



**LEPHALALE COALBED METHANE
EXPLORATION PROJECT
("LCBM")**

Environmental Audit Report

Submitted as contemplated in section 24N(7)(d) of the National Environmental Management Act, 1998 (Act 107 of 1998) (NEMA) and Regulation 34 under Part 3 of Chapter 5 of the amended Environmental Impact Assessment Regulations, 2014 (Government Notice No. 982) (EIA Regulations, 2014)

PASA Reference Numbers: No.: 12/3/002

August 2022

CONTENTS PAGE

1.	Introduction.....	1
2.	legal framework	3
2.1.	National Environmental Management Act, 1998 (act 107 of 1998), as amended (“NEMA”).....	3
3.	scope and purpose of the environmental audit.....	4
4.	methodology ADOPTED IN PREPARING THE ENVIRONMENTAL AUDIT REPORT.....	5
4.1.	Audit Team and statement of independence	5
4.2.	Frequency of reporting.....	7
4.3.	Period that applies to this compliance assessment.....	7
4.4.	Procedure used during the compliance assessment.....	7
4.5.	Evaluation criteria used during the compliance assessment	8
4.6.	Rating of findings	8
5	Assumptions, uncertainties and gaps in knowledge.....	9
6	EMPr Recommendation Report	9
7	RESULTS OF THE ENVIRONMENTAL AUDIT.....	9
7.1	LCBM Exploration 5 Spot: Pre-feasibility Production Test Project Standard Environmental Management Plan.....	10
7.2	Proposed 37-Spot Coalbed Methane Bulk Yield Test Environmental Management Programme.....	29
7.3	Waterberg 1 Environmental Management Programme	40
7.4	Waterberg 11 Environmental Management Programme	45
7.5	Proposed 37-Spot Coalbed Methane Bulk Yield Test Environmental Authorization	47
8	DELIBERATIONS.....	57
8.1	Adequacy and Compliance with the LCBM Exploration 5 Spot: Pre-Feasibility Production Test Project Standard EMPr	57
8.2	Adequacy and Compliance with the Proposed 37-Spot Coalbed Methane Bulk Yield Test EMPr.....	57
8.3	Adequacy and Compliance with the Waterberg 1 Environmental Management Programme EMPr.....	57
8.4	Compliance with the Environmental Authorization	58
9	Conclusion.....	58
10	Disclaimer.....	58
11	Declaration	59

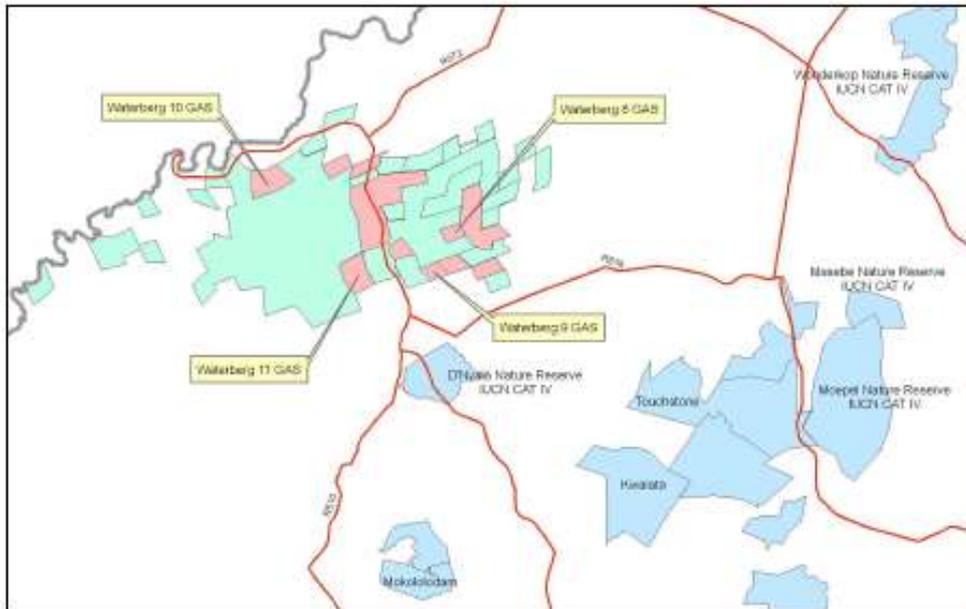


Figure 2: Waterberg 11 Exploration Right Area

A Section 102 consent to consolidate Waterberg 1 and 11 exploration rights has been granted (19 August 2019). The new exploration right reference number is 12/3/002.

LCBM Exploration 5 Spot: Pre-feasibility Production Test Project

An authorization for the LCBM Exploration 5 Spot: Pre-feasibility Production Test Project (“existing 5-Spot”) to commence on the farm Wildebeestpan 173 LQ was issued on the 7th of January 2003 by the then Department of Minerals and Energy (“DME”) (DME Reference Number: 5/2/2/102). Since the authorization was obtained, the regulating authority for coal gasification projects was moved to the Petroleum Agency of South Africa (“PASA”).

The existing 5-Spot entered care and maintenance on the 19th of December 2014 pending the Water Use Licence Application (“WULA”) that was submitted in April 2011 for the proposed 37-Spot. The Integrated Water Use Licence Application (“IWULA”) was granted to the now Thungela Operations Proprietary Limited for the 37 Spot on the 14th of December 2020. It was also indicated during the interview and site visit that TOPL is in the process of amending the 37 Spot water use licence and cannot at this stage commence with the issued water use activities. In view of the above, the 5 Spot exploration project will remain under the care and maintenance.

Proposed 37-Spot Coalbed Methane Bulk Yield Test

Authorization for the Proposed 37-Spot Coalbed Methane Bulk Yield Test (“37-Spot”) to commence on the farm Nooitgedacht 403 LQ was issued on the 25th of January 2012 by the Department of Economic Development, Environment and Tourism (“LEDET”) (LEDET Reference Number: 12/1/9-7/1(i)-W1). The LEDET Extension Notice on the EIA approval lapsed in November 2016. An Extension on Environmental Authorization for the proposed development of the 37-Spot Application was submitted to PASA in November 2016 in terms of the Mineral and Petroleum Resources Development Amendment Act, 2008 (Act 49 of 2008) (“MPRD Amendment Act”) and National Environmental Management Amendment Act, 2008 (Act 62 of 2008) (“NEMA Amendment Act”) that are in effect. Extension on Environmental Authorization for the proposed development of the 37-Spot was granted by PASA (PASA Ref 12/3/1/02/2/21), signed 30 June 2017 and is valid until 30 June 2020. An amendment of this Environmental Authorisation (Ref: 12/3/002) was approved on the 01 December 2020 and is valid until year 2023.

The proposed 37-Spot will comprise the development of 37 additional wells within a different geological resource block than the existing 5-Spot. The gas yield from the wells is expected to be representative of a wider gas well field and data will be used to calibrate the gas resource estimates and production forecasts to determine the feasibility of expanding the LCBM. The 37-Spot consists of two phases. The first phase includes the construction and operation of an initial 5-well gas test site ("second 5-Spot"). The second phase includes drilling, construction and operation of the remaining 32 wells and associated infrastructure.

The Integrated Water Use Licence Application ("IWULA") for the 37 Spot was granted on the 03rd of December 2020 and received by Thungela Operations (Pty) Limited on the 14th of December 2020. It was however noted during the site visit that none of the issued water use activities have been commenced with yet and that TOPL is in the process of amending the 37 Spot water use licence.

In terms of the NEMA, the amended NEMA Environmental Impact Assessment Regulations, 2014, the Record of Decision for the section 102 application for the consolidation for the exploration right and the LCBM Exploration 5 Spot: Pre-feasibility Production Test Project EMPr approval letter, AACSA must assess its compliance with the conditions of the EA and commitments in the approved EMPr for its exploration and associated activities at the Lephalale CBM Exploration Project.

AACSA appointed Geovicon Environmental (Pty) Limited to assess the compliance of LCBM's exploration activities against conditions/commitments of the EA and the EMPrs issued and approved in terms of the NEMA and the MPRDA (for further details on the scope and purpose of the environmental audit, please see section 3 of this report). This report was compiled after completion of the virtual environmental audit and site inspection conducted on the 24th to 25th of February 2022 and is hereby submitted for review by the client and legal auditors.

2. LEGAL FRAMEWORK

2.1. NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998 (ACT 107 OF 1998), AS AMENDED ("NEMA")

Section 24N(7)(d) of NEMA requires that the holder and any person issued with an environmental authorisation must monitor and audit compliance with the requirements of the EMPr. Regulation 34 of the EIA Regulations, 2014 states that the holder of an environmental authorization must, for the period during which the environmental authorization and EMPr remain valid, ensure that compliance with the conditions of the environmental authorization and the approved EMPr is audited and that an environmental audit report, prepared by an independent person, is submitted to the relevant competent authority, which in the case of LBCM's Project is the PASA. The above-mentioned environmental audit report must determine the ability of the approved EMPr to sufficiently provide for the avoidance, management and mitigation of environmental impacts associated with the exploration operation on an ongoing basis and the level of compliance with the provisions of EA and the approved EMPr.

With the amendment of the EIA Regulations, 2014, on 7 April 2014, regulation 54A was introduced. Regulation 54A (2) of the EIA Regulations, 2014 as amended¹, states that "*Where a right or permit issued in terms of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002)*

¹ Government Notice R599 in Government Gazette 43358 of 29 May 2020 and substituted by Government Notice 517 in Government Gazette 44701 of 1 June 2021.

and the associated Environmental Management Programme or Environmental Management Plan approved in terms of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002) is still in effect after 8 December 2014, the requirements contained in Part 3 of Chapter 5 of these Regulations apply to such Environmental Management Programmes or Environmental Management Plans, and (a) where the audit or performance assessment cycle of the Environmental Management Programme or Environmental Management Plan exceeds five years, an audit report will required to be submitted at least every five years commencing from the date of submission of the last audit, for the period during which the right or permit remains in effect; or (b) no audit or performance assessment requirement was set in the Environmental Management Programme or Environmental Management Plan, an audit report will be required to be no later than 7 December 2021 and at least every 5 years thereafter for the period during which the right or permit remains in effect.

LBCM's approved EMPs were still valid after 8 December 2014. Therefore, the requirements of regulation 54A(2) read with regulation 34 of the EIA Regulations, 2014 are applicable to the approved EA and EMPs .

In view of the above and in complying with the above approval conditions of the EMPs and relevant regulations of the EIA Regulations, a compliance assessment for LBCM's approved EMPs and NEMA EA are undertaken annually.

3. SCOPE AND PURPOSE OF THE ENVIRONMENTAL AUDIT

The purpose of this assessment is to undertake an audit in terms of regulation 34 of the NEMA EIA Regulations in order to verify the operation's compliance with and adequacy of the following approved environmental authorization and environmental management programmes –

Environmental Management Programmes (“EMPs”):

- Standard Environmental Management Programme for LBCM Exploration 5 Spot: Pre-feasibility Production Test Project, dated August 2005 and approved January 2006, with PASA reference No.: 5/2/2/102;
- Environmental Management Programme for the proposed 37-Spot Coalbed Methane Bulk Yield Test, dated August 2010 and approved September 2015, with PASA reference No.: 12/3/1/02/2/2/1;
- Environmental Management Programme for Waterberg 1, dated July 2015 and the renewal was approved 13 July 2017, PASA Reference No.: 12/03/02, 12/03/04, 12/03/07, 12/03/08, 12/03/24, 12/03/76 and 12/03/191;
- Environmental Management Programme for Waterberg 11, dated 2006 and the renewal was approved in January 2019, PASA Ref No.:12/3/022/1A.; and
- The Waterberg 1 EMP and Waterberg 11 EMP were consolidated.

Environmental Authorization (“EA”):

- Proposed 37-Spot Coalbed Methane Bulk Yield Test, approved August 2004, with LEDET Reference Number: 12/1/9-7/1(i)-W1 and amended December 2020 with PASA Reference Number 12/3/002.

Copies of any of these documents are available on request.

The environmental audit was conducted to determine the level of performance and compliance of the exploration operation with the provisions of the issued EA and approved EMPs. The audit was

conducted to further determine the ability of the measures contained in the EMPs to sufficiently provide for the avoidance, management and mitigation of environmental impacts associated with LCBM's exploration operation and associated surface infrastructure and activities.

In view of the above, the scope of this compliance assessment is as follows:

- To report on the compliance of the operation with the conditions, commitments and/or mitigation measures in the EMPs and EA and the extent to which the avoidance, management and mitigation measures provided for in the EMPs, achieve the objectives and outcomes of the EMPs.
- To identify and assess any new impacts and risks arising from the LCBM's exploration activities;
- To evaluate the effectiveness of the EMPs,
- To identify any inadequacies in the EMPs, and
- To identify the need for any changes to the avoidance, management and mitigation measures provided for in the EMPs.

4. METHODOLOGY ADOPTED IN PREPARING THE ENVIRONMENTAL AUDIT REPORT

4.1. AUDIT TEAM AND STATEMENT OF INDEPENDENCE

Auditor 1: Mr. Ornassis Tshepo Shakwane (Pr.Sci.Nat. & Registered EAP)

Professional Registration Numbers:

SACNASP Registration: 117080

EAPASA Registration: 2019/1763

IAIA Membership No.: 3847

Company: Geovicon Environmental (Pty) Limited

Postal Address:

P.O. Box 4050

MIDDELBURG, 1050

Tel: (013) 243 0542

Fax: (086) 632 4936

Cell No.: 082 498 1847

Experience of the Auditor

Mr. O.T. Shakwane obtained his BSc (Microbiology and Biochemistry) from the University of Durban Westville in 1994 and completed his honours degree in Microbiology in 1995. Mr O.T. Shakwane has also completed short courses on environmental law, environmental impact assessment, environmental risk assessment and environmental management systems with a number of tertiary institutions. He has

worked within the three state departments tasked with mining and environmental management i.e. Department of Water and Sanitation (Gauteng and Mpumalanga Region), Department of Mineral Resources (Mpumalanga Region) and Department of Agriculture, Conservation and Environment (Gauteng Region). Mr. Shakwane has been in the consulting field since 2004 and has undertaken environmental audits for exploration operations similar to Lephalale CBM Exploration Project. Mr. Shakwane has been involved in the field of environmental auditing for the past sixteen years.

He is registered with the Environmental Assessment Practitioners Association of South Africa and South African Council for Natural Scientific Professions as an Environmental Assessment Practitioner and a Professional Natural Scientist in terms of section 24H of the National Environmental Management Act, (Act 107 of 1998) and section 20(3) of the Natural Scientific Professions Act, 2003 (Act 27 of 2003), respectively. He is also a member of the International Association for Impact Assessment, South Africa.

Auditor 2: Mr. Mndeni Magagula (Cand. Sci. Nat)

Professional Registration Numbers:

SACNASP: 120416

IAIA: 6234

Company: Geovicon Environmental (Pty) Limited

Postal Address:

P.O. Box 4050

MIDDELBURG, 1050

Tel: (013) 243 0542

Fax: (086) 632 4936

Cell No.: 063 007 6350

Experience of the Auditor

Mr. Mndeni Magagula obtained his BSc. Degree in Physical and Mineral Sciences (2013), BSc Honours in Geology (2014) from the University of Limpopo as well as Postgraduate Diploma in Integrated Water Resources Management (2021) from the University of the Free State. He recently registered for his Master's Degree with the University of the Free State. He is a registered Candidate Scientist with the South African Council for Natural Scientific Professions and also a member of the International Association for Impact Assessment, South Africa. Mr Mndeni Magagula started his professional career as a Hydrologist at Letsolo Water and Environmental Services cc (February 2016 – July 2018). Mndeni has since joined Geovicon Environmental (Pty) Ltd in July 2018. His responsibilities include but not limited to ensuring compliance with the legislation i.e. National Water Act, (No: 36 of 1998), National Environmental Management Act, (No: 107 of 1998), National Environmental Management: Waste Act (Act: 59 of 2008), National Environmental Management: Air Quality Act (Act: 39 of 2004) and other Legislative Developments. He is also highly involved in the Applications of Integrated Water Use Licenses, conducting of internal and external Water Use Licenses Audits as well as Environmental Management Programmes, compiling and updating of Integrated Water and Wastewater Management Plans (IWWMP). He also conducts monthly environmental inspections at several mining companies to

ensure environmental compliance. Mr. Mndeni Magagula is one of the auditors that audited Lephalale CBM Exploration Project's compliance with their EMPs and EA.

4.2 FREQUENCY OF REPORTING

In terms of regulation 34(2)(d) of the NEMA EIA Regulations "*the environmental audit report contemplated in sub-regulation (1) must be conducted and submitted to the competent authority at intervals as indicated in the environmental authorization*".

LCBM is operated under four EMPs approved in terms of the MPRDA and an EA granted in terms of NEMA.

LCBM's approval letter in respect of the MPRDA approved EMP (with PASA reference No.: 5/2/2/102) specifies that the auditing of the EMP performance should be conducted annually.

The approved consolidated EMP for Waterberg 1 and 11 notes that the EMP performance will be conducted regularly. The 37 Spot EMP notes that the EMP performance will be undertaken on monthly basis during the construction phase. Condition 4.1 of the EA issued to Anglo Operations (Pty) Ltd, on 25 January 2012, indicates that an independent compliance monitoring report must be done every month during the construction phase and every 6 months during the operation phase.

4.3 PERIOD THAT APPLIES TO THIS COMPLIANCE ASSESSMENT

The audit review period for this environmental audit report is April 2021 to March 2022.

