



NTC Group

**ENVIRONMENTAL MANAGEMENT PROGRAMME COMPLIANCE ASSESSMENT
REPORT FOR SOUTH32 LEANDRA PROSPECTING RIGHT, GAUTENG
PROVINCE**

PROJECT: LEANDRA GAUTENG

May 2017

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Related Documents

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1. Introduction

1.1 Background

South32 is a metals and mining company with operations mining and producing bauxite, alumina, aluminium, energy and metallurgical coal, manganese, nickel, silver, lead and zinc in Australia, Southern Africa and South America. South32 has operations in South Africa and Mozambique including South Africa Manganese, South Africa Aluminium, South Africa Energy Coal and Mozal Aluminium.

South32 SA Coal Holdings (Pty) Ltd (South32) was issued with a prospecting right (30 January 2007) for the various portions of the farms Groenkuil 318 IR, Groenkuil 321 IR, Honigfontein 339 IR, Leeuwkop 299 IR, Nooitgedacht 294 IR, Palmietfontein 316 IR, Palmietkuil 322 IR, Winterhoek 314 IR, Wonderfontein 342 IR and Zeerkry 292 IR situated in the Nigel District of the Gauteng Province (**Figure 1**). This prospecting right was renewed on 20 May 2015 and is valid until 19 May 2018. The prospecting area is 8716 hectares in extent and comprised diamond drilling with full core recovery holes 20 – 30m. It was noted during the audit that 6 boreholes were drilled for the second phase as per the prospecting work programme and the drilling locations thereof are provided in **Figure 2**.

This report fulfils the compliance assessment requirement for May 2016- May 2017 period.

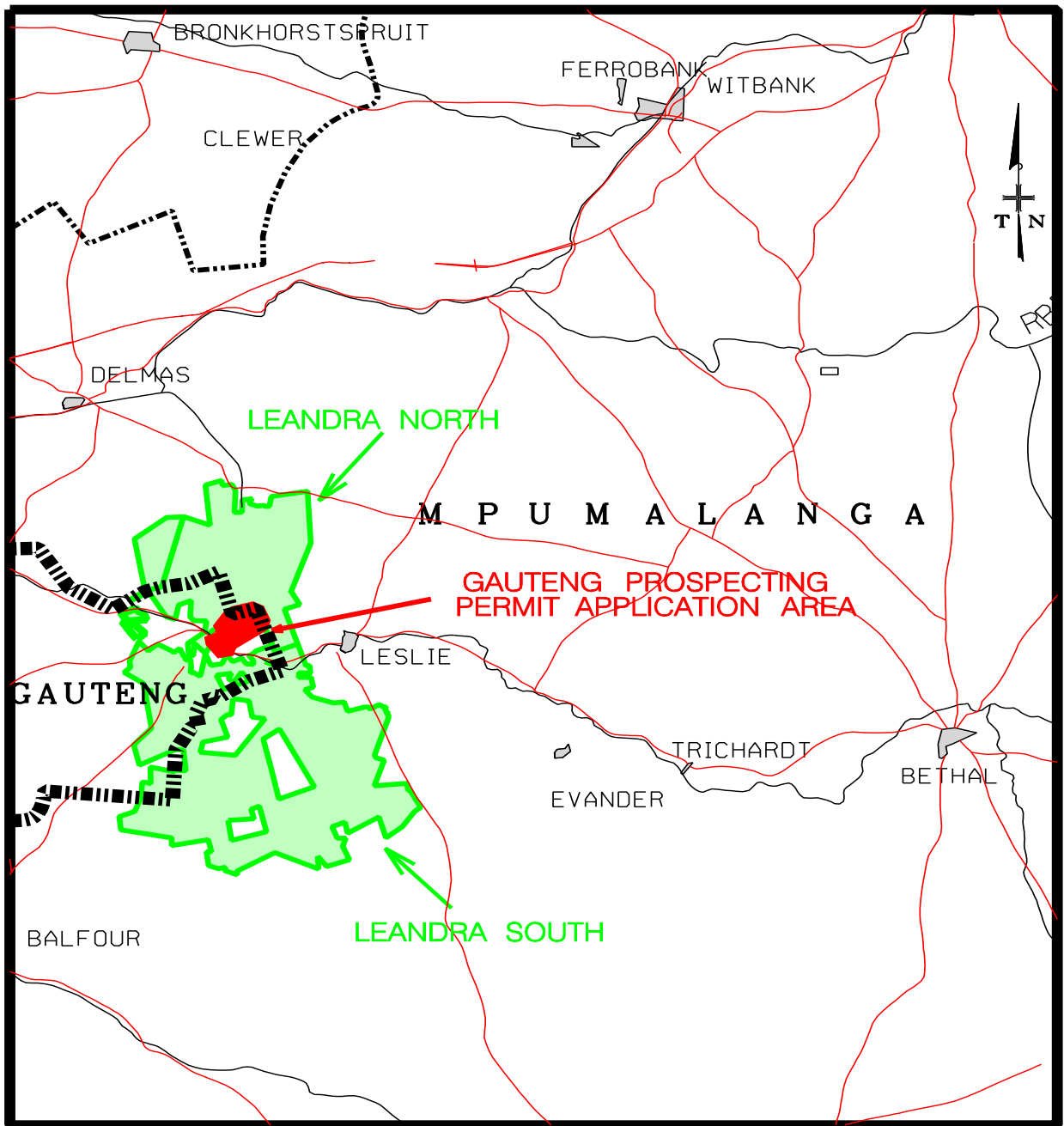


Figure 1: Leandra Gauteng Prospecting Right Regional Locality (PAR, 2016)

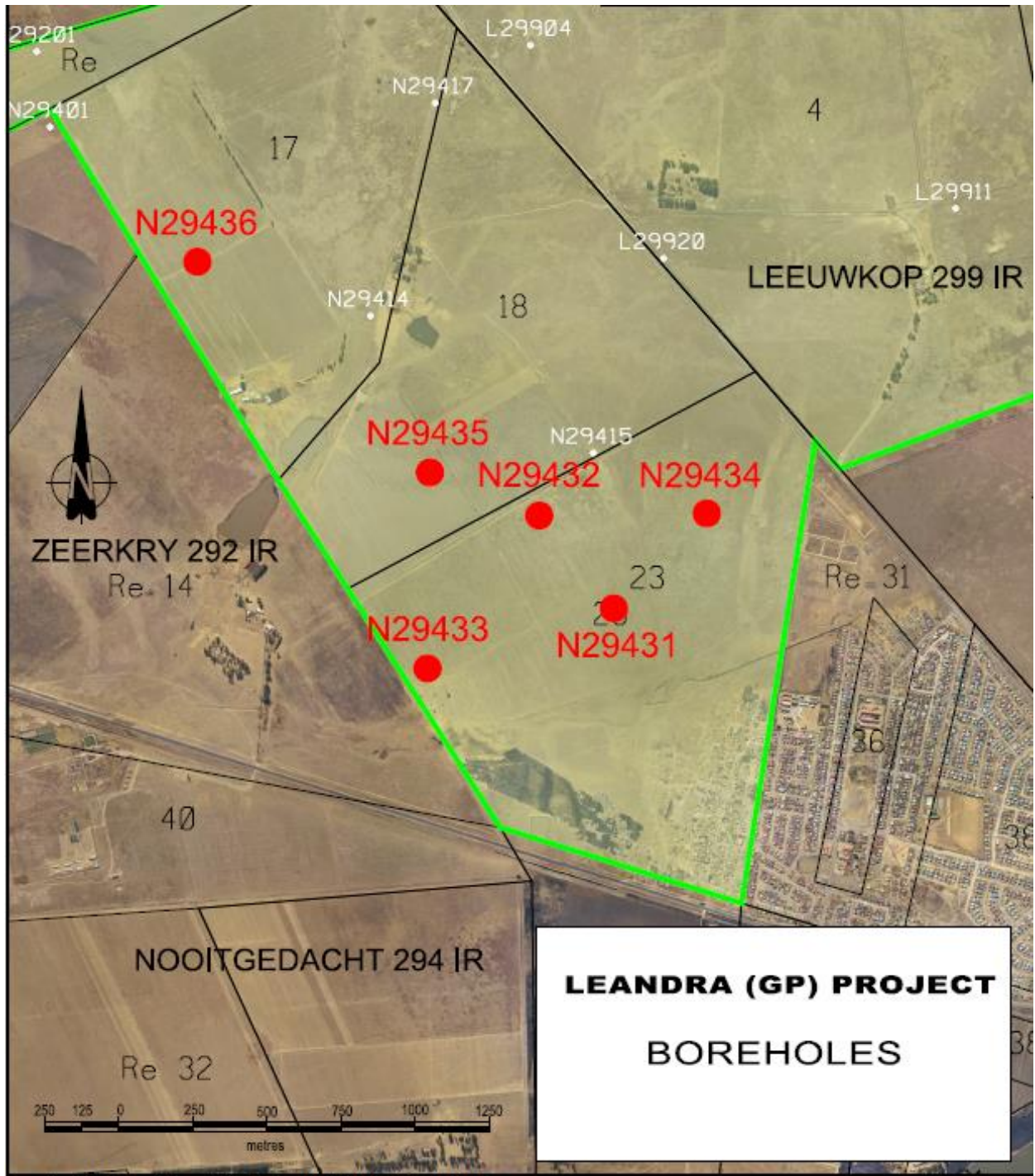


Figure 2: Leandra Prospecting Right Locality Map and Borehole Location (Annual Report, 2016)

1.2 Terms of Reference

The Mineral and Petroleum Resources Development Act (MPRDA) Government Notice Regulation (GNR) 527, regulation 55 thereof, requires the monitoring and performance assessments of Environmental Management Programme Report (EMPR) which are now known as Environmental Authorisations (EA) to assess the continued appropriateness and adequacy of the EMPR/EA. The GNR 527 (55) requires the holder of the EA to:

- Conduct continuous monitoring;
- Conduct performance assessments;
- Compile and submit performance assessment reports (PAR) to the Department of Mineral Resources (DMR).

Regulations 55 (2) states that the frequency of PAR will either be specified in the approved EMPR, every two years or as agreed to in writing by the Minister.

Regulation 55(4) adds that the holder of the mining right may appoint an independent competent person(s) to conduct a performance assessment and compile a PAR.

However, in 2014, the MPRDA was amended (No.49 of 2009) and aligned with the National Environmental Management Act (No. 107 of 1998) as amended (NEMA). Section 39 – 42 relating to the EMPR development, management, financial provisions etc. were repealed and Section 38 A and B were inserted. Section 38 B of the MPRDA states “*an environmental management plan or environmental management programme approved in terms of this Act before and at the time of the coming into effect of the National Environmental Management Act, 1998 shall be deemed to have been approved and an environmental authorisation been issued in terms of the National Environmental Management Act, 1998*”. However, the 2014 NEMA Environmental Impact Assessment (EIA) Regulations were again amended on 7 April 2017. Therefore, as South32 was in possession of an approved prospecting right at the time of the 2014 NEMA EIA Regulations coming into effect, it is safely deduced that South32 is in possession of an ‘Environmental Authorisation’ (EA).

Regulation 34 of the NEMA EIA Regulations states that a holder of an EA must ensure compliance to conditions contained therein, and be regularly audited at a frequency as stipulated therein or by the Department of Mineral Resources. Regulation 34 further details the persons whom may undertake the audit, the minimum specifications of the audit report, submission requirements and stakeholder notification requirements.

