

# REPORT

## **Annual Environmental Audit Report for the Carbon Separation Plant at the ArcelorMittal Vanderbijlpark Works**

### Audit Report

Client: ArcelorMittal  
Reference: MD4532-RHD-ZZ  
Status: Final/P01.01  
Date: 30 June 2020



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Document title: Annual Environmental Audit Report for the Carbon Separation Plant at the  
ArcelorMittal Vanderbijlpark Works  
Document short title: CSP  
Reference: MD4532-RHD-ZZ  
Status: P01.01/Final  
Date: 30 June 2020  
Project name: MD4532-106-100  
Project number: MD4532-106-100  
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Classification

Project Related



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## List of Acronyms

ACRONYM	DESCRIPTION
DEFF	Department of Environment, Forestry and Fisheries (formerly DEA)
DHSWS	Department of Human Settlements, Water and Sanitation (formerly DWS; also DWAF)
EA	Environmental Authorisation
ECA	Environment Conservation Act (No 73 of 1989)
ECO	Environmental Control Officer
EMP/r	Environmental Management Plan / Programme
EMS	Environmental Management System
EIA	Environmental Impact Assessment
EIR	Environmental Impact Report
EPS	Electrostatic Precipitator
GDACE	Gauteng Department of Agriculture, Conservation and Environment
GDARD	Gauteng Department of Agriculture and Rural Development (formerly GDACE)
MSDS	Material Safety Data Sheet
MSVS	Mittal Steel (South Africa Limited) Vanderbijlpark Steel
NEMA	National Environmental Management Act (No 107 of 1998)
PPE	Personal Protective Equipment
RHDHV	Royal HaskoningDHV
RoD	Record of Decision

# 1 INTRODUCTION

## 1.1 Background Information

An application for environmental approval was lodged with the Gauteng Department of Agriculture and Rural Development (GDARD) (formerly known as the Gauteng Department of Agriculture, Conservation and Environment (GDACE)) as per the requirements of the prevailing environmental legislation, the Environmental Conservation Act (ECA; No 73 of 1989), which was then largely replaced by the National Environmental Management Act (NEMA; No 107 of 1998), due to the proposed activities being deemed as a potential threat to the environment.

The proposed project is for the construction of the Carbon Separation Plant using winnowing technology (air separation mechanism) within the existing Magnetic Separation Plant and/ or building at Mittal Steel Vanderbijlpark Steel (MSVS) as part of the project to change management of the dolochar disposal to re-use. The extent of the project and process is summarised below:

- MSVS propose carbon separation process which entails the re-utilisation of the currently dumped by-product called dolochar.
- Dolochar consist of two size fractions i.e. +1mm and -1mm and contains carbon rich material i.e. +1mm fraction and it is proposed that it will replace virgin material (fine coal) at Electric Arc Furnaces thus reducing dumping of +1mm dolochar by 36% in mass.
- The proposed carbon separation process will use Winnowers (air separation mechanism) and it is a wholly dry process and as a result no effluent will be generated through the whole process.
- The carbon separation process will comprise of the following process:
  - Screening- the winnowing process depends on particle size as well as density, so the winnower feed is also separated into two size fractions. According to the dolochar from the direct reduction process is screened into four size fractions. The two size fraction of the winnower feed constitute about 5000t/m and each fraction is processed in the winnowers separately to recover the carbon. Each winnower feed size fraction is processed by a pair of winnowers in a series and in a coarse separation, the dolochar is separated into three fractions i.e. tailings (ash), middling's (ash/carbon blend) and concentrate (carbon rich dolochar).
  - Winnower in this process, feed material that are separated by density. Particle size also plays a major part. The winnowing process is a two stage coarse separation and refined separation. Eight pairs of winnowers process the material and each winnower is tuned to have exactly the correct airflow across it to suit the feed material. The airflow is controlled by pressure controller which controls the pressure downstream of the winnower. In this way, the constant flow of air is generated across the falling curtain of dolochar. The air flow is generated by the induced draft fan of the electrostatic precipitator (EPS) and the densest material is the ash due to iron and other metals being trapped in it.

The Environmental Impact Report (EIR) containing the findings of the environmental studies was submitted to GDARD for review and approval. On the **28<sup>th</sup> of August 2006**, a conditional Record of Decision (RoD) (**Ref: Gaut 002/05-06/0510**), currently referred to as an Environmental Authorisation (EA), was issued to

ArcelorMittal to implement the project. A final Environmental Management Plan (EMP) was compiled and submitted to the Department in December 2006 for approval as per the RoD condition 3,2,7.

## 1.2 Amendment in the Scope of Works

In August 2009, September 2010, June 2012 and March 2013 ,GDARD amended the RoD for the project. The amendments were pertaining to the conditions and scope of works which were authorised and a change in the contact details of the project Applicant. The amendments applied for are described in Table 1 below:

**Table 1: Amendment in the Scope of Works**

CONDITION NO	DESCRIPTION	DESCRIPTION OF NEW SCOPE
3.1 (a)	<b>[28 August 2006]</b> Mittal Steel Vanderbijlpark Steel (MSVS) propose carbon separation process which entails the re-utilisation of the currently dumped by-product called dolochar.	<b>[14 August 2009]</b> The company name changed to ArcelorMittal South Africa ( Vanderbijlpark Works). The amendment letter from GDARD stated that the new name has been changed and should be used through the RoD.
3.3 (d)	<b>[28 August 2006]</b> Previous contact details of MSVS was Mr Abe Grootboom Tel: 016 889 5982 Fax: 016 889 8716	<b>[14 August 2009]</b> Contact Person for ArcelorMittal South Africa (Vanderbijlpark Works) Ms Karien De Wit Tel: 016 889 2612 Fax: 016 889 2058
3.2.8.1	<b>[28 August 2006]</b> The stack monitoring must be conducted quarterly for the first year and the following parameters must be tested for: PM10 and PM 2,5.	<b>[14 August 2009]</b> The stack monitoring must be conducted annually, and the following parameters must be tested for: PM10 and PM 2,5
3.4 (a)	<b>[28 August 2006]</b> The following occupation hygiene survey and assessment must be performed by independent occupational Hygienist within the operational area after the commissioning of the proposed activity and the results of the survey and assessment must be submitted to this Department 3 months after commissioning of the CSP project and 6 months thereafter. a. Baseline personal air sampling surveys b. Site Noise Surveys c. Any other factors identified by an approved Inspection Authority	<b>[03 September 2010]</b> The occupation hygiene survey and assessment must be done in line with the Occupational Health Safety Act (No 85 of 1993). The subsequent report must be submitted to this Department upon request.
8.2	<b>[28 August 2006]</b> The monitoring results for the above parameters must be graphically represented and included in the bi-annual audit report. Emissions must be presented at the following reference condition: 11% O <sub>2</sub> ; 273 kelvin , 101, 3kPa.	<b>[19 June 2012]</b> The monitoring results for the above parameters must be graphically represented and included in the bi-annual audit report. Emissions must be presented at the following reference condition: 273 kelvin , 101, 3kPa.
3.3 (d)	<b>[28 August 2006]</b> Previous contact details of MSVS was Mr Abe Grootboom Tel: 016 889 5982	<b>[06 March 2013]</b> Contact Person for ArcelorMittal South Africa (Vanderbijlpark Works) Mr Johan Hattingh