4.4 PROCEDURE USED DURING THE COMPLIANCE ASSESSMENT

The following was used as a procedure for the compliance assessment i.e.:

- Desktop assessment of the approved LCBM EMPs and EA. The desktop assessment was used to list all commitments and conditions indicated in the EMPs and EA.
- Reviewing and abstracting the commitments (management and mitigation measures) from the approved EMPs and conditions from the approved EA. In cases where the commitments had not yet been fulfilled, either because the applicable phase is not reached or for some other reason, such has been indicated in this report. As described further below, we also had extensive electronic interview with the relevant LCBM personnel and Anglo Operations Proprietary Limited head office officials. This interview was held over a period of one day comprising of at least four hours.
- To assess the compliance with the conditions and commitments of the EA and EMPs and to reach our findings, we conducted extensive interview with gas exploration site personnel. We also reviewed comprehensive documentation, which was provided by the gas exploration site on a collaboration platform.
- A site visit was scheduled and undertaken on the 24th to 25th of February 2022 to confirm the state of compliance at the gas exploration site.

- In addition to assessing the compliance to EMPs commitments and EA conditions, the adequacy of the information was also assessed through evaluating activities and verifying such against the descriptions and risk assessments provided in the EMPs, and whether location specific risks and the necessary specialist assessments had been considered.

4.5 EVALUATION CRITERIA USED DURING THE COMPLIANCE ASSESSMENT

Evaluation criteria used during the compliance assessment includes the following:

- Are the measures and structures as indicated in the EMPs and EA in place?
- Are the measures adequate and structures maintained, and at what frequency?
- Has the monitoring as indicated in the EMPs and EA been conducted? (Data, reports).
- Is the reported frequency of the monitoring in accordance with the conditions of the EMPs and EA? (Reports)
- Determining whether any new measures are required to prevent or mitigate the existing environmental impacts and/or other potential impacts.

Evaluation of the appropriateness and adequacy of the EMPs and EA included the following:

- Compliance with relevant laws pertaining to the environment.
- Compliance of exploration operation and associated activities with the EMPs and EA. (Is the mine conducting activities that are not indicated in the EMPs and the EA?)

4.6 RATING OF FINDINGS

The compliance category was rated as indicated in the table below:

Compliance category	Findings
Condition/mitigation measure/commitment has been achieved with evidence provided in the form of a document.	Compliant
The failure to comply with, or satisfy the requirements of an applicable condition, commitment and/or mitigation measure. When site visits are finally conducted, non-compliances will include instances where although the current condition or mitigation measure has been achieved, there have been new impacts and risks arising from the activity; whether the current measures are effective and whether there are any shortcomings which need to be addressed through changes in the systems or amendment of the EMP.	Non-Compliant
The condition, commitment and/or mitigation measure is Not Applicable. A "Not Applicable" finding is also noted in events where such condition, commitment and/or mitigation measure is either obsolete, an alternative effective measure is utilised or commitment and/or mitigation measure is not yet relevant but is still relevant for future activities;	Not Applicable
The condition, commitment and/or mitigation measure that does not require any specific action.	Noted

5 ASSUMPTIONS, UNCERTAINTIES AND GAPS IN KNOWLEDGE

Although all reasonable attempts were made to verify comments made during interviews held with relevant LCBM personnel as well as the review of documentation, it is assumed that such comments and documents provided are a true and accurate reflection of the audit.

In an event where insufficient information was provided to support the verification of compliance status, the auditors' general approach was to indicate that such commitments/conditions could not be verified, and as such, the findings were noted as non-compliant.

6 EMP_r RECOMMENDATION REPORT

Regulation 34(4) of the EIA regulation, 2014 state the following i.e.:

Where findings of the Environmental Audit Report indicate:

- insufficient mitigation of environmental impacts associated with the undertaking of activity; or
- insufficient levels of compliance with the environmental authorization or EMP_r and where applicable the closure plan;

The holder must, when submitting the environmental audit report to the competent authority in terms of sub regulation (1), submit recommendations to amend the EMP_r or closure plan in order to rectify shortcomings identified in the environmental audit report and such recommendations must have been subjected to a public participation process as agreed to by the competent authority.

No amendment of the EMP_r's is recommended.

7 RESULTS OF THE ENVIRONMENTAL AUDIT

The results of the Environmental Audit are given in the Tables below. The tables below outline the EMP_rs and the EA for each of the authorized activities at Lephalale CBM Exploration Project.

7.1 LCBM EXPLORATION 5 SPOT: PRE-FEASIBILITY PRODUCTION TEST PROJECT STANDARD ENVIRONMENTAL MANAGEMENT PLAN

ASPECT	COMMITMENT	FINDINGS	AUDIT REVIEW AND OBSERVATION
1. Environmental awareness	The National Environmental Management Act, 1998 (Act 107 of 1998) states that any cost incurred to remedy environmental damage shall be borne by the person responsible for that damage (polluter pays principle). It is therefore imperative that the contractor reads and understands the requirements of this EMP before commencing activities.	Compliant	For the review period, no contractor activities were undertaken on-site relating to the conditions of the System Engineering Management Plan. All visitors are required to undergo induction training before being allowed onto site.
	Chapter 7 of the National Environmental Management Act, 1998 (Act 107 of 1998) states that everyone is required to take reasonable measures to ensure that they do not pollute the environment. Reasonable measures include informing and educating employees about the environmental risks of their work and training them to operate in an environmentally acceptable manner. In terms of this.	Compliant	Site personnel are trained on HSE requirements that includes specific emphasis on the HSE risks of their work. Refresher training is undertaken on an annual basis.
	The contractor will meet with the prospecting team to explain the environmental requirements of this EMP and all sub-contractors will be briefed.	Compliant	
2. General requirements			
Animals	No member of the prospecting team will be permitted to:	Compliant	LCBM undertakes environmental awareness, which form part of the mine's induction and includes the issues regarding prohibition of hunting, poaching, snaring, tampering or harassing wild animals and livestock. These requirements are in accordance with AACSA-LCBM-EMS-MP-02: Environmental Aspects and covered during the induction training.
	hunt, kill, set devices to trap, tamper with or harass wild animals and livestock or any form of animal shelter;		
	feed native animals;		
	bring his/her own pets to the site.		
Avoid attracting animal pests by keeping the site free of litter and by providing adequate waste receptacles that can be covered to prevent access by animal pests.	Compliant	AACSA-LCBM-EMS-OP-03: <i>Handling and Storage of Hazardous Materials</i> defines the requirements for the handling, sorting, storage and disposal of all waste generated at the existing 5-Spot, ensuring that different categories of waste are disposed of in a manner that is in accordance with legislative requirements. Waste management receptacles are provided throughout the various existing 5-Spot site areas to prevent littering and are covered to prevent access by animal pests.	
Cordon off the site using game fencing to prevent access by animals and thereby prevent the injury or death of wild animals and livestock. Special measures have been taken around the HDPE lined storage ponds area to ensure that small animals (e.g. baby tortoises) do not enter the site area.	Compliant	The 5-Spot site has been fenced off using game fence. The HDPE lined storage dam has been fenced off using green netting.	
Dust	The excavation, handling and transport of erodible materials under windy conditions, or when a visible dust plume is evident, will be avoided, as high wind speeds will exacerbate erosion.	Not Applicable	No excavation, handling and transport of erodible materials was undertaken during the audit period hence the commitment is not applicable.

ASPECT	COMMITMENT	FINDINGS	AUDIT REVIEW AND OBSERVATION
	Soil stockpiles will be revegetated to ensure that they are not exposed to the erosive effects of wind and to control erosion.	Compliant	Regarding the 5-Spot site, the only topsoil stockpile in existence is the soil stockpile from the excavation of the HPDE Line dam. This stockpile has vegetated naturally and has satisfactory vegetation cover. This was confirmed through site observations.
	A 200m buffer zone of vegetation will be maintained around the site as the vegetation barrier will act as a barrier to the movement of wind and therefore reduce the erosion of the exposed surfaces.	Compliant	Based on the Google Earth Imagery, a 200 meter buffer has been demarcated around the 5-Spot site. It was also indicated by the LCBM personnel that no erosion due to the movement of wind was noted on site. The above observation was confirmed during the limited site visit.
	Exposed surfaces will be revegetated as soon as possible (i.e. as soon as activities are completed at the site).	Not Applicable	All disturbed and used areas were revegetated after the construction of the infrastructure at the 5-Spot site. The existing facilities are still in use and there is currently no plan to decommission them. In view of the above the commitment is considered not applicable.
	Vehicle speeds will be restricted to a maximum of 30 km/h along gravel (unpaved) roads and 20 km/h when traversing unconsolidated tracks and cleared areas.	Compliant	It was confirmed during the site visit that the stipulated speed limits are enforced at the 5-Spot site. The employees are also made aware of the of the required speed limits during the induction and safety talks.
	Vehicles will keep to the roads and tracks.	Compliant	Vehicles are restricted to demarcated roads and tracks.
	Only the minimum amount of vegetation necessary to allow activities to take place will be stripped (vegetated surfaces are less prone to erosion). An area of approximately 20 m x 20 m has been cleared around each well, an area of 250 m x 250 m was cleared around the water treatment plant and flare stack.	Not Applicable	No activities requiring stripping of topsoil and clearance of vegetation was undertaken at the 5-Spot site during the audit period.
	Appropriate dust suppression measures will be used when dust generation is unavoidable e.g. dampening with water. Caution must be employed not to allow muddy conditions to develop due to excessive watering.	Not Applicable	No significant activities that would require dust suppression were undertaken at the 5-Spot site.
Noise	As a general guideline, exploration hours will be limited to between 06h00 to 18h00 to avoid sleep/rest disruption and general disturbance of adjacent land users/residents. However, once the 5-Spot Test wells are operational, pumping and analyses will be carried out on a 24 hours per day, 7 days a week basis. Silent electric pumps will be used during the operations.	Not Applicable	As the existing 5-Spot operation temporarily ceased in 2014, no exploration activities are applicable to the audit period.
	Neighbouring landowners/land users/residents will be alerted 1 month before commencing drilling activities in order to eliminate the surprise element.	Not Applicable	As the existing 5-Spot operation temporarily ceased in 2014, no exploration activities are applicable to the audit period. There was therefore no need to alert neighboring landowners/land users/residents of commencing drilling activities.
	A vegetation buffer of at least 200m will be maintained around the drilling site, as the vegetation buffer will aid in dissipating the noise generated at the site.	Not Applicable	As the existing 5-Spot operation temporarily ceased in 2014, no exploration activities are applicable to the audit period. There was

ASPECT	COMMITMENT	FINDINGS	AUDIT REVIEW AND OBSERVATION
			therefore no need to maintain vegetation buffer around the drilling site.
	All equipment will be regularly and systematically checked, maintained and repaired (especially exhaust systems) as poorly maintained equipment can generate disturbing and unnecessary noise.	Not Applicable	As the existing 5-Spot operation temporarily ceased in 2014, no exploration activities are applicable to the audit period.
	The prospecting team will be made aware of minimizing unnecessary noise such as hooting and shouting.	Not Applicable	As the existing 5-Spot operation temporarily ceased in 2014, no exploration activities are applicable to the audit period.
	If applicable, the reverse sirens on vehicles will be replaced with strobe lights (the high pitched noise of the reverse sirens are annoying and disturbing).	Not Applicable	As the existing 5-Spot operation temporarily ceased in 2014, no exploration activities are applicable to the audit period.
Groundwater	Anglo Coal commits to the following management strategies for groundwater:		
	The monitoring programme will be maintained in order to quantify any possible impact. Details regarding this monitoring programme are provided in Table 4-1.	Compliant	<p>Thungela Operations (Pty) Limited undertakes ground water monitoring within the 5-Spot site. The monitoring is undertaken in line with the site's Groundwater Monitoring and Sampling Procedure. Below is the description of the monitoring programme i.e.:</p> <p>Every month eight samples with a ninth duplicate sample are sampled. The samples are collected at the following monitoring points i.e.: WN2; WN3; WN5; WN6N; WN7; WN9; WN10; and WP2.</p> <p>On a quarterly basis, twenty-seven samples with a duplicate sample are sampled at the following monitoring points i.e.: WN2; WN3; WN5; WN6N; WN7; WP2; WN9; WN10; CA1; DL116/1; KD2; KF1; LF4; PL1; WP4; WW1 and WN1.</p> <p>Surface water monitoring is conducted at the two sampling points i.e. S1 (Beska bridge) and S2 (Swartwater bridge) bi-annually from the Mogol River.</p> <p>From a review of the latest quarterly monitoring report submitted, DWS Quarterly Report No. 75, 1st October – 31st December 2021, the results from the monitoring programme show no significant impact on groundwater level or quality.</p>
	Additional monitoring boreholes will be drilled on site when required, in order to monitor the effect of CBM production.	Compliant	As indicated during the audit and confirmed from the review of the latest quarterly monitoring report submitted, DWS Quarterly Report No. 71, 1st October – 31st December 2021, additional groundwater monitoring boreholes have been added namely: WGNC, WGNM, SYC, SYM, EYC, ODC and ODM.
	Should the results of the monitoring programme indicate that CBM production has an impact on groundwater levels or quality, Anglo Coal will provide the affected user with an alternative source of water of equal quantity and quality. Present indications and monitoring shows that only one private borehole (WN2) is being affected by the five-spot test, although no impacts have yet been identified – this is due to the use of the borehole by the on-site project team, for drinking water purposes. Anglo Coal will	Compliant	From a review of the latest quarterly monitoring report submitted, DWA Quarterly Report No. 71, 1st October – 31st December 2021, the results from the monitoring programme show no significant impact on groundwater level or quality.

ASPECT	COMMITMENT	FINDINGS	AUDIT REVIEW AND OBSERVATION
	implement environmentally responsible operating practices, which will reduce the impact on groundwater. This includes sealing CBM production wells from the overlying geological units (including aquifers) before CBM production starts, lining flowback water storage ponds with SABS approved HDPE liners, implementing a water treatment facility with which to treat coal seam water and disposing of the brine produced in a responsible manner.		<p>Static water levels of most of the monitored holes within the target area have shown a depressing trend between 2008 and 2010. This phenomenon is directly related to variations in domestic water usage from boreholes WN2 and WN3 which impacts the levels of holes WN5 and WN7 in particular.</p> <p>The pH trend variations in, (conductivity and TDS) in the monitoring boreholes can be noted but there is no evidence to suggest that these changes are due to coal seam dewatering.</p> <p>The following measures have been implemented at the 5-Spot Site:</p> <ul style="list-style-type: none"> • CBM production wells have been sealed; • Lining flowback water storage ponds with HDPE liner; and • Water treatment plant with brine disposal into HDPE lined facility.
Visual aspects	In terms of mitigating measures, there are three criterion that must be considered - the measures should be feasible (economics), effective (how long will it take to implement and what provision is made for management / maintenance) and acceptable (within the framework of the existing landscape). To address these rules, the following general principles are proposed for the 5-Spot:		
Site establishment	The absolute minimum vegetation will be cleared around the wells, water treatment plant, the flare stack and the access roads. An area of approximately 20 m x 20 m will be cleared around each well, and area of 250 m x 250 m will be cleared around the water treatment plant and flare stack. Vegetation will be cleared in an 'organic' manner avoiding sharp geometric lines which would leave a long term unnatural 'scar' on the landscape. All existing natural vegetation will be retained near the office complex. Much of the vegetation along the western edge of the site will be maintained to act as a visual buffer and the water treatment plant and office complex will be set as far back from the Deelkraal Road as is possible.	Compliant	No construction activities were undertaken at the 5-Spot Site during the current audit period. During the site visit, no areas of concern regarding vegetation disturbance were noted on site.
Access Roads	Access roads will require an effective dust suppression management programme, such as regular watering. This is especially relevant throughout the life of the project, as the roads will remain as dirt roads.	Not Applicable	The site is under care and maintenance hence no significant activities that will result in the generation of dust are undertaken. No dust suppression has hence been necessary during the audit period.
Lighting	The use of unnecessary night lighting that could cause glare and spotlight effects, will be avoided. Light fixtures that provide precisely directed illumination will be installed to reduce light spillage beyond the immediate surrounds of the office complex and wherever else lighting may be required. High pole top flood and security lighting will be avoided	Compliant	The site personnel indicated that light fixtures that provide precisely directed illumination are installed at the 5-Spot site. Note also that no exploration activities have been undertaken at the 5-Spot site during the current audit period.
Flare Stack	The flare stack will be designed at the lowest possible height above ground level keeping safety and the risk of fire under consideration.	Compliant	The flare stack was installed in accordance with the design, considering the safety and fire risks thereof.
Handling hazardous material	Potentially toxic, flammable or poisonous materials on site include chemicals, oil, grease and fuel (diesel and petrol).		
	All potentially hazardous materials that will be stored or used on site will be handled in such a manner as to avoid soil and water contamination.	Compliant	<p>AACSA-LCBM-EMS-OP-05: Chemical Management Procedure has been implemented by the Project with the aim of this procedure to ensure that:</p> <ul style="list-style-type: none"> • Chemicals are handled in a safe manner; and • Stored in a safe manner to prevent unwanted use.

