duration	Medium term (2)	Medium term (2)
Magnitude	Medium (2)	Low (1)
Reversibility	Partly reversible (2)	Completely reversible (1)
Irreplaceable loss of resources	Marginal loss of resource (2)	No loss of resource (1)
Cumulative impact	Low cumulative effects (2), should these impacts occur, there will be a cumulative impact on the air and water resources in the study area in terms of pollution.	
Significance	Negative Low (24)	Negative Low (8)
Can impacts be mitigated?	<p>Yes, to avoid soil erosion it will be a good practice to not remove all the vegetation at once but to only clear the area as it becomes necessary and to implement concurrent rehabilitation.</p> <ul style="list-style-type: none"> • The following mitigation or management measures are provided: Implement an effective system of run-off control, where it is required, that collects and safely disseminates run-off water from all hardened surfaces and prevents potential down slope erosion. • Monitor the area regularly after larger rainfall events to determine where erosion may be initiated and then mitigate by modifying the soil micro-topography and revegetation or soil erosion control efforts accordingly <p>Also refer to section (f) of the EMP.</p>	

- Change in land-use – According to the Ecological Impact Assessment Report a big area is situated in an agricultural area. Most of the arable land is used for crop production. The natural veld is used for cattle grazing and to a lesser extent game farming. Portions of the region, have been transformed by mining and residential developments.

Change in land use	Pre-mitigation impact rating	Post mitigation impact rating
Status (positive or negative)	Negative	Negative
Extent	Local (2)	Local (2)
Probability	Definite (4)	Probable (3)
Duration	Long term (3)	Medium term (2)
Magnitude	Very High (4)	High (3)
Reversibility	Barely reversible (3)	Partly reversible (2)

Irreplaceable loss of resources	Significant loss of resource (3)	Marginal loss of resource (2)
Cumulative impact	High cumulative impacts (4)	
Significance	Negative very high (76)	Negative medium (45)
Can impacts be mitigated?	The proponent should establish a Rehabilitation Fund to be used to rehabilitate the area once the proposed facility has been decommissioned. The fund should be funded by revenue generated during the operational phase of the project. The motivation for the establishment of a Rehabilitation Fund is based on the experience in the mining sector where many mines on closure have not set aside sufficient funds for closure and decommissioning. Also refer to section (f) of the EMPr.	

- Generation of alternative land use income – Income generated through the Diamond General (D) mine can provide the community with increased cash flow and livelihood, and thereby improve the financial sustainability of the community.

Generation of alternative land use income	Pre-mitigation impact rating	Post mitigation impact rating
Status (positive or negative)	Positive	Positive
Geographical extent	Site (1)	Local (2)
Probability	Definite (4)	Definite (4)
Duration	Long term (3)	Long term (3)
Magnitude	Medium (2)	Medium (2)
Reversibility	Completely reversible (1)	Completely reversible (1)
Irreplaceable loss of resources	No loss of resources (1)	No loss of resources (1)
Cumulative impact	Low cumulative impact (2).	
Significance	Positive Low (24)	Positive Low (26)
Can impacts be mitigated?	No mitigation required.	

- Increase in storm water runoff – The development will potentially result in an increase in storm water run-off that needs to be managed to prevent soil erosion, especially where vegetation will be cleared. Not all the vegetation should be removed at once. Only the specific trench being excavated at the specific time should be cleared.

Increase in storm water runoff	Pre-mitigation impact rating	Post mitigation impact rating
Status (positive or negative)	Negative	Negative
Extent	Site (1)	Site (1)
Probability	Probable (3)	Possible (2)
Duration	Medium term (2)	Medium term (2)
Magnitude	High (3)	Medium (2)
Reversibility	Partly reversible (2)	Partly reversible (2)
Irreplaceable loss of resources	Marginal loss of resource (2)	No loss of resource (1)

Cumulative impact	Low cumulative impact (2) - Should these impacts occur, there will be cumulative impacts on the wider area.	
Significance	Negative medium (36)	Negative low (20)
Can impacts be mitigated?	Yes. It is therefore important that all management actions and mitigation measures included in section (f) of the EMPr. are implemented to ensure that these impacts do not occur	

- Generation of waste - Sources of general waste will be waste food, packaging, paper, etc. General waste will be stored on the site and removed on a weekly basis.

Generation of waste	Pre-mitigation impact rating	Post mitigation impact rating
Status (positive or negative)	Negative	Negative
Extent	Local (2)	Local (2)
Probability	Definite (4)	Definite (4)
Duration	Medium term (2)	Medium term (2)
Magnitude	Low (1)	Low (1)
Reversibility	Partly reversible (2)	Partly reversible (2)
Irreplaceable loss of resources	No loss of resource (1)	No loss of resource (1)
Cumulative impact	Medium cumulative impact (3) - An additional demand for landfill space could result in significant cumulative impacts with regards to the availability of landfill space. If general waste is left on site livestock could mistakenly eat it, which might in turn harm or kill them.	
Significance	Negative low (14)	Negative low (14)
Can impacts be mitigated?	Yes, management actions related to waste management are included in section (f) of the EMPr.	

- Leakage of hazardous materials - The proposed mining activity will make use of machinery that use fuel and oil. Leakage of these oils and fuel can contaminate water supplies and must be prevented by constructing oil and diesel permeable bunds to ensure that any spills are suitably attenuated and not released into the environment.

Leakage of hazardous materials	Pre-mitigation impact rating	Post mitigation impact rating
Status (positive or negative)	Negative	Negative
Extent	Site (1)	Site (1)
Probability	Possible (2)	Unlikely (1)
Duration	Medium term (2)	Short term (1)
Magnitude	Medium (2)	Medium (2)
Reversibility	Partly reversible (2)	Completely reversible (1)
Irreplaceable loss of resources	Significant loss of resource (3)	Marginal loss of resource (2)
Cumulative impact	The impact would result in negligible to no cumulative effects (1)	
Significance	Negative low (22)	Negative low (14)

Can impacts be mitigated?	Yes. It is therefore important that all management actions and mitigation measures included in the section (f) of EMPr are implemented to ensure that these impacts do not occur.
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- **Noise disturbance** - Mining activities will result in the generation of noise over a period of 10 years. Sources of noise are likely to include vehicles, the use of machinery such as drills and people working on the site; but mining activities should be limited to normal working days hours.

The following three primary variables should be considered when designing acoustic screening measures for the control of sound and/or noise:

- The source – Reduction of noise at the source;
- The transmission path – Reduction of noise between the source and the receiver;
- The receiver – Reduction of the noise at the receiver.

The last option is not applicable as it was decided to control the noise levels at the source.

Increased noise levels are directly linked with the various activities associated with the construction of the proposed facility and related infrastructure, as well as the operational phase of the activity.

Temporary noise disturbance	Pre-mitigation impact rating	Post mitigation impact rating
Status (positive or negative)	Negative	Negative
Extent	Local (2)	Local (2)
Probability	Probable (3)	Possible (2)
Duration	Long term (3)	Medium term (2)
Magnitude	High (3)	Medium (2)
Reversibility	Partly reversible (2)	Completely reversible (1)
Irreplaceable loss of resources	Significant loss of resource (3)	Marginal loss of resource (2)
Cumulative impact	High cumulative impact (4).	
Significance	Negative High (51)	Negative low (26)
Can impacts be mitigated?	Yes, management actions related to noise pollution are included in section (f) of the EMPr.	

Air Pollution: Dust pollution as a result of machinery on site.

Generation of waste	Pre-mitigation impact rating	Post mitigation impact rating
Status (positive or negative)	Negative	Negative
Extent	Local (1)	Local (1)
Probability	Probable (3)	Medium (2)
Duration	Medium term (2)	Medium term (2)
Magnitude	Low (1)	Low (1)
Reversibility	Irreversible reversible (4)	Barely reversible (3)

Irreplaceable loss of resources	No loss of resource (1)	No loss of resource (1)
Cumulative impact	The impact would result in negligible to no cumulative effects (1)	
Significance	Negative low (12)	Negative low (9)
Can impacts be mitigated?	Yes,	

DECOMMISSIONING PHASE (MINE CLOSURE AND REHABILITATION)

Direct impacts: Typically, the major social impacts associated with the decommissioning phase are linked to ecological impacts, loss of jobs and associated income. This has implications for the households who are directly affected, the communities within which they live. If infrastructures are removed after mining, the site will be returned to its natural state. Therefore, the physical environment will benefit from the closure of the mining area.

- Ecological Impacts

Potential Environmental Impact	Environmental Impact Before Mitigation					Significance	Environmental Impact After Mitigation					Significance
	Probability of Impact	Sensitivity of Receiving	Severity	Spatial Scale	Duration		Probability of Impact	Sensitivity of Receiving	Severity	Spatial Scale	Duration	
Alteration of the flow regime of the watercourse	4	4	3	3	3	72 Medium – Low	2	4	2	1	2	30 Low
Loss of terrestrial habitat	4	4	2	2	3	56 Medium – Low	3	4	2	1	2	35 Low
Changing the physical structure within a water resource (habitat)	4	4	3	3	3	72 Medium – Low	3	4	2	2	2	42 Low
Introduction and spread of alien vegetation	4	3	3	3	3	63 Medium – Low	3	3	2	1	2	30 Low

- Rehabilitation of the physical environment –There is a minimal chance to restore the site to its natural state.
 - Any residue stockpiles need to be removed and placed in the base of the final void (excluding the final waste rock dump that will remain).
 - It is recommended that the dumps be shaped to an 18° slope; and
 - Topsoil will be spread over all disturbed areas and re-vegetated.

Rehabilitation of the physical environment	Pre-mitigation impact rating	Post mitigation impact rating
Status (positive or negative)	Positive	Positive
Extent	Site (1)	Site (1)
Probability	Definite (4)	Definite (4)
Duration	Long term (3)	Long term (3)
Magnitude	High (3)	High (3)
Reversibility	N/A	N/A
Irreplaceable loss of resources	N/A	N/A
Cumulative impact	The impact would result in negligible to no cumulative effects (1)	
Significance	Positive low (27)	Positive low (27)
Can impacts be mitigated?	No mitigation measures required.	

- Loss of employment - Given the relatively large number of people employed during the operational phase, the decommissioning of the facility has the potential to have a negative social impact on the local community.

Loss of employment	Pre-mitigation impact rating	Post mitigation impact rating
Status (positive or negative)	Negative	Negative
Extent	Local (2)	Local (2)
Probability	Possible (2)	Possible (2)
Duration	Medium term (2)	Medium term (1)
Magnitude	Medium (2)	Medium (2)
Reversibility	Partly reversible (2)	Partly reversible (2)
Irreplaceable loss of resources	No loss of resource (1)	No loss of resource (1)
Cumulative impact	The impact would result in negligible to no cumulative effects (1)	
Significance	Negative low (20)	Negative low (18)
Can impacts be mitigated?	<p>The following mitigation measures are recommended:</p> <ul style="list-style-type: none"> • All structures and infrastructure associated with the proposed facility should be dismantled and transported off-site on decommissioning. • Turnover Trading (Pty) Ltd should establish an Environmental Rehabilitation Trust Fund to cover the costs of decommissioning and rehabilitation of disturbed areas. 	

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K. SUMMARY OF THE FINDINGS AND RECOMMENDATIONS OF ANY SPECIALIST REPORT

(where applicable, a summary of the findings and recommendations of any specialist report complying with Appendix 6 to these Regulations and an indication as to how these findings and recommendations have been included in the final assessment report;)

Table 14: Summary of The Findings and Recommendations of any Specialist Report

<p>LIST OF STUDIES UNDERTAKEN</p>	<p>RECOMMENDATIONS OF SPECIALIST REPORTS</p>	<p>SPECIALIST RECOMMENDATIONS THAT HAVE BEEN INCLUDED IN THE EIA REPORT (Mark with an X where applicable)</p>	<p>REFERENCE TO APPLICABLE SECTION OF REPORT WHERE SPECIALIST RECOMMENDATIONS HAVE BEEN INCLUDED.</p>

<p>Cultural Heritage Impact Assessment</p>	<p>This report describes the methodology used, the limitations encountered, the heritage features that were identified and the recommendations and mitigation measures proposed relevant to this. The HIA consisted of a desktop study (archival sources, database survey, maps and aerial imagery) and a physical survey that included the interviewing of relevant people. It should be noted that the implementation of the mitigation measures is subject to SAHRA/PHRA's approval.</p> <p>The cultural landscape qualities of the region essentially consist of a two components. The first is a rural area in which the human occupation is made up of a pre-colonial (Stone Age) occupation and a much later colonial (farmer) component. The second component is an urban one consisting of a number of smaller towns, most of which developed during the last 150 years or less.</p> <p>Identified sites During the survey the following sites, features or objects of cultural significance were identified.</p> <p>7.1.1 – 7.1.2</p> <ul style="list-style-type: none"> • Two sites dating to the Later Stone Age were identified. The one is classified as a factory site were a cores, flakes and tools produced from chert, were identified. The second site contains a number of pecked engravings of humans, animals and geometric patterns on what is colloquially referred to as a 'rhino rock'. <p>7.3.1 1 – 7.3.1.7 Burial sites</p> <ul style="list-style-type: none"> • A total of seven informal burial sites have been identified. It is taken that some of the graves would date back to the early settlement of the baTloung in the region, especially in the vicinity of the mission station. Unfortunately, most graves do not have headstones with dates on them – the earliest identified date was 1924. <p>7.3.2.1 – 7.3.2.31 Archaeological sites (Homesteads)</p> <ul style="list-style-type: none"> • A number of homesteads were identified, mostly occurring along the Monamaladi River. All of them seem to conform to a 'standard' pattern: a house (in most cases now demolished); outbuildings consisting of cattle enclosures built with local stone; and an ash midden in close proximity. Apparently, these houses were abandoned when infrastructure services (water and electricity) were installed at the Putfontein community. <p>7.3.3.1 Built environment</p>	<p>X</p>	
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- A small hamlet, known as Carcal, developed in close proximity of the Bodenstein railway station. It consists of a number of buildings most of which, according to their architectural style, date to the 1930s and 1940s.

Impact assessment and proposed mitigation measures

Impact analysis of cultural heritage resources under threat of the proposed development, is based on the present understanding of the development:

IDENTIFIED HERITAGE RESOURCES					
Site No.	Site type	NHRA category	Field rating	Impact rating: Before/After	Proposed mitigation (Refer to definitions in Section 8.4)
EIA412: Stone Age Sites					
7.1.1 – 7.1.2	Factory site	Section 35	High significance Grade III-A	36 6	(1) Avoid/preserve

IDENTIFIED HERITAGE RESOURCES					
Site No.	Site type	NHRA category	Field rating	Impact rating: Before/After	Proposed mitigation (Refer to definitions in Section 8.4)
EIA412: Burial Sites					
7.3.1.1 – 7.3.1.7	Burial sites	Section 36	High significance Grade IV-A	36 6	(1) Avoid/preserve

IDENTIFIED HERITAGE RESOURCES					
Site No.	Site type	NHRA category	Field rating	Impact rating: Before/After	Proposed mitigation (Refer to definitions in Section 8.4)
EIA412: Archaeological sites					
7.3.2.1 – 7.3.2.31	Built environment	Section 34	High significance Grade IV-A	36 6	(1) Avoid/preserve; (2) Archaeological investigation

IDENTIFIED HERITAGE RESOURCES					
Site No.	Site type	NHRA category	Field rating	Impact rating: Before/After	Proposed mitigation (Refer to definitions in Section 8.4)
EIA412: Built environment					
7.3.3.1	Built environment	Section 34	High significance Grade IV-A	36 6	(1) Avoid/preserve

Legal requirements

The legal requirements related to heritage specifically are specified in Section 3 of this report.