CONDITION NO	DESCRIPTION	DESCRIPTION OF NEW SCOPE
	Fax: 016 889 8716	Manager: Environmental Management P O Box 2 Vanderbijlpark 1900
3.2.8.1	<b>[28 August 2006]</b> The stack monitoring must be conducted quarterly for the first year and the following parameters must be tested for: PM10 and PM 2,5.	<b>[06 March 2013]</b> The dust stack monitoring must be conducted continuously, and the report made available on request.
3.4 (b)	<b>[28 August 2006]</b> A summarised quarterly progress report on the implementation of CSP project must be submitted to the Department, with the first report being due 90 days after construction had commenced and every 90 days thereafter. The progress reports must address the following: a. Records of any major incidents . b. Decommissioning of infrastructure (if any). c. Results on the stack monitoring for the following parameters PM10 and PM2,5. d. Outcomes of occupational health audits. e. Monitoring of activities in terms of environmental management plan. f. Any steps taken to rectify areas of noncompliance with environmental requirements.	<b>[06 March 2013]</b> Deleted in the EA.
3.4 (c)	<b>[28 August 2006]</b> A bi-annual performance environmental audit conducted by an independent accredited auditor must be submitted to the Department for review, the first report being due in 6 months after commissioning of CSP project and every 6 months thereafter.	<b>[06 March 2013]</b> A bi-annual performance environmental audit conducted by an independent accredited auditor must be submitted to the Department for review, the first report being due in 12 months after commissioning of CSP project and every 12 months thereafter.

### 1.3 Location of the Study Area

The project site is located in the ArcelorMittal Vanderbijlpark Works within the town of Vanderbijlpark which falls in the jurisdiction of the Emfuleni Local Municipality (refer to **Figures 1** that depict the study area within a local and site context).





**Figure 1: Location of the Study Area - Local and Project Context**

## 1.4 Relevant Project Authorisations

- Carbon Separation Plant RoD dated 29 August 2006;
- Carbon Separation Plant Amended RoD dated 14 August 2009;
- Carbon Separation Plant Amended 03 September 2010;
- Carbon Separation Plant Amended 19 June 2012; and
- Carbon Separation Plant Amended 06 March 2013.

The audit comprised of documentation review, and, interviews with key personnel. The main purpose of the audit is to measure compliance against the conditions as stipulated in the RoD (and its various amendments) and associated EMP. *It must be noted that due to the Worldwide Pandemic (COVID-19) and associated restrictions, a site audit was not conducted.*

## 2 COMPLIANCE AUDIT OBJECTIVES

As part of the general terms and conditions of the RoD and associated EMP issued for the Carbon Separation Plant (CSP) and Regulation 54A(3) of the Environmental Impact Assessment (EIA) Regulations (2014) as amended, compliance audits are required to be conducted. The objectives of this Audit Report are based on Appendix 7 of the EIA Regulations (2014) as amended. This includes:

- Reporting on the level of compliance with the conditions of the RoD and associated EMP;
- Identify and assess any new impacts and risks as a result of undertaking the activity;
- Provide an opinion / statement on the ArcelorMittal South Africa (Vanderbijlpark Works)'s compliance to the respective RoD and associated EMP conditions, as well as recommendations to address shortcomings and gaps; and
- Where partial compliance and / or non-compliance issues have been identified, Royal HaskoningDHV has recommended mitigation and corrective action measures to either move towards compliance or improve the current situation.

These recommendations will be reviewed by the ArcelorMittal South Africa (Vanderbijlpark Works) prior to submission by the auditors of the final audit report to the relevant Authorities. These corrective action recommendations should be incorporated in the periodic / iterative updating of the ArcelorMittal South Africa (Vanderbijlpark Works)'s management systems.

## 3 SCOPE OF THE ENVIRONMENTAL COMPLIANCE AUDIT

The main purpose of this Independent External Environmental Compliance Audit for the CSP is to measure compliance on an annual basis against the conditions stipulated in the RoD and associated EMP. This report specifically addresses compliance to the Main RoD and its amendments and the associated approved EMP. During the audit that took place on **29 May 2020**, Royal HaskoningDHV was able to clarify the scope of the audit with ArcelorMittal South Africa (Vanderbijlpark Works) and to determine the current status of operational activities within the CSP.

### 3.1 Documents Audited

The following documents formed the basis of the scope of this audit:

- RoD dated 29 August 2006;
- Amended RoD dated 14 August 2009;
- Amended 03 September 2010;
- Amended 19 June 2012;
- Amended 06 March 2013;
- EMP;
- Communication with relevant competent authority;
- Project Schedule submitted to GDARD;
- Final Design Plans for stormwater management system;
- Preventative Maintenance Plan;
- Monitoring Plan for the implementation and operation of the project;
- Air Quality Monitoring Plan;
- Incidents and Complaints Register; and
- Occupational Hygiene Survey Reports.