ASPECT	COMMITMENT	FINDINGS	AUDIT REVIEW AND OBSERVATION
			No concerns regarding storage and use of potentially hazardous material were with regard to risk on soil or water contamination.
	Potentially hazardous materials will be stored in a lockable, mobile structure on an impermeable surface.	Compliant	Very limited quantities of hazardous materials are stored, and where such storage is done, it is compliant with the management commitment.
	Brine generated by the Reverse Osmosis Plant will be disposed of by means of a gas-fired combustion evaporator followed by natural evaporation of the brine concentrate stored in two of the HDPE lined storage ponds located adjacent to the RO plant.	Compliant	No brine is currently being generated by the reverse osmosis plant and disposal thereof into the HDPE lined storage ponds is not undertaken. However, the site maintains the two HDPE lined storage ponds should the generation of brine commence again.
	The maintenance of vehicles and equipment or handling of oil/grease/hazardous chemicals must be conducted on an impermeable surface, such as a concrete slab or PVC lining/plastic sheeting. This also applies to the storage of equipment.	Compliant	The handling of oil/grease/hazardous chemicals are conducted on an impermeable surface. This was verified during the conducted site visit. Maintenance of vehicles is conducted by appointed service provider outside mine premises, proof of vehicles services was provided as evidence during the audit.
	Generators used on site will be placed on an impermeable surface to prevent the contamination of the underlying surfaces. Drip trays will be used due to the mobility of most of the generators, thus ensuring that contamination, if any, does not spread.	Compliant	Since the site is under care and maintenance, no generators are currently used on site. However, when generators are present on site are placed on an impermeable surface. This finding was verified during the site visit.
	Any accidental or negligent spills of hazardous materials will be cleaned up immediately. The area of contaminated soil will be removed and disposed of at a suitable permitted waste site. The affected area will be treated with suitable absorbents such as Drizit or Peat Sorb or similar (the contractor will ensure that such products are kept on site).	Compliant	Any accidental or negligent spills will be handled in accordance with the Environmental Incidents, Non-Conformances and Complaints Procedure. No accidental or negligent spills were reported during the current audit period.
	In the event of a spillage of an identified hazardous substance, the incident will be reported to DWAF and other relevant Government departments informed within 24 hours.	Not Applicable	Any spills will be reported in accordance with the Environmental Incidents, Non-Conformances and Complaints Procedure. No accidental or negligent spills were reported during the current audit period.
Waste Management	All working areas must be cleared of litter and other domestic waste on completion of the day's work.	Compliant	It was confirmed through site observation that the area is kept clear of litter and domestic waste. Note that the site is under care and maintenance hence very few activities are taking place at the site hence very no significant amount of waste will be generated.
	Adequate waste receptacles will be provided on site.	Compliant	AACSA-LCBM-EMS-OP-03: Handling and Storage of Hazardous Materials defines the requirements for the handling, sorting, storage and disposal of all waste generated at the existing 5-Spot, ensuring that different categories of waste are disposed of in a manner that is in accordance with legislative requirements.

ASPECT	COMMITMENT	FINDINGS	AUDIT REVIEW AND OBSERVATION
			Waste management receptacles are provided throughout the various existing 5-Spot site areas to prevent littering and are covered to prevent access by animal pests.
	It is not anticipated that any hazardous waste will be generated at the site. All used oil will be stored in an appropriate drum and will either be collected by or delivered to Lephalale Brandstof for recycling. These materials and containers will be stored on an impermeable surface until such time as they are collected for recycling.	Compliant	The light vehicles are serviced by Toyota and used oil from the service is kept at their premises. The tractors are serviced by Mogol Motors Landini and old oil is stored in drums placed on bunded area. The used oil is removed by a waste oil recycler (Oilkol) as soon as the drums are full. Due to the minimal activity (care and maintenance), the drum is currently half full and there was no collection. The Mercedes Benz 6x6 is serviced by Mercedes Commercial Zandfontein Pretoria who retains the used oil from the servicing of the vehicle for safe disposal.
	Drums are provided on site so that non-biodegradable refuse such as glass bottles, plastic bags, metal scrap, etc. can be collected/stored until it can be transported away from the site to the Lephalale permitted waste disposal facility. It is essential that the drums are cleared regularly and preferably be covered to prevent access by pest animals. Precautions will be taken to prevent any refuse from spreading from the site.	Compliant	See discussion above under waste receptacles.
	Domestic waste will not be burned on site but will be collected and disposed of at the registered municipal waste site.	Compliant	No burning of waste is undertaken onsite.
	Biodegradable refuse generated on the site will be handled as above.	Compliant	See discussion above under waste receptacles.
Worker conduct	The members of the prospecting and operating team, including any other workers or visitors will be made aware of the 'Code of Conduct':		
	Do not hunt, kill, set devices to trap or harass wild animals and livestock.	Compliant	LCBM undertakes environmental awareness, which form part of the mine's induction and include the issues raised in the commitments being audited. These requirements are in accordance with AACSA-LCBM-EMS-MP-02: Environmental Aspects and covered during the induction training.
	Do not tamper with or destroy nesting sites, lairs or any other form of animal shelter.		
	Do not feed the native animals.		
	Do not leave the construction site untidy and strewn with rubbish, which will attract animal pests.		
	Do not bring your pets to the construction site.		
	Do not trespass on private properties not linked to the project.		
	Do not carry a weapon on the construction site or in the vehicles transporting workers to and from the site.		
	Do not set fires unnecessarily at the construction site or as instructed. A braai area will be constructed at the office complex and gas cookers may also be provided at the braai area for cooking purposes.		
	Do not cause any unnecessary, disturbing noise at the construction site and at any designated worker collection/drop off points.		

ASPECT	COMMITMENT	FINDINGS	AUDIT REVIEW AND OBSERVATION
	Do not drive any vehicle under the influence of alcohol.		
	Do not exceed the national speed limits on public roads or exceed the recommended speed limit in this management plan (where applicable) when driving a construction/prospecting vehicle.		
	Do not drive a vehicle that is generating excessive noise (noisy vehicles must be reported and repaired as soon as possible).		
	Do not drive off demarcated roads.		
	Do not litter along the roadsides, including both the public and private roads.		
	Do not remove or destroy vegetation at the construction site without prior consent.		
	Do not tamper with, destroy or remove vegetation from any areas, which have been fenced off or marked.		
	Do not pollute livestock watering points.		
	Do not tamper with boreholes or borehole mechanisms.		
	Report leaking pipelines immediately.		
	Ensure safe access to the main		
	Reward workers who comply with the environmental requirements by using incentives.	Compliant	eKhaya Bonus Scheme has been implemented for HSE performance.
Labour and safety	Where possible and practical, contractors will endeavour to employ local labour (e.g. for site rehabilitation, site clean-up, etc.).	Not Applicable	No contractor activities are currently undertaken.
	All workers on site will be required to wear and be supplied with the necessary safety equipment e.g. hard hats / bump caps, glasses, dust masks and ear plugs, where applicable (this will depend on the task being undertaken).	Compliant	PPE is provided to all employees, and contractors are responsible to provide their own PPE, and not allowed on site unless the appropriate PPE is available and used. The site personnel indicated that employees working at the 5-Spot site have been supplied with the correct PPE and instructed to use them. All employees are trained and informed on PPE during induction.
	Contractors will ensure that members of the prospecting, operating and maintenance teams have access to some form of medical treatment for minor injuries (e.g. a first aid kit) and to a clinic/hospital if injuries are of a more serious nature (the contractor will obtain these details before commencing activities). The nearest clinic is in Lephalale.	Compliant	First aid kits are available at Bulklip offices, the plant, and the Nooitgedacht offices.
	Any dangerous working areas and activities will be internally fenced off to protect workers and visitors.	Compliant	The 5-Spot site complies with the requirements of its commitments e.g., the HDPE Lined Ponds are internally fenced off as such the facility is not accessible to workers or visitors.

ASPECT	COMMITMENT	FINDINGS	AUDIT REVIEW AND OBSERVATION
	All visitors are to report to the site office for the registration and induction procedure prior to entering the 5-spot site.	Compliant	The site personnel confirmed that this practice is established and observed. This was verified during the site visit where the Geovicon Environmental (Pty) Ltd Audit Team was taken through the induction prior to site verification.
Community liaison and improvement	Any impact such as noise, dust, bright lights, etc., which may cause disturbance to the surrounding landowners/land users/residents or any person lawfully living in the vicinity, will be kept to a minimum.	Compliant	Very low impact arises from the operation relating to disturbances to the surrounding landowners and residents in terms of noise, dust, bright lights. Members of the public, including surrounding landowners and residents can lay compliant at the site. No complaint was however recorded during the current auditing period.
	Contractors will maintain good relations with the surrounding communities by respecting their lifestyles.	Compliant	Contractors working at the site are made aware of the sensitivity of the surrounding communities. The LCBM employees are further very involved with the local community that include aspects such as firefighting, anti-poaching and emergency services (e.g. suspicious activities).
	Any disputes will be directed to and handled by the appointed liaison officer (e.g. Project Geologist) for resolution.	Compliant	As mentioned above, the site keeps a complaints register that keeps record of complaints received by the site. Any dispute is handled by the relevant person, which in this case would be the project geologist. No disputes have been dealt with by the site during the audit period.
	Any complaints from the community will be recorded in an incident and complaint book and will be attended to immediately.	Compliant	See discussion above. Note however that no complaints were received by the site during the audit period.
	Public meetings will be held periodically to allow Interested and Affected Parties the opportunity to express their concerns if any, and as a means for Project Managers to convey relevant information about the operations.	Compliant	An open and transparent relationship is kept with Interested and Affected Parties. Public liaison takes place as part of community safety meetings on monthly basis. Herman Pretorius represents the project.
General	Fires will only be allowed in the specially demarcated braai area at the office complex or equipment specifically constructed for this purpose.	Compliant	The Nooitgedacht offices have a demarcated braai area where fire is allowed.
	The site will be maintained in a clean and tidy state at all times.	Compliant	It was verified through site observation during the site visit that the area is kept clear of litter and domestic waste. Note that the site is under care and maintenance hence very few activities are taking place at the site therefore insignificant amount of waste will be generated.
3. INFRASTRUCTURE REQUIREMENTS AND OPERATIONAL PROCEDURES			
Access Routes			

ASPECT	COMMITMENT	FINDINGS	AUDIT REVIEW AND OBSERVATION
Establishment of access routes	Access roads to drilling sites will be established in consultation with the landowner. There is dual access to the site from the Deelkraal Road via locked gates, thereby ensuring controlled and secured access to and from the site.	Compliant	No drilling operation was undertaken at the 5-Spot site during the audit period. It must be noted however that consultations do take place with landowners prior to accessing the site.
	Existing tracks and roads will be used, where practicable.	Not Applicable	No drilling operation was undertaken at the 5-Spot site during the audit period; hence the commitments is not applicable for this audit.
	Should access routes or a portion thereof have to be newly constructed, the following will be adhered to:		
	the routes will be planned beforehand to ensure a sequential pattern and to avoid haphazard traversing of the target area;		
	routes will be planned to follow the contours of the land where possible. Diagonal roads will be avoided as far as possible;		
	the routes will be so selected that a minimum number of trees are felled for this purpose and fence lines be followed as far as possible. Grassed areas (as opposed to scrub and thicket) will be followed as grasslands recover more rapidly and easily from vehicle tracks;		
	where new temporary access routes are created, the herbaceous vegetation will not be cleared beforehand. Over time the vegetation will become trampled by the passage of vehicles and tracks will develop, however, the presence of the vegetation will reduce the risk and severity of erosion problems. By not clearing the vegetation it will also accelerate the rehabilitation of these routes.		
Use of access routes	Reasonable speeds (less than 20 km/h on tracks; less than 30 km/h on gravel roads) will be observed to avoid accidents, excessive noise, dust and injury to livestock, game and wildlife.	Compliant	It was confirmed during the site visit that the stipulated speed limits are enforced at the 5-Spot site. The employees are also made aware of the of the required speed limits during the induction and safety talks.
	The erection of gates in fence lines and the open/closed status of gates in new and existing positions will be clarified with the landowner and maintained throughout the prospecting period.	Not Applicable	No drilling operation was undertaken at the 5-Spot site during the audit period; hence the commitments is not applicable for this audit.
Maintenance of access routes	Newly constructed access routes within the prospecting area will be maintained adequately in order to minimize dust, erosion or undue surface damage.	Not Applicable	No drilling operation that could have led to construction of new roads was undertaken at the 5-Spot site during the audit period, hence these commitments are not applicable for this audit.
	There is no effective runoff from the farm tracks, therefore no runoff and storm-water control measures will be implemented.		
	All new access routes will be routinely checked for actual or potential erosion sites (especially after rain) and wear. Erosion problems will be repaired immediately. Repair may involve backfilling and contouring, seeding and the appropriate placement of sack/rock gabions to control further erosion.		
	The contractor will ensure that any regional and provincial roads used during the project must be kept in good working order by:		
	Limiting the number of passages by heavy vehicles;		
	Maintaining reasonable speeds and avoiding reckless driving so as to reduce wear of the roads;		

ASPECT	COMMITMENT	FINDINGS	AUDIT REVIEW AND OBSERVATION
	Repairing any damage or erosion directly linked to the prospecting activities. A maintenance programme for the Deelkraal Road will be implemented by the mine.		
Site Offices			
Sitting and layout	The farmhouse is currently used as a site office.	Compliant	The Bulklip and Nooitgedacht farmhouses are being used.
	The siting of the site offices will be planned beforehand.	Compliant	
	The minimum area necessary to enable the necessary tasks to be carried out will be selected.	Not Applicable	The site personnel has indicated that the site offices are no longer applicable, as contractors make use of the existing Bulklip and Nooitgedacht offices, which is defined with game fencing and situated on TOPL owned properties.
	The site office area will be defined using game fencing and activities will be confined to the demarcated area.	Not Applicable	
	The site office will be sited and fenced (where necessary) in consultation with the surrounding landowners.	Not Applicable	
Access	The farmhouse is situated directly next to the Deelkraal road and is thus easily accessible.	Compliant	This was confirmed via Google Earth Imagery and through site observation during the site visit.
	The site office will have a double entrance/exit point.	Compliant	It was confirmed during the site visit that the site office has a double entrance/exit point. The Bulklip and Nooitgedacht farmhouses are used for site office purposes.
	Where possible, use will be made of existing roads or tracks to avoid creating new access routes.	Compliant	Existing roads are used for access to the Bulklip and Nooitgedacht 5-Spot site offices.
	Access routes will be maintained in a reasonable condition that will minimise dust, erosion and wear.	Compliant	The access roads are maintained on regular basis.
Site clearing			
Vegetation	Vegetation will not be unnecessarily disturbed and trees and shrubs will, as far as is practicable, not be damaged or felled.	Not Applicable	No vegetation clearance was required and undertaken at the 5-Spot site during the audit period, hence the commitment is not applicable for this audit.
	Herbaceous vegetation will only be removed from those areas where soil is to be stripped. Refer to Section 3.2.3.2.1 Soil Stripping.	Not Applicable	No vegetation clearance was required and undertaken at the 5-Spot site during the audit period, hence the commitment is not applicable for this audit.
	Invasive plants/clumps of invasive plants within the site area will be removed (ensure that the clearing of these plants does not encourage further spread of the invasive species).	Compliant	Anglo Estate's biodiversity plan; A Comprehensive Ecological and Wildlife Management Plan for the Waterberg Estates, Lephalale, dated 2012 and prepared by the Centre for Wildlife Management, University of Pretoria, is being implemented that includes the undertaking of alien invasive eradication. The site confirmed that alien invasive plants, established along the access road, are sprayed with a chemical control.