	<ul style="list-style-type: none"> • The legal requirements related to heritage specifically are specified in Section 3 of this report. For this proposed project, the assessment has determined that sites, features or objects of heritage significance occur in the project area, therefore various permits, depending on the type of site to be impacted on would be required. • If heritage features are identified during construction, as stated in the management recommendation, these finds would have to be assessed by a specialist, after which a decision will be made regarding the application for relevant permits. <p><u>Reasoned opinion as to whether the proposed activity should be authorised:</u></p> <ul style="list-style-type: none"> • From a heritage point of view, it is recommended that the proposed mining activities be allowed to continue on acceptance of the proposed mitigation measures and the conditions proposed below. <p><u>Conditions for inclusion in the environmental authorisation:</u></p> <ul style="list-style-type: none"> • The Palaeontological Sensitivity Map (https://sahris.sahra.org.za/map/palaeo) indicate that the western part of the project area has a low possibility of fossil remains to be found and, although a palaeontological assessment is not required, a protocol for finds is required. The eastern, smaller portion of the project area has a very high possibility of fossil remains to be found and therefore a field assessment and protocol for finds is required. o According to the mining plan, work will commence in the central section of the project area, i.e. west of the area of high palaeontological significance. If at a later stage a decision is made to mine in this sensitive area, the mining company will inform the DMR and seek permission from SAHRA. • Should archaeological sites or graves be exposed during construction work, it must immediately be reported to a heritage practitioner so that an investigation and evaluation of the finds can be made. The appropriate steps to take are indicated in Section 9 of the report, as well as in the Management Plan: Burial Grounds and Graves, with reference to general heritage sites, in the Addendum, Section 12.4. 		
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<p>Paleontological Desktop Assessment</p>	<p>The proposed mining footprint is underlain by the following:</p> <ul style="list-style-type: none"> • Gravel, Diamondiferous in places • Black Reef Formation of the Transvaal Supergroup • Oaktree Formation of the Malmani Subgroup, Chuniespoort Group, Transvaal Supergroup • Allanridge Formation of the Ventersdorp Supergroup <p>While the operational area is underlain by</p> <ul style="list-style-type: none"> • Gravel, Diamondiferous in places • Black Reef Formation of the Transvaal Supergroup • Allanridge Formation of the Ventersdorp Supergroup <p>According to the PalaeoMap of the South African Heritage Resources Information System the Palaeontological Sensitivity of the Quaternary gravel, Black Reef Formation (of the Transvaal Supergroup) and Allanridge Formation (of the Ventersdorp Supergroup) (operational area) has a Moderate Palaeontological Sensitivity while that of the Malmani Subgroup is Very High, (Almond and Pether 2008, SAHRIS website). As the current development (operational area) is underlain by sediments of a Moderate Palaeontological Sensitivity (Quaternary gravel, Black Reef Formation of the Transvaal Supergroup as well as the Allanridge Formation of the Ventersdorp Supergroup) a LOW Palaeontological Significance has been allocated to the development and it is therefore considered that the construction of the proposed development is deemed appropriate and feasible and will not lead to detrimental impacts on the palaeontological resources of the area. The construction of the development may be authorised and no further palaeontological heritage studies, ground truthing and/or specialist mitigation are required pending the discovery of fossils. (However, if construction of any kind would ever expand into the Malmani Subgroup a site visit by a professional palaeontologist will be required. This requirement should be incorporated into the EMPr).</p> <p>If any fossil remains are discovered during any phase of construction (for the current application), either on the surface or uncovered by excavations the ECO/site manager in charge of these developments must be notified immediately. These discoveries ought to be protected (if possible, <i>in situ</i>) and the ECO must report to SAHRA (Contact details: NWPHRA, 1 st Floor Gaabomotho Building, 760 Dr.James Moroka Drive, Mmabatho Tel: 0183882826; Fax: +27 (0)43 7450889. Web: www.nwpg.gov.za) so that correct mitigation (recording and collection) can be carry out by a palaeontologist.</p>	<p style="text-align: center;">X</p>	
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	<p>The specialist would need a collection permit from SAHRA. Fossil material must be curated in an approved collection (museum or university) and all fieldwork and reports should meet the minimum standards for palaeontological impact studies developed by SAHRA</p>		
<p>Ecological Impact Assessment and Wetland Report</p>	<p>The study site falls within the C24F Quaternary Catchment and forms part of the Middle-Vaal Water Management Area (WMA). The Middle Vaal WMA is located downstream of the confluence of the Vaal and the Rietspruit Rivers and upstream of Bloemhof Dam; It extends to the headwaters of the Schoonspruit River in the North and the Vet River in the south, covering a total catchment area of 52 563 km².</p> <p><u>Desktop Assessment:</u></p> <ul style="list-style-type: none"> • According to the South African National Biodiversity Institute (SANBI), the proposed site is located within the Endangered Vaal-Vet Sandy Grassland vegetation Ecosystem. • According to the North West Biodiversity Sector Plan (2015), the study site does not overlap with any formally Protected Area. • No Important Bird and Biodiversity Areas (IBAs) were identified within the vicinity of the study site (Birdlife 2019); • The study sites overlap with the Vaal-Vet Sandy Grassland (Gh 10) and the Carletonville Dolomite Grassland (Gh 15) vegetation types, within the Dry Highveld Grassland Bioregion (Mucina & Rutherford, 2006/2018); • Most of the study site overlaps with Category B, Highest Risk for Mining according to the Mining and Biodiversity Guideline (2013); • The study site falls within the Highveld Ecoregion and Quaternary Catchment C24F; • According to the National Wetland map5 (2018), four (4) wetland types occur on site. <p><u>Fauna and Flora Species Desktop Analysis and Field Survey:</u></p> <ul style="list-style-type: none"> • Camel Thorn (<i>Vachellia erioloba</i>), a Protected Tree species of South Africa, occurs on site. • Several Alien and Invasive Vegetation Species occur on site. 	<p>X</p>	

- Several species possibly occurring on site are protected under NEMBA. Although not listed in the species list, there is a possibility of the Critically Endangered Riverine Rabbit (*Bunolagus monticularis*) occurring on site.

Wetland Assessment:

Classification	Scientific Buffer	PES	EIS	REC
Channelled Valley Bottom	50m	C	High	B/C Improve
Depression	50m	D	Moderate	D Maintain

Sensitivity and Impact Assessment:

North West Biodiversity Sector Plan (2015)

Large sections of the study site overlap with CBA1, CBA2 and ESA1 areas. These areas are mostly cultivated and used for livestock grazing. The wetland areas are classed as CBA1. CBAs are areas that are irreplaceable for meeting biodiversity targets. There are no other options for conserving the ecosystems, species or ecological processes in these areas.

Mining and Biodiversity Guidelines (2013)

Most of the study site overlaps with Category B, Highest Risk for Mining. Rigorous evaluation of the biodiversity content of applications is required, as well as the application of the mitigation hierarchy to reduce impacts on biodiversity in these areas. Therefore, the general area has highest biodiversity importance.

NEMA Impact Assessment

Most of the impacts associated with the proposed mining range from Medium-Low to High prior to mitigation taking place. With mitigation fully implemented, the significance of most impacts

		can be reduced to Very Low, Low, Medium-Low or Medium-High.		
	Mitigation Measures	Refer to Section 6.4		
	Does the Specialist support the Application?	Yes		
	Impact Statement:			
	The proposed mining operations is only supported if all mitigation measures provided in this report as well as general good practice, are strictly adhered to.			

Please refer to **Appendix 11** for the specialist reports

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L. AN ENVIRONMENTAL IMPACT STATEMENT WHICH CONTAINS—

(i) a summary of the key findings of the environmental impact assessment:

This section provides a summary of the assessment and conclusions drawn from the proposed mining area. In doing so, it draws on the information gathered as part of the environmental impact assessment process and the knowledge gained by the environmental consultant during the course of the process and presents an informed opinion on the environmental impacts associated with the proposed project. The following conclusions can be drawn for the proposed mining activity:

➤ **Potential impacts on biodiversity:**

According to the Ecological Impact Assessment Report *the area falls within an area that is classified as Critical Biodiversity Area (CBA) 1 & 2 Ecological Support Areas (ESA1 & 2) but the site assessment revealed that a lot of land has been transformed to agriculture, mining & residential areas.*

➤ **Potential impact on heritage resources:**

Identified sites

During the survey the following sites, features or objects of cultural significance were identified.

7.1.1 – 7.1.2

- Two sites dating to the Later Stone Age were identified. The one is classified as a factory site were a cores, flakes and tools produced from chert, were identified. The second site contains a number of pecked engravings of humans, animals and geometric patterns on what is colloquially referred to as a 'rhino rock'.

7.3.1 1 – 7.3.1.7 Burial sites

- A total of seven informal burial sites have been identified. It is taken that some of the graves would date back to the early settlement of the baTloung in the region, especially in the vicinity of the mission station. Unfortunately, most graves do not have headstones with dates on them – the earliest identified date was 1924.

7.3.2.1 – 7.3.2.31 Archaeological sites (Homesteads)

- A number of homesteads were identified, mostly occurring along the Monamaladi River. All of them seem to conform to a 'standard' pattern: a house (in most cases now demolished); outbuildings consisting of cattle enclosures built with local stone; and an ash midden in close proximity. Apparently, these houses were abandoned when infrastructure services (water and electricity) were installed at the Putfontein community.

7.3.3.1 Built environment

- A small hamlet, known as Carcal, developed in close proximity of the Bodenstein railway station. It consists of a number of buildings most of which, according to their architectural style, date to the 1930s and 1940s.

Impact assessment and proposed mitigation measures

Impact analysis of cultural heritage resources under threat of the proposed development, is based on the present understanding of the development:

IDENTIFIED HERITAGE RESOURCES					
Site No.	Site type	NHRA category	Field rating	Impact rating: Before/After	Proposed mitigation (Refer to definitions in Section 8.4)
EIA412: Stone Age Sites					
7.1.1 – 7.1.2	Factory site	Section 35	High significance Grade III-A	36 6	(1) Avoid/preserve

IDENTIFIED HERITAGE RESOURCES					
Site No.	Site type	NHRA category	Field rating	Impact rating: Before/After	Proposed mitigation (Refer to definitions in Section 8.4)
EIA412: Burial Sites					
7.3.1.1 – 7.3.1.7	Burial sites	Section 36	High significance Grade IV-A	36 6	(1) Avoid/preserve

IDENTIFIED HERITAGE RESOURCES					
Site No.	Site type	NHRA category	Field rating	Impact rating: Before/After	Proposed mitigation (Refer to definitions in Section 8.4)
EIA412: Archaeological sites					
7.3.2.1 – 7.3.2.31	Built environment	Section 34	High significance Grade IV-A	36 6	(1) Avoid/preserve; (2) Archaeological investigation

IDENTIFIED HERITAGE RESOURCES					
Site No.	Site type	NHRA category	Field rating	Impact rating: Before/After	Proposed mitigation (Refer to definitions in Section 8.4)
EIA412: Built environment					
7.3.3.1	Built environment	Section 34	High significance Grade IV-A	36 6	(1) Avoid/preserve

It is therefore recommended, from a cultural heritage perspective that the proposed prospecting activities may proceed.

Also, please note:

Archaeological deposits usually occur below ground level. Should archaeological artefacts or skeletal material be revealed in the area during development activities, such activities should be halted, and a university or museum notified in order for an investigation and evaluation of the find(s) to take place (**cf. NHRA (Act No. 25 of 1999)**, Section 36 (6)).

Special attention will be given to the identification of possible cultural or heritage resources. Possible cultural or heritage resources on site seems unlikely since most of the area is transformed and used for crop production. This may need to be confirmed

It should be noted that heritage resources including archaeological and paleontological sites over 100 years old, graves older than 60 years, structure older than 60 years are protected by the National Heritage Resources Act no 25 of 1999. Therefore if such resources are found during the mining or development activities, they shall not be disturbed without a permit from the relevant heritage resource Authority, which means that before such sites are disturbed by development it is incumbent on the developer to ensure that a heritage impact assessment is done and the Provincial Heritage Resources Authority and SAHRA must be contacted immediately and work will stop.

➤ **Potential impacts on Agricultural:**

From the Agricultural point of view, mining may have impact directly on any socio-economic aspects since this will be affect the farming activities, food security and have financial impact to the landowners using the farms for agricultural activities.

➤ **Potential impact on Palaeontological resources:**

The proposed mining footprint is underlain by the following:

- Gravel, Diamondiferous in places
- Black Reef Formation of the Transvaal Supergroup
- Oaktree Formation of the Malmani Subgroup, Chuniespoort Group, Transvaal Supergroup
- Allanridge Formation of the Ventersdorp Supergroup

While the operational area is underlain by

- Gravel, Diamondiferous in places
- Black Reef Formation of the Transvaal Supergroup
- Allanridge Formation of the Ventersdorp Supergroup

According to the PalaeoMap of the South African Heritage Resources Information System the Palaeontological Sensitivity of the Quaternary gravel, Black Reef Formation (of the Transvaal Supergroup) and Allanridge Formation (of the Ventersdorp Supergroup) (operational area) has a Moderate Palaeontological Sensitivity while that of the Malmani Subgroup is Very High, (Almond and Pether 2008, SAHRIS website). As the current development (operational area) is underlain by sediments of a Moderate Palaeontological Sensitivity (Quaternary gravel, Black Reef Formation of the Transvaal Supergroup as well as the Allanridge Formation of the Ventersdorp Supergroup) a LOW Palaeontological Significance has been allocated to the development and it is therefore considered that the construction of the proposed development is deemed appropriate and feasible and will not lead to detrimental impacts on the palaeontological resources of the area. The construction of the development may be authorised and no further palaeontological heritage studies, ground truthing and/or specialist mitigation are required pending the discovery of fossils. **(However, if construction of any kind would ever expand into the Malmani Subgroup a site visit by a professional palaeontologist will be required. This requirement should be incorporated into the EMPr).**

If any fossil remains are discovered during any phase of construction (for the current application), either on the surface or uncovered by excavations the ECO/site manager in charge of these developments must be notified immediately. These discoveries ought to be protected (if possible, *in situ*) and the ECO must report to SAHRA (Contact details: NWPHRA, 1 st Floor Gaabomotho Building, 760 Dr. James Moroka Drive, Mmabatho Tel: 0183882826; Fax: +27 (0)43 7450889. Web: www.nwpg.gov.za) so that correct mitigation (recording and collection) can be carry out by a palaeontologist.

The specialist would need a collection permit from SAHRA. Fossil material must be curated in an approved collection (museum or university) and all fieldwork and reports should meet the minimum standards for palaeontological impact studies developed by SAHRA

➤ **Potential impacts on land use:**

According to the Ecological Impact Assessment Report drafted by the late Mr. P.J du Preez, *the project site is situated in an agricultural area. Most of the arable land is used for crop production. The natural veld is used for cattle grazing and to a lesser extent game farming. Portions of the region, have been transformed by mining and residential developments.*

➤ **Potential social impacts:**

The presence of construction workers poses a potential risk to family structures and social networks. While the presence of construction workers does not in itself constitute a social impact, the manner in which construction workers conduct themselves can impact on local communities. The most significant negative impact is associated with the disruption of existing family structures and social networks.

- **Potential negative impacts:** (noise, dust, soil degradation, storm water, traffic, health and safety) associated with the operation of the facility are expected to be of low-high impact, of medium terms and site specific. These can be mitigated or negated through the implementation of practical and appropriate mitigation measures.
- **Negative impacts:** The mining of Diamonds may definitely impact directly on any socio-economic aspects since this will be affect the farming activities, food security and have financial impact to the landowners using the farms for agricultural activities.

All possible negative impacts and risks that have been identified in this report can be effectively mitigated and managed by implementing the migratory measures as set out in the Environmental Management Programme (EMPr) attached in Part B.