Following from the above, the approved South32 Leandra Gauteng Prospecting Right is required to undergo regular auditing in accordance with NEMA EIA Regulations and Appendix 7 thereof, at a frequency stipulated in the EA / Prospecting Right itself.

NTC Group (Pty) was appointed by South32 as the independent Environmental Assessment Practitioner (EAP) to undertake the 2017 annual Prospecting Right and EMPR (Ref: MP30/5/1/1/2/223PR) compliance assessment. This report presents the methodologies and findings thereof.

1.3 Assumptions and Limitations

The following assumptions and/or limitations are applicable to the audit process and resulting findings:

- This audit is a snap-shot representation of the Leandra Gauteng prospecting operation and the audit period assessed includes May 2016 – May 2017 only. Anything occurring prior to this period is assumed to have been audited previously and was thus not included herein. Therefore, such items were determined to be “Not Applicable”;
- Due to the nature and extent of the operation, not all areas were visited during the site assessment. Instead specific areas representative of the operation and assessment period were selected;
- Leandra Gauteng is in the second phase of operation, and all the other activities relating to Construction, Final Rehabilitation and/or Closure that were not currently occurring on site were deemed “Not Applicable”;
- Procedures developed by South32 (as included in the contractor’s agreements) specifically, are deemed to be appropriately implemented as part of the Integrated Management System by site personnel;
- No prospecting activities, namely drilling, were occurring at the time of the site assessment; and
- Current/relevant legislation will be substituted for legislation referenced in the Prospecting Right EA that is outdated/repealed.

2. Auditors

NTC GROUP (PTY) LTD was established in 2005. It is 100% female black owned with a Level 1 Broad Based Black Economic Empowerment (BBBEE) Rating. The company essentially runs two divisions: Chemicals and Environmental Consulting. In terms of environmental capabilities, NTC renders the below (Table 1) services

Table 1: NTC Environmental Services Summary

Environmental Authorisations	Environmental compliance monitoring
Environmental Impact Assessment (EIA)	Compliance audits in line with permits
Environmental Management Program Report (EMPR) for mining right applications	Construction projects monitoring
Environmental Management Plans	Environmental Monitoring

Integrated Water Use License Application (IWULA) Integrated Water and Waste Management plan Waste Permit application Other permit applications	Ground & Surface water Fauna & Flora Air quality Bio-monitoring Environmental Risk Assessment Environmental Management Systems - ISO 14001
Environmental strategic projects	Specialist studies
Environmental Management Framework (EMF) Strategic Environmental Assessment Environmental Rehabilitation Projects Mine closure studies Rehabilitation of contaminated soil Rehabilitation plans Pollution assessment studies Mine water balance studies Engineering services to complement environmental studies	Land Capability and Land Use/Zoning Assessments Soil Assessments (Description, Classification and Pollution Assessment). Aquatic Ecological Assessments. Hydrological/Surface Water Assessments Air Quality Assessments. Noise level Assessments Geotechnical Studies Environmental Legal Assessments Biodiversity studies

We undertake our services with professional integrity and we have built good reputations with stakeholders in the environmental management field including regulatory authorities and government departments. We undertake all our services within the requirements of applicable South African legislation, as well as acceptable international best practices, norms and standards. The details of the specific environmental consultants who completed and/or assisted with the Compliance Assessment are provided in Table 2 and the Curricula Vitae's are provided in Appendix A, along with the auditor's declaration of independence.

Table 2: EAP Contact Details

Role	Responsible Person	Contact Details
Project Director	Thinga Nethanani is the founding member of NTC Group (Pty) Ltd. She has over 12 years' experience in the Environmental Management field. Thinga provided quality assurance during the audit preparations and report compilations.	Tel: +27 11 4622 022
		Fax: +27 86 665 1864
		Email: thinga@ntcgroup.co.za
Project Manager	Janna Bedford-Owen is a Principal Consultant at NTC Group (Pty) Ltd. She has over 11 years'	Tel: +27 11 4622 022
		Fax: +27 86 665 1864

Role	Responsible Person	Contact Details
Auditor	experience in the Environmental Management field including extensive experience within the mining sector. Janna was the Lead Auditor who undertook the audit preparations, site assessment and audit report compilation.	Email: janna@ntcgroup.co.za
Project Consultant Auditor	Raisibe Mabiza is a graduate who joined NTC in June 2015. Since joining NTC she has attended industry related training in environmental legislation and has been involved in several projects in-house as part of her training. She has completed various compliance assessments within the mining sector including Harmony, Anglo American and South32.	Tel: +27 11 4622 022 Fax: +27 86 665 1864 Email: raisibe@ntcgroup.co.za

3. Audit Methodology

3.1 Information Collation and Review

NTC reviewed the Prospecting Right EA and compiled a checklist, which contained the conditions verbatim (Table 5), that required compliance assessment. During the audit checklist compilation, NTC developed and submitted an information request to South32 to begin collation and review thereof. The information verified during the audit included *inter alia*:

- Leandra Gauteng Amended Environmental Management Programme Report (Ref: GP/30/5/1/1/2/223 PR) dated 4 May 2010;
- Zaiman Exploration Drilling (Pty) Ltd – Learning Guide: Environmental Awareness Training Document no. ZED/TRNG/ Learning Guide/0013 dated 27 June 2016;
- Zaiman Exploration Drilling (Pty) Ltd – Standard Operating Procedure: Site Rehabilitation Document no. ZED/OPS/SOP/0032 dated 08 June 2016;
- Zaiman Exploration Drilling (Pty) Ltd – Standard Operating Procedure: Emergency Preparedness and Response for Exploration and Directional Drilling Sites Document no. ZED/SHE/SOP/0008 dated 06 September 2016;
- Zaiman Exploration Drilling (Pty) Ltd – Standard Operating Procedure: Incident and Accident Reporting and Investigation Document no. ZED/SHE/SOP/0002 dated 09 September 2016;
- Environmental Awareness Training Presentation (Trng/Presentation/0013);
- The Waste Group delivery note for General Waste Skip dated 07 April 2017;
- The Waste Group delivery notes for General Waste Skip dated 27 February 2017;

- Highveld Toilet Hire Invoice dated 07 April 2017;
- 2015-2016 Compliance Assessment Report for Leandra Gauteng dated April 2016;
- Proof of submission of the Leandra Gauteng Compliance Assessment Report to the DMR (stamped by the DMR dated 20 May 2016);
- Zaiman Exploration Drilling (Pty) Ltd – SHE Officer Inspection Report Document no. ZED/SHE/Forms/0024 Rev 2, inspection date 08/03/2017;
- Zaiman Exploration Drilling (Pty) Ltd – SHE Rep Inspection Report for Drill Sites Document no. ZED/SHE/Forms/0023 Rev 3 (19 Oct 16), inspection date 20 March 2017;
- Zaiman Exploration Drilling (Pty) Ltd – Manager’s Inspection Report Document no. ZED/SHE/Forms/0082 Rev 1 (29 Sep 15), inspection date 20 March 2017; and
- Zaiman Exploration Drilling (Pty) Ltd – Supervisor of Foreman’s Inspection Report Document no. ZED/SHE/Forms/0081 Rev 1 (29 Sep 15), inspection date 13 March 2017;
- Zaiman Exploration Drilling (Pty) Ltd – Waste Management Plan Document no. ZED/SHE/Plan/0010 dated 27 October 2015;
- Zaiman Exploration Drilling (Pty) Ltd Mobile and/or Septic Tank Cleaning Register Document ZES/LOG/Register/0031 Rev 1 (17 Aug 16);
- Zaiman Exploration Drilling (Pty) Ltd – Training Attendance Register Document no. ZED/TRNG/Forms/0017 Rev 1, Dates 11/01/2017, 09/01/2017 and 10/01/2017;
- Leandra Prospecting Right Locality Map and Borehole Location (Annual Report, 2016);
- Site Photographs for pre- and post- prospecting;
- Progress Report by South32 SA Coal Holdings (PTY) Limited previously known as BHP Billiton Energy Coal South Africa (Pty) Limited in respect of prospecting in compliance with Regulation 8 of the Mineral and Petroleum Resources Development Act, Number 28 of 2002 in respect of the period 20th May 2015 to 19th May 2016;
- Appendix A: Layout Plan;
- Appendix B: Borehole Logs and analysis for phase 1 prospecting;
- Appendix C: Borehole drilling site photographs and Sealing Certificates; and

3.2 Site Verification

The site assessment was completed on 7 April 2017 by Janna Bedford-Owen and Raisibe Mabiza (NTC), Peter Maseko (South32), Masixole Mzukwa (South32) and Monicca Motlhoki (Drill Contractor). During the site assessment, additional documents were collated and information was verified, South32 and Drilling Engineer personnel were interviewed and selected areas in the prospecting right were visited i.e. verified using photographic evidence presented in Appendix B. The photographic evidence is presented as follows:

- Figures 1 – 5: Borehole N29436;
- Figures 6 – 9: Borehole N29435;
- Figures 10 - 13: Borehole N29432; and
- Figures 14 – 17: Borehole N29431.

3.3 Assessment Methodology

NTC assessed each of the EA conditions per the criteria provided in Table 3. Only conditions in the Partial- or Non- compliance categories were given recommendations for rectification.

Table 3: Assessment Criteria

Criteria	Acc	Description
Compliant	C	Full Compliance is when the construction or operational activities comply with the EA conditions. No mitigation measures are required where operations comply.
Partially Compliant	PC	Partial Compliance is when construction or operational activities are compliant with some but not all the requirements of the EA condition. Areas where activities could be improved upon are recorded as Partial-Compliances. Partial-Compliances have a low priority and should be addressed only once Non- Compliances have been addressed satisfactorily.
Non-Compliant	NC	Non-Compliance is when construction or operational activities are in contravention with the EA conditions and have the potential to impact on the environment in a detrimental manner. Non-compliance may also be associated with activities breaching legislation. Non-Compliance findings have a high priority and mitigation measures are mandatory
Not Applicable	N/A	Not Applicable is assigned to EA conditions which no longer occur, that do not apply to current activities that may be incorrect and require amendment, fall outside the audit period and/or are duplicates of existing conditions.

The timeframe in which proposed recommendations should be implemented are presented in Table 4.

Table 4: Recommendation timeframes

Timeframe	Description
Short Term	0 – 3 months.
Medium Term	3 – 6 months
Long Term	6 – 12 months

4. Results

4.1 Summary of Results

This section is aimed at highlighting the identified non-compliances so South32 can prioritise implementation of recommendations and rectification actions. Partial-compliances which are recurring or, in the opinion of the auditor, warrant rectification have been included. The full audit details are included in Table 5 below.

4.1.1 Non-Compliances

No non-compliant findings were identified by the auditor.

4.1.2 Partial Compliances

Commitment F4.1(d): Inspections and monitoring shall be carried out on both the implementation of the programme and the impact on plant and animal life.

Finding:

The contractor reported that site inspections regarding drilling activities were completed monthly and included limited environmental aspects (Monthly Meeting Minutes, 9 November 2016).

However, inspection or monitoring of plant and animal life specifically was not included in the inspections.

Recommendation: Medium Term

Inspections / Monitoring should include environmental aspects as required by the EMPR.