ASPECT	COMMITMENT	FINDINGS	AUDIT REVIEW AND OBSERVATION
	For aesthetic and ecological reasons, large trees within the site area will be left intact. The site layout will be planned to accommodate the large trees, where applicable.	Compliant	The site indicated that the trees are not removed unnecessarily. During the site inspection it was verified that access roads were constructed such that large trees are not disturbed.
	To minimise the disturbance of important plant communities and prevent fragmentation of natural vegetation, ensure that continuous belts of natural vegetation remain intact. Access routes will be planned to avoid traversing directly through these communities and rather circumvent such areas where possible.	Not Applicable	No vegetation clearance was required and undertaken at the 5-Spot site during the audit period, hence the commitment is not applicable for this audit.
	No trees or shrubs will be felled or damaged for the purpose of obtaining firewood.	Not Applicable	No vegetation clearance was required and undertaken at the 5-Spot site during the audit period, hence the commitment is not applicable for this audit.
Soil			
Soil stripping	Soil (and similar vegetation cover) will be stripped from all areas underlying permanent or semi-permanent structures, or areas that will be susceptible to contamination, so as to guarantee a source of material for site rehabilitation. A soil depth of approximately 1m will be stripped. Soil and vegetation will not be unnecessarily removed.	Compliant	Please refer to the earlier discussion on the handling of the stripped soils from the HDPE Lined ponds. No soil stripping activities or rehabilitation activities were conducted during the applicable audit period.
	The topsoil layer (approximately top 0.2 – 0.3m) will be stripped first and stockpiled (the biological and chemical characteristics of the topsoil differ from the subsoil and are more suitable for the growth and development of vegetation so it is important that it is stripped and stored separately). Approximately 0.7 – 1m of subsoil will then be stripped and stockpiled separately from the topsoil. In total, approximately 1m of soil will be stripped and stockpiled for later use during rehabilitation.		
	To avoid wasting material that can be used for site backfilling, contouring and rehabilitation, any other available soil material will be excavated and stockpiled.		
	Excavated material will be stockpiled, levelled and revegetated.		
Soil handling	The following soil handling guidelines will be followed:	Compliant	Please refer to the earlier discussion on the handling of the stripped soils from the HDPE Lined ponds. No activities requiring handling of soil were conducted during the applicable audit period.
	do not handle soils during windy conditions as this will exacerbate the loss of soil through wind erosion.		
Soil stockpiling	A site for the soil stockpiling will be selected that is:	Compliant	Please refer to the earlier discussion on the handling of the stripped soils from the HDPE Lined ponds. No activities requiring stockpiling of soil were conducted during the applicable audit period.
	away from the working area - so that the stockpiles will not be disrupted by site activities;		
	in a sheltered position - so that the soil will not be exposed to the effects of erosion;		
	away from areas of valuable vegetation or plant specimens - so that the clearing of valuable plants or communities is not required;		
<i>Services/facilities</i>			

ASPECT	COMMITMENT	FINDINGS	AUDIT REVIEW AND OBSERVATION
Services/facilities	An adequate number of waste receptacles will be supplied around the site to gather all domestic refuse and to minimise the occurrence of littering.	Compliant	Please refer to the earlier discussion on waste receptacles.
	Potable water will be abstracted from the boreholes close to the farmhouse.	Compliant	Potable water at Bulklip (farmhouse) is currently abstracted from boreholes WN2 and WN3.
	Potable water will be supplied to the site. If no tapped source is available, fresh water will be brought to site by containers daily.	Not Applicable	All potable is currently sourced from WN2 and WN3 boreholes hence the commitment is not applicable for the current audit period.
	Adequate cooking and sanitary facilities will be provided.	Compliant	Cooking and sanitary facilities are provided at the Bulklip and Nootgedacht offices.
	Gas or electricity will be used for cooking purposes on site, so that it is not necessary for the surrounding vegetation to be felled for use as a fuel source.	Compliant	These facilities are provided for at the Bulklip and Nootgedacht offices.
	Two portable chemical toilets will be provided at the site. Chemical toilet facilities will be used and sited on the site in such a way that they do not cause water or other pollution. The chemical toilets will be a dry system that will not require water. Chemicals will be replaced in the drum each time the drum is cleaned out, which is expected to occur on a weekly basis. The effluent will be disposed of at the Lephalale municipal sewage works.	Not Applicable	No requirements for the provision of ablution facilities outside the current facilities at the site offices were necessary.
<i>Handling hazardous materials</i>			
Handling hazardous materials	All potentially hazardous materials stored or used on site will be handled in such a manner as to prevent soil and water contamination.	Compliant	Please refer to the earlier discussion on handling of potentially hazardous materials.
	Any accidental or negligent spills of potentially hazardous materials, which could have an effect on water or soil quality, will be cleaned up immediately. In the event of such a spill, the incident will be reported to DWAF immediately. The area of contaminated soil must be removed and disposed of at a suitable permitted waste site. The affected area will be treated with suitable absorbents such as Drizit or Peat Sorb or similar (Anglo Coal will ensure that the contractor will ensure that such products are kept on site).	Compliant	Please refer to the earlier discussion on handling of accidental or negligent spills of potentially hazardous materials.
	Potentially hazardous materials must be stored in a lockable, mobile structure on an impermeable surface.	Compliant	Please refer to the earlier discussion on handling of accidental or negligent spills of potentially hazardous materials.
	The maintenance of vehicles and equipment or handling of oil/grease/hazardous chemicals will be conducted on an impermeable surface, e.g. concrete slab or PVC lining/plastic sheeting. This also applies to the storage of equipment.	Compliant	Please refer to the earlier discussion on maintenance of vehicles and equipment or handling of oil/grease/hazardous chemicals.
	The fuel will be stored at the farmhouse and will be placed within a secure, bounded area, which has a capacity two times the storage volume of the tanks to contain any spillage.	Compliant	Refer to previous discussions thereto.
<i>Waste Management</i>			
Waste Management	All working areas must be cleared of litter and other domestic waste on completion of the day's work.	Compliant	Waste management practices as applicable are provided for with reference to previous discussions thereto.

ASPECT	COMMITMENT	FINDINGS	AUDIT REVIEW AND OBSERVATION
	Adequate waste receptacles will be provided on site.	Compliant	Waste management practices as applicable are provided for with reference to previous discussions thereto.
	Flammable, toxic or poisonous materials and the containers must not be disposed of with the domestic waste and must be transferred to an appropriate and permitted disposal site. These materials and containers must be stored on an impermeable and bounded surface until they can be collected and transferred to the disposal site.	Compliant	Waste management practices as applicable are provided for with reference to previous discussions thereto.
	A drum will be provided at the site so that non-biodegradable refuse such as glass bottles, plastic bags, metal scrap, etc., can be collected/stored until it can be transported from the site to a permitted disposal facility. It is essential that the refuse drum be cleared regularly and preferably be covered to prevent access by pest animals. Precautions will be taken to prevent any refuse from spreading from the site.	Compliant	Waste management practices as applicable are provided for with reference to previous discussions thereto.
	Domestic waste will not be burned on site.	Compliant	Waste management practices as applicable are provided for with reference to previous discussions thereto.
	Biodegradable refuse generated on the site will be handled as above.	Compliant	Waste management practices as applicable are provided for with reference to previous discussions thereto.
<i>Erosion</i>			
Erosion	Disturbed areas will be rehabilitated as soon as possible after completion of activities.	Compliant	All disturbed and unused areas within the 5-Spot site were rehabilitated. The above was verified during the site visit. Note however that no drilling activities are currently applicable for the current audit period.
	Monitoring for actual or potential erosion sites will be conducted.	Not Applicable	No sites of actual or potential erosion were identified by the site personnel.
	Rehabilitation of erosion sites will be undertaken by backfilling erosion cavities with stockpiled subsoil material.	Not Applicable	No rehabilitation of erosion was conducted as no erosion was experienced during the audit period.
Drilling site			
Siting criteria	The location of the drilling sites will be planned beforehand.	Not Applicable	No drilling operation was undertaken at the 5-Spot site during the audit period; hence the commitment is not applicable for this audit.
	The minimum area necessary to enable tasks to be carried out will be selected.	Not Applicable	No drilling operation was undertaken at the 5-Spot site during the audit period; hence the commitment is not applicable for this audit.
	The drilling site area will be within the 5-Spot game fenced area and activities will be confined to the demarcated area.	Compliant	It was confirmed during the site visit that all drilling activities for the 5-Spot site project were undertaken within the approved project area.
	Initial drilling sites will be sited on a practical basis after consultation with the surrounding landowners/land users/residents.	Compliant	Consultation was done prior to undertaking of any drilling.

ASPECT	COMMITMENT	FINDINGS	AUDIT REVIEW AND OBSERVATION
Access to drilling sites	The requirements listed under Section 3.2.2 apply.	Compliant	Please refer to the earlier discussion on access to drilling sites.
Site clearing	The requirements listed under Section 3.2.3 apply.	Compliant	Please refer to the earlier discussion on site clearing.
Services	Waste receptacles will be provided at each drilling site to gather all waste and minimise the occurrence of littering. Separate waste receptacles for domestic and hazardous waste will be provided.	Compliant	Waste management practices as applicable are provided for with reference to previous discussions thereto.
	Two portable chemical toilets will be provided at the drilling site. Chemical toilet facilities will be used and sited in such a way that they do not cause water or soil pollution. The chemical toilets will be a dry system that will not require water. Chemicals will be replaced in the drum each time the drum is cleaned out, which is expected to occur on a weekly basis. The effluent will be disposed of at the Lephalale municipal sewage works.	Not Applicable	Refer to previous discussions regarding the provision of chemical toilets.
	The use of existing facilities will be done in consultation with the surrounding landowners/land users/residents.		
Liquid effluent management	Four 30 x 30 x 2 m storage ponds will be excavated adjacent to the RO plant. Each pond will be lined with SABS approved HDPE liner for the storage of flowback water, brine and coal seam water generated at the drilling sites.	Compliant	HDPE lined ponds have been established for handling of brine.
	All wastewater storage ponds on site will be drained by pumping the liquid to the RO plant for treatment. On closure, linings will be removed and disposed of at a permitted waste disposal facility.	Compliant	Ponds are currently not receiving water (or brine), as the existing 5-Spot is, since 2014, is not operational as per instruction received from PASA, but may in future recommence. Therefore, closure is not yet applicable.
	When excavating these ponds, the topsoil and the subsoil will be stripped and stockpiled separately (refer to Section 3.2.3).	Compliant	Refer to previous discussions with regard to the topsoil that was stripped and stockpiled separately.
	The pits will be surrounded by an earth wall of at least 30 – 50 cm in height and constructed to withstand the impact of heavy rainfall, if necessary.	Compliant	It was confirmed during the site visit that the pits are surrounded by an earth wall.
Handling hazardous materials	In order to contain non-biodegradable oil and fuel spills, drip pans or a PVC lining will be provided for mobile drills.	Compliant	Refer to previous discussions pertaining to current hazardous material handling and maintenance activities as applicable to the existing 5-Spot.
	Any spills will be cleaned up immediately by removing the spill together with the polluted soil and disposing of it at a registered disposal facility to the satisfaction of the Director: Mineral Development and the Sub-Director DWAF: Waste Management.		
	When using hazardous materials at drilling sites, the following will apply:		
	all potentially hazardous materials will be handled in such a manner as to prevent soil and water contamination;		
	the handling of oil/grease/hazardous chemicals will be conducted on an impermeable surface, e.g. PVC lining/plastic sheeting (oil to be recovered/recycled);		

ASPECT	COMMITMENT	FINDINGS	AUDIT REVIEW AND OBSERVATION		
	<p>generators used on site will be placed on an impermeable surface to prevent contamination of the underlying surfaces;</p> <p>accidental or negligent spills of potentially hazardous materials will be cleaned up immediately (follow procedure in Section 2.6);</p> <p>All hazardous materials will be stored at the site office and machinery repairs will be conducted at the drilling sites in the prescribed manner (refer to Section 2.6).</p>				
Waste management	<p>All waste generated at the drilling sites will be collected and transferred to the site office for storage before being disposed of. All domestic waste, biodegradable waste and non-biodegradable waste will be disposed of at the Lephalale municipal waste facility and all used oil, fuel, grease and the contents of drip pans will be recycled.</p> <p>Drilling waste (including mud, concrete and rock cuttings) will be cleared from the sites and disposed of appropriately. The waste will not be disposed of in the borehole</p>			Compliant	<p>Waste management as applicable to drilling sites is currently not applicable.</p> <p>Please refer to previous discussions on the management of waste from the 5-Spot project site.</p>
Requirements of final rehabilitation	The drilling and operation sites will be rehabilitated on completion of the 5-Spot Test and pre-feasibility study to the satisfaction of the Director: Mineral Development.				
Infrastructure	<p>On completion of the 5-Spot Test and pre-feasibility study, all structures or objects within the operating site will be dealt with in accordance with section 40 of the Minerals Act, 1991.</p> <p>All temporary storage, office, water treatment plant and ablution structures will be disassembled and removed from the site.</p> <p>All concrete structures (e.g. concrete bounding slabs) will be broken up and the concrete fragments transported to the Lephalale waste disposal site.</p> <p>All wastewater storage ponds on site will be drained and the liquid treated in the Reverse Osmosis Plant. All solid waste will either be capped or transferred to a permitted disposal facility. Should the waste be removed, the linings of these ponds will also be removed and disposed of in the same manner.</p> <p>Should it be decided that the removal of the waste is the best environmental option, the excavations will be backfilled with subsoil, compacted and levelled using the stockpiled topsoil. No foreign matter such as cement or other rubble will be introduced into such backfilling.</p> <p>Waste (concrete, litter, domestic waste, scrap metal, plastic sheeting, containers, etc.) from the site will be collected and taken to the Lephalale municipal waste site. No waste will be buried on site with the possible exception of the concentrated brine ponds and other biodegradable waste, if agreed to by the landowner.</p> <p>All unused materials, equipment and implements will be packed up and removed from the site.</p> <p>All portable chemical toilets will be removed from site and any voids associated with the ablution facilities will be backfilled, contoured and revegetated.</p>	Not Applicable	<p>The commitment is well understood by the site but is however currently not applicable. The 5-Spot project is not yet at completion stage. As previously discussed, the project is currently not operational (on hold), and infrastructure may again be used in future. The infrastructure was however not removed and is being maintained. The brine ponds have been emptied and only rainwater is captured within the ponds.</p>		

ASPECT	COMMITMENT	FINDINGS	AUDIT REVIEW AND OBSERVATION
	Any gate or fence made or erected by the applicant, which is not required by the landowner, will be removed. Fences/gates will be disassembled and the components removed from the site.		
	Any private fences/gates that have been disturbed during the prospecting programme will be repaired.		
Boreholes	All boreholes will be covered and made safe by means of a concrete cap, unless otherwise determined by the Director: Mineral Development.	Not Applicable	None of the boreholes (wells) at the 5-Spot site have been rehabilitated in the current audit period. The commitment is hence currently not applicable.
	At a borehole with a history of methane emissions, the borehole will be plugged in the casing using a bridge plug and sealed at surface with a steel cap.	Not Applicable	None of the boreholes (wells) at the 5-Spot site have been rehabilitated in the current audit period. The commitment is hence currently not applicable.
	Boreholes will be backfilled and compacted with appropriate inert material and soil. No foreign matter such as rubble or waste material will be introduced into the hole.	Noted	The site understands the content of this commitment and will ensure that it is complied with should rehabilitation of the boreholes (wells) at the 5-Spot be necessary.
<i>Rehabilitation of disturbed areas</i>			
Backfilling and contouring	All remaining voids will be backfilled using the stockpiled subsoil material removed during site clearing.	Not Applicable	Measures described in the commitments are not yet applicable to the site. Note that the operation is on hold and no rehabilitation is required yet.
	Rocks will be placed at the bottom of the voids.		
	Site levelling will ensure that no troughs (low points) are created where water could accumulate/pond.		
	The site will be contoured and levelled so that it is continuous with the surrounding topography		
Physical substrate preparation	The substrate will be physically prepared for revegetation.	Not Applicable	Measures described in the commitments are not yet applicable to the site. Note that the operation is on hold and no rehabilitation is required yet.
	This will involve tilling affected areas to a depth of 10 cm to loosen clods and prepare a planting/seeding surface.		
Topsoiling	In all affected areas where topsoil was previously stripped, the topsoil layer will be replaced. Topsoil will be sourced from the stockpiles set aside on site establishment. An even spread of topsoil over all affected areas will be created.	Not Applicable	Measures described in the commitments are not yet applicable to the site. Note that the operation is on hold and no rehabilitation is required yet.
Chemical preparation	substrate The substrate will be chemically prepared for revegetation. This will involve applying fertiliser and working this into the topsoil. In order to determine the type and quantity of fertiliser that will be required during rehabilitation, soil samples will have to be taken from the stockpiled and analysed by a laboratory as the nutrient status of the stockpiled soil may have changed considerably during the 5-Spot Test	Not Applicable	Measures described in the commitments are not yet applicable to the site. Note that the operation is on hold and no rehabilitation is required yet.
Revegetation	The prepared substrate will be revegetated to establish a cover of plant material to control erosion, improve the visual quality of the site.	Not Applicable	Measures described in the commitments are not yet applicable to the site. Note that the operation is on hold and no rehabilitation is required yet.
	The affected areas will be seeded with an appropriate mix of indigenous plant species. <i>Solanum sp</i> , <i>Blepharis sp</i> , <i>Sida rhombifolia</i> and <i>Heliotropium ciliatum</i> are prominent grass species throughout the	Not Applicable	

ASPECT	COMMITMENT	FINDINGS	AUDIT REVIEW AND OBSERVATION
	<p>area, in some instances dominating the grass stratum. Species of the woody component include <i>Acacia mellifera</i>, <i>Terminalia sericea</i> or <i>Dichrostachys cinerea</i>.</p>		<p>Measures described in the commitments are not yet applicable to the site. Note that the operation is on hold and no rehabilitation is required yet.</p>
<p>Protection structures</p>	<p>All revegetated areas will be watered appropriately after seeding.</p> <p>Erosion protection measures will be installed at sites, which may be susceptible to erosion in the long-term.</p> <p>A brush mattress (dry branches, preferably thorny) will be placed along the perimeter of rehabilitated sites to prevent access by cattle. This will ensure that the rehabilitated areas are not trampled and overgrazed by livestock and the vegetation cover has an opportunity to become established before being exposed to grazing pressures.</p>	<p>Not Applicable</p>	<p>Measures described in the commitments are not yet applicable to the site. Note that the operation is on hold and no rehabilitation is required yet.</p>
<p><i>Rehabilitation of access routes</i></p>			
<p>Rehabilitation of access routes</p>	<p>Whenever a prospecting permit is suspended, cancelled or abandoned or if it lapses and the holder does not wish to renew the permit, any access road or portion thereof, constructed or upgraded by the company for the purposes of prospecting, and which will no longer be required by the landowner/land user/resident will be rehabilitated to the satisfaction of the Regional Director.</p> <p>Roads will be rehabilitated according to the procedure described above. Tracks will be disced to loosen the compacted soil.</p> <p>Imported road construction materials, which may hamper re-growth of vegetation, will be removed prior to rehabilitation and disposed of in an approved manner.</p>	<p>Not Applicable</p>	<p>Measures described in the commitments are not yet applicable to the site. Note that the operation is on hold and no rehabilitation is required yet.</p>
<p><i>Control of invasive species</i></p>			
<p>Control of invasive species</p>	<p>The rehabilitated area will be monitored for 12 months for invader species. Manual control measures and, if required, the application of chemicals will be implemented to correct imbalances.</p> <p>When final rehabilitation is complete, all invasive plants will have been removed from the areas affected during the 5-spot test and appropriately disposed of.</p>	<p>Not Applicable</p>	<p>Measures described in the commitments are not yet applicable to the site. Note that the operation is on hold and no rehabilitation is required yet.</p>
<p><i>Maintenance and Monitoring</i></p>			
<p>Groundwater monitoring</p>	<p>The groundwater-monitoring programme proposed is presented in Table 4-1.</p> <p>The boreholes shown in Figure 4-1 will be monitored according to the schedule in Table 4-1 during the operational phase.</p>	<p>Compliant</p>	<p>TOPL undertakes ground water monitoring within the 5-Spot site. The monitoring is undertaken in line with the site's Groundwater Monitoring and Sampling Procedure. Below is the description of the monitoring programme i.e.:</p> <p>Every month eight samples with a ninth duplicate sample are sampled. The samples are collected at the following monitoring points i.e.: WN2; WN3; WN5; WN6N; WN7; WN9; WN10; and WP2.</p> <p>On a quarterly basis, twenty-seven samples with a duplicate sample are sampled at the following monitoring pints i.e.: WN2;</p>