- (i) **a map at an appropriate scale which superimposes the proposed activity and its associated structures and infrastructure on the environmental sensitivities of the preferred [site] development footprint on the approved site as contemplated in the accepted scoping report indicating any areas that should be avoided, including buffers; and**

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

Kindly refer to **Figure 18** below

Milnex CC: EIA412–EIR & EMPr - Mining Right Application, combined with a Waste Licence Application of **Turnover Trading 251 (Pty) Ltd** for the mining of Diamonds General (D) on the RE of Portions 6, 7, 10 and Portions 8, 17, 19 of the Farm Sterkfontein 155. Portion 29, 30, 31, 32, 33, 34, 45, 46, 47, 48, 49, 50, 51, 52 53, 54, 55, 56, 57, 58, 59, 60, 61, 63, 64, 65, 68, 69, 70, 66 and a certain portion of portion 62, the RE of Portion 1 & 7 of the Farm Putfontein 62. Portion 1, 2 & the RE of the Farm Omega 478. Portion 3 & the RE of the Farm Holgat 63. Portion 4, 5, 6 & the RE of Portion 2 of the farm Wildfontein 201. The RE of portion 5 & 31 of the farm Leewufontein 64. A certain Portion of the RE of Farm 533; Registration Division: IP, North West Province.

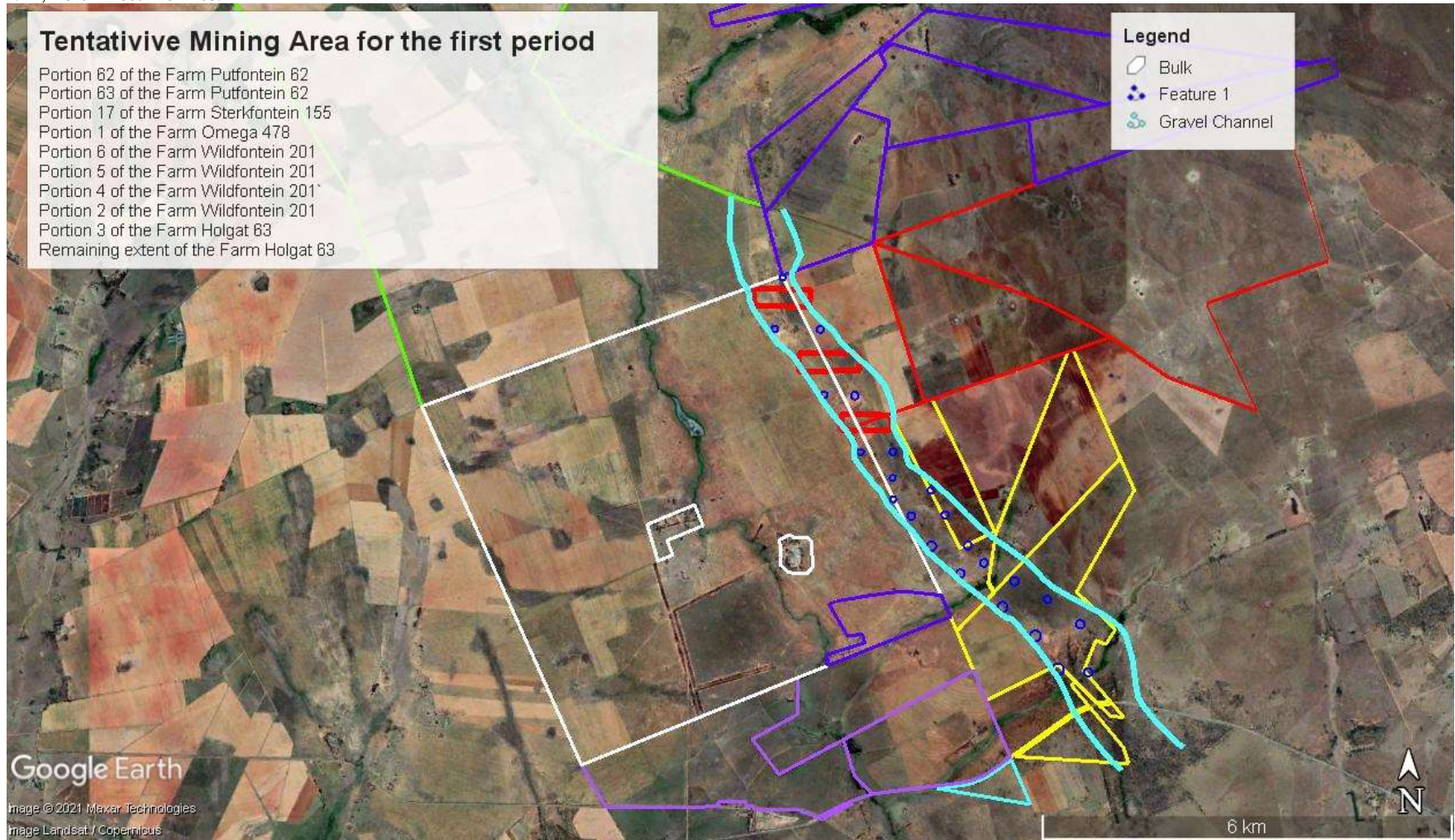


Figure 18: Site Layout Plan for 1st part Of the mining operations

Milnex CC: EIA412-EIR & EMPr - Mining Right Application, combined with a Waste Licence Application of **Turnover Trading 251 (Pty) Ltd** for the mining of Diamonds General (D) on the RE of Portions 6, 7, 10 and Portions 8, 17, 19 of the Farm Sterkfontein 155. Portion 29, 30, 31, 32, 33, 34, 45, 46, 47, 48, 49, 50, 51, 52 53, 54, 55, 56, 57, 58, 59, 60, 61, 63, 64, 65, 68, 69, 70, 66 and a certain portion of portion 62, the RE of Portion 1 & 7 of the Farm Putfontein 62. Portion 1, 2 & the RE of the Farm Omega 478. Portion 3 & the RE of the Farm Holgat 63. Portion 4, 5, 6 & the RE of Portion 2 of the farm Wildfontein 201. The RE of portion 5 & 31 of the farm Leewufontein 64. A certain Portion of the RE of Farm 533; Registration Division: IP, North West Province.

(ii) a summary of the positive and negative impacts and risks of the proposed activity and identified alternatives;

There are regional socio economic benefits due to the Diamonds being mined in the North West Province and greater knowledge is gained on the mineralogy of South Africa. All possible negative impacts and risks that have been identified in this report can be effectively mitigated and managed by implementing the mitigation measures as set out in the Environmental Management Programme (EMPr) attached in Part B. Some adverse social environmental impacts are anticipated.

M. PROPOSED IMPACT MANAGEMENT OBJECTIVES AND THE IMPACT MANAGEMENT OUTCOMES FOR INCLUSION IN THE EMPr

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

Management objectives include:

- Ensure that the mining activity does not cause pollution to the environment or harm to persons.
- Minimise production of waste.
- All mining activities must be conducted in a manner that minimises noise impact, litter, environmental degradation and health hazards i.e. injuries.
- The mine must be kept neat and tidy during waste handling to prevent unsightliness and accidents.

Expected outcomes include:

- Minimum impacts on the environment as a result of Diamond mining.
- Compliance with legislative requirements.
- Mine is neat and tidy and well managed.

N. FINAL PROPOSED ALTERNATIVES.

(Provide an explanation for the final layout of the infrastructure and activities on the overall site as shown on the final site map together with the reasons why they are the final proposed alternatives which respond to the impact management measures, avoidance, and mitigation measures identified through the assessment)

This alternative asks the question, if there is not, from an environmental perspective, a more suitable location for the proposed activity.

Mining Right for the mining of Diamonds General (D) on the RE of Portions 6, 7, 10 and Portions 8, 17, 19 of the Farm Sterkfontein 155. Portion 29, 30, 31, 32, 33, 34, 45, 46, 47, 48, 49, 50, 51, 52 53, 54, 55, 56, 57, 58, 59, 60, 61, 63, 64, 65, 68, 69, 70, 66 and a certain portion of portion 62, the RE of Portion 1 & 7 of the Farm Putfontein 62. Portion 1, 2 & the RE of the Farm Omega 478. Portion 3 & the RE of the Farm Holgat 63. Portion 4, 5, 6 & the RE of Portion 2 of the farm Wildfontein 201. The RE of portion 5 & 31 of the farm Leewufontein 64. A certain Portion of the RE of Farm 533; Registration Division: IP, North West Province. therefore there will be no other alternative (i.e. to facilitate the movement of machinery, equipment, infrastructure).

O. ASPECTS FOR INCLUSION AS CONDITIONS OF AUTHORISATION.

(Any aspects which were conditional to the findings of the assessment either by the EAP or specialist which are to be included as conditions of authorisation;)

Mining operations in the area must be conducted in accordance with the Mining Work Programme (or any amendments to such MWP) and the approved Environmental Management Plan.

Once mining has ceased the area must be rehabilitated and a closure certificate must be applied for in terms of Section 43 (3) of the MPRDA.

The applicant must take all necessary and reasonable steps to adequately safeguard and protect the environment, the mining area and any person/s using or entitled to use the surface of the mining area from any possible damage or injury associated with the activities of the mining area.

P. DESCRIPTION OF ANY ASSUMPTIONS, UNCERTAINTIES AND GAPS IN KNOWLEDGE.

(Which relate to the assessment and mitigation measures proposed)

The uncertainties in results are mostly related to the availability of information, time available to gather the relevant information as well as the sometimes subjective nature of the assessment methodology. In terms of addressing the key issues the EAP is satisfied that there are no major gaps in knowledge and that the report provide sufficient information to conduct the significance rating and provide the environmental authority with sufficient information to make an informed decision.

Q. REASONED OPINION AS TO WHETHER THE PROPOSED ACTIVITY SHOULD OR SHOULD NOT BE AUTHORISED

(and if the opinion is that it should be authorised, any conditions that should be made in respect of that authorisation;)

REASONS WHY THE ACTIVITY SHOULD BE AUTHORIZED OR NOT.

Based on the outcomes of the prospecting activities, the possibility to encounter further Dimaond Reserves were identified.

The proposed Mining area is targeted as, historically, several Diamond occurrences are known in the area, and a number of these have been exploited in the past.

Mining and its associated impacts have already commenced on the proposed project site and the area has been disturbed nearby agricultural activities. Taking the aforementioned into account it is clear that the expansion of the mining operations, as proposed by the applicant, will be the most suitable future land use for the site in terms of environmental and economic cost-benefit.

CONDITIONS THAT MUST BE INCLUDED IN THE AUTHORISATION

The conditions as stipulated in the Ecological, Heritage & Paleontological Impacts Assessments must be adhered to

An Alien Invasive Control Programme must be established in order to ensure that AIPs do not become established in the area and especially do not spread or impact upon the nearby agricultural activities.

R. PERIOD FOR WHICH THE ENVIRONMENTAL AUTHORISATION IS REQUIRED.

For a minimum of 10 years.

S. AN UNDERTAKING UNDER OATH OR AFFIRMATION BY THE EAP IN RELATION TO:

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

The undertaking required to meet the requirements of this section is provided at the end of the EMPr and is applicable to both the Environmental Impact Assessment report and the Environmental Management Programme report.

I, Mr Christiaan Baron, herewith confirms

- A. the correctness of the information provided in the reports
- B. the inclusion of comments and inputs from stakeholders and I&APs ;
- C. the inclusion of inputs and recommendations from the specialist reports where relevant; and
- D. the acceptability of the project in relation to the finding of the assessment and level of mitigation proposed;



Signature of the environmental assessment practitioner:

Milnex CC – Environmental Consultants

Name of company:

03 - 11 - 2021

Date:

T. FINANCIAL PROVISION

(where applicable, details of any financial provision[s] for the rehabilitation, closure, and ongoing post decommissioning management of negative environmental impacts;)

XXXXXXXXXXXXXXXXXXXX

A. Explain how the aforesaid amount was derived.

The closure cost estimate provided above is aligned with the Guideline Document for the Evaluation of Quantum of Closure related Financial Provision Provided by a Mine, by the DMR (January, 2005). The amount was calculated by Milnex CC.

The steps followed to calculate the quantum is outlined below:

- Step 1: Determine mineral mined and saleable by-products;
- Step 2A: Determine primary risk class: Class A (High risk), Class B (Medium risk), or Class C (Low risk);

- Step 2B: Revise primary risk class (if applicable) based on saleable by-products;
- Step 3: Determine environmental sensitivity of mine area: Low sensitivity, Medium sensitivity, High sensitivity;
- Step 4: For Class A or B mining operations:
 - Step 4.1: Determine level of information available: Extensive, or Limited. For extensive information, either: Option 1: Accept the quantum determined, Option 2: Commission an independent review by a competent person, or Option 3: Follow a "rules- based" approach and proceed to step No. 4.2 For limited information, follow a "rules-based" approach and proceed to step No. 4.2.
 - Step 4.2: Identify closure components.
 - Step 4.3: Identify unit rates for closure components.
 - Step 4.4: Identify and apply weighting factors.
 - Step 4.5: Identify areas of disturbance.
 - Step 4.6: Identify closure costs from specialist studies.
 - Step 4.7: Calculate closure costs.
- Step 5: For Class C Mining operations:
 - Step 5.1: Identify minimum rates per hectare for closure;
 - Step 5.2: Determine overall size of the mine (in hectares);
 - Step 5.3: Calculate closure cost. Alternatively, follow "rules- based" approach: Step 4.1 to 4.6; and
- Step 6: Independent review by competent person. Commission independent review should there be non- agreement on the quantum for financial provision deter- mined from steps 4 or 5 above.

The quantum for the infrastructure and impact estimates was calculated as per the DMR 2005 closure cost rates schedule as well as the CPIX 2021 quantum calculation.

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

Financial Guarantee

The financial guarantee for the rehabilitation for land disturbed by **Turnover Trading (Pty) Ltd** will be submitted

Rehabilitation Fund

Turnover Trading (Pty) Ltd will also make provision for rehabilitation during closure by establishing a rehabilitation trust.

U. DEVIATIONS FROM THE APPROVED SCOPING REPORT AND PLAN OF STUDY.

(i) Any deviation from the methodology used in determining the significance of potential environmental impacts and risks; and

None of the methodologies approved for the scoping report were deviated

(ii) Motivation for the deviation.

Not applicable

V. ANY SPECIFIC INFORMATION THAT MAY BE REQUIRED BY THE COMPETENT AUTHORITY; AND

N/A

W. COMPLIANCE WITH THE PROVISIONS OF SECTIONS 24(4)(A) AND (B) OF THE ACT

Read with Section 24 (3) (A) and (7) of the National Environmental Management Act (Act 107 of 1998). The EIA Report must include the:

- ii. **Impact on the socio-economic conditions of any directly affected person.** (Provide the results of Investigation, assessment, and evaluation of the impact of the mining, bulk sampling on any directly affected person including the landowner, lawful occupier, or, where applicable, potential beneficiaries of any land restitution claim, attach the investigation report as **Appendix 2.19.1** and confirm that the applicable mitigation is reflected in 2.5.3; 2.11.6.and 2.12.herein).

Mining may have impact directly on any socio-economic aspects since this will be affect the farming activities, food security and have financial impact to the landowners using the farms for agricultural activities.

- iii. **Impact on any national estate referred to in section 3(2) of the National Heritage Resources Act.**

This report describes the methodology used, the limitations encountered, the heritage features that were identified and the recommendations and mitigation measures proposed relevant to this. The HIA consisted of a desktop study (archival sources, database survey, maps and aerial imagery) and a physical survey that included the interviewing of relevant people. It should be noted that the implementation of the mitigation measures is subject to SAHRA/PHRA's approval.