Commitment F5.5: The holder of the prospecting right, mining permit or reconnaissance permission must also take cognisance of the provisions of other legislation dealing with matters relating to conservation of the environment...".

Finding:

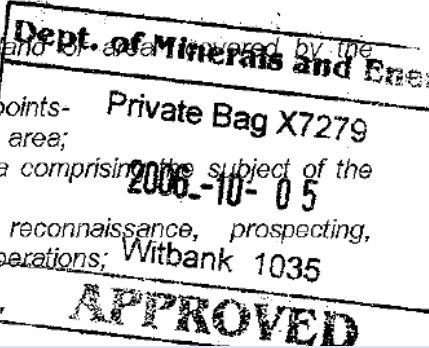
South32 reported that environmental legal audits are completed on the company's mining right areas but that the prospecting right areas are not included therein.

Recommendation: Long Term

South32 must ensure that the prospecting right areas is compliant with relevant legislated provisions where applicable.

4.2 Audit Findings

Table 5: Compliance Audit Findings and Recommendations

Condition	Comp	Finding	Recommendations
<p>Section F: F1.1.1 Site Layout</p> <p>"An application contemplated in sub-regulation (1) must be accompanied by a plan that must contain –</p> <ul style="list-style-type: none"> (a) the co-ordinates of the land or area applied for; (b) the north point; (c) the scale to which the plan has been drawn; (d) the name, number and location of the application; and (e) in relation to farm boundaries and surveyed points- <ul style="list-style-type: none"> (i) the size and shape of the proposed area; (ii) the boundaries of the land or area comprising the subject of the application concerned; (iii) the layout of the proposed reconnaissance, prospecting, exploration, mining or production operations; (iv) surface structures and servitudes; (v) the topography of the land or area." 			
<p>a) A copy of the layout as provided for in Regulations 2.2 must be available at the prospecting/mining site for scrutiny when required.</p>	C	<p>The Leandra Prospecting Right Locality Map and Borehole Location (Annual Report, 2016) was verified by the auditor.</p>	<p>None.</p>
<p>b) The plan must be updated on a regular basis with regard to the actual progress of the establishment of surface infrastructure, mining operations and rehabilitation (a copy of the updated plan shall be forwarded to the Regional Manager on a regular basis).</p>	C	<p>Condition F1.1(a) refers.</p> <p>South32 reported that the updated layout plans are submitted to the Regional Manager annually as part of the Progress Report required for compliance with Regulation 8 of the Mineral and Petroleum Resources Development Act (MPRDA) and the last submission was made on the 20th May 2016. The <i>Progress Report by South32 SA Coal Holdings</i></p>	<p>None.</p>

Condition	Comp	Finding	Recommendations	
		<i>(PTY) Limited previously known as BHP Billiton Energy Coal South Africa (Pty) Limited in respect of prospecting in compliance with Regulation 8 of the Mineral and Petroleum Resources Development Act, Number 28 of 2002 in respect of the period 20th May 2015 to 19th May 2016, together with the Appendices (Appendix A: Layout Plan; Appendix B: Borehole Logs and analysis for phase 1 prospecting and Appendix C: Borehole drilling site photographs and Sealing Certificates) as well as the Letter of submission were perused by the auditor.</i>		
c)	A final layout must be submitted at closure of the mine or when operations have ceased.	N/A	The prospecting right is valid until 19 May 2018 and prospecting activities for this reporting period have ceased and drilling sites decommissioned.	None.
F1.1.2 Demarcating the Mining/Prospecting Area				
a)	The mining/prospecting area must be clearly demarcated by means of beacons at its corners, and along its boundaries if there is no visibility between the corner beacons.	C	The site layout demarcates the boundary and drill sites. However, as the prospecting area fell on farming land, the existing fences surrounding the property boundaries were deemed adequate for demarcation. The boreholes themselves were demarcated during drilling activities.	None.
b)	Permanent beacons as indicated on the layout plan or as prescribed by the Regional Manager must be firmly erected and maintained in their correct position throughout the life of operation.	C	Commitment F1.1.2 Refers. The fences surrounding the farmer's property were well maintained for the duration of drilling and verified during the audit. The	None.

	Condition	Comp	Finding	Recommendations
			temporary fences around the drill rigs and site were removed following completion of drilling activities.	
c)	Mining/Prospecting and resultant operations shall only take place within this demarcated area.	C	The auditor verified a sample of the boreholes drilled and all were in the same position as indicated in the site layout.	None.
F1.1.3 Demarcating the River and Riverine Environment				
a)	Beacons as indicated on the layout plan or prescribed by the Regional Manager must be erected and maintained in their correct position throughout the life of operation.	N/A	South32 and the contractor reported that the prospecting area and activities do not occur within a river/riverine area and the auditor verified, during the site audit that no prospecting activities took place within a riverine environment. Appendix B provides photographic evidence of boreholes audited.	None.
b)	These beacons must be of a permanent nature during the operations and must not be easily removable, especially those in a river channel. The beacons must, however, be removed at the end of the operations.	N/A	Commitment F1.1.3 (a) refer.	None.
c)	The mining of and prospecting for any mineral shall only take place within this demarcated mining area.	N/A	Commitment F1.1.3 (a) refer.	None.
d)	If the riverine vegetation is present in the form of reeds or wetland vegetation, the presence of these must be entered in Pact C1.45 of the EMPlan and indicated on the layout plan.	N/A	Commitment F1.1.3 (a) refer.	None.
e)	The holder of the mining permit/prospecting right will also be required to permanently demarcate the areas as specified in F1.1.2.	N/A	Commitment F1.1.3 (a) refer.	None.

Condition	Comp	Finding	Recommendations
F1.2 Restrictions of Mining/Prospecting			
a) On assessment of the application, the Regional Manager may prohibit the conducting of mining or prospecting operations in vegetated areas or over portions of these areas.	N/A	No such prohibitions or similar limitations/restrictions were issued by the Regional Manager.	None.
b) In the case of areas that are excluded from the mining or prospecting, no operation shall be conducted within 5 m of these areas.	N/A	No such prohibitions or similar limitations/restrictions were issued by the Regional Manager.	None.
F1.3 Responsibility			
a) The environment affected by the mining/prospecting operations shall be rehabilitated by the holder, as far as practical, to its natural state or to a predetermined and agreed to standard or land use which conforms with the concept of sustainable development. The affected environment shall be maintained in a stable condition that will not be detrimental to the safety and health of humans and animals and that will not pollute the environment or lead to the degradation thereof.	N/A	The prospecting right is valid until 19 May 2018 and prospecting activities for this reporting period have ceased and drilling sites decommissioned. Rehabilitation by the contractor has occurred in accordance with the contractors Standard Operating Procedure – Site Rehabilitation Document no. ZED/OPS/SOP/0032 (dated 08 June 2016) Section 5 – 6 viz. the sumps, removal of equipment and fences, sealing of boreholes.	None.
b) It is the responsibility of the holder of the mining/prospecting right to ensure that the manager on site and the employees are capable of complying with all the statutory requirement which must be met in order to mine, which includes implementation of this EMP.	C	South32 reported that employees, contractors and supplier are required to undergo induction, which includes environmental training and the following training materials as well as attendance registers were verified by the auditor: <ul style="list-style-type: none"> Zaaiman Exploration Drilling (Pty) Ltd – Learning Guide: Environmental Awareness 	None

Condition	Comp	Finding	Recommendations
		<p>Training Document no. ZED/TRNG/Learning Guide/0013 dated 27 June 2016;</p> <ul style="list-style-type: none"> • Zaaiman Exploration Drilling (Pty) Ltd – Training Attendance Register Document no. ZED/TRNG/Forms/0017 Rev 1, Dates 11/01/2017, 09/01/2017 and 10/01/2017); and • Zaaiman Exploration Drilling (Pty) Ltd – Standard Operating Procedure: Emergency Preparedness and Response for Exploration and Directional Drilling Sites Document no. ZED/SHE/SOP/0008 dated 06 September 2016). <p>Further to that, the EMPR requirements were included into the contractor packs issued to staff on site and site inspections regarding drilling activities, environmental aspects as well as Health and Hygiene were completed by the SHE Officer, the site manager as well as the site supervisor.</p>	
<p>c)</p>	<p>If operations are to be conducted in an area that has already been disturbed, the holder must reach specific agreement with the Regional Manager concerning the responsibilities imposed upon himself/herself pertaining to the rehabilitation of the area and the pollution control measures to be implemented.</p>	<p>N/A</p> <p>Commitment F1.3(a) refers.</p>	<p>None.</p>

Condition	Comp	Finding	Recommendations
F2 – INFRASTRUCTURAL REQUIREMENTS			
F2.1 Topsoil			
a)		The prospecting activities comprised drilling of boreholes and setup of associated drilling rigs. This required removal of vegetation and the inclusion of a catchment sump (1-2m). No topsoil was removed from the drilling sites.	None.
b)	N/A	Commitment F2.1(a) refers.	None.
c)	N/A	Commitment F2.1(a) refers.	None.
d)	N/A	Commitment F2.1(a) refers.	None.
e)	N/A	Commitment F2.1(a) refers.	None.
F2.2 ACCESS TO THE SITE			
F2.2.1 Establishing access roads on the site			
a)	C	Agreement between the local farmers, landowner and South32 (including contractors) was reached regarding access roads use. The auditor confirmed, during the site assessment, that existing access roads were utilised (Appendix B: Figures 8-9 and 17)	None.

	Condition	Comp	Finding	Recommendations
			as per the request of the landowners and that only a maximum 200m roads leading to exact boreholes were created. The addition of gates or fences was not necessary.	
b)	<p>Should a portion of the access road be newly constructed the following must be adhered to:</p> <ul style="list-style-type: none"> • The route shall be selected that a minimum number of bushes or trees are felled and existing fence lines shall be followed as far as possible. • Watercourse and steep gradients shall be avoided as far as practicable. • Adequate drainage and erosion protection in the form of cut-off berms or trenches shall be provided where necessary. 	C	<p>Commitment F2.2.1 (a) refers.</p> <p>The contractor reported that only a maximum 200m roads leading to exact boreholes (Appendix B: Figure 17) were created and rehabilitated by closing trenches that were created (track marks when driving). Rehabilitation was specific to site and the roads were never seeded, instead vegetation was left to grow naturally (as observed by the auditor).</p> <p>The auditor confirmed, during the site assessment that no road was close to a watercourse.</p>	None.
c)	If imported material is used in the construction or upgrading of the access road this must be listed in C 2.17.	N/A	No imported materials were used during road maintenance.	None.
d)	The erection of gates in fence lines and the open or closed status of the gates in new and existing positions shall be clarified in consultation with the landowner/tenant and maintained throughout the operational period.	N/A	No new fences or gates were required nor was there a need to close roads or gates. This was confirmed by the auditor during the site inspection.	None.
e)	No other routes will be used by the vehicles or personnel for the purpose of gaining access to the site.	N/A	The auditor did not observe alternative roads providing access to the prospecting area.	None.
F2.2.2 Maintenance of access roads				
a)	In the case of dual or multiple use of access roads by other users, arrangements for multiple responsibility must be	C	Agreement between the local farmers, landowner and South32 (including contractors) was reached	None.