## 4 DETAILS OF RELEVANT STAKEHOLDERS

### 4.1 Project Developer Contact Details

*Table 2: Project Developer Contact Details*

DEVELOPER	ARCELORMITTAL SOUTH AFRICA (VANDERBIJLPARK WORKS)
Representative	Johan Hattingh
Postal and Physical Addresses	P O Box 2 Vanderbijlpark 1900
Telephone Number	016 889 3042
Email Address	Email: Johan.Hattingh@arcelormittal.com

### 4.2 Environmental Competent Authority


*Table 3: Environmental Competent Authority Contact Details*

DEVELOPER	GAUTENG DEPARTMENT OF AGRICULTURE AND RURAL DEVELOPMENT (AIR QUALITY DIRECTORATE )
Representative	Malusi Buthelezi
Postal Address and Physical Addresses	56 Eloff St, Marshalltown, Johannesburg, 2000
Telephone Number	011 355 1597
Fax Number	-
Email Address	-

### 4.3 Independent Environmental Auditor

Royal HaskoningDHV have been appointed by ArcelorMittal to conduct an annual external compliance audit for 2019/2020 financial year and as per the requirements of the RoD issued by the GDARD. This audit report is compiled to assist ArcelorMittal to implement and comply with the conditions stipulated within the RoD and EMP. External annual audits have been conducted for the project since its inception by various external Environmental Consultants appointed by ArcelorMittal interchangeably namely GCS Water and Environmental Consultants and Zantow Environmental Consultants .

**Table 4: Details of the Independent Environmental Auditor**

INDEPENDENT ENVIRONMENTAL AUDITOR	ROYAL HASKONINGDHV	
Professional Membership	SACNASP	
Contact Person	Sibongile Gumbi	
Postal Address	P O Box 867 Gallo Manor 2052	
Physical Address	No 21 Woodlands Drive Building No 5 Country Club Estate, Woodmead	
Telephone Number	+2711 798 6449	Cell: +27 839609059
Fax Number	+2711 798 6005	Email: <a href="mailto:sibongile.gumbi@rhdhv.com">sibongile.gumbi@rhdhv.com</a>
Expertise of the Auditor	Sibongile Gumbi has fourteen years of experience in the environmental field. Her expertise ranges from Environmental Training, Environmental Auditing and Monitoring, Environmental Impact Assessment studies, Environmental Management Plans and Programmes, Stakeholder Engagement, Project Management. Sibongile is also a registered Pri.Sci.Nat.	
Declaration of Independence	<p>In accordance with Appendix 7 (Section 3) of the Government Notice No 982 of 04 December 2014, (as amended on 07 April 2017) this section serves as a declaration of Independence by the Environmental Auditor.</p> <p><b>I Sibongile Gumbi, declare that –</b></p> <ul style="list-style-type: none"> <li>▪ I act as the Environmental Auditor for this project;</li> <li>▪ I declare that there are no circumstances that may compromise my objectivity in performing such work;</li> <li>▪ I have expertise in conducting environmental compliance monitoring, including knowledge of the Act, regulations and any guidelines that have relevance to the proposed activity;</li> <li>▪ I will comply with the Act, Regulations and all other applicable legislation;</li> <li>▪ I will provide the competent authority with access to all information at my disposal regarding the application, whether such information is favourable to the applicant, RHDHV or not;</li> <li>▪ All the furnished by me in this form are true and correct; and</li> <li>▪ 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.</li> </ul> <div data-bbox="598 1982 909 2056">  </div>	



INDEPENDENT AUDITOR	ENVIRONMENTAL	ROYAL HASKONINGDHV
		Signature of the Environmental Auditor

## 5 PROJECT APPROACH AND METHODOLOGY

### 5.1 Pre-Audit Methodology

#### 5.1.1 Project Documentation Review

Royal HaskoningDHV reviewed and provided an index of all documentation, as well as procedures, to demonstrate full knowledge and compliance to the contents as depicted in all permits, as well as relevant environmental legislation. This included a review of the previous RoD and EMP audits undertaken on the CSP. This initial document review assisted Royal HaskoningDHV in understanding the site, to become familiar with any previous areas of concern (where applicable), establish what corrective actions should have been implemented thus far, and, to note to what extent corrective actions have been successful.

#### 5.1.2 Develop Audit Checklist

Based on the information collected during the initial document review phase, Royal HaskoningDHV developed an audit checklist that was used as the audit criteria. The purpose of the audit checklist was to ensure a structured approach to the audit, to allow the Environmental Auditor to focus on specific environmental commitments and requirements as well as to ensure that no activities on-site were overlooked. The audit checklist provided quantitative scoring and qualitative composition in line with the relevant RoD and associated EMP, and applicable legislation for the various components being audited within the study area. The audit checklist was assessed against the on-site management measures and actions, monitoring and reporting protocols, as well as the management review processes in place, so as to identify and implement any required corrective actions thus ensuring compliance and continually improved environmental performance for each of the facilities under review. Please refer to **Appendix A** for the complete audit checklist.

In order to determine overall environmental compliance, the audit provides a Final Audit Score (in percentage form). The audit was based upon the number of applicable criteria (excluding any criteria that are not currently applicable at the current point of operation for the different portions of the site), multiplied by the maximum available points per criteria audited against (i.e. 2 points per criteria), thus deriving a Maximum Auditable Score. The actual criteria audited against was then converted into an Overall Audit Score (based upon compliance – refer to 5 below). The Overall Audit Score was then in turn divided by the Maximum Auditable Score and converted to a percentage – which forms the Final Audit Score in an easily understandable format. As far as possible the evaluation criteria presented in **Table 5** *Table 5* was used during the assessment.

Table 5: Evaluation Criteria

STATUS	DESCRIPTION	POINTS ALLOCATED TO ASCERTAIN OVERALL AUDIT SCORE
<i>Full Compliance (FC)</i>	<ul style="list-style-type: none"> <li>When an activity or commitment has been implemented, completed, is scheduled and/or is maintained on an on-going basis.</li> <li>The audited entity fully complies with the requirements of the RoD and associated EMP.</li> </ul>	2
<i>Partial Compliance (PC)</i>	<ul style="list-style-type: none"> <li>When an activity or commitment has been started, changed or is in the process of being implemented, but might not necessarily be on schedule or executed exactly as per the RoD and associated EMP requirements.</li> <li>The audited entity partially complies with the requirements of the RoD and associated EMP.</li> <li>When the audited entity is close to completing measures to comply with the requirements of the RoD and associated EMP, then a score of 1 shall be assigned.</li> </ul>	1
<i>Non-Compliance (NC)</i>	<ul style="list-style-type: none"> <li>When an activity or commitment has not started, not been completed according to plan, or when any illegal actions have been identified.</li> <li>The audited entity is in non-compliance with the requirements of the RoD and associated EMP.</li> </ul>	0
<i>Not Applicable (NA)</i>	<ul style="list-style-type: none"> <li>When an activity has not yet commenced or could not be audited on the day of the audit.</li> </ul>	NA
<i>Issue Requiring Further Investigation (RFI)</i>	<ul style="list-style-type: none"> <li>When an activity or commitment requires further investigation in order to determine the status of compliance. This may relate to incomplete information or inclusive evidence based on the current audit.</li> </ul>	RFI
<i>Significance Rating (SR)</i>	<ul style="list-style-type: none"> <li>For each non-compliant issue identified, a mitigation measure will be recommended and a significance rating of high (H), medium (M) or low (L) will be applied based on the significance of the P and N.</li> </ul>	H, M or L