The cultural landscape qualities of the region essentially consist of a two components. The first is a rural area in which the human occupation is made up of a pre-colonial (Stone Age) occupation and a much later colonial (farmer) component. The second component is an urban one consisting of a number of smaller towns, most of which developed during the last 150 years or less.

Identified sites

During the survey the following sites, features or objects of cultural significance were identified.

7.1.1 – 7.1.2

- Two sites dating to the Later Stone Age were identified. The one is classified as a factory site were a cores, flakes and tools produced from chert, were identified. The second site contains a number of pecked engravings of humans, animals and geometric patterns on what is colloquially referred to as a 'rhino rock'.

7.3.1 1 – 7.3.1.7 Burial sites

- A total of seven informal burial sites have been identified. It is taken that some of the graves would date back to the early settlement of the baTloung in the region, especially in the vicinity of the mission station. Unfortunately, most graves do not have headstones with dates on them – the earliest identified date was 1924.

7.3.2.1 – 7.3.2.31 Archaeological sites (Homesteads)

- A number of homesteads were identified, mostly occurring along the Monamaladi River. All of them seem to conform to a 'standard' pattern: a house (in most cases now demolished); outbuildings consisting of cattle enclosures built with local stone; and an ash midden in close proximity. Apparently, these houses were abandoned when infrastructure services (water and electricity) were installed at the Putfontein community.

7.3.3.1 Built environment

• A small hamlet, known as Carcal, developed in close proximity of the Bodenstein railway station. It consists of a number of buildings most of which, according to their architectural style, date to the 1930s and 1940s.

Impact assessment and proposed mitigation measures

Impact analysis of cultural heritage resources under threat of the proposed development, is based on the present understanding of the development:

IDENTIFIED HERITAGE RESOURCES					
Site No.	Site type	NHRA category	Field rating	Impact rating: Before/After	Proposed mitigation (Refer to definitions in Section 8.4)
EIA412: Stone Age Sites					
7.1.1 – 7.1.2	Factory site	Section 35	High significance Grade III-A	36 6	(1) Avoid/preserve

IDENTIFIED HERITAGE RESOURCES					
Site No.	Site type	NHRA category	Field rating	Impact rating: Before/After	Proposed mitigation (Refer to definitions in Section 8.4)
EIA412: Burial Sites					
7.3.1.1 – 7.3.1.7	Burial sites	Section 36	High significance Grade IV-A	36 6	(1) Avoid/preserve

IDENTIFIED HERITAGE RESOURCES					
Site No.	Site type	NHRA category	Field rating	Impact rating: Before/After	Proposed mitigation (Refer to definitions in Section 8.4)
EIA412: Archaeological sites					
7.3.2.1 – 7.3.2.31	Built environment	Section 34	High significance Grade IV-A	36 6	(1) Avoid/preserve; (2) Archaeological investigation

IDENTIFIED HERITAGE RESOURCES					
Site No.	Site type	NHRA category	Field rating	Impact rating: Before/After	Proposed mitigation (Refer to definitions in Section 8.4)
EIA412: Built environment					
7.3.3.1	Built environment	Section 34	High significance Grade IV-A	36 6	(1) Avoid/preserve

Legal requirements

The legal requirements related to heritage specifically are specified in Section 3 of this report.

• The legal requirements related to heritage specifically are specified in Section 3 of this report. For this proposed project, the assessment has determined that sites, features or objects of heritage significance occur in the project area, therefore various permits, depending on the type of site to be impacted on would be required.

• If heritage features are identified during construction, as stated in the management recommendation, these finds would have to be assessed by a specialist, after which a decision will be made regarding the application for relevant permits.

Reasoned opinion as to whether the proposed activity should be authorised:

• From a heritage point of view, it is recommended that the proposed mining activities be allowed to continue on acceptance of the proposed mitigation measures and the conditions proposed below.

Conditions for inclusion in the environmental authorisation:

- The Palaeontological Sensitivity Map (<https://sahris.sahra.org.za/map/palaeo>) indicate that the western part of the project area has a low possibility of fossil remains to be found and, although a palaeontological assessment is not required, a protocol for finds is required. The eastern, smaller portion of the project area has a very high possibility of fossil remains to be found and therefore a field assessment and protocol for finds is required. o According to the mining plan, work will commence in the central section of the project area, i.e. west of the area of high palaeontological significance. If at a later stage a decision is made to mine in this sensitive area, the mining company will inform the DMR and seek permission from SAHRA.
- Should archaeological sites or graves be exposed during construction work, it must immediately be reported to a heritage practitioner so that an investigation and evaluation of the finds can be made. The appropriate steps to take are indicated in Section 9 of the report, as well as in the **Management Plan: Burial Grounds and Graves, with reference to general heritage sites**, in the Addendum, Section 12.4.

Also, please note:

Archaeological deposits usually occur below ground level. Should archaeological artefacts or skeletal material be revealed in the area during development activities, such activities should be halted, and a university or museum notified in order for an investigation and evaluation of the find(s) to take place (**cf. NHRA (Act No. 25 of 1999)**, Section 36 (6)).

Special attention will be given to the identification of possible cultural or heritage resources. Possible cultural or heritage resources on site seems unlikely since most of the area is transformed and used for crop production. This may need to be confirmed

It should be noted that heritage resources including archaeological and paleontological sites over 100 years old, graves older than 60 years, structure older than 60 years are protected by the National Heritage Resources Act no 25 of 1999. Therefore if such resources are found during the mining or development activities, they shall not be disturbed without a permit from the relevant heritage resource Authority, which means that before such sites are disturbed by development it is incumbent on the developer to ensure that a heritage impact assessment is done and the Provincial Heritage Resources Authority and SAHRA must be contacted immediately and work will stop.

Other matters required in terms of sections 24(4)(a) and (b) of the Act.

(the EAP managing the application must provide the competent authority with detailed, written proof of an investigation as required by section 24(4)(b)(i) of the Act and motivation if no reasonable or feasible alternatives, as contemplated in sub-regulation 22(2)(h), exist. The EAP must attach such motivation as **Appendix 4**).

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The specific site has been chosen for its mineral resources thus making an alternative site selection null and void.

Milnex CC: EIA412–EIR & EMPr - Mining Right Application, combined with a Waste Licence Application of **Turnover Trading 251 (Pty) Ltd** for the mining of Diamonds General (D) on the RE of Portions 6, 7, 10 and Portions 8, 17, 19 of the Farm Sterkfontein 155. Portion 29, 30, 31, 32, 33, 34, 45, 46, 47, 48, 49, 50, 51, 52 53, 54, 55, 56, 57, 58, 59, 60, 61, 63, 64, 65, 68, 69, 70, 66 and a certain portion of portion 62, the RE of Portion 1 & 7 of the Farm Putfontein 62. Portion 1, 2 & the RE of the Farm Omega 478. Portion 3 & the RE of the Farm Holgat 63. Portion 4, 5, 6 & the RE of Portion 2 of the farm Wildfontein 201. The RE of portion 5 & 31 of the farm Leewufontein 64. A certain Portion of the RE of Farm 533; Registration Division: IP, North West Province.

PART B

ENVIRONMENTAL MANAGEMENT PROGRAMME REPORT

An EMPr must comply with section 24N of the Act and include—

A. DETAILS OF—

- (i) the EAP who prepared the EMPr; and
- (ii) the expertise of that EAP to prepare an EMPr, including a curriculum vitae;

NAME OF PRACTITIONER	QUALIFICATIONS	CONTACT DETAILS
Ms. Percy Sehaole Pr. Sci. Nat. Reg. EAP (EAPASA)	Master’s Degree in Environmental Science Master’s Degree in Environmental Management (refer to Appendix 1)	Tel No.: (018) 011 1925 Fax No.: (053) 963 2009 e-mail address: percy@milnex-sa.co.za
Lizanne Esterhuizen	Honours Degree in Environmental Science (refer to Appendix 1)	Tel No.: (018) 011 1925 Fax No.: (053) 963 2009 e-mail address: lizanne@milnex-sa.co.za
Mr. Christiaan Baron	Master’s Degree in Environmental Management (M.Sc .Env.Man) (refer to Appendix 1)	Tel No.: (018) 011 1925 Fax No.: (053) 963 2009 e-mail address: christiaan@milnex-sa.co.za

It is hereby confirmed that the requirements for the provision of the details and expertise of the EAP are contained in Part A, section 1(a) as required. The Curriculum Vitae for the responsible EAP is contained in **Appendix 1 and 2**.

B. DESCRIPTION OF THE ASPECTS OF THE ACTIVITY

(a detailed description of the aspects of the activity that are covered by the EMPr as identified by the project description;)

It is hereby confirmed that the requirements to describe the aspects of the activity that are required by the EMP is already included in Part A, section 1(h).

C. COMPOSITE MAP

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

Refer to Site Layout Map below and attached as in **Appendix 4**.

Milnex CC: EIA412-EIR & EMPr - Mining Right Application, combined with a Waste Licence Application of **Turnover Trading 251 (Pty) Ltd** for the mining of Diamonds General (D) on the RE of Portions 6, 7, 10 and Portions 8, 17, 19 of the Farm Sterkfontein 155. Portion 29, 30, 31, 32, 33, 34, 45, 46, 47, 48, 49, 50, 51, 52 53, 54, 55, 56, 57, 58, 59, 60, 61, 63, 64, 65, 68, 69, 70, 66 and a certain portion of portion 62, the RE of Portion 1 & 7 of the Farm Putfontein 62. Portion 1, 2 & the RE of the Farm Omega 478. Portion 3 & the RE of the Farm Holgat 63. Portion 4, 5, 6 & the RE of Portion 2 of the farm Wildfontein 201. The RE of portion 5 & 31 of the farm Leewufontein 64. A certain Portion of the RE of Farm 533; Registration Division: IP, North West Province.

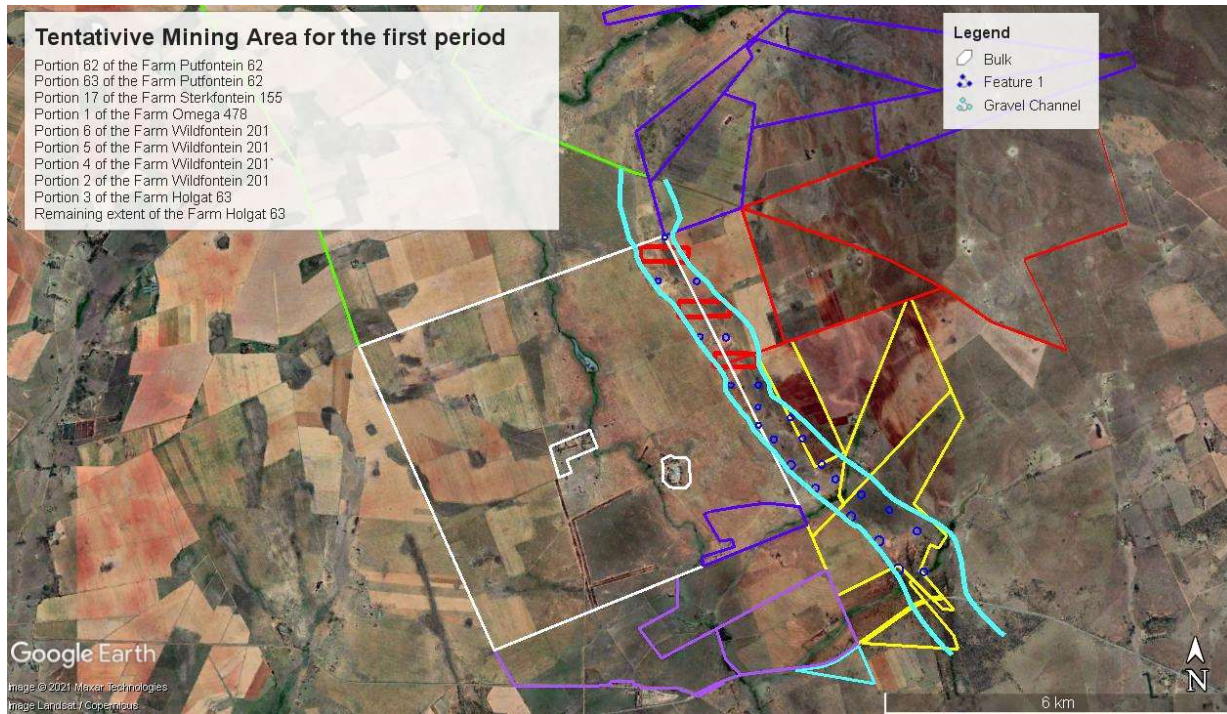


Figure19: (Site Layout Map for part 1 of the mining)

D. A DESCRIPTION OF THE IMPACT MANAGEMENT [OBJECTIVES] OUTCOMES, INCLUDING MANAGEMENT STATEMENTS, IDENTIFYING THE IMPACTS AND RISKS THAT NEED TO BE AVOIDED, MANAGED AND MITIGATED AS IDENTIFIED THROUGH THE ENVIRONMENTAL IMPACT ASSESSMENT PROCESS FOR ALL PHASES OF THE DEVELOPMENT INCLUDING—

- i) **Determination of closure objectives.** (ensure that the closure objectives are informed by the type of environment described in 2.4 herein)

Closure objectives for the Diamond mine will aim to ensure that the residual post-closure impacts be minimized and be acceptable to relevant parties. To achieve these closure objectives, the following will be implemented:

OPEN PIT

The following activities will take place at closure and during concurrent rehabilitation:

- As the opencast mining progresses, the voids created will be backfilled with overburden from the progressive opencast mining, and then overlain by the various soil horizons and rehabilitated;
- There will be a final void at the end of life of mine and this will be filled with overburden material;
- The area will be blended in with the surrounding landscape and allowed to be free draining;
- Once the void has been backfilled, 300mm thick topsoil or soft overburden in place of soil will be spread on rehabilitated areas; and
- Once placed, the “growth medium” should then be fertilised, ripped and re-vegetated. A small topsoil stockpile should be left for remedial work.

INFRASTRUCTURE AREAS

The following activities will take place at closure:

- All surface plant, buildings and equipment will be removed from site;
- Foundations will be removed to a meter (1m) below surface and placed in the final void or disposed of at a registered landfill site if required;
- The surface areas will be levelled and vegetated

ACCESS ROADS

All access roads will others will be ripped and vegetated.

POWER LINE AND ELECTRICAL INFRASTRUCTURE

These will be removed from site.

E. A DESCRIPTION AND IDENTIFICATION OF IMPACT MANAGEMENT OUTCOMES REQUIRED FOR THE ASPECTS CONTEMPLATED IN PARAGRAPH (D);

The above goal is underpinned by more specific objectives listed below.

1. Upfront planning/ development

To provide overall guidance and direction to closure planning and/or the implementation of progressive closure measures over the remaining over the mining life.

2. Physical stability

To ensure that mining residue will not compromise post-closure land use and be sustainable long-term landforms.

- Closure, removal and disposal of all surface infrastructure that has no beneficial post-closure use.
- Shaping and vegetating the remaining earth embankments, trenches, etc. to stabilise slopes and integrate with surrounding topography.

3. Environmental quality

To ensure that local environmental quality is not adversely affected by possible physical effects arising from mining operations and the mining site after closure. This will be achieved by:

- Avoiding and/or limiting the following during mining operations which could result in adverse effects that could not be readily addressed and/or mitigated at mine closure.
 - Possible shallow groundwater contamination adversely affecting the quality of the local water resource and its beneficial use.
- Limiting the potential for dust generation on the rehabilitated mining site that could cause nuisance and/or health effects to surrounding landowners;
- Limiting the possible adverse water quality and quantity effects arising from the rehabilitated mining site to ensure that long term beneficial use of local resources is not compromised;
- Conducting soil clean-up/remediation to ensure that the planned land use could be implemented and maintained;

4. Health and safety

To limit the possible health and safety treats due to terrain hazards to humans and animals utilizing the rehabilitated mining site after closure by:

- Demonstrating through upfront soil testing that any resultant inorganic and organic pollution present on the site is acceptable;
- Removal of potential contaminants such as hydrocarbons and chemicals off site;
- Shaping of embankments and trenches to safe slopes and reintegrating of these into surrounding topography.
- Ensuring that the environmental quality as reflected above is achieved.