	Condition	Comp	Finding	Recommendations
	made with the other users. If not, the maintenance of the access road shall be the responsibility of the holder of the mining/prospecting right.		regarding access road use. The auditor confirmed, during the site assessment, that existing access roads were utilised (Appendix B: Figures 8-9 and 17) as per the request of the landowners and that only a maximum 200m roads leading to exact boreholes were created. The addition of gates or fences was not necessary.	
b)	Newly constructed access roads shall be adequately maintained so as to minimise dust, erosion or undue surface damage.	C	The contractor reported that only a maximum 200m roads leading to exact boreholes (Appendix B: Figure 17) were created and rehabilitated by closing trenches that were created (track marks when driving). Rehabilitation was specific to site and the roads were never seeded, instead vegetation was left to grow naturally (as observed by the auditor). The auditor confirmed, during the site assessment that no road was close to a watercourse.	None.
F2.2.3 Dust control on the access and haul roads				
a)	The liberation of dust into the surrounding environment shall be effectively controlled by the use of <i>inter alia</i> water spraying and/or other dust allaying agents. The speed of haul trucks and other vehicles must be strictly controlled to avoid dangerous conditions; excessive dust or excessive deterioration of the road being used.	C	The contractor reported that the percussion drill rigs were equipped with dust suppression systems. No drilling was occurring at the time of the audit. The auditor did not observe dusty conditions (due to road use, bare soils or other sources) and the roads were observed to be in good repair. The auditor confirmed that speed limits were communicated to the employees as part of the	None.

Condition	Comp	Finding	Recommendations
		Environmental Awareness Training (Zaaiman Exploration Drilling (Pty) Ltd – Learning Guide: Environmental Awareness Training Document no. ZED/TRNG/ Learning Guide/0013 dated 27 June 2016). Further to that, the contractor indicated that Geotab is used to monitor the truck speed from the office.	
F2.2.4 Rehabilitation of access road			
a) Wherever a mining/prospecting right is suspended, cancelled or abandoned or if it lapses and the holder does not wish to renew the permit or right, any access road or portions thereof, constructed by the holder which will no longer be required by the landowner/tenant, shall be removed and/or rehabilitated to the satisfaction of the Regional Manager.	N/A	Commitment F1.3(a) and F 2.2.2(b) refer.	None.
b) Any gate or fence erected by the holder which is not required by the landowner/tenant shall be removed and the situation restored to the pre-mining/prospecting situation.	N/A	Commitment F1.3(a) and F 2.2.2(b) refer.	None.
c) Roads shall be ripped or ploughed, and if necessary, appropriately fertilized (based on a soil analysis) to ensure the regrowth of vegetation. Imported road construction materials which may hamper regrowth of vegetation must be removed and disposed of in an approved manner prior to rehabilitation.	N/A	Commitment F1.3(a) and F 2.2.2(b) refer.	None.

Condition	Comp	Finding	Recommendations
d) If a reasonable assessment indicates that the re-establishment of vegetation is unacceptably slow, the Regional Manager may require that the soil be analysed and any deleterious effects on the soil arising from the mining/prospecting operation, be corrected and the area be seeded with a seed mix to the Regional Manager's specification.	N/A	Commitment F1.3(a) and F 2.2.2(b) refer.	None.
F2.3 OFFICE/CAMP SITES			
F2.3.1 Establishing office / camp sites			
a) Office and camp sites shall be established, as far as practical, outside the floodplain, above the 1:50 year flood level mark within the boundaries of the mining/prospecting area.	N/A	An office/camp for drilling was not required. South32 reported that drill rigs were established at the drilling sites only and comprised minimal infrastructure for drilling only e.g. sump (1-2m), temporary storage of cores and drill equipment, chemical toilet.	None.
b) The area chosen for these purposes shall be the minimum reasonably required and which will involve the least disturbance to vegetation. Topsoil shall be handled as described in F2.1 above.	N/A	Commitment F2.3(a) refers. Soil removal or storage was not required for drilling activities.	None.
c) No camp or site office shall be located closer than 100 meters from a stream, river, spring, dam or pan.	N/A	An office/camp for drilling was not required. South32 reported that drill rigs were established at the drilling sites only.	None.
d) No trees or shrubs will be felled or damaged for the purpose of obtaining firewood, unless agree to by the landowner/tenant.	C	Damage to tree or shrubs for purposes of fires is strictly prohibited and forms part of the employee and/or contractor induction (Zaيمان Exploration Drilling (Pty) Ltd – Learning Guide: Environmental	None.

	Condition	Comp	Finding	Recommendations
			Awareness Training Document no. ZED/TRNG/ Learning Guide/0013 dated 27 June 2016; Zaaiman Exploration Drilling (Pty) Ltd – Training Attendance Register Document no. ZED/TRNG/Forms/0017 Rev 1, Dates 11/01/2017, 09/01/2017 and 10/01/2017). Damage to trees and shrubs, or evidence of fires on site was not observed by the auditor (Appendix B: Figures 1 – 17).	
e)	Fires will only be allowed in facilities or equipment specially constructed for this purpose. If required by applicable legislation, a fire-break shall be cleared around the perimeter of the camp and office sites.	C	The restriction of fires on site forms a part of the employee and/or contractor induction (Zaaiman Exploration Drilling (Pty) Ltd – Learning Guide: Environmental Awareness Training Document no. ZED/TRNG/ Learning Guide/0013 dated 27 June 2016; Zaaiman Exploration Drilling (Pty) Ltd – Training Attendance Register Document no. ZED/TRNG/Forms/0017 Rev 1, Dates 11/01/2017, 09/01/2017 and 10/01/2017) as well as the Emergency Preparedness and Response for Exploration and Directional Drilling Document.	None.
f)	Lighting and noise disturbance or any other form of disturbance that may have an effect on the landowner/tenant/persons lawfully in the vicinity shall be kept to a minimum.	C	The auditor did not observe light or noise disturbances during the site assessment (sites had been decommissioned and holes sealed). Furthermore, drilling activities were observed to be located a sufficient distance from adjacent	None.

Condition	Comp	Finding	Recommendations
		landowners/tenants to ensure minimal disturbance during operations (Appendix B: Figures 1 – 17).	
F2.3.2 Toilet facilities, waste water and refuse disposal			
a) As a minimum requirement, the holder of the mining permit/prospecting right shall, at least, provide pit latrines for employees and proper hygiene measures shall be established.	C	It was reported that a chemical toilet (portable) was provided for onsite staff (Highveld Toilet Hire receipt confirmed). No additional facilities e.g. washing, basins, kitchens etc. were required on site. The chemical toilet was maintained by the service provider and the suppliers (Highveld Toilet Hire) invoice dated 07 April 2017 was provided to the auditor.	None.
b) Chemical toilet facilities or other approved toilet facilities such as a septic drain shall preferably be used and sited on the camp site in such a way that they do not cause water or other pollution.	C	The contractor reported that chemical toilets (portable) were provided for onsite staff. No additional facilities e.g. washing, basins, kitchens etc. were required on site. The chemical toilet was maintained by the service provider (Highveld Toilet Hire) and the suppliers invoice dated 07 April 2017 was provided to the auditor. The Zaaiman Exploration Drilling (Pty) Ltd Mobile and/or Septic Tank Cleaning Register Document ZES/LOG/Register/0031 Rev 1 (17 Aug 16) was also verified by the auditor.	None.
c) The use of existing facilities must take place in consultation with the landowner/tenant.	N/A	Chemical toilets (portable) were provided for onsite staff. No existing ablutions/facilities were utilised.	None.

Condition	Comp	Finding	Recommendations
d) In cases where facilities are linked to existing sewerage structures, all necessary regulatory requirements concerning construction and maintenance should be adhered to.	N/A	Commitment F2.3.2(a) refers.	None.
e) All effluent water from the camp washing facility shall be disposed of in a properly constructed French drain, situated as far as possible, but not less than 200m away from any stream, river, pan, dam or borehole.	N/A	Commitment F2.3.2(a) refers.	None.
f) Only domestic type water shall be allowed to enter this drain and any effluents containing oil, grease or other industrial substances must be collected in a suitable receptacle and removed from the site, either for resale or appropriate disposal at a recognised facility.	N/A	Commitment F2.3.2(a) refers.	None.
g) Spills should be cleaned up immediately to the satisfaction of the Regional Manager by removing the spillage together with the polluted soil and by disposing of them at a recognised facility.	C	The contractor reported that no spills or environmental pollution causing incidents occurred during on site drilling activities. The contractor further reported that should such occur, the spills would be managed per the SOP – Emergency Preparedness and Response for Exploration and Directional Drilling Sites available onsite.	None.
h) Non-biodegradable refuse such as glass bottles, plastic bags, metal scrap etc. shall be stored in a container at a collecting point and collected on a regular basis and disposed of at a recognised disposal facility. Specific	C	South32 reported that waste during the prospecting was collected in three categories, i.e. hazardous waste, domestic/general waste, and steel. Coloured	None.

Condition	Comp	Finding	Recommendations
precautions shall be taken to prevent refuse from being dumped on or in the vicinity of the camp site.		bins were placed at each drill site and cleaned up as/when necessary. The hazardous waste was collected and was transported to the contractors Witbank workshop for temporary storage prior to disposal. Steel was recycled, while general waste is taken to the closest municipal dump site. No waste was buried on site and waste was handled in accordance to the Zaaiman Exploration Drilling (Pty) Ltd – Waste Management Plan Document no. ZED/SHE/Plan/0010 dated 27 October 2015. The Waste Group's delivery notes dated 07/04/2017 for General Waste service and 27/02/17 for Hazardous waste service were perused.	
i) Biodegradable refuse generated from the office/camp site, processing areas, vehicle yard, storage area or any other area shall either be handled as indicated above or be buried in a pit excavated for that purpose and covered with layers of soil, incorporating a final 0.5 metre thick layer of topsoil (where applicable). Provision should be made for future subsidence of the covering.	C	Commitment F2.3.2(h) refers. The contractor reported that no waste was buried or left on site. The auditor observed the sites to be free of waste.	None.
F2.3.3 Rehabilitation of the office/camp site			
a) On completion of operations, all buildings, structures or objects on the camp/office site shall be dealt with in accordance with Section 44 of the MPRDA.	N/A	The prospecting right is valid until 19 May 2018 and prospecting activities for this reporting period have ceased and drilling sites decommissioned and	None.

Condition	Comp	Finding	Recommendations
<p>APPROVED</p> <p>(1) <i>When a prospecting right, mining right, retention permit, mining permit lapses, is cancelled or is abandoned or when any prospecting or mining operation comes to an end, the holder of any such right or permit may not demolish or remove any building, structure, object -</i></p> <p>(a) <i>which may not be demolished in terms of any other law;</i></p> <p>(b) <i>which has been identified in writing by the Minister for purposes of this section; or</i></p> <p>(c) <i>which is to be retained in terms of an agreement between the holder and the owner or occupier of the land, which agreement has been approved by the Minister in writing.</i></p> <p>(2) <i>The provision of subsection (1) does not apply to bona fide mining equipment which may be removed</i></p>		boreholes sealed, however no camp site was established on site.	
<p>b) Where office/camp sites have been rendered devoid of vegetation/grass or where soils have been compacted owing to traffic, the surface shall be scarified or ripped.</p>	N/A	Commitment F2.3.3(a) refers.	None.
<p>c) Areas containing French drains shall be compacted and covered with a final layer of topsoil to a height of 10cm above the surrounding ground surface.</p>	N/A	Commitment F2.3.3(a) refers.	None.
<p>d) The site shall be seeded with a vegetation seed mix adapted to reflect the local indigenous flora.</p>	N/A	Commitment F2.3.3(a) refers.	None.
<p>e) If reasonable assessment indicates that the re-establishment of vegetation is unacceptably slow, the Regional Manager may require that the soil be analysed and any deleterious effects on the soil arising from the mining/prospecting operation be corrected and the area be seeded with a vegetation mix to his/her specification.</p>	N/A	Commitment F2.3.3(a) refers.	None.
<p>f) Photographs of the camp and office sites, before and during the mining/prospecting operation and after</p>	N/A	Commitment F2.3.3(a) refers.	None.