ASPECT	COMMITMENT	FINDINGS	AUDIT REVIEW AND OBSERVATION						
			<p>WN3; WN5; WN6N; WN7; WP2; WN9; WN10; CA1; DL116/1; KD2; KF1; LF4; PL1; WP4; WW1 and WN1.</p> <p>Surface water monitoring is conducted at the two sampling points i.e. S1 (Beska bridge) and S2 (Swartwater bridge) bi-annually from the Mogol River.</p> <p>From a review of the latest quarterly monitoring report submitted, DWS Quarterly Report No. 75, 1st October – 31st December 2021, the results from the monitoring programme show no significant impact on groundwater level or quality.</p>						
	<p>The information obtained from the monitoring programme will be presented to the authorities on a quarterly basis for evaluation. At the end of the operational phase, a full report will be submitted to the authorities, which will discuss the results of the monitoring programme, including trends and potential impacts. The results from the monitoring programme will be made available to the public for evaluation. Copies of the report will be available for evaluation at the site office of the five-spot test.</p>	Compliant	<p>The reports are submitted to PASA and DWS on a quarterly basis. Proof of submission of the quarterly reports for the applicable audit period were provided to the auditors.</p>						
	<p>The monitoring programme will be revised after the operational phase in order to determine the length and frequency of post-closure monitoring. The revision will be based on the results of the operational phase monitoring results. It is proposed that Anglo Coal monitor for a period of 12 months after completion of the five-spot test and review the need for monitoring after this period based on the results obtained from the 12-month period.</p>	Not Applicable	<p>Revision of the monitoring programme in line with the commitment is not yet applicable since the project is still in its operational phase despite it being on hold.</p>						
Surface water monitoring	<p>Surface water monitoring will take place bi-annually for a period of 12 months at the sampling point SW1 upstream and SW2 downstream of the 5-Spot Test site (see Part A). The samples will be sent to an accredited laboratory for analysis and the qualities will be compared to the pre-mining surface water qualities.</p>	Compliant	<p>Surface water monitoring is conducted at the two sampling points i.e. S1 (Beska bridge) and S2 (Swartwater bridge) bi-annually from the Mogol River.</p> <p>Aquatico Laboratories (Pty) Ltd (a SANAS accredited laboratory according to ISO/IEC 17025:2005 standards. No: T0685) is used for the laboratory analysis of the collected water samples. The qualities of the water presented in the reports date back to 2003 when the project was authorised.</p>						
	<p>The surface water monitoring results will be reported and presented to the Authorities on an annual basis.</p> <p>Table 4-1: Groundwater monitoring programme</p> <table border="1"> <thead> <tr> <th>Monitoring position</th> <th>Sampling interval</th> <th>Analysis</th> </tr> </thead> <tbody> <tr> <td> <p><u>Existing boreholes within the affected zone:</u> WN2, WN5, WN6N, WN7, WP2.</p> </td> <td>Monthly</td> <td> <p><u>Field measurements:</u> pH, TDS, Temperature</p> <p><u>Chemical analysis:</u> Alkalinity M, Alkalinity P, Aluminium, Barium, Bicarbonate, C.O.D, Calcium, Chloride, Cobalt, Conductivity, DOC, Fluoride, Iron, Magnesium, Manganese, Nitrate, Ortho-Phosphate, pH, Potassium, Reactive Silica,</p> </td> </tr> </tbody> </table>	Monitoring position	Sampling interval	Analysis	<p><u>Existing boreholes within the affected zone:</u> WN2, WN5, WN6N, WN7, WP2.</p>	Monthly	<p><u>Field measurements:</u> pH, TDS, Temperature</p> <p><u>Chemical analysis:</u> Alkalinity M, Alkalinity P, Aluminium, Barium, Bicarbonate, C.O.D, Calcium, Chloride, Cobalt, Conductivity, DOC, Fluoride, Iron, Magnesium, Manganese, Nitrate, Ortho-Phosphate, pH, Potassium, Reactive Silica,</p>	Compliant	<p>The reports, which include the results of surface water monitoring, are submitted to PASA and DWS on a quarterly basis. Proof of submission of the quarterly reports for the applicable audit period were provided to the auditors.</p> <p>Results of water analysis confirmed that all parameters were covered in the presented monitoring results (as per the committed chemical analysis contained in this commitment).</p>
Monitoring position	Sampling interval	Analysis							
<p><u>Existing boreholes within the affected zone:</u> WN2, WN5, WN6N, WN7, WP2.</p>	Monthly	<p><u>Field measurements:</u> pH, TDS, Temperature</p> <p><u>Chemical analysis:</u> Alkalinity M, Alkalinity P, Aluminium, Barium, Bicarbonate, C.O.D, Calcium, Chloride, Cobalt, Conductivity, DOC, Fluoride, Iron, Magnesium, Manganese, Nitrate, Ortho-Phosphate, pH, Potassium, Reactive Silica,</p>							

ASPECT	COMMITMENT			FINDINGS	AUDIT REVIEW AND OBSERVATION
			Silicates, Sodium, Strontium, Sulphate, Suspended Solids, TDS, Total Alkalinity, Turbidity, Zinc <u>Groundwater level</u>		
<u>Existing boreholes in the area:</u> WN2, WN5, WN6N, WN7, CA1, DL116/1, HY2, KD2, KF1, LF4, PL1, WP4, WW1, WN1	Quarterly	<u>Field measurements:</u> pH, TDS, Temperature <u>Chemical analysis:</u> Alkalinity M, Alkalinity P, Aluminium, Calcium, Chloride, Conductivity, Fluoride, Iron, Magnesium, Manganese, Nitrate, pH, Potassium, Sodium, Sulphate, Suspended Solids, TDS, Total Hardness, Turbidity <u>Groundwater level</u>			
Table 4-2: Surface water monitoring programme					
Monitoring position	Sampling interval	Analysis			
<u>Surface water points:</u> SW1, SW2	Bi-annual	<u>Field measurements:</u> pH, TDS, Temperature <u>Chemical analysis:</u> Alkalinity M, Alkalinity P, Aluminium, Barium, Bicarbonate, C.O.D, Calcium, Chloride, Cobalt, Conductivity, DOC, Fluoride, Iron, Magnesium, Manganese, Nitrate, Ortho-Phosphate, pH, Potassium, Reactive Silica, Silicates, Sodium, Strontium, Sulphate, Suspended Solids, TDS, Total Alkalinity, Turbidity, Zinc			
Air quality monitoring	A methane leakage detection programme at the rehabilitated gas wells will be implemented for a period of 12 months after cessation of the 5-Spot Test. In the unlikely event of methane escaping from a borehole, the applicant will return to site to reseal the well within 48 hours of the detection of the gas.			Not Applicable	This management measure is not yet applicable, as the existing 5-Spot is still in an operational phase.
Site maintenance	The progress of the rehabilitation will be monitored during the maintenance period and any problems that arise will be addressed immediately. This may involve: repair of erosion sites; re-seeding of areas where rehabilitation has failed; removal of the brush mattress once rehabilitated areas are stable.			Not Applicable	This management measure is not yet applicable, as the existing 5-Spot is still in an operational phase.

ASPECT	COMMITMENT	FINDINGS	AUDIT REVIEW AND OBSERVATION
Photographic records	Photographs of the drilling and office sites will be taken at selected points before, during the 5-Spot Test and after rehabilitation, and kept on record for the Director: Mineral Development's information.	Compliant	The site personnel indicated during the audit that photos of before and during have been taken. Since the 5-Spot is still in its operational phase no photos of its decommissioning phase will be available.
Rehabilitation contract	Rehabilitation contract	Not Applicable	This management measure is not yet applicable, as the existing 5-Spot is still in an operational phase.

7.2 PROPOSED 37-SPOT COALBED METHANE BULK YIELD TEST ENVIRONMENTAL MANAGEMENT PROGRAMME

ASPECTS	IMPACTS	MITIGATION PLAN	FINDINGS	AUDIT REVIEW AND OBSERVATIONS
Geology	Minimal impact expected from drilling on geology.	None	Noted	This condition is noted.
Climate	The proposed Project will not result in any changes to the climate during the construction phase.	None	Noted	This condition is noted.
Topography	The proposed Project will not result in any changes to the topography.	None	Noted	This condition is noted.
Soils	Removal and modification of soil and soil erosion.	<p>Areas that may be prone to erosion or where signs of erosion are evident (e.g. water trenches) shall be stabilised. Methods of stabilisation include brush-cut packing, mulch or chip cover, straw stabilising, sodding, hydro-seeding, soil binders and physical stabilisation methods such as gabions, reno-mattresses, armour flex or retaining walls.</p> <p>Soil removed for construction activities (clearance for the plant area) shall be stored in a designated area for future rehabilitation measures. The maximum height of the stockpile will be 2 m and erosion protection measures implemented (as above).</p> <p>Traffic and movement over stabilised areas shall be restricted and controlled, and damage to stabilised areas shall be repaired and maintained to the satisfaction of the SHEC.</p>	Not Applicable	Construction activities associated with the proposed 37-Spot are yet to commence. Therefore, these mitigation measures are not yet applicable.
Soils	Contamination of soils from hydrocarbons and other chemicals.	Excessive soil contamination by fuel or oil spills will be collected to be treated at a pre-determined and dedicated location, or will be treated in situ using bioremediation, in accordance with AACSA's existing procedures.	Not Applicable	Construction activities associated with the proposed 37-Spot are yet to commence. These mitigation measures are not yet applicable.

ASPECTS	IMPACTS	MITIGATION PLAN	FINDINGS	AUDIT REVIEW AND OBSERVATIONS
		<p>Vehicles will be maintained off site on a regular basis and kept in a good working order.</p> <p>Vehicle maintenance will not be done on site except in emergency situations in which case mobile drip trays will be used to capture any spills. Drip trays shall be emptied at the existing old oil collection facility at the AACSA Bulkclip Office.</p> <p>No hazardous materials should be stored on site unless with prior agreement from the SHEC. Contractors must develop method statements for hazardous material storage which must address:</p> <ul style="list-style-type: none"> • The minimum requirement of the Material Safety Data Sheets (MSDS); • Include provisions for proper storage facilities, (i.e. impermeable surface, shall be provided for the storage of oils, grease, fuels, chemicals and other hazardous materials to be used); • The preventative measures proposed to prevent pollution of the surrounding environment from leaks or spillage; • Emergency procedures in the event of misuse or spillage that may negatively affect an individual or the environment; and • The method statement must be submitted to SHEC for approval prior to storing hazardous materials on site. <p>Potentially contaminating materials (such as materials required at the RO plant) shall be stored in enclosed areas, with the minimum containment as per their corresponding MSDS.</p> <p>Fuel shall be stored in a secure area in a steel tank supplied and maintained by the fuel suppliers. Leakage of fuel shall be avoided. An adequate bund wall, 110% of the combined container volume, shall be provided for fuel and diesel areas to accommodate any spillage or overflow from these substances. The area inside the bund wall shall be lined with an impervious lining to prevent infiltration of the fuel into the soil.</p>		
Soils	Soil pollution associated with general waste and/or sewage effluent.	<p>Hazard signs indicating the nature of stored materials shall be displayed on the storage facility or container as applicable.</p> <p>The storage facilities (including any tanks) shall be surrounded by a bund wall, in order to ensure that accidental spillage does not pollute local soil or water resources.</p> <p>The storage areas shall be kept tidy and the area rehabilitated after use if the facility no longer serves any purpose.</p>	Not Applicable	Construction activities associated with the proposed 37-Spot are yet to commence. These mitigation measures are not yet applicable.

ASPECTS	IMPACTS	MITIGATION PLAN	FINDINGS	AUDIT REVIEW AND OBSERVATIONS
		<p>An inventory of hazardous chemicals/substances (including that within equipment) kept on site, along with a description of possible ill effects and treatment of health-related afflictions resulting from accidents, shall be kept in the storage area as well as by the relevant manager. These areas shall be securely fenced.</p> <p>A notice board with the contact details of the responsible party shall be displayed at the gate to the storage area.</p> <p>Gas welding cylinders and Liquid Petroleum Gas (LPG) cylinders shall be stored in a secure, well-ventilated area. Empty gas cylinders shall be stored separately from full cylinders.</p> <p>Cement shall be stored and mixed on an impermeable surface with cement spill containment.</p> <p>The Contractor is responsible for spill treatment. The individual responsible for, or who discovers a hazardous waste spill, shall report the incident to the SHEC. The SHEC will assess the situation and act as required. In all cases, the immediate response will be to contain the spill. The exact treatment of polluted soil/water shall be determined by the contractor in consultation with the SHEC.</p> <p>The contractor shall report spill incidents to the SHEC within 12 hours of its occurrence and the SHEC shall report major spills (level 2 and 3) to DWA within one working day.</p> <p>The contractor shall prevent discharge of any pollutants, such as cement, concrete, lime, fertiliser, chemicals and fuels into any water sources or soils.</p> <p>Used oil, lubricants and cleaning materials from the maintenance of vehicles and machinery shall be collected in a holding tank and returned to the supplier. Water and oil shall be separated in an oil trap. Oils collected in this manner shall be retained in a safe holding tank and removed from site by a specialist oil recycling company for disposal at an approved hazardous waste disposal site. Oil collected by a mobile servicing unit shall be stored in the service unit's sludge tank and discharged into the safe holding tank for collection by the specialist oil recycling company.</p> <p>Drilling fluids will be contained, and drill areas rehabilitated after completion.</p>		

ASPECTS	IMPACTS	MITIGATION PLAN	FINDINGS	AUDIT REVIEW AND OBSERVATIONS
Soils	Soil pollution associated with general waste and/or sewage effluent.	Ensure the provision and proper utilisation, maintenance and management of toilet, wash and waste facilities. Chemical toilet facilities supplied by the contractor for the workers shall occur at a minimum ratio of 1 toilet per 10 workers. The chemical toilets will be a dry system that will not require water. The exact location of the toilets shall be approved by the SHEC prior to establishment. All temporary / portable toilets shall be secured to the ground to the satisfaction of the SHEC to prevent them from toppling due to wind or any other cause. As for the chemical toilets at the Bulklip 5-spot trial site, the effluent drum will be emptied once weekly and if required, more often. Chemicals in the effluent drum will be replaced every time after it is emptied. The effluent will be disposed of at the Lephalale sewage works.	Not Applicable	Construction activities associated with the proposed 37-Spot are yet to commence. These mitigation measures are not yet applicable.
Land capability and use	Loss of land for the plant area.	Establish a soil stockpile for rehabilitation purposes, which is clearly designated, no more than 2m high and protected from erosion.	Not Applicable	Construction activities associated with the proposed 37-Spot are yet to commence. These mitigation measures are not yet applicable.
Ecology: Flora and fauna	Clearing of vegetation. Increase probability of veld fires	<p>Vegetative clearance will only be permitted in designated areas;</p> <p>A method statement will need to be provided to the SHEC should a contractor wish to clear an area, specifying the extent of the area to be cleared, evidence of protected species and methodology for rehabilitation and the method statement will be subject to SHEC approval.</p> <p>The SHEC will mark all potentially affected protected trees such as <i>Acacia erioloba</i>, <i>Combretum imberbe</i>, <i>Boscia albitrunca</i>, <i>Scierocarya birrea</i> and <i>Spirostachys Africana</i>; and</p> <p>Contractors will be instructed to avoid all marked trees. Pipelines will be routed around these trees and/or other potentially affected large and/or sensitive vegetation. If routing around protected trees is not feasible, protected trees will be translocated to unaffected areas by a certified ecologist. Where a protected tree needs to be moved, AACSA will apply for a license in terms of the National Forests Act.</p> <p>Rehabilitate the relevant disturbed areas immediately after burying the gas and water pipelines. Natural rehabilitation will be allowed to take place and the progress reviewed for one year. If necessary additional measures will be implemented.</p> <p>The outbreak of any uncontrolled fire shall be reported to the site manager immediately and the necessary steps shall be taken to control and extinguish the fire. The area will be</p>	Not Applicable	Construction activities associated with the proposed 37-Spot are yet to commence. These mitigation measures are not yet applicable.