## 5.2 Audit Methodology

Crucial to the audit process was the availability of the required supporting documentation, and documentation control processes, which have to be comprehensive in order to demonstrate compliance to the RoD and EMP conditions. The general audit methodology and procedure can be summarised in the steps below:

- Clarification of audit scope and brief with ArcelorMittal South Africa (Vanderbijlpark Works) personnel;
- Document acquisition and checklist development;
- Pre-audit preparation;
- Audit:
  - Opening meeting;
  - Questioning, documentation review, and consolidation of findings;
  - Close out meeting;
  - Draft audit report; and
  - Final audit findings and recommendations.

## 6 ASSUMPTION AND LIMITATION

- It is assumed that the Environmental Assessment Practitioners (EAPs) employed by ArcelorMittal to obtain environmental approvals were competent and undertook rigorous environmental impact assessment processes in order to obtain the RoD (and other relevant licences and permits, where applicable);
- The responsibility of the Environmental Auditor is to monitor compliance with the RoD and EMP, and not to enforce compliance;
- Ensuring compliance is the responsibility of ArcelorMittal's appointed environmental resources. It is assumed that these resources will be competent in undertaking the day-to-day environmental management on site according to the conditions of the RoD and EMP, along with other relevant licences / permits (where applicable);
- Audit findings are based on observed and reported compliance concerns, per reporting period, as guided by the Audit Checklist (see **APPENDIX A**) and the Environmental Auditor's knowledge of the RoD and EMP, along with other relevant licences / permits (where applicable);
- The Environmental Auditor functions independently (see **Table 4** for Declaration of Independence by the Auditor) in assisting ArcelorMittal in complying with all environmental requirements related to the project;
- The Environmental Auditor cannot be held liable for any contravention by ArcelorMittal;
- The reviewer of the Audit Report cannot be held liable for any errors in reporting, or exclusions or omissions contained in the report drafted by the Environmental Auditor. The purpose of the reviewer is to ensure internal vetting in terms of quality control and standardisation of reporting, not to determine the factual correctness of the report; and
- Recommendations contained within this audit report are in effect corrective actions that must be considered and followed through (enacted) in order to close-out observed concerns and non-compliances, however, the Environmental Auditor cannot instruct any parties to consider and enact recommendations.

## 7 SUMMARY OF CONSULTATION<sup>1</sup>

### 7.1 Summary of Complaints

No complaints were received during this audit period.

### 7.2 Summary of Public Consultation

No consultation was required.

### 7.3 Summary of Consultation with Authorities

No consultation was required.

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<sup>1</sup> This section summarises consultation undertaken (if any) within the reporting period, namely the year ending June 2020



## 8 AUDIT COMPLIANCE FINDINGS

The findings of this audit report are based on the interview held with the ArcelorMittal South Africa (Vanderbijlpark Works) held on **29 May 2020** in which the general history, construction and operation of the CSP was explained to the Auditor. A focus of the audit was also on the required environmental documentation as stipulated in the RoD and EMP conditions. **Section 8.1** below provides details on the previous audit findings and states whether the finding in this current audit has closed or not. **Section 8.2** details exclusively document findings and **Section 8.3** details the findings of the site inspection.

### 8.1 Previous Audit Report Findings

According to the 2019 CSP External Environmental Audit Report compiled by GCS Water and Environmental Consultants, there were no audit findings. This indicates that ArcelorMittal South Africa (Vanderbijlpark Works) complied with all the conditions of the RoD and EMP. It was noted by this report that the CSP is no longer in operation and the operations ceased in 2011. This statement was confirmed by Ms Ilze Broekman an appointed Environmental Control Officer for ArcelorMittal South Africa (Vanderbijlpark Works) in the interview held with her on **29 May 2020**.

### 8.2 Document Audit Findings

The outcome of document findings is summarised in **Table 6**. The environmental file was comprehensive with most documents required by the EMP and RoD conditions being in place. There remains one document that was missing (due to it being destroyed during a storm), referred to as the project schedule.

**Table 6: Summary of Documentation Audit**

NO	DOCUMENTATION	FINDING	COMMENT
1	RoD dated 29 August 2006.	FC	
2	Amended RoD dated 14 August 2009.	FC	
3	Amended 03 September 2010.	FC	
4	Amended 19 June 2012.	FC	
5	Amended 06 March 2013.	FC	
6	Submission of the Final Environmental Management Plan for approval by GDARD.	FC	
7	Project Schedule submitted to GDARD.	FC	
8	Final Design Plans for stormwater management system.	FC	
9	Communication with relevant competent authority	N/A	
10	Preventative Maintenance Plan.	N/A	

NO	DOCUMENTATION	FINDING	COMMENT
11	Monitoring Plan for the implementation and operation of the project.	N/A	Refer to Table 2 (3,4,b)
12	Air Quality Monitoring Plan.	FC	
13	Incidents and Complains Register.	N/A	
14	Occupational Hygiene Survey Reports.	N/A	