5. Land capability / land use

To ensure that the required land capability to achieve and support the planned land use can be achieved over the mining site by:

- Clean-up and reclamation of contaminated soil areas in order not to compromise the above land use planning earmarked for implementation;
- To ensure that the overall rehabilitated mining site is free draining
- Transferring mining related surface infrastructure to third parties for beneficial use after closure.

6. Aesthetic quality

To ensure that the rehabilitated mining site will display, at a minimum, an acceptable aesthetic appearance that would not compromise the planned land use by leaving behind:

- A mining area that is properly cleared-up with no fugitive/scattered waste piles
- Rehabilitated mining area that is free draining and disturbed areas that are suitably vegetated.
- Rehabilitated mining residues that are suitably landscaped, blending with the surrounding environment as far as possible.
- Shaped and rehabilitated terrace and hard stand areas, roughly emulating the local natural surface topography.

7. Biodiversity

To encourage, where appropriate, the re-establishment of native vegetation on the rehabilitated mine site such the terrestrial biodiversity is largely re-instated over time, by:

- Stabilising disturbed areas to prevent erosion in the short- to medium term until a suitable vegetation cover has established; and
- Establishing viable self-sustaining vegetation communities of local fauna, as far as possible.

F. A DESCRIPTION OF PROPOSED IMPACT MANAGEMENT ACTIONS, IDENTIFYING THE MANNER IN WHICH THE IMPACT MANAGEMENT [OBJECTIVES AND] OUTCOMES CONTEMPLATED IN PARAGRAPH (D) [AND (E)] WILL BE ACHIEVED, AND MUST, WHERE APPLICABLE, INCLUDE ACTIONS TO —

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

The Rehabilitation & Closure Plan is attached as **Appendix 11**.

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

XXXXXXXXXXXXXX

- a. **Confirm that the financial provision will be provided as determined.**

Financial Guarantee

The financial guarantee for the rehabilitation for land disturbed **Turnover Trading (pty) Ltd** will be submitted

Rehabilitation Fund

Turnover Trading (Pty) Ltd will also make provision for rehabilitation during closure by establishing a rehabilitation trust.

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IMPACTS TO BE MITIGATED IN THEIR RESPECTIVE PHASES

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

ACTIVITIES	PHASE	SIZE AND	MITIGATION MEASURES	COMPLIANCE WITH	TIME PERIOD FOR
E.g. For mining,-		SCALE of		STANDARDS	IMPLEMENTATION
excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc...etc...etc.)	(of operation in which activity will take place. State; Planning and design, Pre-Construction' Construction, Operational, Rehabilitation, Closure, Post closure).	(volumes, tonnages and hectares or m ²)	(describe how each of the recommendations in herein will remedy the cause of pollution or degradation and migration of pollutants)	(A description of how each of the recommendations herein will comply with any prescribed environmental management standards or practices that have been identified by Competent Authorities)	Describe the time period when the measures in the environmental management programme must be implemented Measures must be implemented when required. With regard to Rehabilitation specifically this must take place at the earliest opportunity. .With regard to Rehabilitation, therefore state either:- Upon cessation of the individual activity Or. Upon the cessation of mining, bulk sampling or alluvial diamond mining as the case may be.

Clearance of vegetation	348 480 tonnes per year	Application area: 15 484.0614 hectares	<p>If the development is approved, contractors must ensure that no mammalian species are disturbed, trapped, hunted or killed. If the development is approved, every effort should be made to confine the footprint to the blocks allocated for the development and have the least possible edge effects on the surrounding area. The EMPr also provides numerous mitigation measures.</p> <p>The potential impacts associated with damage to and loss of farmland should be effectively mitigated. The aspects that should be covered include:</p> <ol style="list-style-type: none"> 1. The site should be fenced off prior to commencement of construction activities; 2. The footprint associated with the construction related activities (access roads, construction platforms, workshop etc.) should be confined to the fenced off area and minimised where possible; 3. An Environmental Control Officer (ECO) should be appointed to monitor the establishment phase of the construction phase; 4. All areas disturbed by construction related activities, such as access roads on the site, construction platforms, workshop area etc., should be rehabilitated at the end of the construction phase; 5. The implementation of a rehabilitation programme should be included in the terms of reference for the contractor/s appointed. Specifications for the rehabilitation are provided throughout the EMPr – section (f) of the EMPr. 6. The implementation of the Rehabilitation Programme should be monitored by the ECO. 7. Any activities that take place within 32 meters of a wetland or watercourse or the 1:100 year flood lines will require authorisation in terms of the relevant regulations of NEMA, however as far as possible infrastructure should be placed outside of wetlands and / or buffer lines. 	Compliance with Duty of Care as detailed within NEMA	Duration of operations on the mining activities.
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			<ol style="list-style-type: none"> 8. No stockpiling should take place within a watercourse or the 32m buffer. 9. All stockpiles must be protected from erosion, stored on flat areas where run-off will be minimised, and be surrounded by bunds 10. Erosion and sedimentation into channels must be minimised through the effective stabilisation (gabions and Reno mattresses) and the revegetation of any disturbed stream banks; 11. Ensure that erosion management and sediment controls are strictly implemented from the beginning of site clearing activities, particularly as the soils in the study area are prone to erosion; 12. All areas should be re-sloped and top-soiled where necessary and reseeded with indigenous grasses to stabilise the loose material; 13. Edge effects such as erosion must be strictly monitored and managed; 14. As far as possible the existing road network should be utilised, minimising the need to develop new access routes resulting in an increased impact on the local environment. Should temporary roads or access routes be necessary and unavoidable, proper planning must take place and the site sensitivity plan must be taken into consideration. If additional roads are required, then wherever feasible such roads should be constructed a distance from the more sensitive riparian areas and not directly adjacent thereto. If crossings are required they should cross the systems at right angles, as far as possible to minimise impacts in the receiving environment; 15. Stabilisation of banks by employing one of the individual techniques below or a combination thereof, is essential, given the inherent susceptibility of the soils to erosion. Such measures include: <ol style="list-style-type: none"> 16. Re-sloping of banks to a maximum 17. Revegetation of re-profiled slopes; 	
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			<p>18. Temporary stabilisation of slopes using geotextiles; and</p> <p>19. To prevent the further erosion of soils, management measures may include berms, soil traps, hessian curtains and storm water diversion away from areas particularly susceptible to erosion;</p> <p>20. Install erosion berms during construction to prevent gully formation:</p> <p>21. Berms every 50m should be installed where any disturbed soils have a slope of less than 2%,</p> <p>22. Berms every 25m where the track slopes between 2% and 10%,</p> <p>23. Berms every 20m where the track slopes between 10% and 15% and</p> <p>24. Berms every 10m where the track slope is greater than 15%;</p> <p>25. Sheet runoff from access roads should be slowed down by the strategic placement of berms and sandbags;</p> <p>26. All soils compacted as a result of construction activities falling outside of project areas should be ripped and profiled. Special attention should be paid to alien and invasive control within these areas. Alien and invasive vegetation control should take place throughout all construction and rehabilitation phases to prevent loss of floral habitat;</p> <p>27. As far as possible, all rehabilitation activities should occur in the low flow season, during the drier winter months.</p> <p><u>Mitigation measures:</u></p> <ul style="list-style-type: none"> • Vegetation clearing areas should be kept to a minimum and restricted to the proposed open pit site. • Do not disturb nests, breeding sites or young ones. Do not attempt to kill or capture snakes 		
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			<p>unless directly threatening the safety of employees.</p> <ul style="list-style-type: none"> • Dogs or other pets are not allowed to the worksite as they are threats to the natural wild animal • A low speed limit should be enforced on site to reduce wild animal-vehicle collisions • No animals should be intentionally killed or destroyed and poaching and hunting should not be permitted on the site. • Severe contractual fines must be imposed and immediate dismissal on any contract employee who is found attempting to snare or otherwise harms remaining faunal species. • Hunting weapons are prohibited on site. • Contract employees must be educated about the value of wild animals and the importance of their conservation. • The ECO must conduct regular site inspections of removing any snares or traps that have been erected. • Employees and contractors should be made aware of the presence of, and rules regarding, flora and fauna through suitable induction training and on-site signage. • Ensure that the colours used to paint the buildings including the roof are blending to the environment 		
<p>Construction of roads, if any:</p> <p>Access will be obtained from the existing gravel roads and N14.</p>	348 480 tonnes per year	<p>Application area: 15 484.0614 hectares</p>	<ol style="list-style-type: none"> 1. The Contractor shall clearly mark all access roads. Roads not to be used shall be marked with a "NO ENTRY for Mining vehicles" sign. 2. Construction routes and required access roads must be clearly defined. 3. Damping down of the un-surfaced roads must be implemented to reduce dust and nuisance. 	Compliance with Duty of Care as detailed within NEMA	Duration of operations on the mining activities.

			<ol style="list-style-type: none"> 4. Soils compacted by construction/Mining activities shall be deep ripped to loosen compacted layers and re-graded to even running levels. 5. The contractor must ensure that damage caused by related traffic to the gravel access road is repaired continuously. The costs associated with the repair must be borne by the contractor; 6. Dust suppression measures must be implemented for heavy vehicles such as wetting of gravel roads on a regular basis and ensuring that vehicles used to transport the gravel are fitted with tarpaulins or covers; 7. All vehicles must be road-worthy and drivers must be qualified and made aware of the potential road safety issues and need for strict speed limits. 		
<p>Mining of diamonds Soils and geology</p>	<p>348 480 tonnes per year</p>	<p>Application area: 15 484.0614 hectares</p>	<ol style="list-style-type: none"> 1. The Contractor should, prior to the commencement of earthworks determine the average depth of topsoil (if topsoil exists), and agree on this with the ECO. The full depth of topsoil should be stripped from areas affected by construction and related activities prior to the commencement of major earthworks. This should include the building footprints, working areas and storage areas. Topsoil must be reused where possible to rehabilitate disturbed areas. 2. Care must be taken not to mix topsoil and subsoil during stripping. 3. The topsoil must be conserved on site in and around the pit area. 4. Subsoil and overburden in the Mining area should be stockpiled separately 5. If stockpiles are exposed to windy conditions or heavy rain, they should be covered either by vegetation or geofabric, depending on the duration of the project. Stockpiles may further be protected by the construction of berms, trenches or low brick walls around their bases. 	<p>Compliance with Duty of Care as detailed within NEMA</p>	<p>Duration of operations on the mine</p>

			<p>6. Stockpiles should be kept clear of weeds and alien vegetation growth by regular weeding.</p> <p>7. Where contamination of soil is expected, analysis must be done prior to disposal of soil to determine the appropriate disposal route. Proof from an approved waste disposal site where contaminated soils are dumped if and when a spillage/leakage occurs should be attained and given to the project manager.</p> <p>8. The impact on the geology will be permanent. There is no mitigation measure.</p>		
MiningDiamonds- Ecological	348 480 tonnes per year	Application area: 15 484.0614 hectares	<p>Alteration of the flow regime of the watercourse.</p> <p>1. Any activities that take place within 50 meters of a wetland or watercourse or the 1:100 year flood lines will require authorisation in terms of the relevant regulations of NEMA, however as far as possible infrastructure should be placed outside of 50m buffer lines.</p> <p>2. Demarcate the watercourse areas and buffer zones to limit disturbance, clearly mark these areas as no-go areas.</p> <p>3. Where construction occurs in the demarcated watercourse and buffer areas, additional precautions should be implemented to minimise watercourse loss.</p> <p>4. No stockpiling should take place within a watercourse or the calculated buffers.</p> <p>5. All stockpiles must be protected from erosion, stored on flat areas where run-off will be minimised, and be surrounded by bunds.</p> <p>6. Erosion and sedimentation into channels must be minimised through the effective stabilisation and the re-vegetation of any disturbed stream banks.</p> <p>7. Ensure that erosion management and sediment controls are strictly implemented from the beginning of site clearing activities.</p>	Compliance with Duty of Care as detailed within NEMA	Duration of operations on the Mining area