Condition	Comp	Finding	Recommendations
rehabilitation, shall be taken at selected fixed points and kept on record for the information of the Regional Manager.			
F2.4 VEHICLE MAINTENANCE YARD AND SECURED STORAGE AREAS			
F2.4.1 Establishing the vehicle maintenance yard and secured storage areas			
a) The vehicle maintenance yard and secured storage area will be established as far as is practical, outside the flood plain, above the 1 in 50 flood level mark within the boundaries of the mining/prospecting area.	N/A	South32 reported that an onsite vehicle maintenance yard or storage areas were not required. Equipment used during drilling were located at the drill site for the duration of the drilling only.	None.
b) The area chosen for these purposes shall be the minimum reasonably required and involve the least disturbance to tree and plant life. Topsoil shall be handled as described in F2.1 above.	N/A	Commitment F2.4.1(a) refers.	None.
c) The storage area shall be securely fenced and all hazardous substances and stocks such as diesel, oils, detergents etc. shall be stored therein. Drip pans, a thin concrete slab or a facility with PVC lining, shall be installed in such storage areas with a view to prevent soil and water pollution.	N/A	Commitment F2.4.1(a) refers. Storage occurred offsite.	None.
d) The location of both the vehicle maintenance yard and the storage areas are to be indicated on the layout plan.	N/A	Commitment F2.4.1(a) refers.	None.
e) No vehicle may be extensively repaired in any place other than in the maintenance yard.	N/A	Commitment F2.4.1(a) refers.	None.
F2.4.2 Maintenance of vehicles and equipment			

	Condition	Comp	Finding	Recommendations
a)	The maintenance of vehicles and equipment used for any purpose during the mining/prospecting operation will take place only in the maintenance yard area.	N/A	Commitment F2.4.1(a) refers. Vehicle maintenance was undertaken off site.	None.
b)	Equipment used in the mining/prospecting area must be adequately maintained so that during operations it does not spill oil, diesel, fuel or hydraulic fluid.	C	<p>The contractor reported that the vehicles and drilling equipment were well maintained and were not the source of pollution. Daily inspection sheets were completed and verified by the auditor:</p> <ul style="list-style-type: none"> • Zaiman Exploration Drilling (Pty) Ltd SHE Officer Inspection Report, inspection date 08/03/2017; • Zaiman Exploration Drilling (Pty) Ltd SHE Rep Inspection Report for Drill Sites, inspection date 20/03/2017; and • Zaiman Exploration Drilling (Pty) Ltd Manager's Inspection Report, inspection date 20/03/2017; and • Zaiman Exploration Drilling (Pty) Ltd Supervisor of Foreman's Inspection Report, inspection date 13/03/2017. Vehicle service records were available for verification. 	None.
c)	Machinery or equipment used on the mining/prospecting area must not constitute a pollution hazard in respect of the above substances. The Regional Manager shall order such equipment to be repaired or withdrawn from use if he/she	C	Commitment F2.4.2 (b) refers. The Regional Manager did not issue such instruction.	None.

Condition	Comp	Finding	Recommendations
considers the equipment or machinery to be polluting and irreparable.			
F2.4.3 Waste Disposal			
<p>a) Suitable, covered receptacle shall be available at all times and conveniently placed for the disposal of waste.</p>	C	<p>South32 reported that waste during the prospecting operation was collected in three categories, i.e. hazardous waste, domestic/general waste, and steel. The drilling activities had ceased at the time of the site assessment and no camp site was required. As such no waste receptacles were verified. However, South32 reported that coloured bins, provided by The Waste Group were placed at each drill site and cleaned up as/when necessary basis (The Waste Group's delivery notes dated 07/04/2017 for General Waste service and 27/02/17 for Hazardous waste service).</p>	None.
<p>b) All used oils, grease or hydraulic fluids shall be placed therein and these receptacles will be removed from the site on regular basis for disposal at a registered or licensed disposal facility.</p>	C	<p>The hazardous waste was collected and was transported to the contractors Witbank workshop for temporary storage prior to disposal. South32 reported that waste was handled in accordance to the Zaيمان Exploration Drilling (Pty) Ltd – Waste Management Plan Document no. ZED/SHE/Plan/0010 dated 27 October 2015. The Waste Group's delivery notes dated 07/04/2017 for General Waste service and 27/02/17 for Hazardous waste service were perused.</p>	None.

Condition	Comp	Finding	Recommendations
c)	All spills should be cleaned up immediately to the satisfaction of the Regional Manager by removing the spillage together with the polluted soil and by disposing of them at a recognised facility.	<p style="text-align: center; background-color: green; color: white; font-weight: bold;">C</p> <p>The contractor reported that no spills or environmental pollution causing incidents occurred during drilling activities on site.</p> <p>The contractor further reported that should such occur the spills would be managed per the SOP – Emergency Preparedness and Response for Exploration and Directional Drilling Sites available onsite.</p>	None.
F2.4.4 Rehabilitation of vehicle maintenance yard and secured storage areas			
a)	On completion of mining/prospecting operations, the above areas shall be cleared of any contaminated soil, which must be dumped as referred to in section F2.4.3 above.	<p style="text-align: center; background-color: #e0e0e0; font-weight: bold;">N/A</p> <p>The contractor reported that as the drilling was a day time operation only, no machinery or equipment was stored on site. Drill rigs that were setup for drilling remained overnight for the duration of drilling only. Vehicle, equipment or machine maintenance was completed off site.</p> <p>The prospecting right is valid until 19 May 2018 and although prospecting activities for this reporting period have ceased and drilling sites decommissioned and rehabilitated. Rehabilitation by the contractor has occurred in accordance with the contractors Standard Operating Procedure – Site Rehabilitation Document no. ZED/OPS/SOP/0032 (dated 08 June 2016) Section 5 – 6 viz. the sumps, removal of equipment and fences, sealing of boreholes.</p>	None.

Condition	Comp	Finding	Recommendations
b) All buildings, structures or objects on the vehicle maintenance yard and secured storage areas shall be dealt with in accordance with Section 44 of the MPRDA.	N/A	Commitment F 2.4.4(a) refers.	None.
c) The surface area shall then be ripped or ploughed to a depth of at least 300mm and the topsoil previously stored adjacent the site, shall be spread evenly to its original depth over the whole area. The area shall then be fertilised if necessary (based on a soil analysis).	N/A	Commitment F 2.4.4(a) refers.	None.
d) The site shall be seeded with a vegetation seed mix adapted to reflect the local indigenous flora.	N/A	Commitment F 2.4.4(a) refers.	None.
e) If a reasonable assessment indicates that the re-establishment of vegetation is unacceptably slow, the Regional Manager may require that the soil be analysed and any deleterious effects on the soil arising from the mining/prospecting operation, be corrected and the area be seeded with a seed mix to the Regional Manager's specification.	N/A	Commitment F 2.4.4(a) refers.	None.
F3 OPERATING PROCEDURES IN THE MINING AREA			
F3.1 Limitation on mining/prospecting			
a) The mining of or prospecting for precious stoned shall take place only within the approved demarcated mining or prospecting area.	C	<i>It is noted that precious stone referred to herein is erroneous as the prospecting right is for Coal.</i> Drilling sites were located within the demarcated area, and the auditor did not observe evidence of drilling activities having occurred outside these demarcated areas (Appendix B, Figures 1 - 17).	None.

Condition	Comp	Finding	Recommendations
b) Mining/prospecting may be limited to the areas indicated by the Regional Manager on assessment of the application.	C	The prospecting right area was limited to the areas as proposed in the application subsequently approved by the DMR, as were related activities (Appendix B, Figures 1 - 17).	None.
c) The holder of the mining permit / prospecting right shall ensure that operations take place only in the demarcated areas as described in section F1.1.2 above.	C	Commitment 3.1(a) refers.	None.
d) Operations will not be conducted closer than one and a half times the height of the bank from the edge of the river channel and in such a manner that the stability of the bank of the river is affected.	N/A	The auditor confirmed that there is no watercourse near the drilling sites, nor is it located within a wetland, pan, and/or flood line (Appendix B, Figures 1 - 17).	None.
e) Precautions shall also be taken to ensure that the bank of the river is adequately protected from scouring or erosion. Damage to the bank of the river caused by the operations, shall be rehabilitated to condition acceptable to the Regional Manager at the expense of the holder.	N/A	Commitment 3.1 (d) refers.	None.
f) Restrictions on the disturbance of the riverine vegetation in the form of reeds or wetland vegetation must be adhered to. The presence of these areas must be entered in Part of the programme and indicated on the layout plan.	N/A	Commitment 3.1 (d) refers.	None.
F3.2 Mining/Prospecting operations within the riverine environment			
a) The mining of or prospecting for precious stones in the river or the banks of the river will be undertaken only after the Regional Manager has consulted with the DWA (now DWS).	N/A	Commitment F3.2(a) refers. The prospecting area and activities do not occur within a river/riverine area.	None.

Condition	Comp	Finding	Recommendations
<p>b) The canalisation of the river will not be undertaken unless the necessary permission has been obtained from the DWS. Over and above the conditions imposed by the said DWS, which conditions shall form part of this EMPlan, the following shall also apply:</p> <ul style="list-style-type: none"> ❖ The canalisation of the flow of the river over different parts of the river bed shall be constructed in such a manner that the following are adhered to at all times: <ul style="list-style-type: none"> ◆ The flow of the river may not be impeded in any way and damming upstream may not occur. ◆ The canalisation of the flow may not result in scouring or erosion of the river-bank. ◆ Well points or extraction pumps in use by other riparian users may not be interfered with and canalisation may not impede the extraction of water at these points. 	N/A	Commitment F3.2(a) refers. The prospecting area and activities do not occur within a river/riverine area.	None.
<p>c) Access to the riverbed for the purpose of conducting excavations in the riverbed, shall be through the use of only one access at a time. The location of the access to the river channel across the river bank shall be at a point of the river bank where the least excavation and damage to vegetation will occur and shall not be wider than is reasonably required. The position of the river access together with all planned future access points, must be indicated on the layout plan.</p>	N/A	Commitment F3.2(a) refers. The prospecting area and activities do not occur within a river/riverine area.	None.
F3.2.1 Rehabilitation of access to river bed			
<p>a) When rehabilitating the access point, the original profile of the river bank will be re-established by backfilling the</p>	N/A	Commitment F3.2(a) refers. The prospecting area and activities do not occur within a river/riverine area.	None.