### 8.3 Site Audit Findings

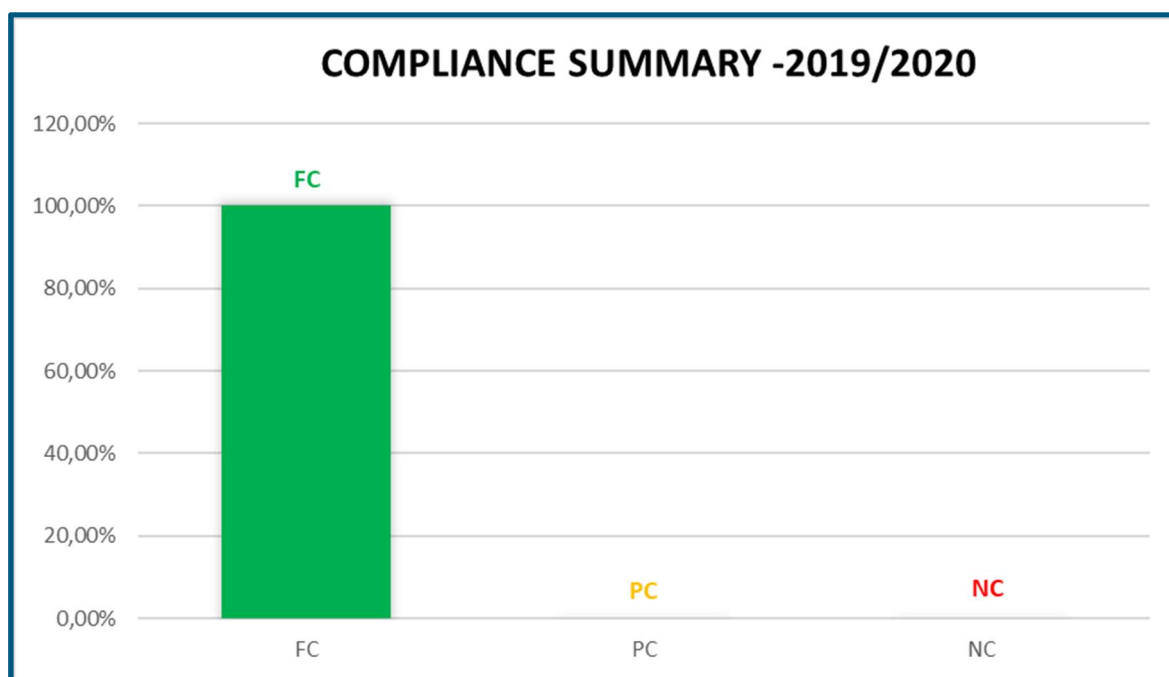
As alluded to, above a site inspection was not conducted due to the Global Pandemic (Covid 19) and associated restrictions. Thus, there will be no reporting under this section.

## 9 AUDIT RESULTS

The total number of conditions are **64** as reflected in **Appendix A**, and **21** of the conditions are not applicable and have therefore been excluded, resulting in an auditable number of **43** criteria. The compliance summary for the **29 May 2020** audit can be summarised as follows:

*Table 7: Auditable Compliance Summary – 2020*

AUDIT CRITERIA	TOTAL FINDINGS	% PER CRITERIA
FC	43	100.00%
PC	0	0.00%
NC	0	0.00%
NA	21	-
TOTAL COMMITMENTS CONDITIONS	64	100%



*Figure 2: Compliance Summary – 2019/2020*

## 10 CONCLUSION

From the above report findings, full-compliance criteria equal **(100.00%)**. (Refer to **Figure 2** and **Table 7**). ArcelorMittal must be commended for their continual commitments in complying with the RoD conditions even though the CSP is currently non-operational where by air quality monitoring is still conducted and also ensuring that there are no incidents in the plant.

## APPENDIX A

## Project Related

**Table 8: EMP and RoD Conditions**

ACTION NO	ENVIRONMENTAL ACTION PLAN	DATE	2020 Audit	Full Compliant	Partially Compliant	Not Compliant	Not Applicable	COMMENT/ PROPOSED CORRECTIVE / IMPROVEMENT ACTIONS	Rating (1-2)
	<b>ROD CONDITIONS</b>								
<b>3,1</b>	<b>PROJECT DESCRIPTION</b>								
	The extent of the project and process is summarised as follows:								
(a)	Mittal Steel Vanderbijlpark Steel (MSVS) propose carbon separation process which entails the re-utilisation of the currently dumped by-product called dolochar.	2020/06/30	2020	X				The company name changed from Mittal Steel Vanderbijlpark Steel to ArcelorMittal South Africa (Vanderbijlpark Works).The amendment letter dated 14 August 2009 from GDARD stated that the new name has been changed and should be used through the RoD.	2
(b)	Dolochar consist of two size fractions i.e. +1mm and -1mm and contains carbon rich material i.e. +1mm fraction and it is proposed that is will replace virgin material (fine coal) at Electric Arc Furnaces thus reducing dumping of +1mm dolochar by 36% in mass.	2020/06/30	2020	X				Scope of project noted.	2
(c)	The proposed carbon separation process will use Winnowers (air separation mechanism) and it is a wholly dry process and as a result no effluent will be generated through the whole process.	2020/06/30	2020	X				Scope of project noted.	2
(d)	The carbon separation process will comprise of the following process:								

## Project Related

ACTION NO	ENVIRONMENTAL ACTION PLAN	DATE	2020 Audit	Full Compliant	Partially Compliant	Not Compliant	Not Applicable	COMMENT/ PROPOSED CORRECTIVE / IMPROVEMENT ACTIONS	Rating (1-2)
*	Screening- the winnowing process depends on particle size as well as density, so the winnower feed is also separated into two size fractions. According to the dolochar from the direct reduction process is screened into four size fractions. The two size fraction of the winnower feed constitute about 5000t/m and each fraction is processed in the winnowers separately to recover the carbon. Each winnower feed size fraction is processed by a pair of winnowers in a series and in a coarse separation, the dolochar is separated into three fractions i.e. tailings (ash), middling's (ash/carbon blend) and concentrate (carbon rich dolochar).	2020/06/30	2020	X				Scope of project noted.	2
*	Winnower in this process, feed material that are separated by density. Particle size also plays a major part. The winnowing process is a two stage coarse separation and refined separation. Eight pairs of winnowers process the material and each winnower is tuned to have exactly the correct airflow across it to suit the feed material. The airflow is controlled by pressure controller which controls the pressure downstream of the winnower. In this way, the constant flow of air is generated across the falling curtain of dolochar. The air flow is generated by the induced draft fan of the electrostatic	2020/06/30	2020	X				Scope of project noted.	2