ASPECTS	IMPACTS	MITIGATION PLAN	FINDINGS	AUDIT REVIEW AND OBSERVATIONS
		<p>included in the existing Emergency Preparedness and Response Procedure (EPRP).</p> <p>Smoking shall be prohibited in the vicinity of flammable substances.</p> <p>Open fires for heating and cooking shall not be permitted.</p> <p>The contractor shall ensure that fire-fighting equipment is available on site, in particular where flammable substances are being stored or used.</p> <p>Any welding or other sources of heating of materials shall be done in a controlled environment and under appropriate supervision, in such a manner as to minimise the risk of fires and/or injury to staff. In addition, when welding in the field the directly surrounding area will be wetted before starting welding or grinding.</p> <p>The contractor shall ensure that energy sources are always available for personnel for heating and cooking purposes. No natural materials may be harvested and burned for the use of cooking or heating.</p> <ul style="list-style-type: none"> • No member of the exploration team will be permitted to: hunt, kill, set devices to trap, tamper with or harass wild animals and livestock or any form of animal shelter; • feed native animals; and • bring his/her own pets to the site. 		
	Habitat degradation due to dust	As for Section 9	Not Applicable	Construction activities associated with the proposed 37-Spot are yet to commence. These mitigation measures are not yet applicable.
	Habitat degradation due to spillage of potentially harmful substances	As for Section 4.2	Not Applicable	Construction activities associated with the proposed 37-Spot are yet to commence. These mitigation measures are not yet applicable.
	Disturbance of animals due to vibration and noise	As for Section 10.1	Not Applicable	Construction activities associated with the proposed 37-Spot are yet to commence. These mitigation measures are not yet applicable.
	Collisions of birds with power lines.	AACSA to advise ESKOM to install bird flappers on power lines.	Not Applicable	Construction activities associated with the proposed 37-Spot are yet to commence. These mitigation measures are not yet applicable.
Surface water	No surface water sources are situated in the vicinity of the proposed site and no direct impacts on surface water are	None	Noted	This condition is noted.

ASPECTS	IMPACTS	MITIGATION PLAN	FINDINGS	AUDIT REVIEW AND OBSERVATIONS
	<p>anticipated during the construction phase of the proposed Project.</p>			
Groundwater	<p>Changes to the quality and quantity of groundwater in surrounding aquifers are expected during fracking of the 37 wells.</p>	<p>All old exploration boreholes in the vicinity of the 37-spot will be plugged and cemented to the coal seam; and only biodegradable additions to be utilised for hydraulic stimulation.</p>	Compliant	<p>Historically exploration boreholes were drilled over the exploration right area. These boreholes have been rehabilitated by cementing them to the coal seam. This was confirmed through the reviewing of the sealing certificates for the old exploration boreholes. The hydraulic stimulation liquid is a mixture of water and sand that is biodegradable, with no leachate potential from this.</p>
	<p>Contamination of groundwater from construction equipment and/or material storage.</p>	<p>AACSA will implement best international practices, which will reduce the impact on groundwater. This includes cementing of the test wells to isolate them from the overlying geological units (including aquifers) before trial gas extraction commences and routing the abstracted coal seam water to HDPE lined water storage and brine facilities.</p>	Not Applicable	<p>Five gas wells were drilled at the 37-Spot. According to the site engineer, the wells have been cemented in order to isolate them from the overlying geological units (including aquifers). The trial gas extraction has not been commenced with yet.</p>
Air quality	<p>Generation of nuisance dust from open areas and movement of construction vehicles.</p>	<p>The contractor shall take all reasonable measures to minimise the generation of dust as a result of construction activities to the satisfaction of the SHEC.</p> <p>The contractor shall be responsible for the control of dust arising from the operations. Dust suppression activities will include wet suppression of roads and earthmoving operations, speed control, covering of trucks transporting dusty materials, and early re-vegetation, and stabilisation of disturbed soil.</p> <p>If the SHEC finds that dust suppression is required, the following measures will be implemented: Dust on all roads and cleared areas on site shall be controlled by implementing dust suppression measures, such as using water spray vehicles, or the use of a Rain Bird or similar water spray method.</p> <p>Water used for dust suppression shall be used in quantities small enough not to generate run-off and cause erosion. Where possible, treated water from the Bulkclip 5 spot site will be used for dust suppression in preference to be abstracting clean water from streams or dams in the area.</p>	Not Applicable	<p>Construction activities associated with the proposed 37-Spot are yet to commence. These mitigation measures are not yet applicable.</p>
		<p>Vehicle speeds shall not exceed 40km/h along gravel (unpaved) roads on site and 20km/h when travelling on unconsolidated tracks and cleared areas.</p>	Compliant	<p>A speed limit of 40km/h is enforced along the gravel road. This was confirmed during the site visit.</p>

ASPECTS	IMPACTS	MITIGATION PLAN	FINDINGS	AUDIT REVIEW AND OBSERVATIONS
Noise	Noise generated from construction vehicles.	The contractor shall endeavour to keep noise and vibration generating activities to a minimum. All construction vehicles and machinery used on site shall be kept in good repair to prevent unnecessary noise. If applicable, the reverse sirens on vehicles will be replaced with buzzers, since the high-pitched noise of the sirens are annoying and disturbing to humans and animals.	Not Applicable	Construction activities associated with the proposed 37-Spot are yet to commence. These mitigation measures are not yet applicable.
	Noise generated from power generations and plant operations.	AACSA will provide that the detailed plant designs include: <ul style="list-style-type: none"> • A brick enclosure for the power plant; • Silencers for all exhaust systems; • Acoustic type ventilation louvers; • Solid core doors lined with a 2mm sheet on the inside of the door to the enclosures; and • Earth berms to be constructed on all sides of the gas turbine site. 	Not Applicable	Construction activities associated with the proposed 37-Spot are yet to commence. These mitigation measures are not yet applicable.
Archaeology and Cultural Heritage	No archaeological impacts are expected since no sites of archaeological significance were identified on site.	Chance find procedures will be developed and distributed to all contractors and workforce in order to reduce the potential for accidental destruction of heritage resources during construction. The procedures will include: <ul style="list-style-type: none"> • An indication of heritage resources to be aware of (prepared by an heritage expert); • Stop work procedures in the event of a find (to be developed by the mine manager); and • Contact details for SAHRA and an accredited archaeologist (ASAPA) who should be contacted in the event of a find. 	Not Applicable	Construction activities associated with the proposed 37-Spot are yet to commence. These mitigation measures are not yet applicable.
Sensitive landscapes	Routing of a section of the pipelines through an area of high conservation importance containing <i>Spirostachys Africana</i> (Tamboti) trees.	Refer to 6.2 (Fauna and Flora) above.	Not Applicable	Construction activities associated with the proposed 37-Spot are yet to commence. These mitigation measures are not yet applicable.
Visual Aspects	Excessive vegetation removal and night lighting could result in visual impacts.	The minimum vegetation will be cleared around the wells, pipeline and power line routes. The use of any night lighting will be avoided as far as possible. If absolutely required, light fixtures that provide low-level, precisely directed illumination will be installed to reduce light spillage beyond the immediate surrounds of the 37-well gas test site. Directional lighting and light shielding will be included on all spot and security lighting.	Not Applicable	Construction activities associated with the proposed 37-Spot are yet to commence. These mitigation measures are not yet applicable.

ASPECTS	IMPACTS	MITIGATION PLAN	FINDINGS	AUDIT REVIEW AND OBSERVATIONS
Socio-economic	Creation of new (temporary) employment opportunities during the construction phase. (Positive impact)	<p>Mitigation measures to optimise relevant benefits:</p> <p>AACSA has an established employment policy which will be made available to contractors and applied by AACSA.</p> <p>Make multi-skilling of construction workers a priority, as employment opportunities during construction are only temporary. This would involve identifying skills that may be acquired during construction that can be built upon or supplemented through limited additional training to equip workers for jobs that would become available during the operational phase of the Project.</p> <p>This could be either through the Project itself or through Corporate Social Investment initiatives that may be undertaken by AACSA in the area.</p>	Not Applicable	Construction activities associated with the proposed 37-Spot are yet to commence. These mitigation measures are not yet applicable.
	Health and safety impacts on employees and surrounding residents associated with construction activities, equipment or material.	<p>A complete issue-based risk assessment shall be done prior to commencing work. This assessment will be supplemented by continuous risk assessments carried out on a daily basis. Both will be done in the prescribed AACSA format and will be supplied to the contractor as part of the AACSA contractors pack.</p> <p>Workers shall be made aware of the health and safety risks associated with the work to be carried out; this will be achieved through attendance of the one day site specific SHE induction prior to entering site. Proof of induction must be clearly displayed by all workers at all times (as per AACSA Fatal Risk Standards).</p> <p>Weekly safety meetings and daily toolbox talk meetings will be held to make all workers aware of any SHE risks.</p> <p>All workers shall be required to obtain a medical fit for work certificate prior to entering site. This certificate will be a condition of employment.</p> <p>The AACSA Safety Way, AACSA Fatal Risk Standards and AACSA Golden Rules will be adhered to and compliance shall be ensured through monthly planned inspections and ad hoc unplanned inspections. In addition, Planned Task Observations and Visible Felt Leadership inspections shall be carried out by all supervisors on an ongoing basis.</p> <p>Workers shall be equipped with adequate personal protective equipment (PPE), e.g. equipment providing protection from the sun.</p>	Not Applicable	Construction activities associated with the proposed 37-Spot are yet to commence. These mitigation measures are not yet applicable.

ASPECTS	IMPACTS	MITIGATION PLAN	FINDINGS	AUDIT REVIEW AND OBSERVATIONS
		<p>Construction vehicles shall be clearly identified as working for the contractor or AACSA.</p> <p>Workers shall be issued with identification cards to identify them as working for the contractor or AACSA. Workers shall wear their identified cards in a visible manner at all times when in the Project area.</p> <p>Construction vehicles travelling in the area shall obey speed limits and traffic laws.</p> <p>Hazardous materials shall be transported, stored, used and disposed of in the correct manner, as described in Section 4.2 above.</p> <p>All visitors are to report to the site office for the sign in procedure and visitor's induction.</p> <p>The contractor will ensure that the members of the exploration team have access to some form of medical treatment for minor injuries (e.g. a first aid kit) and to a clinic/hospital if injuries are of a more serious nature (the contractor will obtain these details before commencing activities). The nearest clinic is in Lephalale.</p> <p>The contractor shall maintain and update all safety records in the supplied AACSA Contractors Pack.</p> <p>Potable water will be supplied to the site and will be abstracted from the boreholes at the farmhouse. If no tapped source is available, fresh water will be brought to site by containers daily.</p>		
Socio-economic	Impacts relating to community perceptions and responses.	<p>Open liaison channels shall be established and maintained between the Proponent, the Contractors and Interested and Affected Parties, so that any queries, complaints or suggestions can be dealt with quickly and by the appropriate person(s).</p> <p>The SHEC shall use the Projects established complaints register to record / register all complaints relating to the activities. The SHEC shall use the established protocol relating to the steps that would be followed once a complaint has been received. The protocol shall cover at least the following steps: registration, investigation, reporting, follow-up action and close out. This protocol shall be maintained by the operator once the activity is operational.</p> <p>Any complaints from the community will be recorded in an incident and complaint book and will be attended to immediately.</p>	Not Applicable	Construction activities associated with the proposed 37-Spot are yet to commence. These mitigation measures are not yet applicable.

ASPECTS	IMPACTS	MITIGATION PLAN	FINDINGS	AUDIT REVIEW AND OBSERVATIONS
		<p>Any disputes will be directed to and handled by the appointed liaison officer (e.g. Site Manager) for resolution.</p> <p>Any impact such as noise, dust, bright lights, etc. which may cause disturbance to the surrounding landowners/land users/residents or any person lawfully living in the vicinity, will be kept to a minimum.</p> <p>The contractor and his team will maintain good relations with the surrounding communities by respecting their lifestyles.</p>		
Socio-economic	Staff training:	<p>As part of the induction programme, staff shall be educated and made aware of the appropriate "Code of Conduct", which will include the following:</p> <ul style="list-style-type: none"> • AACSA Standards: AACSA Safety Way, AACSA Fatal Risk Standards, AACSA Environmental Way, AACSA Golden Rules and appropriate Project specific operating procedures and policies; • Do not destruct any animals and/or plants; • Do not hunt, kill, set devices to trap or harass wild animals and/or livestock; • Do not tamper with or destroy nesting sites, lairs or any other form of animal shelter; • Do not feed any animals; • Do not leave the construction site untidy and strewn with rubbish which will attract animal pests; • Do not bring any pets to the construction site; • Do not trespass on private properties; • Do not carry a weapon on the construction site or in the vehicles transporting workers to and from the site; • Do not set any fires at the construction site; • Do not cause an unnecessary, disturbing noise at the construction site and at any designated worker collection/drop off points; • Do not remove or destroy vegetation at the site without prior consent; • Do not tamper with, destroy or remove vegetation from any areas which have been fenced off or marked; • Do not pollute livestock watering points; • Do not tamper with boreholes or borehole mechanisms; • Report leaking pipelines immediately; • Do not litter along the roadsides, including both the public and private roads; • Always keep to demarcated roads; • Do not drive any vehicle under the influence of alcohol; • Do not exceed the national speed limits on public roads or exceed the recommended speed limit in this management plan (where applicable) when driving a construction/prospecting vehicle; 	Not Applicable	Construction activities associated with the proposed 37-Spot are yet to commence. These mitigation measures are not yet applicable.

ASPECTS	IMPACTS	MITIGATION PLAN	FINDINGS	AUDIT REVIEW AND OBSERVATIONS
		<ul style="list-style-type: none"> • Do not drive a vehicle which is generating excessive noise (noisy vehicles must be reported and repaired as soon as possible); • Ensure safe access to main road and obey road rules; • Do not defecate indiscriminately. Only defecate in chemical toilet facilities provided on site; • Do not steal any crops and animals from surrounding properties; and • Immediate and decisive action shall be taken will this occur. <p>Machine / vehicle operators shall receive clear instructions to remain within demarcated access routes and construction areas. All drivers will be required to obtain a permit to drive as per the Vehicle Management Plan.</p>		
Socio-economic	Staff training:	<p>To maintain relations with communities, the following mitigation measures are proposed:</p> <ul style="list-style-type: none"> • Open liaison channels shall be established and maintained between the Proponent and Interested and Affected Parties, so that any queries, complaints or suggestions can be dealt with quickly and by the appropriate person(s). • The SHEC shall establish a complaints register to record / register all complaints relating to the Activities. The SHEC shall develop a protocol relating to the steps that would be followed once a complaint has been received. The protocol shall cover at least the following steps: registration, investigation, reporting, follow-up action and close out. This protocol shall be maintained by the operator once the activity is operational. • Any complaints from the community will be recorded in an incident and complaint book and will be attended to immediately. • Any disputes will be directed to and handled by the appointed liaison officer (e.g. Site Manager) for resolution. • Any impact such as noise, dust, bright lights, etc. which may cause disturbance to the surrounding landowners/land users/residents or any person lawfully living in the vicinity, will be kept to a minimum. • The contractor and his team will maintain good relations with the surrounding communities by respecting their lifestyles. • Public meetings and/or surrounding landowner meetings will be held periodically to allow interested and affected parties the opportunity to express their concerns if any, and as means for Project Managers to convey relevant information about the operations. 	Not Applicable	Construction activities associated with the proposed 37-Spot are yet to commence. These mitigation measures are not yet applicable.

ASPECTS	IMPACTS	MITIGATION PLAN	FINDINGS	AUDIT REVIEW AND OBSERVATIONS
Traffic and transport	Impact of construction vehicles on local and regional traffic and on the surrounding environment.	<p>The access roads shall have storm water drainage channels to prevent soil erosion.</p> <p>Transport routes to and within the site and construction areas shall be clearly demarcated prior to use. Any deviations from the principal road plan must be cleared with the SHEC.</p> <p>All privately owned access routes on site will be continually checked for actual or potential erosion sites (especially after rain) and wear. Erosion problems will be repaired immediately.</p> <p>Repair may involve backfilling and contouring, seeding and the appropriate placement of sack/rock gabions to control further erosion.</p> <p>Privately owned access routes within the Project area will be maintained adequately in order to minimize dust, erosion or undue surface damage.</p>	Not Applicable	Construction activities associated with the proposed 37-Spot are yet to commence. These mitigation measures are not yet applicable.