	Condition	Comp	Finding	Recommendations
	access point with the original material excavated or other suitable material.			
b)	The topsoil shall then be returned over the whole area to its original depth and if necessary fertilised and the vegetation allowed to grow.	N/A	Commitment F3.2(a) refers. The prospecting area and activities do not occur within a river/riverine area.	None.
c)	If a reasonable assessment indicates that the re-establishment of vegetation is unacceptably slow, the Regional Manager may require that the soil be analysed and any deleterious effects on the soil arising from the mining/prospecting operation, be corrected and the area be seeded with a seed mix to the Regional Manager's specification.	N/A	Commitment F3.2(a) refers. The prospecting area and activities do not occur within a river/riverine area.	None.
d)	In the event of damage from an occurrence where high flood waters scour and erode access points in the process of rehabilitation over the river bank or an access point currently in use, repair of such damage shall be the sole responsibility of the holder of the mining permit or prospecting right.	N/A	Commitment F3.2(a) refers. The prospecting area and activities do not occur within a river/riverine area.	None.
e)	Repair to the river bank to reinstate its original profile to the satisfaction of the Regional Manager must take place immediately after such event has occurred and the river has subsided to a point where repairs can be undertaken.	N/A	Commitment F3.2(a) refers. The prospecting area and activities do not occur within a river/riverine area.	None.
f)	Final acceptance of rehabilitated river access points will be awarded only after the vegetation has re-established to a point where the Regional Manager is satisfied that the river	N/A	Commitment F3.2(a) refers. The prospecting area and activities do not occur within a river/riverine area.	None.

Condition	Comp	Finding	Recommendations
bank is stable and that the measures installed are of durable nature and able to withstand high river flow conditions.			
F3.2.2 Rehabilitation of mining/prospecting areas in the bed of the river			
a) The goal of the rehabilitation with respect to the area where mining/prospecting has taken place in the river bed is to leave the area level and even, and in a natural state containing no foreign debris or other materials and to ensure the hydrological integrity of the river by not attenuating or diverting any of the natural flow.	N/A	Commitment F3.2(a) refers. The prospecting area and activities do not occur within a river/riverine area.	None.
b) All scrap and other foreign materials will be removed from the bed of the river and disposed of as in the case of other refuse (see section F2.3.2 above), whether these accrue directly from the mining/prospecting operation or are washed on to the site from upstream.	N/A	Commitment F3.2(a) refers. The prospecting area and activities do not occur within a river/riverine area.	None.
c) Removal of these materials shall be done on a continuous basis and not only at the start of rehabilitation.	N/A	Commitment F3.2(a) refers. The prospecting area and activities do not occur within a river/riverine area.	None.
d) Where reeds or other riverine vegetation have been removed from the areas, these shall be re-established systematically in the approximate areas where they occurred before mining/prospecting.	N/A	Commitment F3.2(a) refers. The prospecting area and activities do not occur within a river/riverine area.	None.
e) An effective control programme for the eradication of invader species and other plants exotic plants, shall be instituted on a regular basis over the entire mining/prospecting area under the control of the holder of	N/A	Commitment F3.2(a) refers. The prospecting area and activities do not occur within a river/riverine area.	None.

Condition	Comp	Finding	Recommendations
the mining permit/prospecting right, both during mining/prospecting and at the stage of final rehabilitation.			
F.3.2.3 Water Use Licences			
<p>The National Water Act, (Act 36 of 1998), is based on the principles of sustainability, efficiency and equity, meaning that the protection of water resources must be balanced with their development and use.</p> <p>In addition to being issued with a prospecting right or mining permit a small-scale miner may also need to get a water use licence for the proposed water uses that will take place, except in certain cases.</p> <p><i>NOTE: The Department of Water Affairs and Forestry (DWAF) developed specific Best Practice Guideline for small scale mining that relates to storm water management, erosion and sediment control and waste management. Copies of these guidelines can be obtained from the regional office of DME or DWAF.</i></p> <p><u>Applications for a water use licence must be made in good time, such that approval can be granted before a water use activity can begin. The appropriate licence forms for each kind of expected water use should be completed together with supporting documentation. The main supporting document required is a technical report. To make the technical report easier, you can refer to sections in this EMPLan, as from 1/1/2019 the technical report requires has already been done in the EMPLan. If you refer to the EMPLan it must be attached to the technical report.</u></p>	N/A	The prospecting activities did not require a Water Use License.	None.
F3.3 EXCAVATIONS			
F3.3.1 Establishing the excavation area			
a) Wherever any excavation is undertaken for the purpose of locating and/or extracting ore bodies of all types of minerals, including precious stone bearing gravels, the following operating procedures shall be adhered to:	N/A	South32 reported that no excavations were undertaken as part of the prospecting activities; only test borehole drilling (using diamond drilling rigs) was undertaken.	None.

	Condition	Comp	Finding	Recommendations
	<ul style="list-style-type: none"> • Topsoil shall, in all cases (except when excavations are made in the river-bed), be handled as described in F 2.1 above. • Excavations shall take place only within the approved demarcated mining/prospecting area. • Overburden rocks and coarse material shall be placed concurrently in the excavations or stored adjacent to the excavation, if practicable, to be used as backfill material once the ore or gravel has been excavated. • Trenches shall be backfilled immediately if no ore or precious stone-bearing gravel can be located. 		<p><i>All boreholes were full core diamond holes drilled for geotechnical data on strata where the initial proposed shaft position was.</i></p>	
F3.3.2 Rehabilitation of excavation areas				
a)	<p>The following operating procedures shall be adhered to:</p> <ul style="list-style-type: none"> • The excavated area must serve as a final depositing area for the placement of tailings during processing. • Rocks and coarse material removed from the excavation must be dumped into the excavation simultaneously with the tailings. • Waste, as described in paragraph F 2.3.2 above, will not be permitted to be deposited in the excavations. • Once excavations have been refilled with overburden, rocks and coarse natural materials 	N/A	<p>Commitment F3.3.1(a) refers. No excavations were required for prospecting activities.</p>	<p>None.</p>

	Condition	Comp	Finding	Recommendations
	<p>and profiled with acceptable contours and erosion control measures, the topsoil previously stored, shall be returned to its original depth over the area.</p> <ul style="list-style-type: none"> • The area shall be fertilised if necessary to allow vegetation to establish rapidly. The site shall be seeded with a local or adapted indigenous seed mix in order to propagate the locally or regionally occurring flora. • If a reasonable assessment indicates that the re-establishment of vegetation is unacceptably slow, the Regional Manager may require that the soil be analysed and any deleterious effects on the soil arising from the mining/ prospecting operation, be corrected and the area be seeded with a vegetation seed mix to his or her specification. 			
F3.4 PROCESSING AREAS AND WASTE PILES (DUMPS)				
F3.4.1 Establishing processing areas and waste piles				
a)	Processing areas and waste piles shall not be established within 100 metres of the edge of any river channel or other water bodies.	N/A	The prospecting and drilling activities do/did not occur within a watercourse.	None.
b)	Processing areas should be established, as far as practicable, near the edge of excavations to allow the waste, gravel and coarse material to be processed therein.	N/A	The prospecting and drilling activities do/did not occur within a watercourse.	None.

Condition	Comp	Finding	Recommendations
c)	The areas chosen for this purpose shall be the minimum reasonably required and involve the least disturbance to vegetation.	The auditor observed the core storage areas to be the minimum possible (Appendix B, Figures 1 – 17). Rehabilitation by the contractor has occurred in accordance with the contractors Standard Operating Procedure – Site Rehabilitation Document no. ZED/OPS/SOP/0032 (dated 08 June 2016) Section 5 – 6 viz. the sumps, removal of equipment and fences, sealing of boreholes.	None.
d)	Prior to development of these areas, the topsoil shall be removed and stored as described in paragraph F 2.1 above.	Topsoil removal was not required for the drilling activities, and processing was completed off site. The waste runoff was contained in a small, lined sump. The sump was developed by removing topsoil to one side and subsoil to the other (thus creating a depression surrounded by a minimum 30cm earth wall) before being overlaid with a PVC liner. The closing of the sump was undertaken as per the contractors Standard Operating Procedure – Site Rehabilitation Document no. ZED/OPS/SOP/0032 (dated 08 June 2016) Section 5.1.	None.
e)	The location and dimensions of the areas are to be indicated on the layout plan and once established, the processing of ore containing precious stones shall be confined to these areas and no stockpiling or processing will be permitted on areas not correctly prepared.	Processing of cores or coal seam samples was completed off site. Core samples obtained were stored temporarily during daily drilling before being removed for offsite analysis.	None.

	Condition	Comp	Finding	Recommendations
f)	Tailings from the extraction process must be so treated and/or deposited that it will in no way prevent or delay the rehabilitation process.	N/A	No tailings occurred on site (due to the nature of the drilling completed).	None.
F3.4.2 Rehabilitation of processing areas				
a)	Coarse natural material used for the construction of ramps must be removed and dumped into the excavations.	N/A	Commitment F3.3.1(a) refers. No excavations were required for prospecting activities. Processing of cores or coal seam samples was completed off site. Core samples obtained were stored temporarily during daily drilling before being removed for offsite analysis.	None.
b)	On completion of mining/prospecting operations, the surface of the processing areas especially if compacted due to hauling and dumping operations, shall be scarified to a depth of at least 300mm and graded to an even surface condition and the previously stored topsoil will be returned to its original depth over the area.	N/A	Commitment F3.4.2(a) refers. <i>Note: The prospecting activities comprised Drilling Boreholes using Diamond Drill Rigs. Additional infrastructure (e.g. camp site, offices, storage areas, ablutions, processing plants etc.) was not necessary and thus compaction was unlikely.</i>	None.
c)	Prior to replacing the topsoil, the material that was removed from the prospecting area will be replaced in the same order as it originally occurred.	N/A	Commitment F3.4.2(a) refers.	None.
d)	The area shall then be fertilised if necessary to allow vegetation to establish rapidly. The site shall be seeded with a local, adapted indigenous seed mix.	N/A	Commitment F3.4.2(a) refers.	None.
e)	If a reasonable assessment indicates that the re-establishment of vegetation is unacceptably slow, the Regional Manager may require that the soil be analysed	N/A	Commitment F3.4.2(a) refers.	None.

	Condition	Comp	Finding	Recommendations
	and any deleterious effects on the soil arising from the mining/prospecting operation be corrected and the area be seeded with a seed mix to his or her specification.			
F3.5 TAILINGS DAM(S) (SLIMES DAM)				
a)	The permission of the Regional Manager must be obtained should a tailings dam be constructed for the purpose of handling the tailings of the mining/prospecting operations. The construction, care and maintenance of tailings dams have been regulated as regulation 73, section 56 of the MPRDA. (Appendix I)	N/A	A tailings dam was not required for purposes of the prospecting operations.	None.
F3.6 FINAL REHABILITATION				
a)	All infrastructure, equipment, plant, temporary housing and other items used during the mining period will be removed from the site (section 44 of the MPRDA).	N/A	The auditor did not observe any infrastructure, equipment, plant, temporary housing and items that were used during the mining period during the site assessment. It should also be noted that the prospecting right is valid until 19 May 2018, and the prospecting activities for this reporting period have ceased and drilling sites decommissioned and rehabilitated.	None.
b)	Waste material of any description, including receptacles, scrap, rubble and tyres, will be removed entirely from the mining area and disposed of at a recognised landfill facility. It will not be permitted to be buried or burned on the site.	N/A	Commitment F3.6 (a) refers.	None.
c)	Final rehabilitation shall be completed within a period specified by the Regional Manager.	N/A	Commitment F3.6 (a) refers.	None.