		<p>8. All areas should be re-sloped and top-soiled where necessary and reseeded with indigenous grasses to stabilise the loose material.</p> <p>9. Monitor the occurrence of erosion during the rainy season and take immediate corrective action where needed.</p> <p>10. A sensitivity map has been developed for the study area, indicating the wetland systems, and their relevant buffer zones. It is recommended that this sensitivity map be considered during all phases of the development and with special mentioning of the planning of infrastructure, in order to aid in the conservation of and minimise impact on the wetland and aquatic habitat and resources within the study site.</p> <p>11. Any areas where bank failure is observed, due to the mining impacts, should be immediately repaired.</p> <p>12. As far as possible the existing road network should be utilised, minimising the need to develop new access routes resulting in an increased impact on the local environment.</p> <p>13. Operational phase activities should not take place within watercourses or buffer zones.</p> <p>14. The duration of impacts on the wetlands should be minimised as far as possible by ensuring that the duration of time in which flow alteration and sedimentation will take place is minimised.</p> <p>15. Alien and invasive vegetation control should take place throughout all phases to prevent loss of floral habitat.</p> <p>16. All rehabilitation activities should occur in the dry season.</p>	
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			<p>17. Rehabilitation of disturbed areas as a result of construction must be implemented immediately upon completion of construction.</p> <p>Changing the physical structure within a water resource (habitat)</p> <ol style="list-style-type: none"> 1. Other than approved and authorized structures, no other development or maintenance infrastructure is allowed within the delineated watercourse and riparian areas or their associated buffer zones. 2. Alien and invasive vegetation control should take place throughout all phases to prevent loss of floral habitat. 3. Monitor the occurrence of erosion during the rainy season and take immediate corrective action where needed. 4. No stockpiling should take place within a watercourse or the calculated buffers. 5. All stockpiles must be protected from erosion, stored on flat areas where run-off will be minimised, and be surrounded by bunds. 6. All maintenance within watercourses must be restricted to the dry season. 7. Maintenance activities should not impact on rehabilitated or naturally vegetated areas. 8. The duration of impacts on the wetland systems should be minimised as far as possible by ensuring that the duration of time in which flow alteration and sedimentation will take place is minimised. 9. Rehabilitation must ensure that wetland structure and function are reinstated in such a way as to ensure the ongoing functionality of the systems at pre-mining levels. 	
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			<p>All rehabilitation activities should occur in the dry season.</p> <p>Alteration of the amount of sediment entering the water resource and associated change in turbidity</p> <ol style="list-style-type: none"> 1. Buffer zones should be maintained, in order to minimise sedimentation of the downstream areas. 2. No stockpiling should take place within a watercourse or the calculated buffers. 3. Ensure that erosion management and sediment controls are strictly implemented from the beginning of site clearing activities. 4. All areas should be re-sloped and top-soiled where necessary and reseeded with indigenous grasses to stabilise the loose material. 5. All stockpiles must be protected from erosion, stored on flat areas where run-off will be minimised, and be surrounded by bunds. 6. Erosion and sedimentation into channels must be minimised through the effective stabilisation and the re-vegetation of any disturbed stream banks. 7. As far as possible the existing road network should be utilised, minimising the need to develop new access routes resulting in an increased impact on the local environment. 8. Erosion control measures, such as berms, must be implemented to manage runoff from roads to prevent erosion and pollution. 9. Rehabilitation of disturbed areas as a result of construction must be implemented immediately upon completion of construction. 10. Rehabilitation must ensure that riparian structure and function are reinstated in such a way 	
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			<p>as to ensure the ongoing functionality of the larger riparian systems at pre-mining levels.</p> <p>11. All rehabilitation activities should occur in the dry season.</p> <p>12. The duration of impacts on the riverine systems should be minimised as far as possible by ensuring that the duration of time in which flow alteration and sedimentation will take place is minimised. Maintain flood capacity, particularly in areas with significant flood hazards</p> <p>Alteration of water quality</p> <p>1. Re-fuelling must take place on a sealed surface area to prevent hydrocarbon pollution.</p> <p>2. All spills should be cleaned up immediately and disposed of.</p> <p>3. Spill kits should be readily available and easily accessible throughout the site.</p> <p>4. All chemicals must be stored safely on site, outside the buffer areas and surrounded by bunds. Chemical storage containers must be regularly inspected for early leak detection.</p> <p>5. Littering must be prevented by effective site management and the provision of bins.</p> <p>6. Provision of adequate sanitation facilities located outside of the delineated buffer zones.</p> <p>7. An emergency spill procedure should be developed and implemented.</p> <p>8. No stockpiling should take place within a watercourse.</p> <p>9. All stockpiles must be protected from erosion, stored on flat areas where run-off will be minimised, and be surrounded by bunds.</p> <p>10. Stockpiles must be located away from channels, wetlands and drainage lines.</p>	
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			<p>11. Erosion and sedimentation into channels must be minimised through the effective stabilisation and the re-vegetation of any disturbed riverbanks.</p> <p>Loss of terrestrial habitat</p> <ol style="list-style-type: none"> 1. Areas that are stripped during construction and operation should be re-vegetated with indigenous vegetation. 2. It is recommended that areas to be developed be specifically demarcated so that during the construction phase, only the demarcated areas be impacted upon (including fencing off the defined project area) and preventing movement of workers into natural areas. 3. The duration of the mining should be minimized to as short term as possible, in order to reduce the period of disturbance on fauna and flora. 4. Areas of indigenous vegetation should under no circumstances be fragmented or disturbed for used as an area for dumping of waste. 5. As far as possible the existing road network should be utilised, minimising the need to develop new access routes resulting in an increased impact on the local environment. 6. All staff and visitors to the site must undergo an induction process and must be made aware of the sensitive nature of the environment and floral species which occur there. 7. The area must be re-vegetated with plant and grass species which are endemic to the exact vegetation types. 8. Rehabilitation measures that are implemented must be continually monitored for a minimum period of four years to ensure that proper 	
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			<p>succession has occurred and that there is no erosion occurring.</p> <p>9. An alien invasive vegetation management plan should be developed and implemented.</p> <p>10. Alien and invasive vegetation control should take place throughout all phases to prevent loss of floral habitat.</p> <p>Loss of Aquatic Biota</p> <p>1. Bi-annual biomonitoring of aquatic macro-invertebrates within the riverine systems is essential.</p> <p>Loss of Terrestrial Fauna</p> <p>1. Site clearing to take place in a phased manner (where possible) to allow for any faunal species present to move away from the study site to the surrounding open space areas.</p> <p>2. Prior and during vegetation clearance any larger fauna species noted should be given the opportunity to move away from the construction machinery.</p> <p>3. Fauna species such as frogs and reptiles that have not moved away should be carefully and safely removed to a suitable location beyond the extent of the development footprint by a suitably qualified ECO trained in the handling and relocation of animals.</p> <p>4. Fencing should be erected around the project area to prevent workers and members of the public from entering the surrounding environments. This fence should have small openings to allow wildlife to pass through.</p> <p>5. Waste management must be a priority and all waste must be collected and stored adequately. It is recommended that all waste be removed from site</p>		
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			<p>on a weekly basis to prevent rodents and pests entering the site.</p> <p>6. Should any sensitive or Red Data animal or bird species be encountered during the construction, operation and decommissioning activities, these should be relocated to natural areas in the vicinity. Any sensitive fauna that are inadvertently killed during earthmoving operations should be preserved as museum voucher specimens.</p> <p>7. No hunting, trapping or killing of fauna are allowed.</p> <p>8. Any lizards, snakes or monitors encountered should be allowed to escape to a suitable habitat away from disturbance.</p> <p>9. General avoidance of snakes is the best policy if encountered. Snakes should not be intentionally harmed or killed and allowed free movement away from the area.</p> <p>10 Trenches and deep excavations should not be left open for extended periods of time as fauna may fall in and become trapped in them. Trenches which are exposed should contain soil ramps allowing fauna to escape the trench.</p> <p>Loss of Terrestrial Flora</p> <p>1. Areas that are stripped during construction and operation should be re-vegetated with indigenous vegetation as soon as possible. This will also reduce the likelihood of encroachment by alien invasive plant species.</p> <p>2. Protected trees and plants shall not be removed or damaged without prior approval, permits or licenses from the relevant authority. This is especially applicable to the Protected Camel Thorn (<i>Vachellia erioloba</i>), which were present on site.</p>		
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			<p>Introduction and spread of alien vegetation</p> <ol style="list-style-type: none">1. Proliferation of alien and invasive species is expected within any disturbed areas particularly as there are some alien and invasive species present within the study site. These species should be eradicated and controlled to prevent further spread beyond.2. An alien invasive vegetation management plan should be developed and implemented.3. Alien and invasive vegetation control should take place throughout all phases to prevent loss of floral habitat.4. Footprint areas should be kept as small as possible when removing alien plant species.5. No vehicles should be allowed to drive through designated sensitive drainage and wetlands areas during the eradication of alien and weed species.6. All alien vegetation in the riparian zone should be removed upon completion of mining activities and reseeded with indigenous grasses as specified by a suitably qualified specialist (ecologist).	
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IMPACT MANAGEMENT OUTCOMES

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

ACTIVITY (whether listed or not listed). (E.g. Excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc...etc...etc.).	POTENTIAL IMPACT (e.g. dust, noise, drainage surface disturbance, fly rock, surface water contamination, groundwater contamination, air pollution etc....etc...)	ASPECTS AFFECTED	PHASE In which impact is anticipated (e.g. Construction, commissioning, operational Decommissioning, closure, post-closure)	MITIGATION TYPE (modify, remedy, control, or stop) through (e.g. noise control measures, storm-water control, dust control, rehabilitation, design measures, blasting controls, avoidance, relocation, alternative activity etc. etc) E.g. • Modify through alternative method. • Control through noise control • Control through management and monitoring • Remedy through rehabilitation..	STANDARD TO BE ACHIEVED (Impact avoided, noise levels, dust levels, rehabilitation standards, end use objectives) etc.
Clearance of vegetation	Loss or fragmentation of habitats	Fauna & flora	348 480 tonnes per year	Existing vegetation 1. Vegetation removal must be limited to the Mining area. 2. Vegetation to be removed as it becomes necessary rather than removal of all vegetation throughout the site in one step. 3. No vegetation to be used for firewood. 4. Exotic and invasive plant species should not be allowed to establish, if the development is approved. Rehabilitation 1. As the opencast mining progresses, the voids created will be backfilled with overburden from the progressive opencast mining, and then overlain by	Minimisation of impacts to acceptable limits

				<p>the various soil horizons and rehabilitated;</p> <ol style="list-style-type: none"> 2. There will be a final void at the end of life of mine and this will be filled with overburden material; 3. The area will be blended in with the surrounding landscape and allowed to be free draining; 4. Once the void has been backfilled, 300mm thick topsoil or soft overburden in place of soil will be spread on rehabilitated areas; and 5. Once placed, the “growth medium” should then be fertilised, ripped and re-vegetated. A small topsoil stockpile should be left for remedial work. <p>Demarcation of Mining area</p> <ol style="list-style-type: none"> 6. All plants not interfering with Mining operations shall be left undisturbed clearly marked and indicated on the site plan. 7. The Mining area must be well demarcated and no construction/Mining activities must be allowed outside of this demarcated footprint. 8. Vegetation removal must be phased in order to reduce impact of construction/Mining. 9. Site office and laydown areas must be clearly demarcated and no encroachment must occur beyond demarcated areas. 10. Strict and regular auditing of the Mining process to ensure containment of the Mining and laydown areas. 11. Soils must be kept free of petrochemical solutions that may be kept on site during construction/Mining. Spillage can 	
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				<p>result in a loss of soil functionality thus limiting the re-establishment of flora.</p> <p>Utilisation of resources</p> <p>12. Gathering of firewood, fruit, muti plants, or any other natural material onsite or in areas adjacent to the site is prohibited unless with prior approval of the ECO.</p> <p>Exotic vegetation</p> <p>13. Alien vegetation on the site will need to be controlled.</p> <p>14. The Contractor should be responsible for implementing a programme of weed control (particularly in areas where soil has been disturbed); and grassing of any remaining stockpiles to prevent weed invasion.</p> <p>15. The spread of exotic species occurring throughout the site should be controlled.</p> <p>Herbicides</p> <p>16. Herbicide use shall only be allowed according to contract specifications. The application shall be according to set specifications and under supervision of a qualified technician. The possibility of leaching into the surrounding environment shall be properly investigated and only environmentally friendly herbicides shall be used.</p> <p>17. The use of pesticides and herbicides on the site must be discouraged as these impact on important pollinator species of indigenous vegetation.</p> <p>Fauna</p>	
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				<p>18. Rehabilitation to be undertaken as soon as possible after the Mining activities have been completed.</p> <p>19. No trapping or snaring to fauna on the construction/Mining site should be allowed.</p> <p>20. No faunal species must be disturbed, trapped, hunted or killed by maintenance staff during any routine maintenance at the development.</p>	
Mining Diamonds– excavations	Loss of topsoil	Soil	348 480 tonnes per year	<ol style="list-style-type: none"> 1. The Contractor should, prior to the commencement of earthworks determine the average depth of topsoil, and agree on this with the ECO. The full depth of topsoil should be stripped from areas affected by construction and related activities prior to the commencement of major earthworks. This should include the building footprints, working areas and storage areas. Topsoil must be reused where possible to rehabilitate disturbed areas. 2. Care must be taken not to mix topsoil and subsoil during stripping. 3. The topsoil must be conserved on site in and around the pit/trench area. 4. Subsoil and overburden in the Mining area should be stockpiled separately to be returned for backfilling in the correct soil horizon order. 5. If stockpiles are exposed to windy conditions or heavy rain, they should be covered either by vegetation or geofabric, depending on the duration of the project. Stockpiles may further be protected by the construction of berms or low brick walls around their bases. 	Minimisation of impacts to acceptable limits

				<p>6. Stockpiles should be kept clear of weeds and alien vegetation growth by regular weeding.</p> <p>7. Where contamination of soil is expected, analysis must be done prior to disposal of soil to determine the appropriate disposal route. Proof from an approved waste disposal site where contaminated soils are dumped if and when a spillage/leakage occurs should be attained and given to the project manager.</p> <p>Establish an effective record keeping system for each area where soil is disturbed for Mining purposes. These records should be included in environmental performance reports, and should include all the records below.</p> <ul style="list-style-type: none"> • Record the GPS coordinates of each area. • Record the date of topsoil stripping. • Record the GPS coordinates of where the topsoil is stockpiled. • Record the date of cessation Mining activities at the particular site. • Photograph the area on cessation of Mining activities. • Record date and depth of re-spreading of topsoil. • Photograph the area on completion of rehabilitation and on an annual basis thereafter to show vegetation establishment and evaluate progress of restoration over time. 	
	Erosion	Soil Air Water	348 480 tonnes per year	1. An effective system of run-off control should be implemented, where it is required, that collects and safely	Minimisation of impacts to acceptable limits

				<p>disseminates run-off water from all hardened surfaces and prevents potential down slope erosion.</p> <ol style="list-style-type: none"> 2. Periodical site inspection should be included in environmental performance reporting that inspects the effectiveness of the run-off control system and specifically records the occurrence of any erosion on site or downstream. 3. Wind screening and stormwater control should be undertaken to prevent soil loss from the site. 4. The use of silt fences and sand bags must be implemented in areas that are susceptible to erosion. 5. Other erosion control measures that can be implemented are as follows: <ul style="list-style-type: none"> o Brush packing with cleared vegetation o Mulch or chip packing o Planting of vegetation o Hydroseeding/hand sowing 6. All erosion control mechanisms need to be regularly maintained. 7. Seeding of topsoil and subsoil stockpiles to prevent wind and water erosion of soil surfaces. 8. Retention of vegetation where possible to avoid soil erosion. 9. Vegetation clearance should be phased to ensure that the minimum area of soil is exposed to potential erosion at any one time. 10. Re-vegetation of disturbed surfaces should occur immediately after construction/Mining activities are completed. This should be done through seeding with indigenous grasses. 	
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				<p>11. No impediment to the natural water flow other than approved erosion control works is permitted.</p> <p>12. To prevent stormwater damage, the increase in stormwater run-off resulting from construction/Mining activities must be estimated and the drainage system assessed accordingly.</p>	
	Air Pollution	Air quality Dust	348 480 tonnes per year	<p>The likelihood of particulate and dust generation from the proposed mining activities are high, therefore the following mitigation measures are provided:</p> <ul style="list-style-type: none"> • A complaints register should be kept on site. All complaints should be logged in the complaints register and should be available on the site at all times. All complaints regarding air quality should be adequately investigated and actions taken to reduce the impact in a timely manner should it be required. • Should dust emission become a problem, a monthly dust fallout monitoring programme must be implemented. • Note must be taken of incidents that cause air emissions and this must be recorded to ensure that these are resolved and prevented from reoccurring. • Weekly site inspections should be undertaken in the vicinity of sensitive receptors. Records should be kept of these routine inspections. • Plan the site layout in such a manner as to ensure that emission generating 	Minimisation of impacts to acceptable limits

				<p>activities occur as far as possible from sensitive receptors.</p> <ul style="list-style-type: none"> • Ensure that all vehicles are maintained in good working condition and that they are serviced on a regular basis. • Ensure that all vehicles are switched off when stationary – no vehicles should be idling for extended period. • Impose and regulate a speed limit of 30 km/h on the site at all times. • Provide speed-reduction structures positioned in the dirt access road to ensure maximum effectiveness at slowing down vehicles utilising this road. • A water car must be maintained and kept in good working order at all times. It is important for the water car to maintain a schedule for rounds to keep the roads damp and so assist in dust suppression. • Water sprays to be applied at the area to be cleared should significant amounts of dust be generated. • Remove materials that have a potential to produce dust from site as soon as possible, unless being re-used on site. If they are being re-used on-site cover, seed or fence stockpiles to prevent wind whipping. • Moist topsoil will reduce the potential for dust generation when tipped onto stockpiles. • Ensure travel distance between clearing area and topsoil piles to be at a minimum. • Only remove the cover in small areas during work and not all at once. • Ensure exposed areas remain moist through regular water spraying during dry, windy periods. 	
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				<ul style="list-style-type: none"> • Reshape all disturbed areas to their natural contours. • Re-vegetate earthworks and exposed areas/soil stockpiles to stabilise surfaces as soon as practicable. • Avoid bonfires and burning of waste materials 	
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	Noise		348 480 tonnes per year	<ol style="list-style-type: none"> 1. The Mining activities must aim to adhere to the relevant noise regulations and limit noise to within standard working hours in order to reduce disturbance of dwellings in close proximity to the development. 2. Noise levels must be kept within acceptable limits. 3. Noisy operations should be combined so that they occur where possible at the same time. 4. Mine workers to wear necessary ear protection gear. 5. Noisy activities to take place during allocated hours. 6. Noise from labourers must be controlled. 7. Noise suppression measures must be applied to all equipment. Equipment must be kept in good working order and where appropriate fitted with silencers which are kept in good working order. Should the vehicles or equipment not be in good working order, the Contractor may be instructed to remove the offending vehicle or machinery from the site. 8. The Contractor must take measures to discourage labourers from loitering in the area and causing noise disturbance. Where possible labour shall be 	Minimisation of impacts to acceptable limits
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				<p>transported to and from the site by the Contractor or his Sub-Contractors by the Contractors own transport.</p> <p>9. Implementation of enclosure and cladding of processing plants.</p> <p>10. Applying regular and thorough maintenance schedules to equipment and processes. An increase in noise emission levels very often is a sign of the imminent mechanical failure of a machine.</p>	
	Impact on potential cultural and heritage artefacts & paleontology	Heritage & Paleontology	348 480 tonnes per year	<p>1. Any finds must be reported to the nearest National Monuments office to comply with the National Heritage Resources Act (Act No 25 of 1999) and to DEA.</p> <p>2. Local museums as well as the South African Heritage Resource Agency (SAHRA) should be informed if any artefacts are uncovered in the affected area.</p> <p>3. The Contractor must ensure that his workforce is aware of the necessity of reporting any possible historical or archaeological finds to the ECO so that appropriate action can be taken.</p> <p>4. Any discovered artefacts shall not be removed under any circumstances. Any destruction of a site can only be allowed once a permit is obtained and the site has been mapped and noted. Permits shall be obtained from the SAHRA should the proposed site affect any world heritage sites or if any heritage sites are to be destroyed or altered.</p> <p><u>Management and Mitigation Measures according to the Phase 1 HIA</u></p>	Minimisation of impacts to acceptable limits