7.3 WATERBERG 1 ENVIRONMENTAL MANAGEMENT PROGRAMME

ASPECTS	IMPACTS	MITIGATION PLAN	FINDINGS	AUDIT REVIEW AND OBSERVATIONS
Climate	Emissions from a diesel motor are released into the atmosphere. Insignificant environmental risk.	Environmental impacts are insignificant. No mitigation plan is required.	Noted	This condition is noted.
	Temporary soil stockpiles are exposed to the weather. Insignificant environmental risk.	Soil stockpiles are protected with plastic sheeting during wet weather / thunderstorms.	Not Applicable	No drilling has been conducted on areas covered by the Waterberg 1 exploration EMPr during the audit period, hence soil excavation and stockpiling were undertaken during the auditing period. Should drilling be required, such will be conducted in accordance with procedure Head Office Perform Surface Drilling Preparation, AACSA010275.
Topography	A temporary sump is excavated and topsoil is stockpiled. Insignificant environmental risk.	Soils are stockpiled in such a manner as to remove potential contamination. The sump is back filled with topsoil once drained and the earth's surface is contoured back to its former state.	Not Applicable	Drilling activities are conducted in accordance with procedure Head Office Perform Surface Drilling Preparation, AACSA010275. During drilling activities, a sump is constructed at each drill site, of approximately 0.5 m deep. The excavated topsoil is stored separately and backfilled immediately on completion of the drilling activities. All the sumps have been backfilled and the earth's surface contoured back to its original state. No concerns were noted during the site inspection conducted.
Geology	A core of approximately 61 mm in diameter and variable length is	The void compacts with time. No mitigation plan required. All holes shall be cemented to the top of coal.	Compliant	The drill contractor, FUGRO Earth Resources (Pty) Ltd, is required to cement the boreholes on completion of a specific prospecting site and issue the TOPL geologist with a sealing certificate. Site

ASPECTS	IMPACTS	MITIGATION PLAN	FINDINGS	AUDIT REVIEW AND OBSERVATIONS
	extracted from the earth's crust, leaving a void. Insignificant environmental risk.			personnel indicated that all boreholes were cemented to the top of the coal seam. Sealing certificates were provided for confirmation.
Soil	Soil may become contaminated with drilling oil. Insignificant environmental risk.	<p>Use biodegradable drilling fluids.</p> <p>All oil spills and waste material must be cleaned up for proper disposal upon leaving site.</p> <p>Spills must be cleaned in accordance with the OPEMGT 001 procedure on fuel handling and storage. In addition, bioremediation must be applied in situ in applicable cases in accordance with the ENVOPE 001 procedure on Bioremediation. Both procedures are available upon request.</p> <p>Use a drip pan to collect oil that may leak from beneath the rig. Any oil that may leak from beneath the rig. Any oil collected must be stored and disposed of or recycled as applicable.</p>	Not Applicable	No drilling has been conducted on areas covered by the Waterberg 1 exploration EMPr during the current auditing period and hence the condition is not applicable.
Land capability	The drill site is temporarily transformed to a state, which is not conducive for its normal use. Insignificant environmental risk.	Rehabilitate the drill site by reshaping the area to be free draining.	Compliant	<p>No drilling has been conducted on areas covered by the Waterberg 1 exploration EMPr during the current auditing period.</p> <p>The drill contractor, FUGRO Earth Resources (Pty) Ltd, was contracted to undertake the drilling boreholes over the Waterberg 1 and was required for undertaking rehabilitation. Rehabilitation measures as implemented by the contractor include:</p> <p>(a) Removing of core material from site to the Council of Geoscience core storage facility;</p> <p>(b) Backfilling of sump;</p> <p>(c) Cementing of borehole;</p> <p>(d) Replacing and levelling of topsoil; and</p> <p>(e) Brushback to encourage vegetation growth.</p> <p>No residual impacts were noted.</p> <p>Below are all rehabilitated boreholes that were visited:</p> <p>WBG0011,WTB13,WTB27,WTB36,WTB40,WTB44,WTB45,WTB49,WTB70,WTB71,WTB72.</p>
		Fertilise, rip the soil and seed once drilling operations are complete if it is determined that rehabilitation will not take place naturally.	Compliant	Ripping of the soil and reseeding is not required as drill sites have naturally revegetated. This was confirmed during the site visit.
Vegetation	Vegetation is removed, as required, to create a sump, a collar and a place to	Keep out of wetland, riparian and flood plain areas (no closer than 30m from identifiable drainage line).	Not Applicable	No drilling has been conducted on areas covered by the Waterberg 1 exploration EMPr during the current auditing period.

ASPECTS	IMPACTS	MITIGATION PLAN	FINDINGS	AUDIT REVIEW AND OBSERVATIONS
	lay the core. Insignificant environmental risk.			Historically, two boreholes WBGP0011 and WBGP0030 were situated within a water course. These boreholes were however rehabilitated, and the site has been returned to its pre-drilling state.
		Allow site to re-vegetate naturally after drilling.	Compliant	Ripping of the soil and reseeding is not required as drill sites have naturally revegetated.
		Fertilise and seed the site if deemed necessary by ACES after one year of rehabilitation.	Compliant	Ripping of the soil and reseeding is not required as drill sites have naturally revegetated.
		Take fire precautions and keep fire extinguishers on site.	Not Applicable	No drilling has been conducted on areas covered by the Waterberg 1 exploration EMPr during the current auditing period. This commitment is hence not applicable.
Animal life	Wildlife in the immediate surroundings may be disturbed during drilling operations. Insignificant environmental risk.	<p>Do not disturb animal warrens/nesting sites when establishing a drill site.</p> <p>Dangerous animals i.e. buffalo and rhinoceros. Drill sites should be located outside the camps in which these animals roam. If this is not possible a temporary fence must be established. In both cases awareness training must be conducted for all personnel on site.</p> <p>Valuable animals: Certain species ex, Sable antelope are very valuable and extra precautions must be taken these include the above.</p> <p>Listed species: The perceived impact is low however to further mitigate any disturbance no one is to overnight on the property. This will reduce the duration of the impact and should eliminate potential poaching.</p>	Not Applicable	No drilling has been conducted on areas covered by the Waterberg 1 exploration EMPr during the current auditing period. This commitment is hence not applicable.
Rivers/ surface water	Drill sites are sited away from naturally occurring surface water. Insignificant environmental risk.	Do not establish drill sites or camps in watercourses or pans. Keep out of wetland areas, riparian areas and flood plains (no closer than 30m from identifiable drainage line).	Not Applicable	No drilling has been conducted on areas covered by the Waterberg 1 exploration EMPR during the current auditing period.
Ground water	Water tables are normally intercepted during drilling operations. Insignificant environmental risk.	Environmental risk is insignificant. Casing is removed to allow the void to compact with time. All drilled holes shall be cemented to the top of coal, to prevent interactions from different aquifers.	Noted	<p>During rehabilitation of the boreholes, casings were removed. It was however mentioned that despite TOPL aiming to rehabilitate all boreholes, a few exceptions took place where landowners requested private use of borehole for water consumption. Considering Waterberg as a semi-arid region, a water source on a property is a scarce resource and is highly valued by landowners to provide water to their game or for human consumption.</p> <p>Further to the above and in order to maintain a good working relationship with the farming community, TOPL agreed to leave behind some exploration boreholes for the farmers to use, based upon farmers' request. TOPL requested the landowners to sign a waiver document to take over the responsibility of the farmer</p>

ASPECTS	IMPACTS	MITIGATION PLAN	FINDINGS	AUDIT REVIEW AND OBSERVATIONS
				<p>boreholes. The signed indemnity forms for these boreholes were provided and include:</p> <ul style="list-style-type: none"> • WBG006 & WBG007 (Farm: Caledonia); • WBG0010 (Farm: Witwater); • WBG0013 (Farm: Deelkraal); • WTB20, WTB49 and WTB11 (Farm: Matjesfontein); • WTB28 (Farm: Shotbelt); • WTB39 (Farm: Baraonta); • WTB46 (Farm: Ecarta); • WTB58 (Farm: Matebeelayi); • WTB60 (Farm: Rooiboslaagte); and • WTB73 (Farm: Waterval). <p>TOPL is also undertaking ground water monitoring to see if the above has any effect on the groundwater. To date none of the monitoring boreholes have shown any signs of negative impact from the above-mentioned boreholes.</p>
Land use	Drilling operations are temporary and have negligible impact on sustainable end-use of the land. Previously disturbed areas are favoured drilled sites to virgin veldt. Insignificant environmental risk.	Damage to gates, fences and property is repaired.	Not Applicable	No drilling has been conducted on areas covered by the Waterberg 1 exploration EMPr during the current auditing period. This commitment is hence not applicable.
Protected areas	Protected areas, in general, are not drilled. Insignificant environmental risk.	Enter into a surface agreement, which outlines strict rehabilitation plans in the event that protected area is drilled. All drill sites for this permit occur outside of protected areas.	Not Applicable	No drilling has been conducted on areas covered by the Waterberg 1 exploration EMPr during the current auditing period. This commitment is hence not applicable.
Socio Economic	Contractors are brought in from other areas; immediate economic impact on local communities is low.	Employ local people at campsites etc. wherever possible. Consult with interested and affected parties.	Not Applicable	No drilling has been conducted on areas covered by the Waterberg 1 exploration EMPr during the current auditing period. This commitment is hence not applicable.
	Drilling operations generate noise. Insignificant environmental risk.	Ensure that drill rigs are fitted with silencers.	Not Applicable	No drilling has been conducted on areas covered by the Waterberg 1 exploration EMPr during the current auditing period. Should the drilling programme be commenced with, this condition must be adhered to. This commitment is however currently not applicable.
		Drill between sunrise and sunset only.	Not Applicable	No drilling has been conducted on areas covered by the Waterberg 1 exploration EMPr during the current auditing period. This commitment is hence not applicable.
Interested and affected parties	Interested and affected parties are consulted before and after drilling operations.	Consult with Interested and affected parties before and after drilling operations, accommodate issues/requests if it is feasible and line with the EMP; record interactions through the	Not Applicable	No drilling has been conducted on areas covered by the Waterberg 1 exploration EMPr during the current auditing period. This commitment is hence not applicable.

ASPECTS	IMPACTS	MITIGATION PLAN	FINDINGS	AUDIT REVIEW AND OBSERVATIONS
		use of an I & AP register. Care will be taken to accommodate individual requests as noted.		The TOPL Geologist informs and arranges with the property owner prior to drilling operations.
Sanitation	None.	A portable chemical toilet is present at every drill site. The supplier removes the contents of the toilets. Ablution facilities in the form of showers are provided at the worker residence which is not at the drill site but located adjacent to the Project office facility. Camping at drill sites is not permitted.	Not Applicable	No drilling has been conducted on areas covered by the Waterberg 1 exploration EMPr during the current auditing period. This commitment is hence not applicable.
Hazardous materials	None.	All hazardous materials used have Material Safety Data Sheets (MSDS) present on site at all times. The data sheets contain all relevant information regarding safe use of the materials and are contained in a complete register. A short inventory is supplied below and the MSDS's are available on request.	Not Applicable	No drilling has been conducted on areas covered by the Waterberg 1 exploration EMPr during the current auditing period. This commitment is hence not applicable.
General waste management strategy	None.	General waste is collected in a dustbin on site and removed to the Lephalale Municipal Dump site. The Lephalale Municipal Dump site is currently unlicensed although the Municipality has been attempting to acquire a licence for the last 5 years. The Project has a signed authorization letter from the Municipality giving permission to use the dump site. This activity will have no implication for the rehabilitation cost.	Not Applicable	No drilling has been conducted on areas covered by the Waterberg 1 exploration EMPr during the current auditing period. This commitment is hence not applicable.
Soil erosion	None.	No access roads are constructed. Only existing roads are used which are maintained when necessary. Due to the flat topography of the area and low rainfall, the potential for soil erosion due to minor bush clearing (if necessary) at the drill sites is negligible.	Not Applicable	No drilling has been conducted on areas covered by the Waterberg 1 exploration EMPr during the current auditing period. This commitment is hence not applicable.
Environmental Awareness Program (EAP)	None.	The Environmental Officer is responsible for managing all aspects pertaining to environmental issues including the EAP, and management policies aligned with pertinent legislation and recommendations from annual environmental audits. Project Geologists, Mr Johan Koekemoer is responsible for the implementation of the exploration EMP. In addition, all employees including contractors are required to complete a one day SHE induction course which includes environmental awareness training.	Compliant	No drilling has been conducted on areas covered by the Waterberg 1 exploration EMPr during the current auditing period. However, project Geologist, Johan Koekemoer implements the exploration EMP. Site personnel are trained on HSE requirements that includes specific emphasis on the HSE risks of their work. Refresher training is undertaken on an annual basis. An environmental coordinator has also been employed by TOPL for the LCBM project. The environmental coordinator works together with the Geologist to ensure that the operation complies with the approved EMP.
Access roads	None.	All care is taken to only use existing farm roads for access to drill sites. Boreholes are therefore sited adjacent to existing farm tracks to mitigate the environmental impact of the exploration activities. Where this is not possible a least potential damage approach is followed. The NEMA regulations	Not Applicable	No drilling has been conducted on areas covered by the Waterberg 1 exploration EMPr during the current auditing period. No access to drill sites were required hence this commitment is not applicable.

ASPECTS	IMPACTS	MITIGATION PLAN	FINDINGS	AUDIT REVIEW AND OBSERVATIONS
		are considered and any potential environmental risks are brought to the attention of the Environmental Officer to determine possible harmful impacts, mitigation measures, rehabilitation requirements and legal implications		
Top soil stripping	None.	The topsoil layer in the area is rarely deeper than 300 mm and as such stripping is maintained at this suggested depth. Soil is stockpiled within the designated drill site area and is replaced during the rehabilitation phase (refer drill site layout plan section 3.4.1 of this document). In addition, topsoil stockpiles are covered during rainy weather to prevent erosion. Due to the short time frame between topsoil stripping and replacement and the small amount of topsoil stripped this is seen as a minor risk.	Not Applicable	No drilling has been conducted on areas covered by the Waterberg 1 exploration EMPr during the current auditing period. This commitment is hence not applicable.
		An Environmental Code of Practice for Exploration/Prospecting forms part of the Environmental Management System of this report and is used as a guideline to prevent unnecessary damage to the environment. These guidelines are appended to all drilling contracts entered into with Anglo Operations Pty Ltd and are thus legally binding on contractors to Anglo Operations Pty Ltd Additionally, completion of the forms contained in this report by all stakeholders, namely the project geologist, the drilling contractor, the legal occupant of the surface portion affected and the exploration manager, creates an environmental awareness plan whereby it is acknowledged that environmental risks have been mitigated and exploration activities are closed out in accordance with the procedures described in this EMP.	Noted	TOPL takes note of these requirements. Should drilling commences at the Waterberg 1, control mechanisms such as the compiled contractor packs, internal audits and inspections are in place to ensure compliance with the provisions of other legislation dealing with matters relating to conservation.

7.4 WATERBERG 11 ENVIRONMENTAL MANAGEMENT PROGRAMME

ASPECTS	IMPACTS	MITIGATION PLAN	FINDINGS	AUDIT REVIEW AND OBSERVATIONS
Geology	A core of approximately 61 mm in diameter and variable length is extracted from the earth's	The void compacts with time. No mitigation plan required.	Noted	This condition is noted.
Soil	Soil may become contaminated with drilling oil. Insignificant environmental risk.	Use biodegradable drilling fluids. All oil spills and waste material must be cleaned up for proper disposal upon leaving site. Use a drip pan to collect oil that may leak from beneath the rig.	Not Applicable	No drilling has been conducted on areas covered by the Waterberg 11 exploration EMPr during the current auditing period and hence the condition is not applicable.

ASPECTS	IMPACTS	MITIGATION PLAN	FINDINGS	AUDIT REVIEW AND OBSERVATIONS
Land capability	The drill site is temporarily transformed to a state, which is not conducive for its normal use. Insignificant environmental risk.	Rehabilitate the drill site by reshaping the area to be free draining. Fertilise, rip the soil and seed once drilling operations are complete if it is determined that rehabilitation will not take place naturally.	Compliant	No drilling has been conducted on areas covered by the Waterberg 11 exploration EMPr during the current auditing period. However, rehabilitation of previously drilled boreholes was conducted such that it complies with the commitment in the approved EMPr.
Vegetation	Vegetation is removed, as required, to create a sump, a collar and a place to lay the core. Insignificant environmental risk.	Do not destroy indigenous trees over 2 m tall. Avoid natural vegetation areas and use existing disturbed areas where possible.	Not Applicable	No drilling has been conducted on areas covered by the Waterberg 11 exploration EMPr during the current auditing period.
		Keep out of wetland areas (no closer than 30m from identifiable drainage line).	Not Applicable	No drilling has been conducted on areas covered by the Waterberg 11 exploration EMPr during the current auditing period. This commitment is hence not applicable.
		Allow site to revegetate naturally after drilling.	Not Applicable	During the site visit it was noted that that ripping of the soil and reseeding is not required as drill sites have naturally revegetated.
		Fertilise and seed the site if deemed necessary after one year of rehabilitation.	Not Applicable	During the site visit it was noted that that ripping of the soil and reseeding is not required as drill sites have naturally revegetated.
		Take fire precautions and keep fire extinguishers on site.	Compliant	Fire precautionary measures are taken, i.e., fire breaks. Fire extinguishers are located at the site offices. The EDRS inspection reports indicated that fire extinguishers were provide onsite during the drilling operation.
Animal life	Wildlife in the immediate surroundings may be disturbed during drilling operations. Insignificant environmental risk.	Do not disturb animal warrens/ nesting sites when establishing a drill site.	Not Applicable	No drilling has been conducted on areas covered by the Waterberg 11 exploration EMPr during the current auditing period. This commitment is hence not applicable.
Rivers/ surface water.	Drill sites are sited away from naturally occurring surface water Insignificant environmental risk.	Do not establish drill sites or camps in watercourses or pans. Keep out of wetland areas (no closer than 30m from identifiable drainage line).	Not Applicable	No drilling has been conducted on areas covered by the Waterberg 11 exploration EMPr during the current auditing period. This commitment is hence not applicable.
Ground water	Water tables are normally intercepted during drilling operations. Insignificant environmental risk.	Environmental risk is insignificant. Casing is removed to allow the void to compact with time.	Compliant	According to the Lephalale CBM Exploration Project Monthly Report (No. 254 of December 2019), the drilled coal seams has been sealed off with cement and the surface drill site area has been rehabilitated as per environmental management plan (EMP).
Land use	Drilling operations are temporary and have negligible impact on sustainable end-use of the land. Previously disturbed areas are favoured drilled sites to virgin veld. Insignificant environmental risk.	Rehabilitate the drill site once drilling operations are complete in accordance with the provisions provided by this EMPr. Damage to gates, fences and property is repaired.	Not Applicable	No drilling has been conducted on areas covered by the Waterberg 11 exploration EMPr during the current auditing period. This commitment is hence not applicable.