	Condition	Comp	Finding	Recommendations
	F4 MONITORING AND REPORTING			
	F4.1 Inspections and monitoring			
a)	Regular monitoring of all the environmental management measures and components shall be carried out by the holder of the prospecting right, mining permit or reconnaissance permission in order to ensure that the provisions of this programme are adhered to.	C	<p>The contractor reported that site inspections regarding drilling activities, environmental aspects as well as Health and Hygiene were completed by the SHE Officer, the site manager as well as the site supervisor. The following inspection reports were verified by the auditor:</p> <ul style="list-style-type: none"> • Zaaiman Exploration Drilling (Pty) Ltd SHE Officer Inspection Report, inspection date 08/03/2017; • Zaaiman Exploration Drilling (Pty) Ltd SHE Rep Inspection Report for Drill Sites, inspection date 20/03/2017; and • Zaaiman Exploration Drilling (Pty) Ltd Manager's Inspection Report, inspection date 20/03/2017; and • Zaaiman Exploration Drilling (Pty) Ltd Supervisor of Foreman's Inspection Report, inspection date 13/03/2017. <p>NTC Group (Pty) Ltd was appointed as the independent EAP to undertake the 2016-2017 EA Compliance Assessment. This report provides evidence thereof.</p>	None.

	Condition	Comp	Finding	Recommendations
			Similarly, proof of the 2015-2016 Compliance Assessment Report was verified by the auditor (dated April 2016), as well as proof of submission to the DMR (stamped by the DMR dated 20 May 2016).	
b)	Ongoing and regular reporting of the progress of implementation of this programme will be done.	C	Commitment F4.1 (a) refers.	None.
c)	Various points of compliance will be identified with regard to the various impacts that the operations will have on the environment.	C	Commitment F4.1 (a) refers.	None.
d)	Inspections and monitoring shall be carried out on both the implementation of the programme and the impact on plant and animal life.	PC	<p>The contractor reported that site inspections regarding drilling activities, environmental aspects as well as Health and Hygiene were completed by the SHE Officer, the site manager as well as the site supervisor. The following inspection reports were verified by the auditor:</p> <ul style="list-style-type: none"> • Zaiman Exploration Drilling (Pty) Ltd SHE Officer Inspection Report, inspection date 08/03/2017; • Zaiman Exploration Drilling (Pty) Ltd SHE Rep Inspection Report for Drill Sites, inspection date 20/03/2017; and • Zaiman Exploration Drilling (Pty) Ltd Manager's Inspection Report, inspection date 20/03/2017; and 	<p>Inspections / Monitoring should include environmental aspects as required by the EMPR.</p> <p>Timeframe: Medium Term</p>

Condition	Comp	Finding	Recommendations
		<ul style="list-style-type: none"> Zaaiman Exploration Drilling (Pty) Ltd Supervisor of Foreman's Inspection Report, inspection date 13/03/2017. <p>However, inspection or monitoring of plant and animal life specifically, was not included in the inspections.</p>	
e)	Visual inspection on erosion and physical pollution shall be carried out on a regular basis.	<p>The contractor reported that site inspections regarding drilling activities, environmental aspects as well as Health and Hygiene were completed by the SHE Officer, the site manager as well as the site supervisor. The following inspection reports were verified by the auditor:</p> <ul style="list-style-type: none"> Zaaiman Exploration Drilling (Pty) Ltd SHE Officer Inspection Report, inspection date 08/03/2017; Zaaiman Exploration Drilling (Pty) Ltd SHE Rep Inspection Report for Drill Sites, inspection date 20/03/2017; and Zaaiman Exploration Drilling (Pty) Ltd Manager's Inspection Report, inspection date 20/03/2017; and Zaaiman Exploration Drilling (Pty) Ltd Supervisor of Foreman's Inspection Report, inspection date 13/03/2017. 	None.

	Condition	Comp	Finding	Recommendations
f)	Regulation 55 promulgated in terms of the MPRDA. (Appendix II)	C	NEMA Regulation 34 is applicable. Commitment F4.1(a) refers.	None.
F4.2 Compliance reporting/ submission of information				
a)	Layout plans will be updated on a regular basis and updated copies will be submitted on a biennial basis to the Regional Manager.	C	Condition F1.1(a) refers. South32 reported that the updated layout plans are submitted to the Regional Manager annually as part of the Progress Report required for compliance with Regulation 8 of the Mineral and Petroleum Resources Development Act (MPRDA) and the last submission was made on the 20 th May 2016. The <i>Progress Report by South32 SA Coal Holdings (PTY) Limited previously known as BHP Billiton Energy Coal South Africa (Pty) Limited in respect of prospecting in compliance with Regulation 8 of the Mineral and Petroleum Resources Development Act, Number 28 of 2002 in respect of the period 20th May 2015 to 19th May 2016</i> , together with the Appendices (Appendix A: Layout Plan; Appendix B: Borehole Logs and analysis for phase 1 prospecting and Appendix C: Borehole drilling site photographs and Sealing Certificates) as well as the Letter of submission were perused by the auditor.	None.
b)	Reports confirming compliance with various points identified in the environmental management programme	C	Proof of the 2015-2016 Compliance Assessment Report was verified by the auditor (dated April 2016),	None.

	Condition	Comp	Finding	Recommendations
	will be submitted to the Regional Manager on a regular basis and as decided by the said manager.		as well as proof of submission to the DMR (stamped by the DMR dated 20 May 2016).	
c)	Any emergency or unforeseen impact will be reported as soon as possible.	C	<p>The contractor reported that no emergency or unforeseen impact occurred during drilling activities on site.</p> <p>The contractor further reported that should such occur the contractors SOP: Emergency Preparedness and Response for Exploration and Directional Drilling Sites Document no. ZED/SHE/SOP/0008 dated 06 September 2016 and SOP: Incident and Accident Reporting and Investigation Document no. ZED/SHE/SOP/0002 dated 09 September 2016 will be implemented accordingly.</p>	None
d)	An assessment of environmental impacts that were not properly addressed or were unknown when the programme was compiled shall be carried out and added as a corrective action.	N/A	Additional environmental impacts were not identified during drilling activities.	None.
F5 CLOSURE				
a)	When the holder of the prospecting right, mining permit or reconnaissance permission intends closing down his/her operations, an environmental risk report shall accompany the application for closure. The requirements of such a risk report is contained in regulation 60 of the Regulations promulgated in terms of the Act. (Appendix III)	N/A	The prospecting right is valid until 19 May 2018. South32 reported that the next phase of drilling will occur in 2018 and only then will a decision be made as to whether they will apply for closure or a mining right application. It should be noted that prospecting	If closure is necessary, the environmental risk report and closure plan must comply with the requirements of the EMPR and relevant legislation.

	Condition	Comp	Finding	Recommendations
			activities for this reporting period have ceased and drilling sites decommissioned and rehabilitated.	
F5.1 Environmental Risk report				
a)	Regulation 60 of the MPRDA quoted. (Appendix III)	N/A	Commitment F5(a) refers.	Commitment F5(a) refers.
F5.2 Closure Objectives				
a)	<p>Closure objectives form part of this EMPlan and must:</p> <ul style="list-style-type: none"> a) Identify the key objectives for mine closure to guide the project design, development and management of environmental objectives; b) Provide broad future land use objective(s) for the site; and c) Provide proposed closure cost. 	N/A	<p>The prospecting right is valid until 19 May 2018. South32 reported that the next phase of drilling will occur in 2018 and only then will a decision be made as to whether they will apply for closure or a mining right application. It should be noted that prospecting activities for this reporting period have ceased and drilling sites decommissioned and rehabilitated.</p>	<p>If closure is necessary, the environmental risk report and closure plan must comply with the requirements of the EMPR and relevant legislation.</p>
F5.2 Contents of closure plan				
a)	<p>A closure plan forms part of the EMP and must include the following:</p> <ul style="list-style-type: none"> a) A description of the closure objective and how these relate to the prospecting or mine operation and its environmental and social setting; b) A plan contemplated in Regulation 2(2), coordinated according to generally accepted standards, showing the land or area under closure; c) A summary of the regulatory requirements and conditions for closure negotiated and documented in the environmental management programme or plan; 	N/A	<p>The prospecting right is valid until 19 May 2018. South32 reported that the next phase of drilling will occur in 2018 and only then will a decision be made as to whether they will apply for closure or a mining right application. It should be noted that prospecting activities for this reporting period have ceased and drilling sites decommissioned and rehabilitated.</p>	<p>If closure is necessary, the environmental risk report and closure plan must comply with the requirements of the EMPR and relevant legislation.</p>

	Condition	Comp	Finding	Recommendations
	<ul style="list-style-type: none"> d) A summary of the results of the environmental risk report and details of identified residual and latent impacts; e) A summary of the results of progressive rehabilitation undertaken; f) A description of the methods to decommission each prospecting or mining component and the mitigation or management strategy proposed to avoid, minimise and manage residual or latent impacts; g) Details of any long-term management and maintenance expected; h) Details of financial provision for monitoring, maintenance and post closure management, if required; i) A plan or sketch at an appropriate scale describing the final land use proposal and arrangements for the site; j) A record of interested and affected persons consulted; and k) Technical appendices, if any, 			
F5.4 Transfer of Environmental Liabilities to a Competent Person				
a)	Should the holder of the prospecting right, mining permit or reconnaissance permission wish to transfer any	N/A	South32 reported that transfer of any environmental liabilities and responsibilities to another person or persons was not undertaken.	None.

Condition	Comp Finding	Recommendations
<p>environmental liabilities and responsibilities to another person or persons, the following will pertain:</p> <ol style="list-style-type: none"> 1. An application to transfer environmental liabilities to a competent person in terms of section 48 of the Act, must be completed on Form O as set out in Annexure 1 to the Regulations and be lodged to the Minister for consideration. 2. The holder of a prospecting right, mining permit may transfer liabilities and responsibilities as identified in the environmental management plan and the required closure plan to a competent person as contemplated in Regulation 58. 3. When considering the transfer of environmental liabilities and responsibilities in terms of section 48 of the Act, the Minister must consult with any State department which administers any law relating to matters affecting the environment. 4. No transfer of environmental liabilities and responsibilities to a competent person may be made unless the Chief Inspector of Mines and the Department of Water Affairs and Forestry have confirmed in writing that the person whom the liabilities and responsibilities is transferred to, have the necessary qualifications pertaining to health and safety and management of potential pollution of water resources. 		

	Condition	Comp	Finding	Recommendations
	F5.5 Notes on legal provisions			
a)	<p>The holder of the prospecting right, mining permit or reconnaissance permission must also take cognisance of the provisions of other legislation dealing with matters relating to conservation, and which include, <i>inter alia</i>, the following:</p> <ul style="list-style-type: none"> * National Monuments Act, 1969 (Act 28 of 1969). * National Parks Act, 1976 (Act 57 of 1976) * Environmental Conservation Act, 1989 (Act 73 of 1989) * National Environmental Management Act, 1998 (Act No. 107 of 1998) * Atmospheric Pollution Prevention Act, 1965 (Act 45 of 1965) * The National Water Act, 1998 (Act 36 of 1998) * Mine Safety and Health Act, 1996 (Act 29 of 1996) * The Conservation of Agricultural Resources Act, 1983 (Act 43 of 1983). 	PC	<p>South32 reported that environmental legal audits are completed on the company but that the prospecting right areas are not included therein.</p>	<p>South32 must ensure that the prospecting right areas are compliant with relevant legislated provisions where applicable.</p> <p>Timeframe: Long Term</p>

5. Conclusion

The auditors noted that the prospecting activities, namely drilling of test boreholes for this reporting period ceased on 22 March 2017 and drilling sites were decommissioned and rehabilitated. South32 reported that the next phase of drilling will occur in 2018. The above were considerations during the compliance assessment and notes in this regard were included in the audit findings where relevant. Note that the “Not Applicable” findings do not imply that the EMP is not sufficient in addressing or mitigating the impact but means activities not covered during this reporting phase.