				<p>The cultural landscape qualities of the region essentially consist of a two components. The first is a rural area in which the human occupation is made up of a pre-colonial (Stone Age) occupation and a much later colonial (farmer) component. The second component is an urban one consisting of a number of smaller towns, most of which developed during the last 150 years or less.</p> <p>Identified sites During the survey the following sites, features or objects of cultural significance were identified.</p> <p>7.1.1 – 7.1.2</p> <ul style="list-style-type: none"> • Two sites dating to the Later Stone Age were identified. The one is classified as a factory site where cores, flakes and tools produced from chert, were identified. The second site contains a number of pecked engravings of humans, animals and geometric patterns on what is colloquially referred to as a 'rhino rock'. <p>7.3.1.1 – 7.3.1.7 Burial sites</p> <ul style="list-style-type: none"> • A total of seven informal burial sites have been identified. It is taken that some of the graves would date back to the early settlement of the baTloung in the region, especially in the vicinity of the mission station. Unfortunately, most graves do not have headstones with dates on them – the earliest identified date was 1924. <p>7.3.2.1 – 7.3.2.31 Archaeological sites (Homesteads)</p> <ul style="list-style-type: none"> • A number of homesteads were identified, mostly occurring along the Monamaladi River. All of them seem to conform to a 	
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				<p>‘standard’ pattern: a house (in most cases now demolished); outbuildings consisting of cattle enclosures built with local stone; and an ash midden in close proximity. Apparently, these houses were abandoned when infrastructure services (water and electricity) were installed at the Putfontein community.</p> <p>7.3.3.1 Built environment</p> <ul style="list-style-type: none"> • A small hamlet, known as Carcal, developed in close proximity of the Bodenstein railway station. It consists of a number of buildings most of which, according to their architectural style, date to the 1930s and 1940s <p>It is therefore recommended, from a cultural heritage perspective that the proposed prospecting activities may proceed.</p> <p>Also, please note: Archaeological deposits usually occur below ground level. Should archaeological artefacts or skeletal material be revealed in the area during development activities, such activities should be halted, and a university or museum notified in order for an investigation and evaluation of the find(s) to take place (cf. NHRA (Act No. 25 of 1999), Section 36 (6)).</p> <p>It should be noted that heritage resources including archaeological and paleontological sites over 100 years old, graves older than 60 years, structure older than 60 years are protected by the National Heritage Resources Act no 25 of 1999. Therefore if such resources are found during the mining or development activities, they shall not be disturbed</p>	
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				<p>without a permit from the relevant heritage resource Authority, which means that before such sites are disturbed by development it is incumbent on the developer to ensure that a heritage impact assessment is done and the Provincial Heritage Resources Authority and SAHRA must be contacted immediately and work will stop.</p> <p>The proposed mining footprint is underlain by the following:</p> <ul style="list-style-type: none"> • Gravel, Diamondiferous in places • Black Reef Formation of the Transvaal Supergroup • Oaktree Formation of the Malmani Subgroup, Chuniespoort Group, Transvaal Supergroup • Allanridge Formation of the Ventersdorp Supergroup <p>While the operational area is underlain by</p> <ul style="list-style-type: none"> • Gravel, Diamondiferous in places • Black Reef Formation of the Transvaal Supergroup • Allanridge Formation of the Ventersdorp Supergroup <p>According to the PalaeoMap of the South African Heritage Resources Information System the Palaeontological Sensitivity of the Quaternary gravel, Black Reef Formation (of the Transvaal Supergroup) and Allanridge Formation (of the Ventersdorp Supergroup) (operational area) has a Moderate Palaeontological Sensitivity while that of the Malmani Subgroup is Very High, (Almond and Pether 2008, SAHRIS website). As the current development (operational area) is underlain by sediments of a Moderate Palaeontological</p>	
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				<p>Sensitivity (Quaternary gravel, Black Reef Formation of the Transvaal Supergroup as well as the Allanridge Formation of the Ventersdorp Supergroup) a LOW Palaeontological Significance has been allocated to the development and it is therefore considered that the construction of the proposed development is deemed appropriate and feasible and will not lead to detrimental impacts on the palaeontological resources of the area. The construction of the development may be authorised and no further palaeontological heritage studies, ground truthing and/or specialist mitigation are required pending the discovery of fossils. (However, if construction of any kind would ever expand into the Malmani Subgroup a site visit by a professional palaeontologist will be required. This requirement should be incorporated into the EMPr).</p>	
Waste management		Pollution	348 480 tonnes per year	<p>Litter management</p> <ol style="list-style-type: none"> 1. Refuse bins must be placed at strategic positions to ensure that litter does not accumulate within the construction site. 2. The Contractor shall supply waste collection bins where such is not available and all solid waste collected shall be disposed of at registered/licensed landfill. 3. Good housekeeping practices should be implemented to regularly maintain the litter and rubble situation on the construction site. 4. If possible and feasible, all waste generated on site must be separated into glass, plastic, paper, metal and wood and recycled. An independent 	Minimisation of impacts to acceptable limits

				<p>contractor can be appointed to conduct this recycling.</p> <p>5. Littering by the employees of the Contractor shall not be allowed under any circumstances. The ECO shall monitor the neatness of the work sites as well as the Contractor campsite.</p> <p>6. Skip waste containers should be maintained on site. These should be kept covered and arrangements made for them to be collected regularly.</p> <p>7. All waste must be removed from the site and transported to a landfill site promptly to ensure that it does not attract vermin or produce odours.</p> <p>8. Where a registered waste site is not available close to the construction site, the Contractor shall provide a method statement with regard to waste management.</p> <p>9. A certificate of disposal shall be obtained by the Contractor and kept on file, if relevant.</p> <p>10. Under no circumstances may solid waste be burnt on site.</p> <p>11. All waste must be removed promptly to ensure that it does not attract vermin or produce odours.</p> <p>Hazardous waste</p> <p>12. All waste hazardous materials must be carefully stored as advised by the ECO, and then disposed of offsite at a licensed landfill site, where practical. Incineration may be used where relevant.</p> <p>13. Contaminants to be stored safely to avoid spillage.</p> <p>14. Machinery must be properly maintained to keep oil leaks in check.</p>	
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				<p>15. All necessary precaution measures shall be taken to prevent soil or surface water pollution from hazardous materials used during construction and any spills shall immediately be cleaned up and all affected areas rehabilitated.</p> <p>Sanitation</p> <p>16. The Contractor shall install mobile chemical toilets on the site.</p> <p>17. Staff shall be sensitised to the fact that they should use these facilities at all times. No indiscriminate sanitary activities on site shall be allowed.</p> <p>18. Toilets shall be serviced regularly and the ECO shall inspect toilets regularly.</p> <p>19. Toilets should be no closer than 50m or above the 1:100 year flood line from any natural or manmade water bodies or drainage lines or alternatively located in a place approved of by the Engineer.</p> <p>20. Under no circumstances may open areas, neighbours fences or the surrounding bush be used as a toilet facility.</p> <p>21. The construction of “Long Drop” toilets is forbidden, but rather toilets connected to the sewage treatment plant.</p> <p>22. Potable water must be provided for all construction staff.</p> <p>Remedial actions</p> <p>23. Depending on the nature and extent of the spill, contaminated soil must be either excavated or treated on-site.</p> <p>24. Excavation of contaminated soil must involve careful removal of soil using appropriate tools/machinery to</p>	
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				<p>storage containers until treated or disposed of at a licensed hazardous landfill site.</p> <p>25. The ECO must determine the precise method of treatment for polluted soil. This could involve the application of soil absorbent materials as well as oil-digestive powders to the contaminated soil.</p> <p>26. If a spill occurs on an impermeable surface such as cement or concrete, the surface spill must be contained using oil absorbent material.</p> <p>27. If necessary, oil absorbent sheets or pads must be attached to leaky machinery or infrastructure.</p> <p>28. Materials used for the remediation of petrochemical spills must be used according to product specifications and guidance for use.</p> <p>29. Contaminated remediation materials must be carefully removed from the area of the spill so as to prevent further release of petrochemicals to the environment, and stored in adequate containers until appropriate disposal.</p>	
Water Use and Quality	Water pollution	Water	348 480 tonnes per year	<p>Water Use</p> <ol style="list-style-type: none"> 1. Develop a sustainable water supply management plan to minimise the impact to natural systems by managing water use, avoiding depletion of aquifers and minimising impacts to water users. 2. Water must be reused, recycled or treated where possible. <p>Government Notice Regulation 704 of 1999</p> <ol style="list-style-type: none"> 1. GNR.704 of 1999 under the NWA provides regulations on the use of water 	

				<p>for mining and related activities aimed at the protection of water resources (requirements for clean and dirty water separation). GNR.704 requires inter alia the following:</p> <ul style="list-style-type: none"> • Separation of clean (unpolluted) water from dirty water; • Collection and confinement of the water arising within any dirty area into a dirty water system; • Design, construction, maintenance and operation of the clean water and dirty water management systems so that it is not likely for either system to spill into the other more than once in 50 years; <p>Stormwater</p> <ol style="list-style-type: none"> 1. The site must be managed in order to prevent pollution of drains, downstream watercourses or groundwater, due to suspended solids and silt or chemical pollutants. 2. Silt fences should be used to prevent any soil entering the stormwater drains. 3. Temporary cut off drains and berms may be required to capture stormwater and promote infiltration. 4. Promote a water saving mind set with construction/Mining workers in order to Contractor ensure less water wastage. 5. Hazardous substances must be stored at least 40m from any water bodies on site to avoid pollution. 6. The installation of the stormwater system must take place as soon as possible to attenuate stormwater from the construction phase as well as the operation phase. 	
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				<p>7. Earth, stone and rubble is to be properly disposed of, or utilized on site so as not to obstruct natural water path ways over the site. i.e. these materials must not be placed in stormwater channels, drainage lines or rivers.</p> <p>8. There should be a periodic checking of the site's drainage system to ensure that the water flow is unobstructed.</p> <p>9. If a batching plant is necessary, run-off should be managed effectively to avoid contamination of other areas of the site. Untreated runoff from the batch plant must not be allowed to get into the storm water system or nearby streams, rivers or erosion channels or dongas.</p> <p>The cut-off trenches and silt fences will be installed where necessary as to control runoff storm water by attenuating it and control the movement of sediment on the premises.</p> <p>These structures will be monitored on a regular basis. It is suggested that it be monitored on a weekly basis during the rainy season, and after possible rain events during the dry season.</p> <p>If these practices is found to be insufficient for the control of storm water and sedimentation, other alternatives should immediately be investigated and implemented.</p> <p>Groundwater resource protection</p> <p>1. Process solution storage ponds and other impoundments designed to hold non fresh water or non-treated process effluents should be lined and be</p>	
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				<p>equipped with sufficient wells to enable monitoring of water levels and quality.</p> <p>Sanitation</p> <ol style="list-style-type: none"> 1. Adequate sanitary facilities and ablutions must be provided for construction workers (1 toilet per every 15 workers). 2. The facilities must be regularly serviced to reduce the risk of surface or groundwater pollution. <p>Concrete mixing</p> <ol style="list-style-type: none"> 1. Concrete contaminated water must not enter soil or any natural drainage system as this disturbs the natural acidity of the soil and affects plant growth. <p>Public areas</p> <ol style="list-style-type: none"> 1. Food preparation areas should be provided with adequate washing facilities and food refuse should be stored in sealed refuse bins which should be removed from site on a regular basis. 2. The Contractor should take steps to ensure that littering by construction/Mining workers does not occur and persons should be employed on site to collect litter from the site and immediate surroundings, including litter accumulating at fence lines. 	
Water Use and Quality	Changes to the hydrological regime of the stream		348 480 tonnes per year	<p>Water Quality</p> <ol style="list-style-type: none"> 1. The quality and quantity of effluent streams discharged to the environment including stormwater should be managed and treated to meet applicable effluent discharge guidelines. 	

				<p>2. Discharge to surface water should not result in contaminant concentrations in excess of local ambient water quality criteria outside a scientifically established mixing zone.</p> <p>3. Efficient oil and grease traps or sumps should be installed and maintained at refueling facilities, workshops, fuel storage depots, and containment areas and spill kits should be available with emergency response plans.</p>	
	Spread of alien invasive species		348 480 tonnes per year	<ul style="list-style-type: none"> • All soils compacted as a result of construction activities falling outside of project areas should be ripped and profiled. • Special attention should be paid to alien and invasive control within these areas. Alien and invasive vegetation control should take place throughout all construction and rehabilitation phases to prevent loss of floral habitat; • As far as possible, all rehabilitation activities should occur in the low flow season, during the drier winter months. • Trenches and deep excavations should not be left open for extended periods of time as fauna may fall in and become trapped in them. Trenches which are exposed should contain soil ramps allowing fauna to escape the trench <ul style="list-style-type: none"> • Proposed mitigation • Proliferation of alien and invasive species is expected within any disturbed areas particularly as there are some alien and invasive species within the study area at present. These species should be eradicated and controlled to 	

				<p>prevent further spread beyond the study area;</p> <ul style="list-style-type: none"> • It is suggested that an alien plant removal program be initialised within the study area in order to help reinstate more natural hydrological and ecological functions to within the project site; • Alien plant seed dispersal within the top layers of the soil within footprint areas, that will have an impact on future rehabilitation, has to be controlled; • Care should be taken with the choice of herbicide to ensure that no additional impact and loss of indigenous plant species occurs due to the herbicide used; • Footprint areas should be kept as small as possible when removing alien plant species; • No vehicles should be allowed to drive through designated sensitive drainage lines and riparian areas during the eradication of alien and weed species. • All alien vegetation in the riparian zone should be removed upon completion of mining activities and reseeded with indigenous grasses as specified by a suitably qualified specialist (ecologist) 	
<p>Mitigation measures: Waste generation</p>	<p>Pollution due to oil and fuel spills, erosion, and ablution facilities.</p>		<p>(Construction and operation phase)</p>	<ul style="list-style-type: none"> • Proper ablution facilities on site must be provided. • Constant rehabilitation of erosion problems. • Proper storage facilities of construction materials. • Waste management is very important. Proper storage and removal strategy must be in place. 	