## Project Related

ACTION NO	ENVIRONMENTAL ACTION PLAN	DATE	2020 Audit	Full Compliant	Partially Compliant	Not Compliant	Not Applicable	COMMENT/ PROPOSED CORRECTIVE / IMPROVEMENT ACTIONS	Rating (1-2)
	precipitator (EPS) and the densest material is the ash due to iron and other metals being trapped in it.								
<b>3,2</b>	<b>SPECIFIC CONDITIONS</b>								
3,2,1	Authorisation is only granted for the Winnowing carbon separation plant within the Magnetic Separation Plant at the existing ArcelorMittal South Africa (Vanderbijlpark Works) direct reduction area and/or building.	2020/06/30	2020	X				Scope of project noted.	2
3,2,2	An updated project schedule with time frames must be submitted to the Department within 30 calendar days of commencement of construction activities.	2020/06/30	2020	X				The project schedule was submitted to the Department on December 2006 together with the stormwater design and effluent generated as well as the EMP.	2
3,2,3	The Department must be informed of the start of commissioning at least 30 calendar days prior to the commencement thereof.	2020/06/30	2020	X				A letter dated 28 February 2009 was submitted to the Department informing them about Mittal's intension to commission the project.	2
3,2,4	Final Design Plans for stormwater management sytem must be provided to the Department 30 calendar days prior to the commencement of construction. The design plan must include information on specific pollution prevention measures (e.g. impermeable layers, leak detection system etc.) and compliance with the SABS standards.	2020/06/30	2020	X				The project schedule was submitted to the Department on December 2006 together with the stormwater design and effluent generated as well as the EMP.	2



## Project Related

ACTION NO	ENVIRONMENTAL ACTION PLAN	DATE	2020 Audit	Full Compliant	Partially Compliant	Not Compliant	Not Applicable	COMMENT/ PROPOSED CORRECTIVE / IMPROVEMENT ACTIONS	Rating (1-2)
3.2.5	Should any effluent be generated at the CSP, it must be segregated into a concentrated and dilute effluents in order to allow the Zero Effluent Discharge System to function optimally.	2020/06/30	2020				X	There is currently no effluent from the plant since it is not operational.	
3,2,6	An auditable Preventative Maintenance Plan must be developed to ensure that all environmentally critical equipment such as dust extraction system, electronic precipitator and others are maintained as required. The management of Mittal Steel Vanderbijlpark Steel (MSVS) is to commit to the budget to undertake the required preventative maintenance. A discussion on the implementation and compliance with the maintenance plan must be included in the bi-annual audit reports.	2020/06/30	2020	X				Mittal has created an online maintenance system which creates a job card indicating that a certain equipment requires maintenance. Necessary actions are undertaken accordingly to perform the maintenance. It must be noted that the CSP has not been operational during this audit period, thus, no scheduled maintenance is currently conducted.	2
3,2,7	A finalised and detailed Environmental Management Plan (EMP) for the implementation of the project must be submitted to the Department for approval 30 days prior to the commencement of construction activities. The EMP must specifically include:	2020/06/30	2020	X				Refer to section 3,2,2.	2
(a)	An auditable plan for monitoring all facets of the CSP project implementation and operation.	2020/06/30	2020	X				Monitoring plan is in place.	2
(b)	Air quality monitoring programme based on the requirements based on the requirement of condition 3.2 (8).	2020/06/30	2020	X				Air monitoring programme with the responsible person for monitoring is in place.	2

## Project Related

ACTION NO	ENVIRONMENTAL ACTION PLAN	DATE	2020 Audit	Full Compliant	Partially Compliant	Not Compliant	Not Applicable	COMMENT/ PROPOSED CORRECTIVE / IMPROVEMENT ACTIONS	Rating (1-2)
3,2.8	In order to provide empirical data which will verify the assumptions made in the air quality report , the following air quality management, monitoring and reporting regime must be implemented and reported on in the bi-annual environmental performance audit as applicable.								
3,2,8.1	The stack monitoring must be conducted quarterly for the first year and the following parameters must be tested for (a)PM10 and (b) PM2,5.	2020/06/30	2020	X				In an approval GDARD letter dated 14 August 2009 this condition changed to read as : The stack monitoring must be conducted annually, and the following parameters must be tested for: (a) PM10 and (b) PM2,5. The second GDARD approval letter dated 06 March 2013 changed this condition to read as : The dust stack monitoring must be conducted continuously, and the report made available on request. Air Quality monitoring is conducted continuously and the monthly monitoring data from January 2019 to May 2020 period were made available to the auditor.	2
3,2,8.2	The monitoring results for the above parameters must be graphically represented and included in the bi-annual audit report. Emissions must be presented at the following reference condition: 11% O2; 273 kelvin , 101, 3kPa.	2020/06/30	2020	X				In an approval GDARD letter dated 19 June 2012 this condition changed to read as: The monitoring results for the above parameters must be graphically represented and included in the bi-annual audit report. Emissions must be presented at the following reference condition: 273 kelvin , 101, 3kPa. Refer to the above section 3,2,8,1 section.	2

## Project Related

ACTION NO	ENVIRONMENTAL ACTION PLAN	DATE	2020 Audit	Full Compliant	Partially Compliant	Not Compliant	Not Applicable	COMMENT/ PROPOSED CORRECTIVE / IMPROVEMENT ACTIONS	Rating (1-2)
3,2,8.3	The stack must be designed that if the monitoring results in the first year indicate that there is a need for further improved mitigation then additional technology can be easily installed in the stack.	2020/06/30	2020	X				The stack was designed in a manner that tolerates production and thus no new technology was required.	2
3,2,8.4	A long term Air Quality Management and Audit Plan must be compiled for the MSVS CSP and Magnetic Separation Plant based on the outcome of the monitoring results. These plans must consider international standards and best practice.	2020/06/30	2020	X				Mittal has compiled an air quality plan for all its operations. This plan has considered international standards (Environmental Protection Agency) and is updated on a continuously basis when new relevant information becomes available. The latest plan is dated June 2012.	2
3,2,8.5	Considering that MSVS intends increasing its production capacity and is located within the hotspot area, it is therefore essential that MSVS consider lowering the emissions more than the applicable standards require. The emission reduction strategies must be developed to make provisions for the new local and applicable international standards.	2020/06/30	2020	X				Refer to Section 3,2,8,4.	2
3,2,9	Detailed and up to date records of incidents and complaints pertaining to the CSP project must be kept. Details of how the incidents and complaints were managed, and their recurrence thereof must keep in the records. These records must be made	2020/06/30	2020	X				There were no complaints and incidents reported in this current audit period as the CSP is currently not in operation.	2