ASPECTS	IMPACTS	MITIGATION PLAN	FINDINGS	AUDIT REVIEW AND OBSERVATIONS
Protected areas	Protected areas, in general, are not drilled. Insignificant environmental risk.	Enter into a surface agreement, which outlines strict rehabilitation plans in the event that protected area is drilled. All drill sites for this permit occur outside of protected areas.	Not Applicable	No drill sites are planned within any protected areas. The closest protected area to the prospecting area is D’Nyala Nature Reserve, situated approximately 15km south east from the town of Lephalale.
Socio-Economic	Contractors are brought in from other areas; immediate economic impact on local communities is low. Drilling operations generate noise. Insignificant environmental risk.	Employ local people at campsites etc. wherever possible. Consult with interested and affected parties (Appendix C). Ensure that drill rigs are fitted with silencers. Drill between sunrise and sunset only.	Not Applicable	No drilling has been conducted on areas covered by the Waterberg 11 exploration EMPr during the current auditing period. This commitment is hence not applicable.
Interested and affected parties	Interested and affected parties are consulted before and after drilling operations.	Consult with Interested and affected parties before and after drilling operations. Accommodate issues/requests if it is feasible and line with the EMPr; record interactions.	Not Applicable	No drilling has been conducted on areas covered by the Waterberg 11 exploration EMPr during the current auditing period. This commitment is hence not applicable. The TOPL Geologist informs and arranges with the property owner prior to drilling operations. Anglo Coal accommodates issues/requests where feasible. Refer to previous discussion regarding the landowners’ request to retain boreholes for private use and water consumption.

7.5 PROPOSED 37-SPOT COALBED METHANE BULK YIELD TEST ENVIRONMENTAL AUTHORIZATION

CONDITION	FINDINGS	AUDIT REVIEW AND OBSERVATIONS
Scope of authorization		
Authorization of the activity is subject to the conditions contained herein and is binding on to the holder thereof.	Noted	The condition is noted and the LCBM management understands the content of this condition of the EA.
The holder of the authorization shall be responsible for ensuring compliance with the conditions by any person acting on his or her behalf, including but not limited to, an agent, sub-contractor, employee or person rendering a service to the holder of the authorization.	Noted	The condition is noted and the LCBM management understands the content of this condition of the EA.
The activity authorized may only be carried out at the property as described under location of the activity.	Noted	The condition is noted and the LCBM management understands the content of this condition of the EA.
Any changes to, or deviations from, the project description set out in this authorization must be approved, in writing, by the Department before such changes or deviations may be effected. In assessing whether to grant such approval or not, the Department may request such information as it deems necessary to evaluate the significance and impacts of such changes or deviations and it may be necessary for the holder of the authorization to apply for further authorization in terms of the regulations.	Noted	The condition is noted and the LCBM management understands the content of this condition of the EA.
This activity must commence within a period of 3 years from the date when the EA was signed. If commencement of the activity does not occur within this period, the authorization lapses and a new application for environmental authorization must be made in order for the activity to be undertaken. Any request for	Noted	The original approval of the EIA was obtained in January 2012 (LEDET Ref No. 12/1/9-7/1(i)-W1). The LEDET Extension Notice on EIA Approval lapsed in November 2016.

extension of the validity period of this authorization should be lodged with the Department within sixty (60) days before the expiry date,		An Extension on Environmental Authorization for the proposed development of the 37-Spot Application was submitted to the PASA and was granted by the PASA (PASA Ref 12/3/1/02/2/21), signed 30 th of June 2017 for a three year period. In terms of the condition of the EA, the 37 spot project activities should have commenced with by the 30 th of June 2020. A further application for the extension of the environmental authorization has been submitted to PASA and the extension was granted on the 1 st of December 2020.
This authorization does not negate the holder of the authorization's responsibility to comply with any other statutory requirements that may be applicable to the undertaking of the activity	Compliant	The condition is noted and the LCBM management understands the content of this condition of the EA. TOPL has applied for the Water Use Licence ("WULA") for the proposed 37-Spot. The license was issued on the on the 03 rd of December 2020 and received on the 14 th of December 2020, however none of the issue water use activities have as yet been commenced with.
Notice of authorization		
The holder of the authorization must notify all registered interested and affected parties, in writing and within 10 (ten) calendar days of receiving the Department's decision.	Not Applicable	Authorization for the Proposed 37-Spot to commence on the farm Nooitgedacht 403 LQ was issued on the 25th of January 2012 by the Department of Economic Development, Environment and Tourism ("LEDET") (LEDET Reference Number: 12/1/9-7/1(i)-W1). Extension on Environmental Authorization for the proposed development of the 37-Spot was granted by PASA (PASA Ref 12/3/1/02/2/21) and signed 30 June 2017. Notification to interested and affected parties regarding the approval of extension was provided. Since the environmental authorization amendment was issued in 2017, this condition was applicable for the 2018 auditing period and has been considered not applicable for 2021 auditing period.
The notification referred to in 2.1 must -		
Specify the date on which the authorization was issued	Not Applicable	
Inform the interested and affected parties of the appeal procedure provided for in Chapter 7 of the Regulations R. 385 of 2006; and	Not Applicable	
Advise the interested and affected parties that a copy of the authorization and reasons for the decision will be furnished on request.	Not Applicable	
Management of the activity		
All mitigation measures included in the Environmental Management Plan (EMP) attached to the EIA Report compiled by Dr, Brent Baxter of Golder Associates Africa dated June 2011 must be implemented and adhered to.	Not Applicable	Construction activities associated with the proposed 37-Spot are yet to commence. These mitigation measures are not yet applicable.
Construction workers must be trained on all the mitigation measures outlined in the EMP attached to the EIA Report to ensure minimal impacts on the environment.	Not Applicable	Construction activities associated with the proposed 37-Spot are yet to commence. These mitigation measures are not yet applicable.
All relevant approvals required for the development must be in place before commencement of the activities in order to ensure compliance in terms of all relevant legislation	Noted	The condition is noted and the LCBM management understands the content of this condition of the EA.
The Department reserves the right to monitor and audit the development throughout its full life cycle to ensure that it adheres to all the conditions and mitigation measures included in the EIA Report, Records of monitoring and auditing must be made available for inspection to any relevant authority inspecting the development.	Noted	The condition is noted and the LCBM management understands the content of this condition of the EA.
Recording and reporting to the department		
The applicant must appoint an independent environmental officer to prepare compliance monitoring reports every month during construction and every six (6) months during operation of the approved activity. The reports must indicate how the applicant is complying with each condition in the authorization These reports	Not Applicable	Construction activities associated with the proposed 37-Spot are yet to commence. These mitigation measures are not yet applicable.

must be submitted to the Department within fourteen (14) days after the elapse of every month during construction and every sixth month during operation.		
The holder of the authorization must notify the Department in writing and within 24 hours, if conditions of his authorization are not or will not be adhered to. Such notification must be accompanied by reasons for the non-compliance or anticipated non-compliance.	Noted	The condition is noted and the LCBM management understands the content of this condition of the EA.
Construction of the activity		
A Water Use License (WUL) for the proposed groundwater abstraction must be obtained from the Department of Water Affairs (DWA) prior construction and operation of the proposed development.	Compliant	The Water Use Licence Application ("WULA") for the proposed 37-Spot, was submitted in April 2011 and issued on the 03 rd of December 2020 and received on the 14 th of December 2020. The issued water use activities have not yet been commenced with. An amendment report of the license has been submitted to the Department of Water and Sanitation on the 14 th of May 2021.
Waste Management Licence (WML) for the waste water treatment facility must be obtained from the National Department of Environmental Affairs (DEA) prior construction and operation of the proposed development.	Noted	The condition is noted and the LCBM management understands the content of this condition of the EA.
The recycling and reuse of general waste must be incorporated in the WML for the sewage treatment plant lodged with the Department of Environmental Affairs (DEA).	Noted	The condition is noted and the LCBM management understands the content of this condition of the EA.
All construction activities must cease should there be any new discoveries of archaeological, historical and any site or land of cultural value within the project boundary and Limpopo Heritage Resource Agency (LIHRA) and/or South African Heritage Resource Agency (SAHRA) must be informed immediately.	Noted	The condition is noted and the LCBM management understands the content of this condition of the EA.
All the recommendations in the Heritage Impact Assessment report compiled by Dr Julius CC Pistorius must be adhered to.	Noted	The condition is noted and the LCBM management understands the content of this condition of the EA.
Disturbance to the sensitive environment must be restricted to the absolute minimum and areas disturbed as a result of construction must be rehabilitated as soon as possible.	Not Applicable	Construction activities associated with the proposed 37-Spot are yet to commence. These mitigation measures are not yet applicable.
In order to minimize the effects of noise, construction activities can only take place from 7h00 to 17h00 weekdays and 7h30 to 13h00 on Saturdays, with the exception of Sundays and public holidays.	Not Applicable	Construction activities associated with the proposed 37-Spot are yet to commence. These mitigation measures are not yet applicable.
Should spillage of any hazardous substance occur during construction, it must be reported to the Regional Director: DWA or his/her representative immediately, within 24 hours of such spillage. Hazardous waste shall then be collected and disposed of at a registered waste disposal facility designed for such particular waste. Only permitted or legally authorized waste collection services must be appointed for the collections of waste from the site to an approved licensed disposal facility.	Not Applicable	Construction activities associated with the proposed 37-Spot are yet to commence. These mitigation measures are not yet applicable.
The hydraulic fluids or chemicals required during construction must be stored in a concrete lined surface with bund walls and shall be designed in such a manner that any spillage can be contained and reclaimed without any impact on the surrounding environment.	Not Applicable	Construction activities associated with the proposed 37-Spot are yet to commence. These mitigation measures are not yet applicable.
Raw water must be treated to acceptable DWA water quality standards before being discharged into the river. No raw water shall be discharged into the river without being treated.	Not Applicable	Construction activities associated with the proposed 37-Spot are yet to commence. These mitigation measures are not yet applicable.
Chemical sanitations facilities must be made available for the construction workers. These sanitations must be serviced in a fortnight basis by appropriate companies to avoid spills or leaks on the groundwater or surface water. The content of the facilities must be disposed of at an authorized land fill	Not Applicable	Construction activities associated with the proposed 37-Spot are yet to commence. These mitigation measures are not yet applicable.

Under no circumstances shall waste be burned on site. All waste including builder's rubble, generated during the construction and/or operation of the development must be stored, handled and disposed of at an authorized disposal site.	Not Applicable	Construction activities associated with the proposed 37-Spot are yet to commence. These mitigation measures are not yet applicable.
Section 28 of NEMA places a duty of care on the applicant (Anglo Operations Limited), to ensure that reasonable measures are taken to prevent pollution or degradation of the environment from occurring, continuing or recurring. Should any environmental damages result from this development or the operation thereof, Anglo Operations Limited must within 14 days of the damage being caused, rectify the situation to its original state; at its (Anglo Operations Limited) own expense	Not Applicable	The LCBM management understands the content of this condition of the EA. All necessary measures will be taken on commencement of the project to comply with this condition.
Operation of the activity		
Changes in the project resulting in significant environmental impact are only permissible if approved in writing by the Department.	Noted	The LCBM management understands the content of this condition of the EA.
Hazardous waste Generated on site must be stored in a closed container and be taken to the registered hazardous landfill site	Not Applicable	Construction activities associated with the proposed 37-Spot are yet to commence. These mitigation measures are not yet applicable.
General waste disposal transfer station must be cleaned weekly and monitored in a monthly basis in order to ensure that the impact of odour and storm water run-off is reduced to acceptable level. All waste generated on site during operation of the development must be stored, handled and disposed in an environmentally acceptable manner, and as directed by this Department or any other relevant authority.	Not Applicable	Construction activities associated with the proposed 37-Spot are yet to commence. These mitigation measures are not yet applicable.
The eco-friendly products such as Organic Compost and/or Effective Micro-organisms must be used to reduce the frequency of application of conventional fertilizers, herbicides and insecticides.	Not Applicable	Construction activities associated with the proposed 37-Spot are yet to commence. These mitigation measures are not yet applicable.
Site closure and decommissioning		
An Environmental Management Plan for site closure and decommissioning of the proposed development must be submitted to this Department for approval prior to decommissioning,	Not Applicable	The proposed 37-Spot is not yet in the closure and decommissioning phase. These mitigation measures are not yet applicable.
General		
A copy of this authorization must be kept at the property where the activity will be undertaken. The authorization must be produced to any authorized official of the Department who requests to see it and must be made available for inspection by any employee or agent of the holder of the authorization who works or undertakes work at the property.	Compliance	It was confirmed during the site visit that a copy of this authorization is available at the Bulkclip offices.
Where any of the applicant's contact details change, including the name of the responsible person, the physical or postal address and/ or telephonic details, the applicant must notify the Department as soon as the new details become known to the applicant.	Noted	The LCBM management understands this condition of the EA.
Non-compliance with a condition of this authorization may result in criminal prosecution or other actions provided for in NEMA and the Regulations.	Noted	The LCBM management understands this condition of the EA.

8 DELIBERATIONS

8.1 ADEQUACY AND COMPLIANCE WITH THE LCBM EXPLORATION 5 SPOT: PRE-FEASIBILITY PRODUCTION TEST PROJECT STANDARD EMPR

8.1.1 ADEQUACY OF THE LCBM EXPLORATION 5 SPOT: PRE-FEASIBILITY PRODUCTION TEST PROJECT STANDARD EMPR

The LCBM Exploration 5 Spot: Pre-Feasibility Production Test Project Standard Environmental Management Plan, dated August 2005, was assessed not only for the LCBM's compliance towards the commitments of the EMPr, but also assessed for the ability of the measures contained in the EMPr to sufficiently provide for the avoidance, management and mitigation of environmental impacts associated with the undertaking of the LCBM Exploration 5 Spot: Pre-Feasibility Production Test Project. From a review of the EMPr, the auditor is of the opinion that it sufficiently provides for the avoidance, management and mitigation of environmental impacts associated with the undertaking of the LCBM Exploration 5 Spot: Pre-Feasibility Production Test Project.

8.1.2 COMPLIANCE WITH THE LCBM EXPLORATION 5 SPOT: PRE-FEASIBILITY PRODUCTION TEST PROJECT STANDARD EMPR COMMITMENTS

No non-compliances were identified during the audit.

8.2 ADEQUACY AND COMPLIANCE WITH THE PROPOSED 37-SPOT COALBED METHANE BULK YIELD TEST EMPR

8.2.1 ADEQUACY OF THE PROPOSED 37-SPOT COALBED METHANE BULK YIELD TEST EMPR

Based on the assessment of the proposed 37-Spot Coalbed Methane Bulk Yield Test EMPr, we are of the opinion that the EMPr sufficiently provides for the avoidance, management and mitigation of environmental impacts associated with the undertaking of the LCBM proposed 37-Spot Coalbed Methane Bulk Yield Test Project.

8.2.2 COMPLIANCE WITH THE PROPOSED 37-SPOT COALBED METHANE BULK YIELD TEST EMPR

No non-compliances were identified during the audit.

8.3 ADEQUACY AND COMPLIANCE WITH THE WATERBERG 1 ENVIRONMENTAL MANAGEMENT PROGRAMME EMPR

8.3.1 ADEQUACY OF THE WATERBERG 1 & 11 EMPR

Based on the assessment of the Waterberg 1 & 11 EMPr, we are of the opinion that the EMPr sufficiently provides for the avoidance, management and mitigation of environmental impacts associated with the undertaking of the LCBM proposed 37-Spot Coalbed Methane Bulk Yield Test Project.

8.3.2 COMPLIANCE WITH THE WATERBERG 1 & 11 EMPR

No non-compliances were identified during the audit.

8.4 COMPLIANCE WITH THE ENVIRONMENTAL AUTHORIZATION

8.4.1 ENVIRONMENTAL AUTHORIZATION FOR THE PROPOSED 37-SPOT COALBED METHANE BULK YIELD TEST PROJECT

No non-compliances were identified during the auditing of the Proposed 37-Spot Coalbed Methane Bulk Yield Test Project Environmental Authorization.

9 CONCLUSION

This environmental audit report was compiled to comply with the relevant legislative requirements specifically the NEMA, with the main objectives to report on the compliance status of the commitments and conditions, as well as the appropriateness and adequacy of the various EMPs. This audit report will be submitted to the competent authority. Within 7 days of submission of this Audit Report to the competent authority (DMRE), TOPL must notify all potential and registered I&APs of the submission, and make this report immediately available to anyone on request and on a publicly accessible website.

We do not recommend any amendment of the EMPs.

10 DISCLAIMER

This report has been produced by Geovicon Environmental (Pty) Limited, with the skill and care normally exercised by a reasonable Independent Environmental Consultant during the rendering of the service. The service provided by Geovicon Environmental (Pty) Limited should not be considered as a legal opinion of any kind but shall be a representation of the findings. The work performed was based on the Client's scope of work, time and resource allocations, as well as information provided by the Client. Any reference to legislation in this report should not be considered as a substitute for the provisions of such legislation.

Geovicon Environmental (Pty) Limited ensures, that information provided by management and/or representatives is correct and relevant, and that this report is based on information that could reasonably have been sourced within the time period allocated to the audit performed. It should not be assumed that all possible and applicable findings are included in this report as this report represents a sample of the audit. Therefore, should additional information become available, Geovicon Environmental (Pty) Limited reserves the right to amend its findings accordingly.

11 DECLARATION

Mr. Ornassis Tshepo Shakwane of Geovicon Environmental (Pty) Limited, hereby declares that he is an independent auditor and that Geovicon Environmental (Pty) Limited and himself have no business, financial, personal or other interest in this project in respect of which Geovicon Environmental (Pty) Limited is appointed. Furthermore, no circumstances exist that may compromise the objectivity of Geovicon Environmental (Pty) Limited, excluding fair remuneration for work performed in connection with this environmental audit.

Signed:



Date: 10/08/2022

O.T. Shakwane

Managing Director

Geovicon Environmental (Pty) Limited

tshepo@geovicon.co.za

www.geovicon.co.za