				<ul style="list-style-type: none"> • Proper Standard Operating Procedures in place regulating refuelling and other potential polluting activities. • Must have rehabilitation strategy as part of EMP such as a clean-up plan/strategy if spills occur and proper facilities (ablution) to ensure no sewerage spills into drainage lines and streams. 	
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IMPACT MANAGEMENT ACTIONS

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

ACTIVITY Whether listed or not listed.	POTENTIAL IMPACT	MITIGATION TYPE	TIME PERIOD FOR IMPLEMENTATION	COMPLIANCE WITH STANDARDS
(E.g. Excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc...etc...etc.).	(e.g. dust, noise, drainage surface disturbance, fly rock, surface water contamination, groundwater contamination, air pollution etc....etc...)	<p>(modify, remedy, control, or stop) through (e.g. noise control measures, storm-water control, dust control, rehabilitation, design measures, blasting controls, avoidance, relocation, alternative activity etc. etc)</p> <p>E.g.</p> <ul style="list-style-type: none"> • Modify through alternative method. • Control through noise control • Control through management and monitoring <p style="text-align: center;">Remedy through rehabilitation..</p>	<p>Describe the time period when the measures in the environmental management programme must be implemented</p> <p>Measures must be implemented when required.</p> <p>With regard to Rehabilitation specifically this must take place at the earliest opportunity. .With</p>	<p>(A description of how each of the recommendations in 2.11.6 read with 2.12 and 2.15.2 herein will comply with any prescribed environmental management standards or practices that have been identified by Competent Authorities)</p>

			regard to Rehabilitation, therefore state either:-.. Upon cessation of the individual activity	
Clearance of vegetation	Loss or fragmentation of habitats	<p>Existing vegetation Actions</p> <ol style="list-style-type: none"> 1. Vegetation removal must be limited to the Mining site. 2. No vegetation to be used for firewood. 3. Exotic and invasive plant species should not be allowed to establish, if the development is approved. <p>Demarcation of Mining area</p> <ol style="list-style-type: none"> 1. The Mining area must be well demarcated and no construction activities must be allowed outside of this demarcated footprint. 2. Vegetation removal must be phased in order to reduce impact of construction/Mining. 3. Site office and laydown areas must be clearly demarcated and no encroachment must occur beyond demarcated areas. 4. Strict and regular auditing of the Mining process to ensure containment of the Mining and laydown areas. 5. Soils must be kept free of petrochemical solutions that may be kept on site during construction/Mining. Spillage can result in a loss of soil functionality thus limiting the re-establishment of flora. <p>Herbicides</p> <ol style="list-style-type: none"> 1. Herbicide use shall only be allowed according to contract specifications. The application shall be according to set specifications and under supervision of a qualified technician. The possibility of leaching into the surrounding environment shall be properly investigated and 	Duration of operation	The implementation of the recommended mitigation measures will result in the minimisation of impacts to acceptable standards, thereby ensuring compliance with NEMA and Duty of Care as prescribed by NEMA.

		<p>only environmentally friendly herbicides shall be used.</p> <p>2. The use of pesticides and herbicides on the site must be discouraged as these impact on important pollinator species of indigenous vegetation.</p> <p>Fauna</p> <p>3. Rehabilitation to be undertaken as soon as possible after Mining has been completed.</p> <p>4. No trapping or snaring to fauna on the construction/Mining site should be allowed.</p> <p>5. No faunal species must be disturbed, trapped, hunted or killed by maintenance staff during any routine maintenance at the development.</p>		
<p>Mining of Diamonds- excavations</p>	<p>Loss of topsoil</p>	<p>1. The full depth of topsoil should be stripped from areas affected by construction/Mining and related activities prior to the commencement of major earthworks.</p> <p>2. Care must be taken not to mix topsoil and subsoil during stripping.</p> <p>3. The topsoil must be conserved on site in and around the pit/trench area.</p> <p>4. Subsoil and overburden in the Mining area should be stockpiled separately to be returned for backfilling in the correct soil horizon order.</p> <p>5. If stockpiles are exposed to windy conditions or heavy rain, they should be covered either by vegetation or geofabric, depending on the duration of the project. Stockpiles may further be protected by the construction of berms or low brick walls around their bases.</p> <p>6. Stockpiles should be kept clear of weeds and alien vegetation growth by regular weeding.</p> <p>7. Where contamination of soil is expected, analysis must be done prior to disposal of soil to determine the appropriate disposal route. Proof from an approved waste disposal site where contaminated soils are dumped if and</p>	<p>Duration of operation</p>	<p>The implementation of the recommended mitigation measures will result in the minimisation of impacts to acceptable standards, thereby ensuring compliance with NEMA and Duty of Care as prescribed by NEMA.</p>

		<p>when a spillage/leakage occurs should be attained and given to the project manager.</p> <p>Establish an effective record keeping system for each area where soil is disturbed for Mining purposes. These records should be included in environmental performance reports, and should include all the records below.</p> <ul style="list-style-type: none"> • Record the GPS coordinates of each area. • Record the date of topsoil stripping. • Record the GPS coordinates of where the topsoil is stockpiled. • Record the date of cessation Mining activities at the particular site. • Photograph the area on cessation of Mining activities. • Record date and depth of re-spreading of topsoil. • Photograph the area on completion of rehabilitation and on an annual basis thereafter to show vegetation establishment and evaluate progress of restoration over time. 		
	Erosion	<ol style="list-style-type: none"> 1. The use of silt fences and sand bags must be implemented in areas that are susceptible to erosion. 2. All erosion control mechanisms need to be regularly maintained. 3. Seeding of topsoil and subsoil stockpiles to prevent wind and water erosion of soil surfaces. 4. Retention of vegetation where possible to avoid soil erosion. 5. Vegetation clearance should be phased to ensure that the minimum area of soil is exposed to potential erosion at any one time. 	Duration of operation	The implementation of the recommended mitigation measures will result in the minimisation of impacts to acceptable standards, thereby ensuring compliance with NEMA and Duty of Care as prescribed by NEMA.
	Air Pollution	Dust control actions	Duration of operation	The implementation of the recommended mitigation measures will result in the minimisation of impacts to

		<ol style="list-style-type: none"> 1. Ensure that all vehicles are maintained in good working condition and that they are serviced on a regular basis. 2. Ensure that all vehicles are switched off when stationary – no vehicles should be idling for extended period. 3. Impose and regulate a speed limit of 30 km/h on the site at all times. 4. Provide speed-reduction structures positioned in the dirt access road to ensure maximum effectiveness at slowing down vehicles utilising this road. 5. A water car must be maintained and kept in good working order at all times. It is important for the water car to maintain a schedule for rounds to keep the roads damp and so assist in dust suppression. 6. Water sprays to be applied at the area to be cleared should significant amounts of dust be generated. 7. Remove materials that have a potential to produce dust from site as soon as possible, unless being re-used on site. If they are being re-used on-site cover, seed or fence stockpiles to prevent wind whipping. 8. Moist topsoil will reduce the potential for dust generation when tipped onto stockpiles. 9. Ensure travel distance between clearing area and topsoil piles to be at a minimum. 10. Only remove the cover in small areas during work and not all at once. 11. Ensure exposed areas remain moist through regular water spraying during dry, windy periods. 12. Reshape all disturbed areas to their natural contours. 13. Re-vegetate earthworks and exposed areas/soil stockpiles to stabilise surfaces as soon as practicable. 14. Avoid bonfires and burning of waste materials 		<p>acceptable standards, thereby ensuring compliance with NEMA and Duty of Care as prescribed by NEMA.</p>
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	Noise	<p><u>Actions to Noise Pollution</u></p> <ol style="list-style-type: none"> Noise suppression measures must be applied to all equipment. Equipment must be kept in good working order and where appropriate fitted with silencers which are kept in good working order. Should the vehicles or equipment not be in good working order, the Contractor may be instructed to remove the offending vehicle or machinery from the site. Applying regular and thorough maintenance schedules to equipment and processes. An increase in noise emission levels very often is a sign of the imminent mechanical failure of a machine. 	Duration of operation	The implementation of the recommended mitigation measures will result in the minimisation of impacts to acceptable standards, thereby ensuring compliance with NEMA and Duty of Care as prescribed by NEMA.
Heritage resources	Impact on potential cultural and heritage artefacts	<ol style="list-style-type: none"> Any finds must be reported to the nearest National Monuments office to comply with the National Heritage Resources Act (Act No 25 of 1999) and to DEA. Local museums as well as the South African Heritage Resource Agency (SAHRA) should be informed if any artefacts are uncovered in the affected area. The Contractor must ensure that his workforce is aware of the necessity of reporting any possible historical or archaeological finds to the ECO so that appropriate action can be taken. Any discovered artefacts shall not be removed under any circumstances. Any destruction of a site can only be allowed once a permit is obtained and the site has been mapped and noted. Permits shall be obtained from the SAHRA should the proposed site affect any world heritage sites or if any heritage sites are to be destroyed or altered. 	Duration of operation	The implementation of the recommended mitigation measures will result in the minimisation of impacts to acceptable standards, thereby ensuring compliance with NEMA and Duty of Care as prescribed by NEMA.
Waste Management		Remedial actions	Duration of operation	The implementation of the recommended mitigation measures will result in the

		<ol style="list-style-type: none"> 1. Depending on the nature and extent of the spill, contaminated soil must be either excavated or treated on-site. 2. Excavation of contaminated soil must involve careful removal of soil using appropriate tools/machinery to storage containers until treated or disposed of at a licensed hazardous landfill site. 3. The ECO must determine the precise method of treatment for polluted soil. This could involve the application of soil absorbent materials as well as oil-digestive powders to the contaminated soil. 4. If a spill occurs on an impermeable surface such as cement or concrete, the surface spill must be contained using oil absorbent material. 5. If necessary, oil absorbent sheets or pads must be attached to leaky machinery or infrastructure. 6. Materials used for the remediation of petrochemical spills must be used according to product specifications and guidance for use. 7. Contaminated remediation materials must be carefully removed from the area of the spill so as to prevent further release of petrochemicals to the environment, and stored in adequate containers until appropriate disposal. 		<p>minimisation of impacts to acceptable standards, thereby ensuring compliance with NEMA and Duty of Care as prescribed by NEMA.</p>
	<p>Spread of alien invasive species</p>	<p>Proposed Actions</p> <ul style="list-style-type: none"> • These species should be eradicated and controlled to prevent further spread beyond the study area; • It is suggested that an alien plant removal program be initialised within the study area in order to help reinstate more natural hydrological and ecological functions to within the project site; • Alien plant seed dispersal within the top layers of the soil within footprint areas, that will have 		

		<p>an impact on future rehabilitation, has to be controlled;</p> <ul style="list-style-type: none">• Care should be taken with the choice of herbicide to ensure that no additional impact and loss of indigenous plant species occurs due to the herbicide used;		
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Milnex CC: EIA412-EIR & EMP - Mining Right Application, combined with a Waste Licence Application of **Turnover Trading 251 (Pty) Ltd** for the mining of Diamonds General (D) on the RE of Portions 6, 7, 10 and Portions 8, 17, 19 of the Farm Sterkfontein 155. Portion 29, 30, 31, 32, 33, 34, 45, 46, 47, 48, 49, 50, 51, 52 53, 54, 55, 56, 57, 58, 59, 60, 61, 63, 64, 65, 68, 69, 70, 66 and a certain portion of portion 62, the RE of Portion 1 & 7 of the Farm Putfontein 62. Portion 1, 2 & the RE of the Farm Omega 478. Portion 3 & the RE of the Farm Holgat 63. Portion 4, 5, 6 & the RE of Portion 2 of the farm Wildfontein 201. The RE of portion 5 & 31 of the farm Leewufontein 64. A certain Portion of the RE of Farm 533; Registration Division: IP, North West Province.

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

G. MONITORING OF IMPACT MANAGEMENT ACTIONS

H. MONITORING AND REPORTING FREQUENCY

I. RESPONSIBLE PERSONS

J. TIME PERIOD FOR IMPLEMENTING IMPACT MANAGEMENT ACTIONS

SOURCE ACTIVITY	IMPACTS REQUIRING MONITORING PROGRAMMES	FUNCTIONAL REQUIREMENTS FOR MONITORING	ROLES AND RESPONSIBILITIES (FOR THE EXECUTION OF THE MONITORING PROGRAMMES)	MONITORING AND REPORTING FREQUENCY and TIME PERIODS FOR IMPLEMENTING IMPACT MANAGEMENT ACTIONS
Clearance of vegetation	Loss or fragmentation of habitats	<ul style="list-style-type: none"> • Conduct regular internal audits • Conduct regular external audits 	<ul style="list-style-type: none"> • Environmental Manager • Suitable qualified environmental auditor 	Monitoring should be undertaken for duration of operations. Internal audits should be undertaken at least every 6 months. External audits should be undertaken by a suitably qualified auditor on an annual basis. Reports should be made available to the competent authority if required.
Mining of Diamonds	Loss of topsoil Erosion Air Pollution Noise Impact on potential cultural and heritage artefacts Alteration of the flow regime of the watercourse	<ul style="list-style-type: none"> • Conduct regular internal audits • Conduct regular external audits 	<ul style="list-style-type: none"> • Environmental Manager • Suitable qualified environmental auditor 	Monitoring should be undertaken for duration of operations. Internal audits should be undertaken at least every 6 months. External audits should be undertaken by a suitably qualified auditor on an annual basis. Reports should be made available to the competent authority if required.

	<p>Changing the physical structure within a water resource (habitat)</p> <p>Alteration of the amount of sediment entering the water resource and associated change in turbidity</p> <p>Alteration of water quality</p> <p>Loss of terrestrial habitat</p> <p>Loss of Aquatic Biota</p> <p>Loss of Terrestrial Fauna</p> <p>Loss of Terrestrial Flora</p> <p>Introduction and spread of alien vegetation</p>			
Waste management	Pollution	<ul style="list-style-type: none"> • Conduct regular internal audits • Conduct regular external audits 	<ul style="list-style-type: none"> • Environmental Manager • Suitable qualified environmental auditor 	Monitoring should be undertaken for duration of operations. Internal audits should be undertaken at least every 6 months. External audits should be undertaken by a suitably qualified auditor on an annual basis. Reports

				should be made available to the competent authority if required.
Water Use and Quality	Water pollution	<ul style="list-style-type: none"> • Conduct regular internal audits • Conduct regular external audits 	<ul style="list-style-type: none"> • Environmental Manager • Suitable qualified environmental auditor 	Monitoring should be undertaken for duration of operations. Internal audits should be undertaken at least every 6 months. External audits should be undertaken by a suitably qualified auditor on an annual basis. Reports should be made available to the competent authority if required.

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K. A PROGRAM FOR REPORTING ON COMPLIANCE, TAKING INTO ACCOUNT THE REQUIREMENTS AS BY THE REGULATIONS;

External audits should be undertaken by a suitably qualified auditor on an annual basis. Reports should be made available to the Competent Authority if required.

L. AN ENVIRONMENTAL AWARENESS PLAN DESCRIBING THE MANNER IN WHICH—

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

Turnover Trading (Pty) Ltd will implement an Environmental Awareness Plan which will include various mechanisms for informing employees of environmental risks resulting from their work, including:

- Induction training for full –time staff and contractors.
- In-house training sessions to be held with relevant employees.
- On the job training regarding environmental issues
- Training and skills development

The above measures will be implemented through an Environmental Communication Strategy to be implemented.

See the attached **Appendix 12** for the Awareness plan and Covid-19 Occupational Health and Safety Measures in Workplaces:

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

Turnover Trading(pty) Ltd will implement an incident reporting and reporting procedure in order to identify risks timeously and implement actions to avoid or minimise environmental impacts.

M. SPECIFIC INFORMATION REQUIRED BY THE COMPETENT AUTHORITY

N/A

*****END OF THE REPORT*****