The trend analysis results for the May 2016 – May 2017 EA Compliance Assessment are presented graphically in **Error! Reference source not found.**

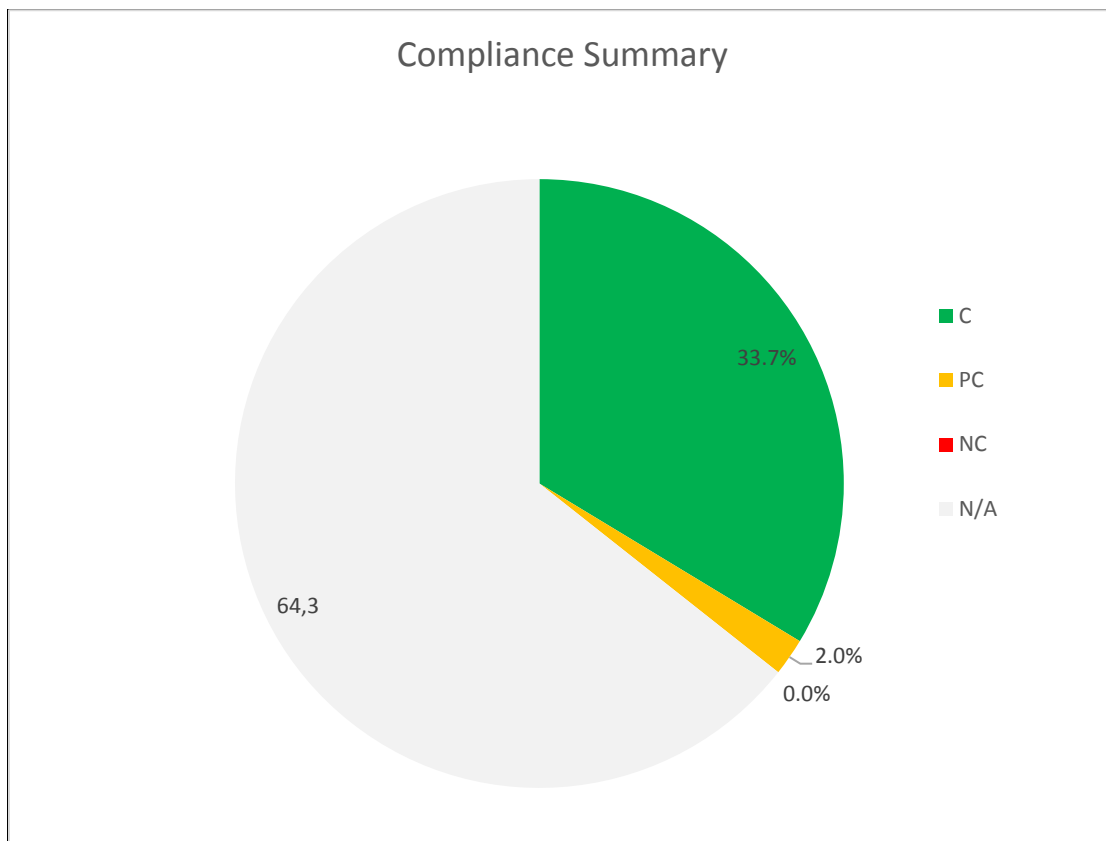


Figure 3: Summary of EA Percentage Compliance (Incl. N/A)

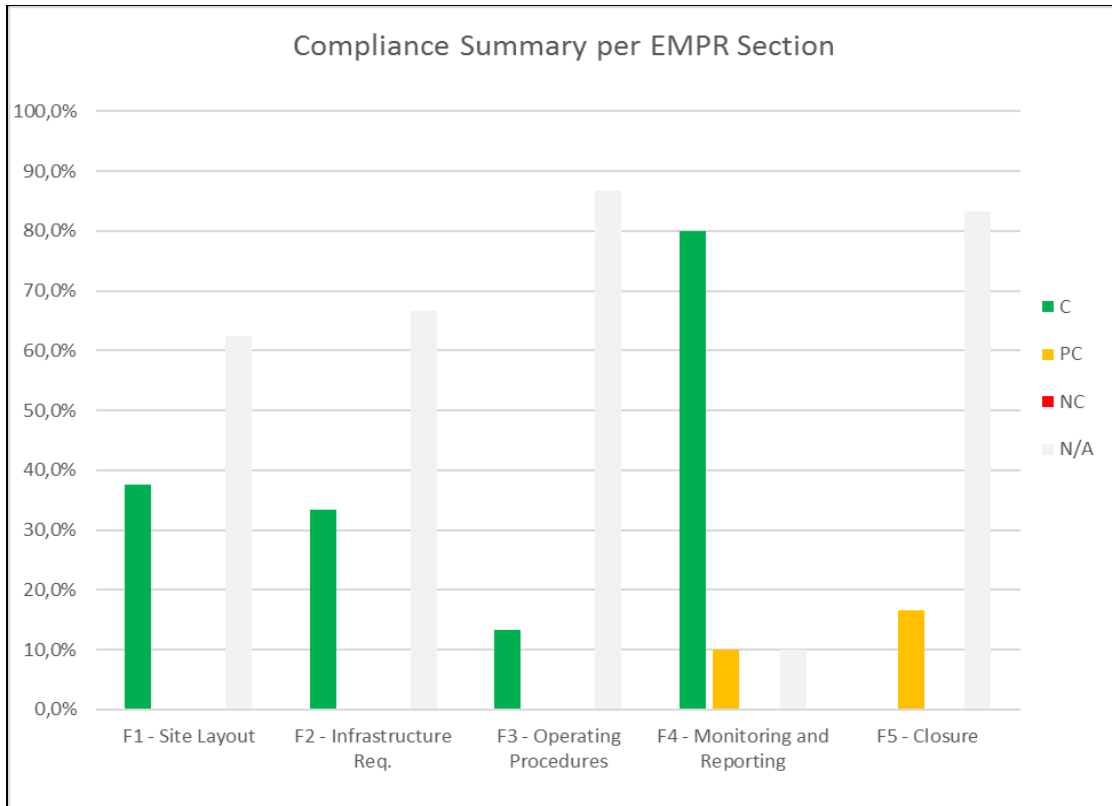


Figure 4: Summary of Percentage Compliance per Condition F1 – F5 (incl. N/A)

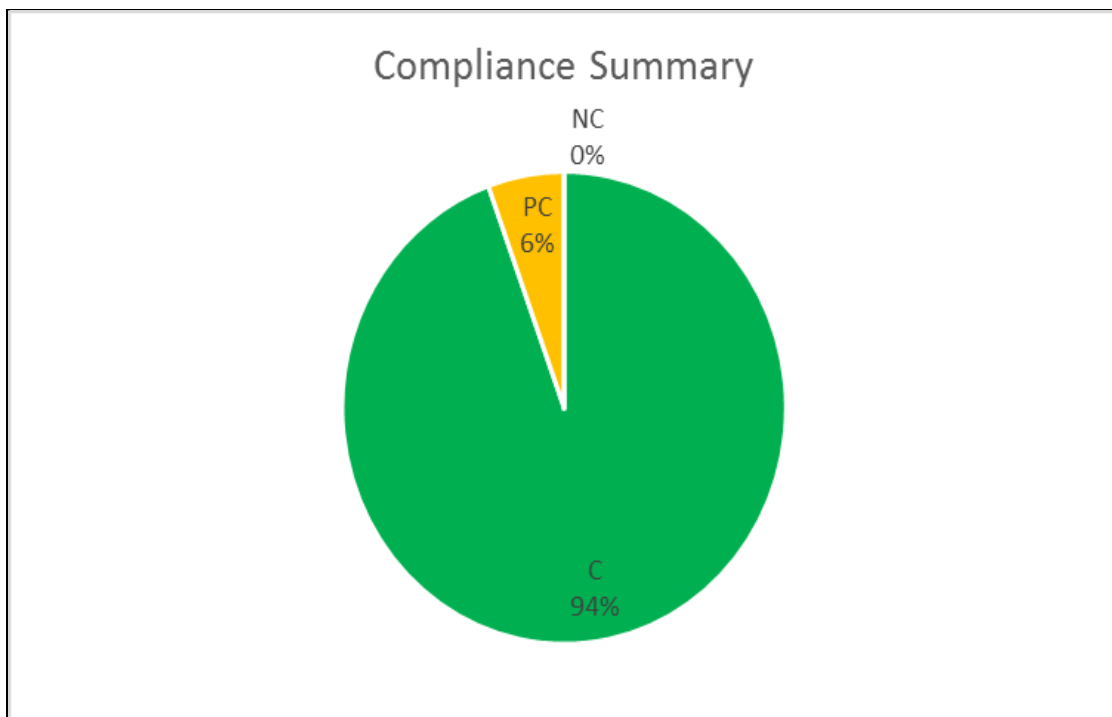


Figure 5: Summary of EA Percentage Compliance (excl. N/A)

Following from the above, and Section 4.2 noting identified areas for improvement, the following recommendations may facilitate future compliance with EMPR commitments and improve on site environmental management:

- **Inspection and Monitoring:**

Regular inspection and reporting on the level of compliance with the EA during prospecting activities was undertaken by appointed site personnel. However the inclusion of monitoring of flora and fauna specifically was not. These aspects should be added to the regular inspections, and will also facilitate improved site management on a daily basis and prevent unwanted impacts arising.

- **Legal Compliance:**

South32 must ensure that all prospecting right areas are compliant with relevant legislated provisions where applicable. This can be completed by including prospecting areas into current auditing or monitoring events.

APPENDIX A – CURRICULA VITAE

APPENDIX– A DECLARATION OF INDEPENDENCE

The Environmental Assessment Practitioner General declaration:

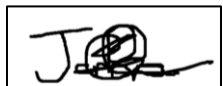
I, Janna Bedford-Owen, declare that –

- I act as the independent environmental practitioner in this Audit;
- I will perform the work relating to the audit in an objective manner, even if this results in views and findings that are not favourable to the auditee;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting environmental compliance audits, including knowledge of the Act, regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, Regulations and all other applicable legislation;
- I have not and will not engage in, conflicting interests in the undertaking of the activity;
- I will provide the competent authority with access to all information at my disposal regarding the audit, whether such information is favourable to the auditee or not; will perform all other obligations as expected from an environmental assessment practitioner in terms of the Regulations; and
- I realise that a false declaration is an offence in terms of regulation 48 and is punishable in terms of section **24F of the Act**.

Disclosure of Vested Interest (delete whichever is not applicable)

I do not have and will not have any vested interest (either business, financial, personal or other) in the activity other than remuneration for work performed in terms of the Environmental Impact Assessment Regulations, 2014;

Signature



Company: NTC Group (Pty) Ltd

Date: 20 April 2017

APPENDIX B – PHOTOGRAPHIC EVIDENCE