## Project Related

ACTION NO	ENVIRONMENTAL ACTION PLAN	DATE	2020 Audit	Full Compliant	Partially Compliant	Not Compliant	Not Applicable	COMMENT/ PROPOSED CORRECTIVE / IMPROVEMENT ACTIONS	Rating (1-2)
	available to the Department within the 14 days upon written request from the Department.								
3,2,10	This Department and the Department of Water Affairs and Forestry must be informed of any major environmental and pollution incidents relating to the CSP project. Within 24 hours of such incidents occurring.	2020/06/30	2020				X	Refer to Section 3,2,9.	
3,2,11	MSVS must consider using flared waste gases from coke ovens and other sources within the industry as fuel resource for auxiliary equipment's.	2020/06/30	2020	X				Waste gases from coke oven cannot be re-used in Mittal operations due to its non-reactiveness and can only be sold to an outside customer.	2
3,2,12	MSVS must investigate the potential of using the existing dumped or stored dolochar as input material into the CSP. This must be reported into the quarterly progress reports.	2020/06/30	2020	X				Refer to Section 3,2,11.	2
3,2,13	The Operation of the CSP and Magnetic Separation plant must comply with the Occupational Health and Safety Act (No 85 of 1993) and sound occupational hygiene procedure implemented and improved upon. Engineering control measures must be considered at first choice for mitigation.	2020/06/30	2020	X				The Occupational Health and Safety Act (No 85 of 1993) is complied with. Aspects such as noise, heat stress exposure, production and maintenance are surveyed.	2
3,2,14	The CSP must be integrated into the existing MSVS ISO System.	2020/06/30	2020	X				This is done accordingly.	2

## Project Related

ACTION NO	ENVIRONMENTAL ACTION PLAN	DATE	2020 Audit	Full Compliant	Partially Compliant	Not Compliant	Not Applicable	COMMENT/ PROPOSED CORRECTIVE / IMPROVEMENT ACTIONS	Rating (1-2)
3,2,15	The recommendations contained in the specialists studies submitted in support of the application for authorisation of the CSP project are regarded as an extension of the conditions of this authorisation. Implementation of or compliance with these recommendations must be discussed with as part of the quarterly process report and bi-annual environmental audits thereafter.	2020/06/30	2020	X				The recommendations of specialist studies were summarised by Mittal and included in the quarterly progress reports submitted to the Department. The CSP ceased its operation in 2011 as mentioned above in this report. However, the progress was reported to the Department until June 2013 (Refer to Appendix A).	2
3,2,16	All potential emergencies that can be expected from the CSP must be addressed in line with the existing Direct Reduction Plant and MSVS emergency response procedures.	2020/06/30	2020	X				Emergency Response Procedures are in place (DR.SWPSG.0263 and MHROAD0000005).	2
3,2,17	The Department of Water Affairs and Forestry and any other Government Department requirements and/conditions pertinent to the project must be complied with.	2020/06/30	2020				X	There has not been any requirements from these Departments during the current audit period.	
3,2,18	An independent Environmental Control Officer with an understanding of the carbon separation process must be appointed for the duration of the construction and commission to monitor and report on compliance with the conditions of this authorisation.	2020/06/30	2020	X				Ilze Broekman is an appointed Environmental Control Officer as stated in a letter dated January 2011.	2
3,3	GENERAL CONDITIONS								
3,3 (a)	Any changes to or deviation from the project description set out in this letter must be approved by	2020/06/30	2020				X	The scope of the project has not changed.	

## Project Related

ACTION NO	ENVIRONMENTAL ACTION PLAN	DATE	2020 Audit	Full Compliant	Partially Compliant	Not Compliant	Not Applicable	COMMENT/ PROPOSED CORRECTIVE / IMPROVEMENT ACTIONS	Rating (1-2)
	in writing by the department prior such changes and deviations being affected. In assessing whether to grant this approval the Department may request such information as it deemed necessary to evaluate the significance and impacts of such changes and deviations.								
3,3,(b)	The Department may review the conditions contained in this letter from time to time and may by notice in writing to the applicant amend, add or remove a condition.	2020/06/30	2020				X	No reviews has been done thus far.	
3,,3 ©	The Applicant must notify the Department in writing 10 days prior to the change of ownership, project developer or alienation of similar rights for the activity described in this letter. The applicant must furnish a copy of this document to the new owner, developer, or persons to whom the rights accrue that the conditions contained herein are binding on them.	2020/06/30	2020				X	There has been no change in the ownership of the (ROD) environmental authorisation. ArcelorMittal is still the holder of the authorisation.	
3,3 (d)	Where in the contacts details of the applicant change including the name of the responsible persons, 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.	2020/06/30	2020	X				In a GDARD approval letter dated 14 August 2009 the contact details of ArcelorMittal changed from Abe Grootboom to Karien De Wit. The second GDARD approval letter dated 06 March 2013, the contact details of ArcelorMittal changed to Johan Hattingh.	2

## Project Related

ACTION NO	ENVIRONMENTAL ACTION PLAN	DATE	2020 Audit	Full Compliant	Partially Compliant	Not Compliant	Not Applicable	COMMENT/ PROPOSED CORRECTIVE / IMPROVEMENT ACTIONS	Rating (1-2)
3,3 (e)	Authorisation of the activity is granted in terms of the Environmental Conservation Act (No 73 of 1989) only and does not exempt the holder from complying with other relevant legislation.	2020/06/30	2020	x				Noted. Other pieces of legislation have been considered and these include the National Environmental Management: Air Quality Act (Act No 39 of 2004); Occupational Health and Safety Act (No 85 of 1993); National Environmental Management Act (Act No 107 of 1998).	2
3,3 (f)	The applicant shall be responsible for ensuring compliance with the conditions contained in this letter by any person acting on his behalf including but not limited to an agent, servant or employee or any other person rendering a service to the applicant in respect of the activity including but not limited to Consultant and Contractor.	2020/06/30	2020	x				Noted.	2
3,3 (g)	Government officials shall be given access to the property referred to in above for the purpose of assessing and monitoring compliance with the conditions contained in this document at all reasonable time.	2020/06/30	2020				x	Noted , this will be done accordingly where request is received. There has not been any request in this auditing period.	
3,3 (h)	The applicant must notify the Department within 24hours if any of the conditions of this authorisation cannot and or is not adhered to. The notification must be supplemented with the reasons for non-compliance.	2020/06/30	2020	x				There has been amendments made to the conditions contained in the RoD and the Department was notified accordingly. Refer to Section 1.2 and Table 1 of this report.	2
3,4	REPORTING REQUIREMENTS								



## Project Related

ACTION NO	ENVIRONMENTAL ACTION PLAN	DATE	2020 Audit	Full Compliant	Partially Compliant	Not Compliant	Not Applicable	COMMENT/ PROPOSED CORRECTIVE / IMPROVEMENT ACTIONS	Rating (1-2)
3,4,(a)	The following occupation hygiene survey and assessment must be performed by independent occasional Hygienist within the operational area after the commissioning of the proposed activity and the results of the survey and assessment must be submitted to this Department 3 months after commissioning of the CSP project and 6 months thereafter.	2020/06/30	2020	X				In an approval GDARD letter dated 03 September 2010, this condition changed to read as: The occupation hygiene survey and assessment must be done in line with the Occupational Health Safety Act (No 85 of 1993). The subsequent report must be submitted to this Department upon request. NERSHCO Services (Pty) Ltd was appointed to conduct the surveys and assessments. A report dated 2013 was compiled detailing the findings of the assessment and surveys. No request were received from the Department.	2
*	Baseline personal air sampling surveys	2020/06/30	2020	X					2
*	Site Noise Surveys	2020/06/30	2020	X					2
*	Any other factors identified by an approved Inspection Authority.	2020/06/30	2020	X					2
3,4,(b)	A summarised quarterly progress report on the implementation of CSP project must be submitted to the Department, with the first report being due 90 days after construction had commenced and every	2020/06/30	2020				X	The progress reports have been compiled accordingly and the last report dated June 2013. It must be noted that in an approval GDARD letter dated 06 March 2013 this condition was removed in the authorisation.	

## Project Related

ACTION NO	ENVIRONMENTAL ACTION PLAN	DATE	2020 Audit	Full Compliant	Partially Compliant	Not Compliant	Not Applicable	COMMENT/ PROPOSED CORRECTIVE / IMPROVEMENT ACTIONS	Rating (1-2)
	90 days thereafter. The progress reports must address the following:								
*	Records of any major incidents .	2020/06/30	2020				X		
*	Decommissioning of infrastructure (if any).	2020/06/30	2020				X		
*	Results on the stack monitoring for the following parameters PM10 and PM2.5.	2020/06/30	2020				X		
*	Outcomes of occupational health audits.	2020/06/30	2020				X		
*	Monitoring of activities in terms of environmental management plan.	2020/06/30	2020				X		
*	Any steps taken to rectify areas of non-compliance with environmental requirements.	2020/06/30	2020				X		
3,4,(c)	A bi-annual performance environmental audit conducted by an independent accredited auditor must be submitted to the Department for review, the first report being due in 6 months after commissioning of CSP project and every 6 months thereafter. The bi-annual audit must include the following:	2020/06/30	2020	X				In a GDARD approval letter dated 06 March 2013 this condition changed to read as: A bi-annual performance environmental audit conducted by an independent accredited auditor must be submitted to the Department for review, the first report being due in 12 months after commissioning of CSP project and every 12 months thereafter. Annual audits have been	2

# Project Related

ACTION NO	ENVIRONMENTAL ACTION PLAN	DATE	2020 Audit	Full Compliant	Partially Compliant	Not Compliant	Not Applicable	COMMENT/ PROPOSED CORRECTIVE / IMPROVEMENT ACTIONS	Rating (1-2)
								undertaken accordingly for the project by various consulting companies.	
*	Air quality monitoring programme based on the requirements based on the requirement of condition 3.2 (8).	2020/06/30	2020	X				Refer to Section 3,2,8 above.	2
*	Discussion on the implementation (or non-implementation) of the recommendations as contained in the environmental impact report and specialists studies.	2020/06/30	2020	X				Refer to Appendix A.	2
*	Discussion on the following as provided for in the EMP	2020/06/30	2020	X				Refer to Appendix A.	2
—	Description of the state of the plant.	2020/06/30	2020	X				Refer to Appendix A	2
—	Occupational Health and Safety Surveys	2020/06/30	2020	X				Refer to Section 3,4a.	2
—	Discussion on the spikes that may occur in the air quality monitoring data.	2020/06/30	2020	X				There has not been any air emission exceedances in this current auditing period.	2
—	Logbook of waste (if any) that were generated and where they were disposed of.	2020/06/30	2020	X				The steel scrap was recycled back into the steel making process.	2
—	Logbook of any environmental incident.	2020/06/30	2020				X	There were no complaints and incidents reported in this current audit period as the CSP is currently not in operation.	2

## Project Related

ACTION NO	ENVIRONMENTAL ACTION PLAN	DATE	2020 Audit	Full Compliant	Partially Compliant	Not Compliant	Not Applicable	COMMENT/ PROPOSED CORRECTIVE / IMPROVEMENT ACTIONS	Rating (1-2)
*	Discussion on the implementation of and compliance with the Preventative Maintenance Plan.	2020/06/30	2020				X	No maintenance performed during the current audit period.	2
*	Records of any major incidents .	2020/06/30	2020				X	There were no complaints and incidents reported in this current audit period as the CSP is currently not in operation.	2
*	Reporting on the provisions of the environmental authorisation and environmental management plan and steps taken to rectify non-compliance.	2020/06/30	2020	X				This is done accordingly. Refer to the above sections of the report.	2
*	Details on the quantity and quality of any discharge (air, water, land) reasons for discharge, management of discharges and prevention of future discharges.	2020/06/30	2020				X	CSP ceased its operations in 2011.	2
*	Additional jobs created as result of this project.	2020/06/30	2020				X	Refer to the above section.	2
*	Efficiency of the air pollution abatement technology (dust extraction system and electrostatic precipitator).	2020/06/30	2020				X	Refer to the above section.	2
*	Actual reduction of dolochar disposal and re-use thereof.	2020/06/30	2020				X	Refer to the above section.	2
	<b>Total Conditions</b>	64		64	64	64	64		90
	<b>Total Auditable Conditions</b>	43		43	43	43			

## Project Related

ACTION NO	ENVIRONMENTAL ACTION PLAN	DATE	2020 Audit	Full Compliant	Partially Compliant	Not Compliant	Not Applicable	COMMENT/ PROPOSED CORRECTIVE / IMPROVEMENT ACTIONS	Rating (1-2)
	Total Conditions Evaluated			43	0	0	21		
	Compliance Percentage Per Criteria			100,00%	0,00%	0,00%			

**APPENDIX B**

**AIR QUALITY MONITORING**

## Project Related

